

Guglielmo Cinque is one of the world's leading theoretical syntacticians, and is particularly known for his application of recent theory to the analysis of Italian. This volume brings together ten of Professor Cinque's essays, some of which are published here for the first time, and some of which have not hitherto been easily accessible. They explore a wide range of aspects of Italian syntax, including the grammar of relative and "pseudo-relative" clauses in the complement of perception verbs, impersonal *si* constructions, and the position and argument structure of adjectives in the noun phrase. The volume considers the implications of Cinque's work on Italian syntax for generative grammar more broadly, and compares Italian with the syntax of other Romance and also Germanic languages. It will be welcomed by all those working on Italian syntax, and on theoretical syntax more generally.



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# *Introduction*

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The articles collected here, some of which have not been published before, deal with different aspects of the syntax of Italian, including properties of the structure of nominal phrases, impersonal *si* constructions, and the particular type of finite complements of perception verbs sometimes called “pseudo-relatives.”

In some of the articles the analysis of the Italian data may be seen to bear on more general, comparative and theoretical, questions. Often, independently established principles of the theory are applied to the intricacies of the data and argued to reveal unforeseen patterns, or solutions for certain long-standing anomalies (as in the study of relative clauses in chapter 2, or in the study of *si* constructions in chapter 4). In other cases, the facts of Italian are shown to offer a privileged access to certain theoretical conclusions, not easily reachable from the vantage point of other (well-studied) languages (as is the case with the notion of syntactic operator in chapter 3, and the expected existence of a class of ergative, or unaccusative, adjectives, in chapter 7).

Although written over a period of more than ten years, these essays are all cast in one or another version of the so-called Principles and Parameters theory, essentially stemming from the notion of parametrized principle in Chomsky's 1979 Pisa lectures (Chomsky 1981).<sup>1</sup>

The revolutionary and heuristic values of this development in the generative program initiated by Chomsky over forty years ago have probably been greater than those of any other, previous or later, development.

The notion of parametrized principle, with its fully determined (crosslinguistically invariant) part, and its underdetermined part which takes one or another of very few options depending on the specific

<sup>1</sup> For an early statement of this development, see Chomsky (1979b), which represents the Italian translation of an article written in August 1979, and later published in Hornstein and Lightfoot (1981). Cf. Chomsky (1981c). For a more recent assessment of this approach, see Chomsky and Lasnik (1993).

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language, has opened completely new horizons to research, some plainly unimaginable only a few years ago.

The new conception of Universal Grammar as a tightly knit system of principles with open parameters has for the first time permitted one to approach in a more precise and promising way the known typological variation among languages, and the logical problem of language acquisition. It offered some strikingly simple conceptual tools to approach these domains empirically, inaugurating a long phase of “ordinary science” in Kuhn’s sense, as witnessed by the impressive amount of empirical work produced during the 1980s and early 1990s on very many different languages and in a wider comparative fashion.

In a sense, with the Principles and Parameters approach, linguistic theory has subsumed most of the content of two, till then, separate and traditionally independent fields like linguistic typology and developmental psycholinguistics: a significant unification. It has also given new tools to systematize and interpret diachronic grammatical change (by often seeing several apparently different changes as distinct consequences of the change of the value of a single parameter),<sup>2</sup> and to account for micro-comparative variation of the type studied by traditional dialectology.<sup>3</sup>

Another, minor, thread uniting the essays appearing here is of a methodological character, reflecting perhaps a more personal style of inquiry. A pervasive preoccupation has been with carefully distinguishing what goes together from what does not; in other words, at conjecturing whether a given set of facts makes up a homogeneous phenomenon or whether two (or more) distinct phenomena are involved. In many cases it has proven possible to uncover, under the apparent unitarity of a given phenomenon that resisted a simple account, more than one system or pattern, each of which is amenable to a simple account separately. This is especially true, at least to my eyes, for the analysis of Italian (and English) relative clauses studied in chapter 2, for the distinct impersonal *si* constructions discussed in chapter 4, and for the finite and ACC-*ing* complements of perception verbs studied in chapter 8.

Despite certain differences in technical details, or in certain aspects of terminology, which reflect the distinct phases of the Principles and

<sup>2</sup> See Lightfoot (1991), the contributions to Battye and Roberts (1995), and many other works since.

<sup>3</sup> For the theoretical implications of the Principles and Parameters approach to dialectological research, and for case studies, see Kenstowicz (1984), Beninca’ (1989), and references cited there.

Parameters approach during which they were written, I have decided to keep the articles essentially as in their original version, with only few changes where they seemed necessary. In introducing each chapter and in briefly characterizing its main points, I will also try to point out subsequent developments, or works, known to me, which have addressed the same topic, perhaps suggesting partly or radically different solutions to the same problems.

Chapter 1 focuses on the restrictions holding on extractions out of noun phrases in Italian. The generalization which is claimed to govern such extractions in Italian (perhaps, with wider validity across Romance)<sup>4</sup> is that all and only those phrases can be extracted from a noun phrase which can occur independently, when pronominalized, in a pronominal possessive form as subjects of the noun phrase.

This presupposes an independent way to determine what qualifies as the subject of the noun phrase for each distinct class of Ns, a question also addressed in detail in the chapter. The fact that extraction via *Wh*-movement patterns just like extraction via Clitic Movement was taken to raise a specific problem within the then current assumption that Clitic Movement was subject to the Opacity Condition (Binding Theory).

This problem has been largely left open, though a final suggestion is made that identical government requirements on the noun-phrase-internal trace of Clitic and *Wh*-movement could be responsible for the observed pattern. This same idea is refined in much greater detail, and on the basis of much additional evidence, in Giorgi and Longobardi (1991: chapter 2). For an essentially similar approach to extraction from noun phrase based on Empty Category Principle (ECP) considerations, see Rizzi (1990: 106–10) and Cinque (1990c: 45–51).<sup>5</sup>

Chapter 2 deals with relativization in Italian (and Romance) compared with English. Starting from a peculiar asymmetry between *cui* relative pronouns and (article +) *qual*- relative pronouns in Italian, the suggestion is made that two different structures are available to form relative clauses: the traditional one, where the relative clause is internal to the constituent (now, the DP) dominating the head; and an essentially par-enthetical structure, in which the relative clause and the head do not form

<sup>4</sup> See Milner (1977), Zubizarreta (1979), Aoun (1985: 17–20 and 33–7), Torrego (1985), Sportiche (1990: section 3.4.4), among others.

<sup>5</sup> Different approaches are explored in Pollock (1989b) and Godard (1992), even though certain conclusions reached there may have to be somewhat redressed if genuine cases of extraction are carefully teased apart from apparent cases of extraction involving base generation of a clause-initial genitive phrase.

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a constituent. Romance languages and English are then seen to utilize the two structures slightly differently to express restrictive and appositive relatives, within an essentially unitary set of general principles.

The analysis originally proposed to capture the behavior of *cui* relatives (which cannot enter the parenthetical structure) in terms of the anaphoric character of *cui* is doubtful, especially given the similar restrictions observable with *wh*-phrases in (literal) *wh*-questions in English (which cannot possibly be analyzed as anaphors). A more promising approach would seem to be that suggested in Kayne (1984: chapter 8) in terms of a distinction between a core notion of *wh*-phrase and an extended notion derivative on feature percolation based on his notion of *g*-projection (with *cui* unable to enter the extended notion). If the promotion analysis of relativization should turn out to be correct (Kayne 1994), the distinctions and properties discussed in this chapter would have to be captured in a different way.

The main point of the discussion contained in chapter 3 is that one should distinguish a notion of inherent syntactic operator, which is able to bind an empty category from a non-*wh* A'-position, from both a notion of logical operator, relevant to Logical Form, and the more traditional notion of *wh*-operator. The bulk of the evidence comes from the behavior of certain bare quantifiers (*qualcuno* "someone," *qualcosa* "something") in a non-*wh*-construction such as Clitic Left Dislocation in Romance (for which see also Cinque 1990c: chapter 2). Data from northern varieties of Norwegian corroborating the distinction in question are discussed in Taraldsen (1986a).

Chapter 4 argues for the necessity of recognizing two basic types of impersonal *si* in intransitive contexts in Romance, one of which is in fact absent from certain varieties (e.g. Rumanian). It also proposes a distinction between a pure middle *si* and an impersonal passive *si* in transitive contexts. An interesting development of this analysis is to be found in recent work by Carmen Dobrovie-Sorin (1994a, b), where a simplification of the system into basically two types of *si*, a nominative and an accusative *si*, is proposed. See also Suñer (1990).

Chapter 5, which can be regarded as a sort of appendix to chapter 4 (which in part it presupposes) deals with a specific issue in the syntax of *si*-cliticization. Namely, the impossibility of *si si* sequences, where one *si* is impersonal *si* and the other a reflexive/reciprocal *si*. What one finds in its stead is the sequence *ci si*. Various arguments are discussed which go against the widespread assumption that *ci si* derives from *si si* via an

obligatory (morpho-)phonological process. What is claimed is that the *ci* of *ci si* is nothing but the first-person plural reflexive/reciprocal element *ci*.

Chapter 6 addresses a peculiar difference between English and Italian in the syntax of “Complement Object Deletion” constructions. The fact that the two languages are entirely parallel for a subset of such constructions (requiring a gap), while they come to diverge in the complement subset (Italian requiring a pronominal where English requires a gap), is shown to be connected to an independent difference. Where a gap is required, the preposition introducing the clause (*for* in English, *da* in Italian) can be independently shown to be a complementizer. Where a pronominal is instead obligatory in place of the gap, there is independent evidence that the preposition introducing the clause is a real preposition. Such difference is further related to a general predication requirement on the clause of “Complement Object Deletion” constructions.

In chapter 7 it is argued that, contrary to what is occasionally assumed (that adjectives are either all ergative or all unergative), one should distinguish an ergative (or unaccusative) from an unergative class of adjectives. One of the reasons why this distinction was not immediately recognized is certainly the fact that adjectives corresponding to ergative verbs are not themselves ergative. This potential problem for both the Lexicalist and the Universal Alignment hypotheses is shown to disappear at a closer consideration of the way (deverbal) adjectives are morphologically derived from verbs.

Chapter 8 analyzes the peculiar finite complement structures of perception verbs in Romance known as “pseudo-relatives,” attempting to show their multiple structural ambiguity. Indeed, one can distinguish at least three different cases, which correspond to the three distinct configurations which have been attributed by Declerck (1982) to ACC-*ing* complements of perception verbs in English. Evidence is also discussed for analyzing such finite complements to perception verbs in Romance as a special case of small clause, despite the very fact that they contain a finite complementizer.

Chapter 9 discusses an additional piece of evidence for the conclusion reached in Belletti (1990: 77ff.) that the bare quantifier *tutto* “everything” occupies a derived position (to the left of its base position) in Italian, just as it visibly does in French. The further question is considered of what distinguishes *tutto* from other apparently bare quantifiers which cannot similarly occur in the special derived position of *tutto*.

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In Chapter 10 it is argued on the basis of different types of evidence that the base generation of attributive adjectives in Romance is, despite appearances, the same as in Germanic, namely to the left of the head N, with the N raising past some of the adjectives in Romance, though not in Germanic. It is further claimed that the adjective phrases occupy different *specifier* positions of different functional projections rather than *adjunction* positions.

The work of most of these articles has benefitted from grants or leaves of absence from the University of Venice, which I wish to thank here. Among the foreign institutions where I had the opportunity to present and discuss my work at different times I would like to single out the Department of Linguistics and Philosophy of MIT, the Département de Linguistique of the University of Geneva and the Institut für Sprachwissenschaft of the University of Vienna for a specially fruitful interaction.

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Many people have contributed in one way or another to shaping the ideas elaborated in these chapters, too many to mention. Specific debts are acknowledged in the single chapters. I cannot, however, fail to mention the special debt I have to Adriana Belletti, Paola Beninca', Richard Kayne, and Luigi Rizzi, as well as my graduate and undergraduate students Birgit Alber, Donella Antelmi, Antonietta Bisetto, Leonardo Boschetti, Piero Bottari, Laura Brugè, Anna Cardinaletti, Paola Crisma, Roberto Dolci, Giuliana Giusti, Paola Merlo, Andrea Moro, Nicola Munaro, Cecilia Poletto, and Alessandro Ramberti. They contributed no less significantly to my work by raising questions to which most of the time I could not provide an answer.

I dedicate this book to Paola Beninca'.

# 1 *On extraction from NP in Italian\**

---

We will begin by illustrating what we take to be the representative paradigm of possible and impossible extractions from NP in Italian. The theory within which we will describe and interpret the relevant facts is a version of the Extended Standard Theory (EST) which comprises the two extraction rules of *Wh*-movement and Clitic Movement.<sup>1</sup>

In section 1, we will present and discuss what appears to be the generalization underlying the facts of extraction. In section 2, we will relate it to the independent definitions of “subject-of” and “object-of” for a NP and propose what looks like the simplest and most straightforward way to derive the generalization from the independent principles of the theory, which we identify here with the system presented in Chomsky (1978) and related works. One problem which emerges in relation to one of the assumptions of the system adopted here will be discussed briefly (and rather inconclusively) at the end of the chapter. We may also note, incidentally, that the general conclusions that will be arrived at in section 2 are, in one sense, neutral with respect to the question whether Clitic Movement or *Wh*-movement (or both) involve actual movement or not.

1 Compare the following cases, presented here with a partial indication of their (plausible) structure (*t* is the trace of the fronted PP):

- (1) a. Una persona [<sub>PP</sub>di cui] apprezziamo [<sub>NPl</sub>a grande generosità *t*]  
(è Giorgio)

\* I wish to thank, for their advice and observations, Adriana Belletti, Noam Chomsky, Giorgio Graffi, Richard Kayne, Giulio Lepschy, Vincenzo Lo Cascio, and Lidia Lonzi. They are not necessarily committed to the ideas presented here.

<sup>1</sup> A detailed discussion of the form of these two rules, which will be presupposed here, is to be found in Chomsky (1977a) and Kayne (1975). Their application to Italian poses no problems of substance or principle. See Rizzi (1978) for a discussion of Italian data involving the latter rule and Cinque (1978) for a discussion of the former rule (in Italian relatives).

- A person of whom we appreciate the great generosity (is G.)<sup>2</sup>
- b. \*Il paese [PPa cui] ricordiamo [NPun/l'attacco t] (è la Polonia)  
A country on which we remember an/the attack (is Poland)
- c. \*Non è posto [PPda cui] possano minacciarci [NPil licenzia-  
mento t]  
It is not a position from which they can threaten us the dis-  
missal
- (2) a. [Ne] apprezziamo [NPla grande generosità t]  
Of-him (we) appreciate the great generosity
- b. \*Tutti [vi/ci] condannerebbero [NPun/l'attacco t]  
Everybody on-it would condemn an/the attack
- c. \*Ce [ne] hanno minacciato [NPil licenziamento t]  
To us from-it (they) have threatened the dismissal

Examples (1) and (2) represent cases of extraction from a non-subject postverbal NP: (1) represents cases of *Wh*-movement (in relatives, with *cui* pronouns; for simplicity we omit here the variant with *quale* pronouns);<sup>3</sup> (2) of Clitic Movement.<sup>4</sup> The sentences in (1) and (2) exemplify extraction of PPs only. In fact, given that there are no (bare) NP complements to Ns but only PP complements – see below, pp. 19ff., for relevant

<sup>2</sup> Literal glosses rather than translations will be provided where the interpretation is transparent enough.

<sup>3</sup> In accord with the *wh* nature of the fronted constituents, these forms display all the essential diagnostic properties of *Wh*-movement: (a) presence of a gap; (2) unboundedness, with apparent violation of Propositional Island Constraint (PIC) and Specified Subject Condition (SSC) (*Un fatto* [PPdi cui] molti credono [S<sub>i</sub> di essere in grado [S<sub>i</sub> di valutare [NP<sub>i</sub> importanza t]]) “A fact of which many believe they can evaluate the importance”); (3) sensitivity to the Complex NP Constraint (CNPC) (*\*Un fatto* [PPdi cui] penso di aver conosciuto [NPil ragazzo [S<sub>i</sub> che ha saputo valutare [NP<sub>i</sub> importanza t]]) “A fact of which I know the one who could evaluate the importance”); as to the last diagnostic property of Chomsky (1977a), namely, sensitivity to the *wh*-island constraint, see Rizzi (1980) for a discussion of its essential irrelevance in Italian.

These extractions also appear to be sensitive to the (absolute) A/A principle (and/or subadjacency, if PP is a cyclic node for subadjacency; we will be assuming that S', not S, counts for subadjacency in Italian – see the text below): *\*un fatto* [PPdi cui] siamo tutti convinti [PPdel [NP<sub>i</sub> importanza t]] “a fact of which we are all persuaded of the importance” – see Kayne (1975: section 2.7) for comparable French facts.

<sup>4</sup> We are assuming here that *ne* is the clitic form of a PP of the form [di NP] “of NP” or [da NP] “from NP,” where the NP is a third-person generally non-human pronoun, cf. *Ne sono contento* “I am glad of it/? her/? him”; *Ne sono stato allontanato* “I have been removed from it/\* her/\* him”; the latter *ne* (*da* NP) is rather literary when the understood pronominal NP refers to concrete objects. We assume *ci/vi* to be the clitic form of a PP of the form [a NP] “at/in/to NP” where the NP is a third person non-human pronoun. We further assume, for concreteness, that [PPne] and [PPci/vi] are directly generated as such in the base and later cliticized to the V from the postverbal position. These forms recall the French analogous forms *en*, *y* studied in detail in Kayne (1975).



discussion – and given that no (simplex) preposition stranding is allowed in Italian, the result is that only PPs can be successfully extracted from NPs in Italian. If we compare (1) and (2), the following conclusion appears natural: only PPs of the form [*di* NP] (recall our assumption that *ne* is [also] a pro-PP of the form [*di* NP(+ pro)]) can be extracted from NPs. Notice that the *ne* which corresponds to [*da* NP] rather than [*di* NP] is in fact not extractable. See (2c).

If we look in addition at cases of extraction from a preverbal subject NP (cf. (3)) or a postverbal subject NP (cf. (4)–(5)) this conclusion seems to be reinforced.

- (3) a. ?Giorgio, [<sub>PP</sub>di cui] [<sub>NPl</sub>'onestà *t*] è, credo, nota a tutti  
           G., of whom honesty is, I believe, known to everybody  
       b. \*una persona [<sub>PP</sub>a cui] [<sub>NPl</sub>'attaccamento *t*] potrebbe rovinarci  
           a person to whom the attachment could ruin us  
       c. quel posto [<sub>PP</sub>da cui] [<sub>NPl</sub>un/il licenziamento] ci è stato min-  
           acciato<sup>5</sup>  
           that position from which a/the dismissal has been threatened

The somewhat marginal (or literary) status of (3a), under normal stress conditions, may be due to an external factor.<sup>6</sup> This conclusion is reinforced by the perfect status of extraction from a *postverbal* subject. See (4) and (5), which represent cases of *Wh*-movement and Clitic Movement, respectively (the lack of a Clitic Movement case corresponding to (3))

<sup>5</sup> Note that all of the ungrammatical forms of (3) become (irrelevantly) grammatical if the PP, instead of being extracted from the NP, is fronted along with it (*una persona* [<sub>NPl</sub>'attaccamento alla quale] (*potrebbe rovinarci*), cf. (3b), etc.). Independent, principled, reasons having no bearing on the questions at issue here are responsible for the fact that in the pied-piping variant of (3b–d) as well as in that of (3a) (*Giorgio, l'onestà del quale* / \**di cui è nota a tutti*) *cui* pronouns are not allowed but only *quale* pronouns are. See Cinque (1978).

<sup>6</sup> This is a peripheral issue here which will be dealt with briefly. It seems that the output of *Wh*-movement (out of NPs) in Italian must conform to the further requirement that the “fronted” PP be construable with the “mutilated” NP in a partitive-like fashion. This may be the reason why the meaning of (1a) and similar forms is roughly paraphrasable as: “the person *x* such that of *x*'s properties we appreciate the generosity” rather than “the person *x* such that we appreciate the generosity of *x*.” Perhaps a variant of Barbaud's (1976) partitive rule may be appropriate here. A further (pragmatic) condition on such a construal process seems to be that the NP with which the “fronted” PP is construed must be the focus of the sentence. A preverbal subject position in Italian may not qualify as the focus of the sentence (See Guéron 1977: chapter 4 for relevant discussion) unless it is “exceptionally” stressed. Interestingly, forms such as (3a) become virtually perfect if the preverbal subject NP is heavily stressed. Note also that a postverbal subject NP may qualify as the focus of the sentence. This should be compared with the perfect status of extraction out of postverbal subject NPs.

above is due to the fact that Italian has no analogue of the French *En-*avant rule – for which see Ruwet [1972b], Kayne [1975: 2.13]; that is, no Clitic Movement [from the subject to the verb] to the right is allowed in Italian).

- (4) a. Giorgio, [<sub>PP</sub>di cui] è nota [<sub>NP</sub>l'onestà t]  
 G., of whom is known the honesty  
 b. \*una persona [<sub>PP</sub>a cui] potrebbe rovinarci [<sub>NP</sub>l'attaccamento t]  
 a person to whom could ruin us the attachment  
 c. \*il posto [<sub>PP</sub>da cui] è stato minacciato [<sub>NP</sub>il licenziamento t]<sup>7</sup>  
 the position from which has been threatened the dismissal
- (5) a. [Ne] è nota [<sub>NP</sub>l'onestà t]  
 Of-him is known the honesty  
 b. \*[Gli] potrebbe valere [<sub>NP</sub>l'attaccamento t]  
 To-him could be worthwhile the attachment  
 c. \*[Ne] è stato minacciato [<sub>NP</sub>il licenziamento t]  
 From-it has been threatened the dismissal

Thus, extraction from NP in Italian, assuming these paradigms to be representative, seems to be characterized by the following observational generalization: only PPs of the form [*di* NP] can be extracted (from subject and object NPs alike). If extraction is indeed involved in (3), the systematic possibility of extracting from preverbal as well as postverbal subject NPs in Italian (as opposed to, say, English) seems to require an account, for the problem of extraction in Italian is rather different from that proposed for English in Chomsky (1977a). To see this, consider the main lines of that approach. It essentially appealed to the notion of subjacency under the assumption that S instead of (or in addition to) S' is a cyclic node for subjacency. The consequence is that in the normal case no extraction is allowed from NP (the extracted element would, on its way to COMP, cross the two cyclic nodes NP and S). The few apparently permitted cases of extraction from NP are analyzed there as not involving genuine extraction. They divide into two major classes. The first involves a base structure of the form (i) V[<sub>NP</sub>] [<sub>PP</sub>NP<sub>2</sub>] rather than (in fact, in addition to) (ii) V[<sub>NP<sub>1</sub></sub>] [<sub>PP</sub>NP<sub>2</sub>]], so that the NP within the PP, or the PP itself,<sup>8</sup> can move freely to COMP, crossing only one cyclic

<sup>7</sup> There is an irrelevant good reading to some of these sentences in which the fronted PP is construed with the matrix V rather than with the NP.

<sup>8</sup> Note that under this approach PP cannot be a cyclic node for subjacency (in English). If it were so, no movement of NP to COMP would be allowed as it would entail the crossing of

node, namely S. This reflects the basic idea of Horn (1975), and Bach and Horn (1976), about a class of spurious cases of extraction. It is to be expected that a sequence of the form V Det NP NP that has the structure of (i) will have the following properties: the NP can be *wh*-moved (questioned, relativized etc.); the second and third terms, since they form a base-generated constituent of the type NP, can be realized as a pronoun, can be *wh*-moved and NP-moved (e.g. in Passive). The same sequence with the structure shown in (ii) will have none of these properties. Sentences like (6)

(6) John wrote a book about someone

are a case in point. They are ambiguous between the two structures (i) and (ii). See Bach and Horn (1976), Chomsky (1977a). The latter paper points out the existence of a somewhat different class of exceptions to the analysis in terms of the modified version of subjacency just sketched. Note that this analysis incorporates Bach and Horn's generalization (the NP Constraint) in a principled way, by having it follow from very general and independently needed principles of the theory, and by avoiding the empirical inadequacies of Bach and Horn's analysis (like the possible extraposition from NP to the right as in [s[<sub>NPA</sub> review t] was published [<sub>PP</sub>of Bill's book] ] ). This second type of exception is represented by such forms as (7)

(7) I saw a picture of someone

which do not display the same cluster of properties as (6). In particular, they do not show the independent "pronominalization" or *Wh*-movement of the sequence *a picture*:

- (8) a. \*I saw it of John
- b. \*What did you see of John?

although they allow for what *prima facie* is an extraction from NP:

(9) Who did you see a picture of?

Both of these properties of (7) are accounted for under the assumption that forms like (7) are base-generated with structure (ii) and that an extraposition (or readjustment) rule may apply (in the initial structure,

two cyclic nodes, PP and S. The undesirable consequence would be that only the PP itself would be movable to COMP.

before transformations). See Chomsky (1977: 114–16). Thus, neither class of exceptions is regarded as a case of genuine extraction. In essence Chomsky's (1977a) analysis shares with Bach and Horn's (1976) the idea that the basic or unmarked case for English is that (*wh*-)extraction from NP is blocked and that the few apparent cases of extraction are essentially peripheral in that they involve more marked resources such as the readjustment rule mentioned above. Under this view, the fact that both "exceptions" to the basic case are lexically "restrained" (the first exceptional case is possible with *write* but not with *burn*; the second with *see*, *find* but not with *destroy*) and somewhat variable through idiolects, is somehow to be expected. If we turn back to the Italian case now, we see that the facts so far reviewed do not seem to warrant the same interpretation. The readjustment analysis for the few cases of extraction in English makes it – as it were – natural (under standard assumptions) that in fact only postverbal NPs, never subject NPs, will allow "extraction." This is because subjects are not governed by Vs and thus should be unaffected by rules that are sensitive to the nature of the particular matrix V.<sup>9</sup> Now, the fact that PPs can be extracted from subject NPs in Italian and, furthermore, under the same conditions that govern extraction from other types of NPs, seems to weaken the case for an analysis which involves a readjustment rule sensitive to the nature of the matrix V, for Italian. Also, extraction of PPs of the form [*di* NP] seems essentially systematic, not restrained by any kind of lexical idiosyncrasy. These considerations may suggest a shift of interpretation. Suppose we were to take the unmarked case in Italian to be that extraction from NP is actually free. This presupposes an independent explanation for why PPs of a form other than [*di* NP] are not in fact extractable. Let us assume for the time being that one such independent explanation exists. We come to this directly.

Note, then, that this different interpretation of what is the marked and unmarked situation in the extraction facts of Italian is representable by taking NP and S' (not S) as the cyclic nodes for subjacency in Italian: an assumption that has been argued on independent grounds by Rizzi (1980).<sup>10</sup> Extraction from NP in Italian would then be freer than in English since *Wh*-movement from NP (to COMP) would only cross one cyclic node, namely NP, and would thus be permitted.

<sup>9</sup> This conclusion is not accepted by everybody. See Koster (1978: 564).

<sup>10</sup> He himself notes the consequences that derive for the problem of extraction from NPs from taking S' and NP as the only cyclic nodes for subjacency in Italian.

An important part of the difference in the syntax of extraction from NP in English and Italian would thus reduce to a minimal difference in what counts as a cyclic node for subjacency in the grammar of the two languages.<sup>11</sup>

This conclusion seems to be supported by the fact that extraction from NP through Clitic Movement, in Italian, is possible under exactly the same conditions as extraction through *Wh*-movement. If the problem of extraction in Italian were to crucially and exclusively involve the cyclicity (for subjacency) of S, as in English, we could in principle expect different results when extracting through Clitic Movement (which involves movement across just one cyclic node, NP) and through *Wh*-movement (which involves, except possibly for a few readjustment cases, two cyclic nodes, NP and S).<sup>12</sup> If on the other hand the cyclicity of S plays no role in the syntax of extraction in Italian, it becomes perhaps natural that the conditions governing extraction with *Wh*-movement should in no relevant way be different from those governing extraction with Clitic Movement. What remains to be determined, of course, is the exact nature of such conditions. Before we address this question we should mention some cases that appear to constitute *prima facie* counterexamples to the generalization stated above.

About the first class of cases, the so called Bach–Horn sentences, we will not say much since they are quite familiar and have already been referred to above. A relevant example is (10):

- (10) un autore [<sub>PP</sub>su cui] sono stati scritti molti articoli  
 an author about whom many articles have been written

for which the plausible initial (VP) structure is [<sub>VP</sub>V[<sub>NP</sub>][<sub>PP</sub>P NP]]. As we should expect, the replacement of the V *scrivere* by a V such as *distruggere* in (10) leads to ungrammaticality (in the intended sense), and the following related forms are grammatical:

- (11) a. Li abbiamo scritti su di lui  
 We have written them about him

<sup>11</sup> An additional parameter is represented by the possibility in English, but not in Italian, of stranding prepositions. See Riemsdijk (1978) for relevant discussion.

<sup>12</sup> We could, for example, expect extraction of any clitic to be totally free, or at least governed by conditions different from those governing *wh*-extractions. Which is not the case. See (1)–(5).

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- b. Che cosa avete scritto su di lui?  
What have you written about him?
- c. Quattrocento e più libri sono stati scritti su Scott  
More than 400 books have been written about S.

A more interesting class of apparent counterexamples to the generalization that only PPs of the form [*di* NP] can be extracted is represented by such sentences as

- (12) la piazza [<sub>ppa</sub> cui] hanno interdetto l'accesso  
the square to which they have blocked the access

In such cases, there is little doubt that the (fronted) PP is closely connected to the NP. See the following forms, where the PP and the NP behave as a constituent under NP-preposing:

- (13) L'accesso alla piazza era stato interdetto dalla polizia  
The access to the square had been blocked by the police

Furthermore, the selection of the preposition in the PP seems to depend on the head N of the related NP (in fact from the head lexical category of the neutral N/V entry, in an X' framework; cf. *accedere alla piazza*). In contrast to such forms as (11a–b), the independent “pronominalization” or *Wh*-movement of the NP (connected to the PP) is not possible here. See:

- (14) a. \*Lo hanno interdetto alla piazza  
They have blocked it to the square  
b. \*Che cosa hanno interdetto alla piazza?  
What did they block to the square?

In spite of this there is evidence for one derivation of such forms as (12) which does not involve genuine extraction. Alongside the passive form (13) a passive alternative such as the following is also possible, in which the PP is “left behind”:

- (15) L'accesso era stato interdetto solo alla piazza  
The access had been blocked only to the square

The situation illustrated by (12)–(15), which is different from both the Bach–Horn cases and the case of (1a)–(5a),<sup>13</sup> recalls closely Chomsky's analysis of *Who did you see a picture of?*<sup>14</sup> and can be analyzed along the following lines. Sentences like

- (16) Hanno interdetto l'accesso alla piazza  
(They) have blocked the access to the square

are generated in the base with the structure NP<sub>[VPV[N<sub>PN</sub>[PP]]]</sub>. This accounts for the preposition selection property and for the NP-preposing case of (13), where *l'accesso alla piazza* behaves as a constituent. Suppose now that structures like (16) may also be subject (optionally) to a reanalysis in the base (before the application of transformations) which converts their structure to NP<sub>[VPV NP PP]</sub>. Under this assumption the remaining basic properties of these sentences also follow. The NP-preposing (in Passive) of the NP alone will now be allowed, whereas the "pronominalization" and the *Wh*-movement of the same NP will still not be possible given that pronouns and *wh*-phrases are base-generated pro-NPs and thus could only stand for the whole [N<sub>PN</sub> PP] base structure of (16). This reanalysis process, like the English case discussed by Chomsky, is sensitive to properties of the matrix V. For example, it is possible with *interdire* (*l'accesso*) but not with *descrivere* ("describe") (*l'accesso*). (Cf. \**L'accesso è stato descritto solo alla piazza* "The access has been described only to the square" vs. (15)). It is interesting to note that in this case extraction is likewise impossible: \**la piazza a cui hanno descritto l'accesso* "the square to which they have described the access" vs. (12).) The two facts thus appear to correlate. This lexical dependency may be connected to the fact that such forms as (16) (*interdire l'accesso* but not *descrivere l'accesso*) are semi-idiomatic forms in Italian. In fact, *interdire l'accesso* (*a*) may well be substituted by the single V *chiudere* "shut." The reanalysis process might thus be seen as a device to modify the cohesion of the constituents of certain sequences to adapt it to the interpretation of such sequences.<sup>15</sup>

<sup>13</sup> With such cases no autonomous pronominalization, *Wh*-movement, or NP-movement (in the Passive) of the NP is permitted, thus supporting the idea that genuine extraction is involved. Cf. \**La apprezziamo sempre di Giorgio* "We always appreciate it of G.," \**La generosità sarà apprezzata di Giorgio, anche* "The generosity will be appreciated of G., too."

<sup>14</sup> A derivation of (15) through PP extraposition from the subject NP seems unlikely for Italian, which systematically lacks extraposition of PPs (and, for that matter, relative clauses) in the contexts that allow them in English (see Guéron 1977): \**Un uomo è entrato dai capelli bianchi* "A man came in with white hair," \**Un uomo è venuto che conosco bene* "A man has come that you know well."

<sup>15</sup> Clearer cases of idiomatic reanalysis are forms such as:

- (i) l'unico [PP<sub>a</sub> cui] dimostravano [NP<sub>attaccamento</sub>]  
the only one to whom they showed attachment

It may be possible to explain away all the known cases of apparent counterexamples to the generalization along these and similar lines. If so, then the fact that of all PPs only those of the form [*di* NP] can be successfully extracted from NPs is a significant property of the grammar of Italian. The generalization states an “only if” condition. It does not say that if a PP is of the form [*di* NP] then it can be extracted. It turns out in fact that the generalization cannot be strengthened to an “if and only if” statement. There are cases of [*di* NP] PPs that cannot be extracted. The conditions under which these PPs cannot be extracted appear to be characterizable precisely. The relevant examples are:

- (17) a. \*l'icona, [<sub>PP</sub>di cui] è stato scoperto [<sub>NP</sub>il furto del custode *t*]  
 the icon, of which has been discovered the custodian's theft  
 b. \*[ne] è stato scoperto [<sub>NP</sub>il furto del custode *t*]  
 of-it has been discovered the custodian's theft
- (18) a. \*l'icona, [<sub>PP</sub>di cui] è stato scoperto [<sub>NP</sub>il tuo furto *t*]  
 the icon, of which has been discovered your theft  
 b. \*[Ne] è stato scoperto [<sub>NP</sub>il tuo furto *t*]  
 Of-it has been discovered your theft

A comparison of (17)–(18) with the grammatical (19)

- (19) a. l'icona, [<sub>PP</sub>di cui] è stato scoperto [<sub>NP</sub>il furto *t*]  
 the icon, of which has been discovered the theft  
 b. [Ne] è stato scoperto [<sub>NP</sub>il furto *t*]  
 Of-it has been discovered the theft

suggests the following conclusion: a PP of the form [*di* NP] cannot be extracted if the NP from which it is extracted contains another PP of the form [*di* NP] or a possessive adjective. Note, however, that whereas this is

- (ii) l'unico [<sub>PP</sub>in cui] riponevamo [<sub>NP</sub>fiducia]  
 the only one in whom we put trust

Here the special connection between the NP and the V is further indicated by the impossibility for possessive adjectives to occur freely in the NP, and by special restrictions on the use of determiners. See:

- (iii) \*Dimostrano il mio attaccamento a Giorgio  
 They show my attachment to G.
- (iv) a. \*Riponevamo la vostra fiducia in lui  
 We put your trust in him  
 b. \*Riponevano la/una fiducia in me  
 They put a/the trust in me  
 (OK: *una grande fiducia in me* “a great trust in me”)



invariably true for the case of possessive adjectives, it is not always true when PPs are present. See:<sup>16</sup>

- (20) a. il custode, [<sub>PP</sub>di cui] è stato scoperto [<sub>NP</sub>il furto dell'icona t]  
the custodian, of whom has been discovered the theft of the icon  
b. [Ne] è stato scoperto [<sub>NP</sub>il furto dell'icona t]  
Of-him has been discovered the theft of the icon

These are the basic facts.

We turn now to the question of how these facts can be derived from the principles of the explanatory theory.

2 We may begin by noting that, in Italian, PPs of the form [*di* NP] appear to introduce both the subject NP and the object NP of a N in a NP. For example in

- (21) la descrizione di Giorgio dei particolari dell'incidente  
the description of G. of the details of the accident

which corresponds closely to

- (22) Giorgio ha descritto i particolari dell'incidente  
G. has described the details of the accident

(*di*) *Giorgio* has the same relation to the N *descrizione* that *Giorgio* has to the V *ha descritto* in (22) (that of “subject-of”); and (*de*) *i particolari dell'incidente* bears the same relation to the N, in (21), that *i particolari dell'incidente* bears to the V in (22) (that of “object-of”).<sup>17</sup> It might be fruitful to try to relate this property of [*di* NP] PPs (and possessive

<sup>16</sup> Examples (17)–(20) are reminiscent of some French facts first pointed out in Ruwet (1972c).

Examples (20a–b) are perhaps slightly marginal, maybe because the preferred sub-categorization for *furto* is a (passive) intransitive one. That is, *Il furto dell'icona da parte del custode* is generally preferred to *il furto dell'icona del custode/il suo furto dell'icona*. What is crucial here, in any event, is the relative contrast in acceptability between (20) and (17)–(18).

<sup>17</sup> A similar observation is valid for possessive adjectives. They too can introduce the subject of a N. Compare (i) with (ii):

- (i) La sua descrizione dell'incidente  
(the) his description of the accident  
(ii) Lui/lei ha descritto l'incidente  
He/she described the accident

*Prima facie*, they also appear to introduce the object (pronominal) NP of a N. See (iii):

adjectives) to the other property that characterizes them, namely that they are the only type of PP that can be freely extracted from NPs (with the qualifications just made). We will explore this possibility. The specific hypothesis we will consider to relate these two properties is that the syntax of extraction from NPs, in Italian, is for the essential part reducible, under trace theory, to the Opacity Condition of Chomsky (1978).<sup>18</sup> This condition of Logical Form (LF) blocks structures in which there is a free anaphor in  $\alpha$  ( $\alpha = S'$  or NP) which is also in the domain of the subject of  $\alpha$ , where “free in  $\alpha$ ” means “not coindexed with a c-commanding category in  $\alpha$ .”<sup>19</sup>

Many more auxiliary assumptions need to be made explicit before we can have a hypothesis which is sufficiently precise to be checked in an interesting way against the facts. We will discuss them directly. It suffices for the moment to note that for this condition to have the desired consequences for the syntax of extraction in Italian, the trace of Clitic Movement and that of *Wh*-movement must both be interpreted as “anaphors” (in the technical sense of Chomsky 1978). If this assumption is consistent with the original proposal put forth by Chomsky (1975, 1977a) as part of the motivation for trace theory, and remains unchallenged for the trace of Clitic Movement (whose fundamental properties

- (iii) La tua descrizione non era fedele  
Your description was not faithful

which has a meaning corresponding to “They haven’t described you faithfully.” See, however, section 2 for a different interpretation and a more detailed discussion of possessives.

<sup>18</sup> This is, in essence, the original proposal put forth in “Conditions on transformations” (Chomsky 1973) to treat the extraction facts of English as well as such interpretive phenomena as the *each other* cases in

- (i) a. *The men* saw pictures of *each other*  
b. \**The men* saw John’s pictures of *each other*

and the negation scope phenomena represented by:

- (ii) a. I didn’t see pictures of many of the children  
(ambiguous: the negation may be associated with either *see* or *many*, at least for some people)  
b. I didn’t see John’s pictures of many of the children  
(unambiguous: the negation may be associated only with *see*)

The “Conditions” analysis made reference to the predecessor of opacity, the SSC. Facts similar to (i) and (ii) hold for Italian but they will not be reviewed here in any detail. Chomsky (1977a) presents a partially alternative analysis for the extraction facts (see above), which invokes opacity only obliquely. In this chapter we will not consider a reassessment of the SSC (opacity) account for the extraction facts of English.

<sup>19</sup> For the notions “anaphor” and “c-command,” see Chomsky (1978) and references cited there.

are essentially like those of other lexical anaphors such as reflexives, *each other*, etc.), it clashes with the interpretation of traces of *wh*-phrases given in Chomsky (1978) and Rizzi (1980), according to which by the time opacity becomes operative the trace of a *wh*-phrase has already been converted in LF into a variable (bound by the *wh*-quantifier) and as such is no longer sensitive to opacity. For relevant discussion, see the two papers cited. For the time being let us, nonetheless, continue to suppose that both the PP trace of Clitic Movement and that of *Wh*-movement are anaphors in the intended sense. Notice now what are the implications of this hypothesis for the extraction phenomena, if it should prove basically correct.

Assuming every NP to have an (overt or covert) syntactic subject position (an assumption that we will try to substantiate later) and given that the subject of a NP is introduced only by [*di* NP] PPs (and possessive adjectives), only [*di* NP] PPs will in fact appear to be extractable. Also, given that [*di* NP] PPs can introduce both the subject and the object NP of a N in a NP, only a subclass of [*di* NP] PPs will be extractable, that is, only those that introduce the subject.

That is, we would simultaneously account for the generalization stated above and for the cases ((17)–(18)) that forbid the strengthening of the generalization to an “if and only if” statement.

However, in order for the hypothesis to be empirically testable, we have to characterize in a precise way the notion of (syntactic) subject and object of an NP (in Italian) and determine, for the relevant classes of Ns in Italian, which phrase counts as its *syntactic* subject.<sup>20</sup> We take up these two questions separately in 2.1 and 2.2, respectively.

**2.1** It was observed informally above that the subject and the object of a NP may be introduced either by a [*di* NP] PP or by a possessive adjective. In the version of X-bar Theory we are assuming here the complement expansions of X (and X') are one and the same for each choice of X (V, N, A, P).<sup>21</sup> In other words, Ns and As will have the same range of complements as Vs and Ps have; among these (bare) NP complements. This decision has the advantage of maximizing the generality and

<sup>20</sup> Note that the crucial notion for an hypothesis that invokes opacity is the definition of the (surface) syntactic subject (of a NP), not the definition of the deep syntactic subject or one of “semantic” subject (agent, etc.). For relevant discussion, see Chomsky (1978).

<sup>21</sup> This is a natural extension of the position taken in Chomsky (1970) and Jackendoff (1977: section 4.2.3) and has been suggested in lectures by Chomsky in Pisa, April 1979.

uniformity of the  $X'$  system. The obvious observation that Ns and As never come out with an actual (bare) NP complement is related, in this view, to the fact that Ns and As, contrary to Vs and Ps ( $-N$ ), cannot assign case and to the fact that lexical NPs have to be case-marked (see the discussion of the Case Filter in Rouveret and Vergnaud 1980, Chomsky 1978). Instead of bare NP complements, what we find are PPs, generally introduced by the preposition *di* ("of") (see (22), (21) and  $[_{VP}Ama[_{NP}il\ rischio]]$  vs.  $E[_{AP}amante[_{PP}del\ rischio]]$ ). Loosely speaking, one might think of these PPs as a kind of suppletive form to save the generality of the X-bar Theory. To the extent that this suppletion process is regular, one could propose a (transformational) rule inserting  $[_P di]$ , that is an already available case-assigner for a NP that otherwise could not receive case.<sup>22</sup>

For simplicity we also take the rule expanding the subject of  $N''$  to be  $N'' \rightarrow N' [_{PP} NP]$ , where the preposition *di* is inserted under the empty P for the same reasons that may motivate it for NP complements of Ns, as just discussed. We leave the question open here whether this rule generalizes to the other major categories ( $V''$ ,  $A''$ ,  $P''$ ).

Suppose further that the possessive adjective, which we take to be generated as such in the specifier position of  $N'$  in the base, translates in LF as *di* NP, where the NP is a pronoun with the feature specification (person and number) "inherited" from the adjective.<sup>23</sup> This translation may extend straightforwardly to what Postal (1969) called Proper Pseudo-Adjectives (PPA), which are plausibly base-generated as As (see Chomsky 1972). This would meet the objections raised in Watt (1973).

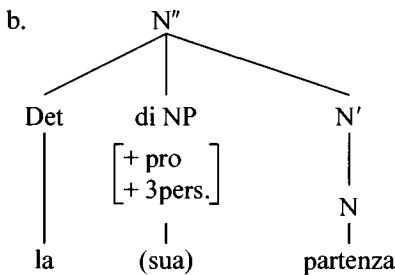
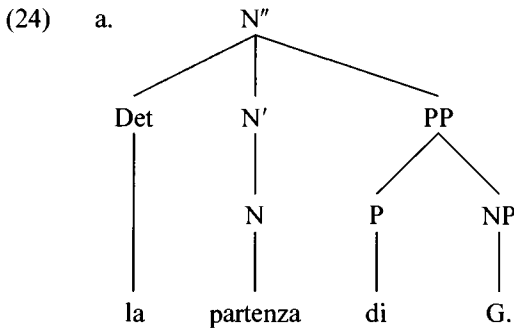
<sup>22</sup> In Chomsky (1970) and Jackendoff (1977) the rule is interpreted as inserting the preposition *of* (or a specified grammatical formative which happens to be homophonous to the preposition – see Jackendoff (1977): section 4.2.3)) with no creation of a PP structure. Note, however, that those *di* NP sequences in Italian behave as ordinary PPs. They are moved by "Move  $\alpha$ ," have PP pro-forms (*ne*) and are sensitive to the principle that forbids preposition stranding. It seems thus reasonable to accord them a PP status. A position consistent with both the (base-generated) PP structure and the *di* insertion rule, as pointed out by N. Chomsky, would be a general rule inserting *di* in the (base-generated) empty position of P in the PP complement of Ns and As. Essentially the same position is taken in Jackendoff (1974). A similar idea was suggested as early as Chomsky (1955). On the non-full generality of the *di* insertion rule see section 3. In English the evidence for a PP structure in comparable *of* NP sequences is not as clear as it is in Italian. See Jackendoff (1977: chapter 4, fn. 13).

<sup>23</sup> This assumption is not really crucial. An alternative could be base-generation of *di* NP structures, later spelled out as As if NP is a pronoun. The existence of such forms as *la [\_{PP}di lui] dipartita* ("the of him death") could be taken as supporting evidence. The extremely marked character of these forms, however, may suggest a separate treatment for them, as a marked option of the base rules.

Given this, let us define now the notions of (syntactic) subject and object of a NP. For convenience, we will define the subject of  $\alpha$  ( $\alpha = \text{NP}$ ) as the NP of a [*di* NP] PP immediately dominated by N'' (a generalization of this definition to cover the case of the subject of S seems possible but will not be explored here). Assuming, as seems natural, that the notion *subject-of* is relevant only at the level of LF (opacity, etc.), this definition will pick out correctly *Giorgio* and the pronoun concealed under *sua* as the syntactic subjects of the NP in (23a) and (23b), respectively:

- (23) a. la partenza di Giorgio  
           the departure of G.  
       b. la sua partenza  
           his/her departure

whose LF structure, under this analysis, will be:



Although many general principles of the theory of LF still wait to be worked out fully, one may reasonably suppose that the ungrammaticality of forms like

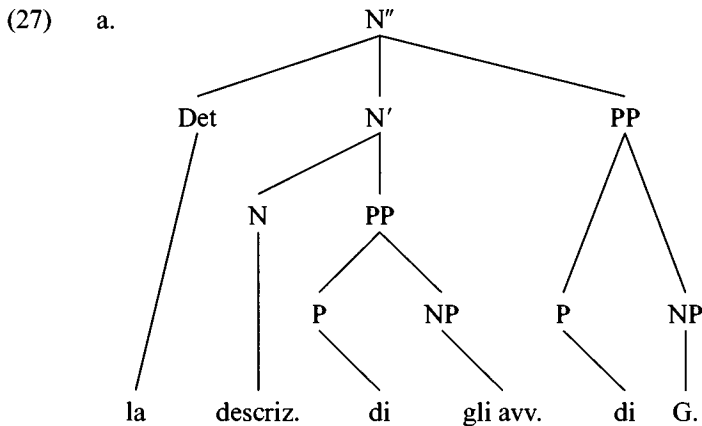
- (25) \**la sua partenza di Giorgio*  
his departure of G.

which under a phrase structure derivation of the possessive adjective are freely generated, may be related to a violation of one very general LF requirement. The intransitive predicate *partenza* would end up with two subjects, a mismatch between syntactic positions and logical argument positions.

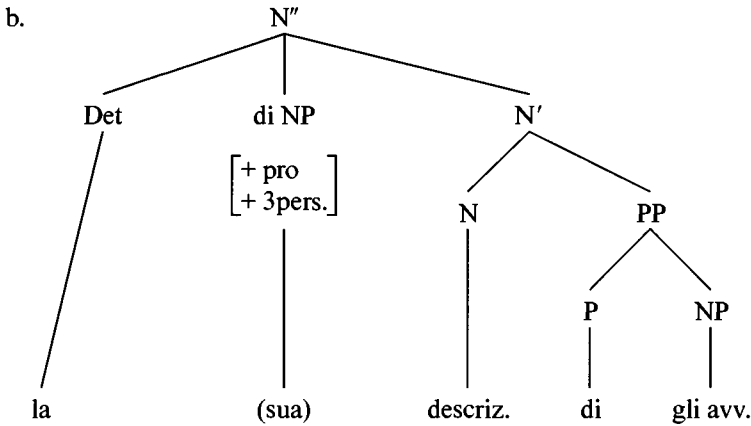
We further assume the definition of object of  $\alpha$  ( $\alpha = \text{NP}$ ) to be the NP of a [*di NP*] PP immediately dominated by  $\text{N}'$ . (Again the parallelism with the definition of object of  $\alpha = \text{S}$  is obvious. A unification of the two, which is not attempted here, seems straightforward.)

Under standard assumptions for the strict subcategorization frame of Ns like *descrizione* (see, however, section 2.2 below) and the other assumptions made explicit above, plausible (sub)logical form representations for (26) are (27):

- (26) a. *la descrizione degli avvenimenti di Giorgio*<sup>24</sup>  
the descriptions of the events of G.  
b. *la sua descrizione degli avvenimenti*  
his description of the events



<sup>24</sup> Sentences like this have an alternative, irrelevant, parsing with the second PP within the NP of the first PP.



The definition of subject and object will mark the NP *gli avvenimenti* as the object of the N'' in both (a) and (b) and *Giorgio*, and the NP under *sua*, as the subject of the N'' in (a) and (b), respectively.

The inverted order of the PPs of (26a) (*la descrizione di Giorgio degli avvenimenti*), also possible, is simply obtained, we assume, from the structure underlying (26a) through a postposition or more likely Heavy Constituent Shift of the “object” PP (in fact, the inverted order seems in many cases more natural if the “object” PP is heavier than the subject PP). In those cases for which only one of the two reciprocal orders of PPs is possible (i.e. where the postposition rule is for some reason inapplicable) that order is “object” PP – “subject” PP, never the converse. See, for example:

- (28) a. il desiderio di rivincita di Giorgio  
 the desire of revenge of G.  
 b. \*il desiderio di Giorgio di rivincita

This is exactly what one would expect if the “object” PP were generated under N' and the “subject” PP under N'', as we have assumed above.

Finally, note that under the assumption made earlier, that the possessive adjectives are base-generated as such in a single position (that of “specifier of N'”) they will be interpreted only as introducing the subject of the NP, never the object (given the definitions of subject and object of NP adopted here). This result will be seen later to have some interesting and desirable consequences for the syntax and semantics of NPs.

**2.2** The next question to be considered concerns the lexical properties (if any) of the relevant classes of Ns in Italian;<sup>25</sup> specifically the question of *what counts as the syntactic subject of each class*.

Within an X' conception of the lexicon, what one should expect to find, perhaps as the least marked situation, in a related pair of V and N, is that their subcategorization frames be identical or very closely corresponding, that the semantic role of the subject of the V be the same as that of the subject of the related N, etc. All this can be expressed in terms of very general principles of the lexicon. Within the same conception one also expects to find, in certain cases, lack of correspondence in some or all of the aspects of the relation between N and V. These idiosyncrasies would have to be listed in the lexical items themselves (this being perhaps the most marked situation). Any subregularity, a quite common situation in this domain, would be expressed in terms of redundancy rules.

In the classes of Ns that we will discuss (in relation to the corresponding Vs) we will find in general a systematic correspondence in properties of Ns with the related Vs. Furthermore it seems that in those cases where such correspondence fails, clear subregularities are found.

It is important to try to determine what counts as the syntactic subject of each class on grounds (syntactic and semantic) which are independent of the question of extraction. In this way, we will be able to check the predictions deriving from the hypothesis made above for the facts of extraction. It will be seen, in particular, that a careful examination of what counts as the syntactic subject of each class will show the perfect consistency of the hypothesis with cases that otherwise could have been taken as counterexamples.

We will begin by comparing the class of "intransitive" Ns (related to intransitive Vs) with one class of Ns related to transitive Vs. This latter class is the class of predicates termed in Postal (1971) "psych-movement" verbs. The basic properties of these two classes are illustrated in (29) and (30), respectively:

- (29) a. *la partenza di Giorgio (da Roma per l'Egitto)*  
           the departure of G. (from Rome to Egypt)

<sup>25</sup> The present section is an extension of work reported in Cinque (1980b).



- b. la sua partenza (da Roma per l'Egitto)  
his departure (from Rome to Egypt)
  - c. la partenza (da Roma per l'Egitto)  
the departure (from Rome to Egypt)
  - d. \*la partenza di te (da Roma per l'Egitto)  
the departure of you (from Rome to Egypt)
- (30)
- a. il desiderio di Anna  
the desire of A.
  - b. il desiderio di te  
the desire of you
  - c. il tuo desiderio  
your desire
  - d. il mio desiderio di te  
my desire of you

Much of what we say about (29) has already been anticipated above. In (29a) *Giorgio* is understood as the “subject” of *partenza* much in the same way as *Giorgio*, in the sentence (31)

- (31) *Giorgio parte (da Roma per l'Egitto)*  
G. leaves (from Rome to Egypt)

is understood as the “subject” of the related V *partire*. In (29b) it is the NP concealed under the possessive adjective that corresponds to the subject of the related V. It appears that whenever a possessive adjective is possible a “subject” [*di* NP] PP is also possible, except for one marginal case.<sup>26</sup> Possessive adjectives and [*di* NP] PPs are in (quasi-)

<sup>26</sup> This case is represented by a literary (or very formal) fully productive nominalization process, roughly corresponding to the English *his refusing the offer* construction, in which possessive adjectives may appear but there is no [*di* NP] PP alternative with a lexical NP. Compare (i) vs. (ii):

- (i) il suo divenir celebre  
his becoming famous
- (ii) \*il divenir celebre di Antonio  
the becoming famous of A.

(see Fornaciari 1881: 195f.). Instead of (ii) we find: *il divenire Antonio celebre*, which recalls the marked construction discussed in detail in Rizzi (1978b). The construction exemplified by (i) should not be confused with superficially identical forms like *il suo tramontare repentino* (“its rapid setting”) which show a [*di* NP] PP alternative to the possessive adjectives (*il tramontare repentino del sole* “the rapid setting of the sun”). The latter case has all the properties of lexical nominals, perhaps analyzable through a (scarcely productive) word formation rule such as [<sub>v,m</sub>] → [N].

complementary distribution within NPs. Possessive adjectives are pronominal forms standing for a first-, second-, and third-person ( $\pm$  plural) pronoun (contrary to English, they do not mark the gender of the pronoun but agree in gender with that of the head they modify). Subject [*di* NP] PPs, on the other hand, are well formed if the NP is lexical, but not if the NP is a pronoun, unless it is coordinated with another NP or is heavily contrasted (cf. (29a) with (29d) – for a more detailed discussion see Belletti 1978).

One might want to account for this (quasi-)complementary distribution with a (semi-)obligatory spelling out or Cliticization rule which turns a (subject) [*di* Pro] PP into a possessive adjective (and moves it to pre-head position). This is the course taken in Belletti (1978). Another possibility, one assumed earlier, is to consider possessive adjectives directly generated as such in the base (in fact they do not seem to differ in the relevant respects from ordinary adjectives) and to attribute the non-perfect status of [*di* NP] PPs where the NP is a pronoun to some as yet to be stated external principle. We are not taking a definite stance here between these two possibilities and in fact both are compatible with the analysis to be sketched below. For concreteness and without much justification we adopt the latter here. All that we say below can accommodate the other assumption with only minor changes. A third possibility will be discussed in section 2.3.

Note that it is implicit in what we have assumed so far that the rule “Move NP” (of the Passive etc.) has no role in the syntax internal to the NP in Italian. Its absence in this domain may perhaps be related to the fact that the bare NP complement to the N is not marked for case in its base position nor can it receive it in the specifier position to the left of the N (we assume this latter case to be what differentiates Italian from English). See section 2.3 for a somewhat more detailed discussion of this issue. As a consequence of this, more of the work will have to be put on redundancy rules. However, when the relation between Ns and Vs is taken into account, as it should, such redundancy rules will be seen to be needed largely independently of the decision to keep “Move NP” out of the syntax of NP in Italian.

Before comparing (29) with (30) we should discuss briefly one last rather crucial assumption for our analysis. In cases like (29c), where no overt subject appears, either in the form of a [*di* NP] PP or a possessive adjective, we still assume there to be a syntactic subject position in LF. We may think of it for convenience as a kind of zero adjective which

translates in LF as *di* NP as with other overt possessive adjectives:<sup>27</sup> a special form for the arbitrary interpretation of subjects of NPs. This is in fact how (29c) is actually interpreted, with an unspecified subject just as in ordinary infinitival structures with arbitrary control (*Non era chiaro per dove partire* “It wasn’t clear for where to leave”).<sup>28</sup> Consider now (30). Example (30a) (as opposed to (29a)) is ambiguous between a subject reading (“A. desires someone/something”) and an object reading (“Someone desires Anna”). The two single readings are represented in *Il desiderio di Anna fu esaudito* “Anna’s desire was fulfilled” and *Il desiderio di Anna lo porterà alla rovina* “The desire for Anna will ruin him,” respectively. Example (30b) (= *il desiderio di te*) is no longer ambiguous. It has only the object reading. Note that there is no restriction here comparable to that involving (29d) (in fact what was said before about (29d) holds here with respect to the subject reading for (30b)).

Example (30c) (= *il tuo desiderio*), on the other hand, has only the subject reading (“You desire someone/something”). It cannot mean “Someone desires you.” Finally (30d) (= *il mio desiderio di te*) has just one reading, corresponding to “I desire you.”

Under the approach taken here, there seems to be a simple way to account for these two separate clusterings of facts. Suppose that *partenza*, like all “intransitive” Ns is subcategorized only for “oblique” complements, if any. We are assuming that Ns, just like Vs, are not strictly subcategorized by their subject (P) NPs, simply because NPs (like Ss) always have a subject.<sup>29</sup> Suppose, on the other hand, that Ns of the

<sup>27</sup> An essentially identical proposal is tentatively suggested for French in Milner (1977: 85, fn. 29) within an analysis of [*de* NP] PPs and extraction from NP in French that has some points in common with the analysis presented here. His account of extraction is also in terms of the SSC (see fn. 18 above) but he restricts the subject of the NP to the NPs introducing the possessor (see pp. 83–8 of the cited paper). We will not try to compare the two approaches but will simply refer to some striking parallelisms between French and Italian that emerge from a comparison of Milner’s paper and the present chapter. In fact we will assume (without providing much justification) that the corresponding French facts are compatible (with few modifications) with the approach taken here.

<sup>28</sup> The fact that in sentences like *Giorgio era preoccupato perché mancavano poche ore alla partenza* “G. was worried because few hours were left for the departure,” the subject of *partenza* can be understood to refer to (include) *Giorgio*, appears to be best treated through some kind of pragmatic inference rather than coindexing. The effect of this pragmatic inference is that, contextually, *Giorgio* may be in the set of unspecified people leaving as one of the members or as the only member. The subject of *partenza* may also be understood as disjoint in reference with *Giorgio*. Interestingly, the same state of affairs holds across discourse.

<sup>29</sup> More precisely, the lexical entry will be *part-* under  $X'$  requirements; an entry neutral with respect to the choice V and N. Note that in this case we have the optimal situation

class of *desiderio* are subcategorized for an object (P) NP (in fact optionally) (this being no doubt related to their corresponding to transitive Vs).<sup>30</sup>

From these quite natural assumptions, and the assumption that the prohibition against [*di Pro*] PPs is restricted to those that mark the subject (whatever the proper account for it is – see the discussion above), the clustering of properties of (29) and (30) follow directly.

So, for example, the ambiguity of *il desiderio di Anna* (= (30a)), as opposed to the non-ambiguity of *la partenza di Giorgio* (29a) derives from the fact that the PP [*di Anna*] can be generated either under N'' (the subject reading) or under N' (the object reading), given the subcategorization frame for *desider-*. In (29a), on the other hand, [*di Giorgio*] can only be generated under N'', given the subcategorization frame of *part-*. If the restriction on pronominal NPs is limited to PPs that introduce the subject (under N''), the asymmetry between \**la partenza di te* (= (29d)) vs. *il desiderio di te* (= (30b)) also follows.<sup>31</sup> As expected, *il desiderio di te* is not ambiguous, in contrast to the ambiguity of *il desiderio di Anna*. Its subject reading being excluded by the restriction against subject [*di Pro*] PPs, it will be well formed only with [*di te*] generated under N' (the object). And, indeed, only the object reading is available ("Someone desires you").

Finally the non-ambiguity of (30c) and (30d) falls out too. Given that the possessive adjective is generated under N'', the NP under it will only be interpreted as the subject of the NP. So the fact that (30c) *il tuo desiderio* and (30d) *il mio desiderio di te* only mean, respectively, "You desire someone/something" and "I desire you" (not "Someone desires you" or "You desire me") is in fact expected.

We will extend now the framework built so far to the other classes of Ns that are related to transitive Vs. For ease of reference, let us designate

by any standard evaluation metric. The respective subcategorization features (and basic meaning) are identical for the two choices and need be specified only once.

<sup>30</sup> Once again we assume that the lexical entry will in fact be one and the same for the N and the related V: specifically *desider-* (for *desiderio* and *desiderare*). In this case, too, the subcategorization features and the meaning are identical across V and N except for the obligatory character of the (object) NP subcategorizing the V vs. the optional character of the (object) NP subcategorizing the N. The object NP of the N will actually "surface" as a [*di NP*] PP for reasons discussed above: again a (nearly) optimal situation in terms of any X' evaluation metric.

<sup>31</sup> Under the alternative analysis alluded to earlier, which derives the impossibility of [*di Pro*] PPs from the (semi)-obligatory character of the spelling out/cliticization of such PPs, the asymmetry would follow if the application of such a rule were limited to PPs immediately dominated by N''.

the class of intransitive Ns above class I and the class of Ns like *desiderio* class II. Consider now the relevant properties of another class of transitive Ns, which we will refer to as class III:

- (32) a. la cattura del soldato  
the capture of the soldier  
b. \*la cattura di te  
the capture of you  
c. le tua cattura  
your capture  
d. \*la nostra cattura del soldato  
our capture of the soldier

The first thing to note about this class of transitive Ns is that (32a), contrary to the corresponding case of the other class of transitive Ns seen above, (30a), is not ambiguous. It has only the object reading ("Someone caught the soldier"). The subject reading ("The soldier caught someone") is impossible.

*Prima facie* we could take Ns like *cattura* to be subcategorized for an object (P) NP (just like the related V *catturare*) but to lack a subject (P) NP (contrary to our earlier assumption that every NP has a syntactic subject position). This conclusion would seem to be reinforced by the ungrammaticality of (32d), which shows an overt possessive adjective (introducing the subject). Under this interpretation, however, the remaining properties of *cattura* would turn out to be rather puzzling when confronted with those of *desiderio* (class II) which was also analyzed as being subcategorized for an object (P) NP. For example, given that *cattura del soldato* has an object reading (is subcategorized for an object [P] NP) we could expect (32b) (= \**la cattura di te*) to be possible just as (30b) *il desiderio di te* is possible. But this is not the case. Example (32b) is impossible with either a subject or an object reading. Analogously, we could expect (32c) *la tua cattura* to be impossible with an object reading (just as *il tuo desiderio* was impossible with that reading). But (32c) admits of an object reading. In fact it has only the object reading "Someone caught you."

All this could well be taken to show an incoherence in the conclusions drawn above on the basis of the properties of class I and II. A rather simple and natural assumption exists that makes the incoherence disappear. Retaining all the particular assumptions made so far, suppose we say that Ns of the class of *cattura* (class III) are, as it were, "lexically" or

“inherently passive.” More concretely, this may mean that in the neutral entry *cattur-* (common to both the N *cattura* and the V *catturare*) the subcategorization for an object NP will not be common to both +N and +V, but will be specified only under +V. A lexical redundancy rule, sensitive to the semantic properties of this class of Ns (see below), will associate to the +N “subentry” the subcategorization \_\_\_\_#. <sup>32</sup>

In other words, we take it that the N *cattura* is not subcategorized for an object. Rather, it will have the property that the initial syntactic object of the related V corresponds systematically to its syntactic subject. With this single assumption added, the facts about *cattura*, shown in (32), become perfectly coherent with those of *desiderio* and are in fact expected. For example, if *cattura* is not subcategorized for an object, it will follow that (32a) *la cattura del soldato* will not be ambiguous. *Del soldato* can occupy just one syntactic position, that of the subject of the NP, under N". The “object reading,” in fact the only possible interpretation of (32a), will be now a consequence of the fact that the syntactic subject of the N corresponds to the initial object of the related transitive V (by the redundancy relation).

This interpretation also entails that (32b) *\*la cattura di te* should pattern like (29d) *\*?la partenza di te* rather than (30b) *il desiderio di te*, since *di te* marks the syntactic subject of the NP in the former two phrases but the syntactic object of the NP in the latter.

Analogously, in (32c), *tua* marks the syntactic subject position of the NP, as so far assumed (the object reading of *tua* being again a consequence of the systematic relation with the initial object of the related transitive V). The asymmetry in interpretation or grammaticality between (30a) and (32a), (30b) and (32b), (30c) and (32c) turns out thus to be

<sup>32</sup> A more precise and compact formulation seems possible within the rather narrow and natural limitation of the expressive power of redundancy rules proposed in Wasow (1977) according to which redundancy rules differ crucially from transformations in that the former may involve changes only in the relational structure of lexical categories. If we take I to refer to the subject, II to the direct object, III to the indirect object, etc., the lexical relation may be stated in a first approximation as:  $V_N(\text{II}) = \text{I}; (\text{I}) = \phi$ . See Wasow (1977). In fact, under Wasow's system it is expected that such relations between Ns and Vs such as these should be realized in some language.

One should also mention the fact that for some speakers (32a) has (marginally) a subject reading too (corresponding to “The soldier captured (someone)”). This may mean that for such speakers Ns belonging to this class (marginally) enter also an “active” subcategorization frame, perhaps in analogy with other transitive Ns that do (class II). It is interesting, in any event, to find that for the same speakers, consistently, (32a) has also a (marginal) subject reading and that (32b) and (32d) become (marginally) acceptable.

innocuous. Finally, it follows that (32d) is out, because it would have two subjects, the NP under the possessive adjective and *il soldato*, which cannot qualify as a syntactic object, for reasons just discussed. (32d) is in fact ruled out for the same reasons as (25) is. Inasmuch as the clustering of facts in (32), and no other imaginable combinations of them, is a consequence of the framework of assumptions developed so far, the framework receives a significant corroboration. The inherent passive status of Ns like *cattura* appears to be reinforced by the existence of forms like (33):

- (33)    la cattura del soldato da parte del nemico  
          the capture of the soldier by the enemy

in which the [*da parte di* NP] PP (lit.: “on the part of”) is the analogue in NPs of the [*da* NP] PP of passive sentences which expresses the agent in a passive form (this, incidentally, requires a slight extension of the redundancy relation discussed in fn. 32, which adds the systematic relationship between *da parte di* NP and the (initial) syntactic subject of the related V).

Example (33) should be compared with the impossible (34):

- (34)    \*il folle desiderio di Anna da parte di Mario  
          the mad desire of A. by M.

whose illformedness can plausibly be related to the fact that class II Ns cannot be inherently passive and thus have no access to the redundancy rule posited for class III Ns.

A somewhat more complex case of “transitive” Ns is represented by Ns like *descrizione*: what we shall call class IV Ns. The relevant properties are illustrated in (35):

- (35)    a. la descrizione di Giorgio  
          the description of G.  
          b. la descrizione di te  
          the description of you  
          c. la tua descrizione  
          your description  
          d. la tua descrizione di Giorgio  
          your description of G.

Example (35a) is ambiguous between a subject reading and an object reading, just like class II Ns (cf. *il desiderio di Anna*). It may mean “G. described someone/something” or “Someone described G.” Example

(35b), again like class II Ns (cf. *il desiderio di te*), is not ambiguous. It has only the object reading. Example (35c), on the other hand, in contrast to both class II Ns (*il tuo desiderio* has only the subject reading) and class III Ns (*la tua cattura* has only the object reading) is ambiguous between a subject and an object reading, just like (35a). Note that given the ambiguity of both (35a) and (35c) (between a subject and an object reading) *a priori* one could expect (35d), which combines the two to be equally ambiguous; that is, interpretable both as “You described G.” and as “G. described you.” But (35d) has only the former meaning, with the NP under the possessive adjective interpreted as the subject.

Class IV Ns thus appear to share some of the properties of class II Ns (cf. (35a) with (30a), (35b) with (30b) and (35d) with (30d)) and some of class III Ns (cf. (35c) in one of its senses with (32c)). The facts of class IV, apparently heterogeneous with respect to those of class II and III, can be reduced just to the properties of these two latter classes if we assume that what we called class IV is in fact not a genuine independent class but the result of one lexical item participating in two distinct entries: an “active” one as represented by class II Ns and a “passive” one as represented by class III Ns.<sup>33</sup> Under this view, the otherwise new and possibly disturbing fact represented by the ambiguity of (35c) (*la tua descrizione*) is reduced to already familiar assumptions. The subject reading of (35c) is a consequence of *descrizione* belonging to the (“active”) entry of class II Ns (see the discussion about *il tuo desiderio*). The object reading is instead a consequence of *descrizione* belonging (as well) to the (“passive”) entry of class III Ns (see the discussion of *la tua cattura*). Note that under both interpretations of (35c) *tua* marks the syntactic subject position, as necessitated by the assumption that possessive adjectives are base-generated directly under N”, and by the definition of subject of NP adopted here.

Note also that such dual analysis for Ns like *descrizione*, given the above definition of subject of NP, will predict, as required, that (35d) is not ambiguous (something that needed to be accounted for given the ambiguity of both (35a) and (35c) but has, as its only interpretation, “You described G.”). This follows from the fact that the possessive

<sup>33</sup> This situation should not be particularly puzzling. It is not uncommon for a lexical item to have two different senses with partially different syntactic (and semantic) properties. We shall see later that Ns like *costruzione*, *invenzione*, etc. have two quite distinct entries. We are, however, leaving the question open here whether this dual behavior of a lexical item should be best represented with two separate entries or with two subspecifications within one and the same entry.



adjective *tua*, under  $N''$ , can only be interpreted as marking the syntactic subject of the NP. Consequently *di Giorgio* can only qualify as the syntactic object (generated under  $N'$ ). Hence the unique meaning it has. If *di Giorgio* too were generated under  $N''$ , *descrizione* would end up with two subjects in LF, thus leading to a violation. As expected, a substitution of a personal pronoun for *Giorgio* in (35d) is also possible, just as in (30d): *la tua descrizione di me* ‘‘your description of me.’’

The classes of transitive Ns reviewed so far were all cases of action or event ‘‘nominalizations.’’ Let us briefly consider now the relevant properties of those Ns that have sometimes been called ‘‘object nominalization’’ and ‘‘agent nominalization,’’<sup>34</sup> hereafter class V and VI, respectively. A representative member of the former is *scoperta* (‘‘discovery’’):<sup>35</sup>

- (36) a. *La scoperta di Lavoisier (non fu subito utilizzata)*  
The discovery of L. (wasn't immediately exploited)
- b. \**La scoperta di te (non fu subito utilizzata)*  
the discovery of you ...
- c. *La tua scoperta (non fu subito utilizzata)*  
Your discovery ...

Example (36a) has only a subject reading and so has (36c). Example (36b) is ill formed with the same provisos as (29d) *la partenza di te* is ill formed. These facts can be accommodated straightforwardly by taking object

<sup>34</sup> The former corresponds to McCawley's ‘‘result nominalizations’’ (see McCawley 1973: 127, 159–60); the latter to Lees' (1960) ‘‘agentive nominalizations.’’

<sup>35</sup> In fact, Ns representing ‘‘object nominalizations’’ are often identical to Ns which represent the corresponding ‘‘action nominalizations.’’ This holds, for example, for *scoperta* (*invenzione, costruzione, rappresentazione*, etc.). We should thus expect to find such Ns in the contexts allowed by the particular class of ‘‘action nominalizations’’ they belong to (class IV, or rather class II and III together) as well as those allowed by the class of ‘‘object nominalizations.’’ In general a clear difference of interpretation correlates with the two clustering of properties. Compare in fact the properties of (36), consistent with an object nominalization reading, with the following, which parallel those of (35):

- (i) a. *la scoperta del cantante*  
the discovery of the singer (ambiguous)
- b. *la scoperta di te* (object reading only)
- c. *la tua scoperta* (ambiguous)
- d. *la tua scoperta del cantante*  
(meaning ‘‘You discovered the singer’’)
- e. *la tua scoperta da parte dell'impresario*  
(meaning ‘‘You have been discovered by the manager’’)

Thus (36a) and (36c) are (irrelevantly) ambiguous between an object nominalization and an action nominalization and (36b) is (again irrelevantly) grammatical with an action nominalization interpretation.

nominalizations to be “intransitive” Ns (just as class I Ns). This is quite plausible given the meaning relation between an object nominalization and the corresponding transitive V. The object is somehow incorporated into the N. We are assuming that some very general feature of the word formation (or redundancy rule) component will have just that effect. The meaning of an object nominalization ( $\iota x$  such that  $y$  Verbed  $x$ ) seems in any event systematically derivable from that of the related V). The redundancy rule relating an object nominalization to the corresponding transitive V might be of the form, following Wasow’s proposal, of  $X_{VN}(I) = I$ ;  $(II) = \phi$  (where “X” stands for the various morphological suffixes object nominalizations take).<sup>36</sup>

A representative paradigm of class VI Ns (agent nominalizations) is:

- (37) a. *il protettore di Giorgio*  
           the patron of G.  
       b. *\*il protettore di te*  
           the patron of you  
       c. *il tuo protettore*  
           your patron

Example (37) patterns like (36) (cf. (36b) and (37b)) except that where (36) allows for a subject reading only, (37) allows for an object reading only. In (37a) *Giorgio* is the person such that there is someone that protects him, and in (37c) you are the person such that there is someone who protects you. Under the assumptions held so far, these facts are best analyzed via a general redundancy rule relating agent nominalizations with their related transitive Vs. For example, something of the form  $X_{VN}(I) = \phi$ ;  $(II) = I$ . This means that class VI Ns will also be “intransitive” Ns (just like class I, III, and V), their object-reading interpretation deriving from the form of the redundancy rule that has the (initial) syntactic object of the V correspond systematically to the syntactic subject of the related agent nominalization.

The last case we consider now is somewhat more complex.

So far we have discussed only Ns that have a systematic relation to a V. We have also assumed that part of the work of the redundancy rule component consists in specifying which syntactic positions (and relations)

<sup>36</sup> It may be hoped that a precise formulation of the redundancy rule may exclude on principled grounds impossible forms such as *\*La scoperta da parte di Lavoisier non fu subito utilizzata* “The discovery by L. was not immediately used,” if *da parte di* NP structures are admitted only in concomitance with II to I shifts (as class III Ns).

of the N correspond to which syntactic positions (and relations) of the related V. There are also Ns that relate to no other category (V, Adj., etc.). In this set, there are many which designate concrete “objects.” For these we will assume that the syntactic subject position<sup>37</sup> will be represented by the (P) NP (or possessive adjective) that refers to the actual possessor of the concrete object.<sup>38</sup> Thus we take *di Giorgio* in (38a):

- (38) a. l'appartamento di Giorgio  
the apartment of G.

and the NP under the possessive adjective in (38b)

- (38) b. il suo appartamento  
his apartment

to mark the *syntactic* subject position of the entire NP.

This assumption seems to be supported by the ungrammaticality of a [*di* NP] PP where the NP is pronominal; a restriction that was seen above to hold for PPs that introduce the (syntactic) subject of a NP. Cf. (39):

- (39) \*L'appartamento di me (è grande)  
The apartment of me (is big)

(to be compared with (29d) *\*la partenza di te*). Instead of (39) one finds *il mio appartamento* (“my apartment”).

If we take now the class of Ns that may designate concrete objects and that are also systematically related to transitive Vs, being themselves transitive, we should expect, *a priori*, three [*di* NP] PP positions to be possible: one designating the subject (of the related V), one designating the object (of the related V) and one designating the possessor of the

<sup>37</sup> Recall that we have assumed very generally above that all NPs have a syntactic subject position (be it overt or covert).

<sup>38</sup> In fact this is a convenient limitation. In many cases, along with a real “possessive” reading of the (P) NP (or possessive adjective) there is another reading that may vary depending on the encyclopedic knowledge about the object, from an agent interpretation to a more contingent connection between the (P) NP structure and the N (e.g. *il ristorante di Giorgio* may also mean “the restaurant where G. usually goes to eat,” “the restaurant that G. has painted, dreamed,” etc., depending on context). We will follow Chomsky’s convenient label for this kind of interpretation referring to them briefly as “intrinsic connection.” It seems likely that a precise determination of the range of interpretations such connections may take lies outside of formal grammar proper, as is interpreted within EST. More crucially for our purposes, it seems that these interpretations have in general the same syntactic effects as the real “possessive” interpretation, whenever they can cooccur with it. So no undesirable consequences will derive from leaving them out of consideration here.

concrete thing referred to by the N. A good candidate is the N *fotografia* “photograph” (related to the transitive V *fotografare*). In fact, all three [*di* NP] positions occur, although not simultaneously.<sup>39</sup> The basic properties are the following:

- (40)
- a. *la fotografia di Giorgio*  
the picture of G.
  - b. *la fotografia di me (al mare)*  
the picture of me (at the sea-side)
  - c. *la tua fotografia*  
your picture
  - d. *la tua fotografia di Giorgio/me (al mare)*  
your picture of G./me (at the sea-side)
  - e. \**la tua fotografia di Giorgio di me (al mare)*  
your picture of G. of me (at the sea-side)

Example (40a) is in fact three-ways ambiguous. It may mean “the picture that Giorgio has taken” (the subject reading); “the picture in which Giorgio is depicted” (the object reading) and “the picture that belongs to Giorgio” or “that Giorgio has temporarily” (the possessor reading). Example (40b), on the other hand, has only one reading, the object reading, in which I am the person who is depicted in the picture. Example (40c) is again three-ways ambiguous, just as (40a). Example (40d) is instead two-ways ambiguous only. It may either mean “the picture in which Giorgio/I are depicted which you took” (*tua* introducing the subject of the related V and *Giorgio/me* the object of the related V) or “the picture in which Giorgio/I are depicted which you have” (where *tua* introduces the possessor and *Giorgio/me* the object of the related V).

As in the similar situation found with class IV Ns (*descrizione*), given the threefold ambiguity of (40a) and the equally threefold ambiguity of (40c), *a priori* we could expect phrases like *la tua fotografia di Giorgio* (one case of (40d)), which combine (40a) and (40c), to be six-ways ambiguous.<sup>40</sup>

<sup>39</sup> The same situation holds for French *photo*, as observed by Milner (1977: 74): “Les suites de trois [combinaisons de génitifs] paraissant inacceptables en performance, nous ne les étudierons pas.” We will instead analyze the impossibility of three [*di* NP] PPs as due to grammatical factors. See below, the discussion about (40e).

<sup>40</sup> The remaining logically possible but unavailable interpretations being (a) the picture that you took which G. possesses; (b) the picture that depicts you that G. took; (c) the picture that depicts you that G. possesses; (d) the picture that you possess that G. took.

If, for convenience, we designate with A what we have called the “subject reading,” with O the “object reading” and with P the “possessor reading,” and if we take into account the two syntactic positions available (that of the possessive adjective and that of the [*di* NP] PP expansion) we get the following six theoretical possibilities, schematized in (41):<sup>41</sup>

(41)	Possessive Adj	(N)	<i>di</i> NP
	A		O
	A		P
	O		A
	O		P
	P		A
	P		O

<sup>42</sup>

However, the only combinations allowed are the first and the last one (the ones boxed here). This is something that needs to be accounted for. As to the \* of (40e) see below.

The analogies between the properties of *fotografia* and *descrizione* above would seem to be close enough to warrant a parallel treatment of the two, the additional readings of *fotografia* being plausibly a consequence of the fact that *fotografia* admits of a possessor too (more readily than does *descrizione*). There is, however, one interesting difference between the two. Alongside *la tua descrizione* under the object interpretation of *tua* (“You have been described”) one also finds, with the same

<sup>41</sup> Compare this presentation with the partially similar one given in Milner (1977: 79, (38)). The only difference between the two languages in this domain, granting the correctness of the judgments expressed there and here, appears to be that French, but not Italian, allows the possessive adjective to express the possessor when the [*di* NP] PP expresses the “agent” (here called the “subject (of the related V)”). In fact the observation that the same threefold interpretation and clustering of properties are found with Ns that are related to no V (or A) (e.g. *quadro* “painting”: for example, *il tuo quadro di Giorgio* has the same interpretation of *la tua foto di Giorgio*) seems to suggest, within the general approach taken here, that the determination of what counts as the syntactic subject, object, etc. of a N may not be derivative (through redundancy rules) from that of a related category as assumed here for simplicity. It may be plausibly linked directly with thematic roles (agent, patient, etc.) as attempted in Anderson (1977). See that paper for relevant discussion. Nonetheless we will continue to talk about “subject” (of the related V) rather than “agent,” etc.

<sup>42</sup> Note that the same schema holds in case two [*di* NP] positions occur rather than a possessive adjective plus a [*di* NP] position; that is, *la fotografia di Giorgio di Anna* has the same two readings (out of six) as *la tua fotografia di Giorgio* has.

reading, expansions such as *la tua descrizione da parte del testimone oculare* “your description by the eye-witness” with a *by*-phrase (interpreted above as a consequence of the inherent passive status of [one of the senses of] *descrizione*). *La tua fotografia*, on the other hand, although admitting of an object interpretation of *tua* (“the picture in which you are depicted”) cannot be followed by a *by*-phrase (see *\*la tua fotografia da parte di Cesare* “your picture by C.”). This difference may be related to an independent semantic difference between *descrizione* and *fotografia*. Whereas the first is in general interpreted as an action nominalization, *fotografia* has no reading in which it corresponds to an action nominalization of *fotografare*; rather, it designates the concrete object resulting from such an action (compare it with *il fotografare* “the photographing,” which has an action nominalization interpretation).<sup>43</sup> Suppose now we interpret *fotografia* along the lines of *descrizione* but with the required modification: namely, as having a transitive (active) (sub-)entry related to the transitive verb *fotografare* (see, however, note 41) with its syntactic subject corresponding to the syntactic subject of the V and its object corresponding to the syntactic object of the V. In addition to this (and in place of the passive subentry of *descrizione*) it will have one object nominalization subentry in which its syntactic subject is systematically related to the syntactic (initial) object of the V.<sup>44</sup>

Finally suppose that, since it represents a concrete thing, it can freely have a possessor position (either in the form of a possessive adjective or of a [*di* NP] PP). Recall that such a possessor position appeared above to behave, with both forms, as a syntactic subject of the N, under N”. See the discussion about (39).

Granted these rather natural assumptions, all of the properties of (40) follow directly. For example, the threefold ambiguity of (40a) is a consequence of the fact that *di Giorgio* can be (1) the subject of the transitive

<sup>43</sup> Strictly speaking, *descrizione*, in addition to the (passive) action nominalization reading discussed above also has what we may call a “result nominalization” (as in the case of *fotografia*). This reading is illustrated by a sentence such as *La tua descrizione è là sul tavolo* “Your description is there on the table,” which forces the interpretation of a concrete object reporting a (written) description of you. As expected, in such sentences *by*-phrases are felt as awkward or downright impossible (cf. *\*?la tua descrizione da parte di Anna è là sul tavolo*).

<sup>44</sup> The postulation of a separate object nominalization subentry for *fotografia* with the property that the object depicted is the *syntactic* subject, may perhaps be supported by the existence of lexical items (of the same picture-type class) that have this entry as their only entry; e.g. *immagine* (“image”): *la tua immagine* “your image”; *\*l’immagine di te* “the image of you”; *\*la mia immagine di te* “my image of you.”

subentry, under  $N''$  (which corresponds to the subject of the related V and is interpreted as the agent); (2) the subject of the object nominalization subentry, generated under  $N''$ , too, and related to the object of the related V (the “patient” depicted in the picture); (3) the possessor of the picture, a NP again qualifying as the syntactic subject of the N, generated under  $N''$ .<sup>45</sup>

The non-ambiguity of (40b) (which has only the object reading) also follows from these assumptions. Recall the general prohibition against a [*di* NP] PP under  $N''$ , where the NP is a pronoun. This means that the readings (1), (2), and (3) of (40a) just discussed will be unavailable for (40b). The only possibility left to (40b) is that discussed in note 45 whereby *di me* is the syntactic object of the N (corresponding to the syntactic (initial) object of the related V). Being generated under  $N'$ , it is not sensitive to the general prohibition against pronominal [*di* NP] PPs; hence the only reading of (40b) with the pronoun interpreted as the object of the N.

The threefold ambiguity of (40c) derives from the same causes as that of (40a), so we will not go over them again.

It remains to be seen how the only two readings, out of the six potential ones, of (40d) and the illformedness of (40e) follow from the same set of assumptions.

Given that *tua* can only be analyzed as introducing the subject of the N (recall the assumption that possessive adjectives are generated only under  $N''$ ) *di Giorgio/me* can only be analyzed as introducing the syntactic object of the N, under  $N'$ . If it too were generated under  $N''$ , to the right of N, there would be two subjects in LF with obvious consequences for grammaticality. Thus *di Giorgio/me* can only have the object interpretation of the transitive subentry (whereby *Giorgio/me* are the people depicted in the picture). As to the interpretation of *tua*, only two possibilities are open: that it be the subject of the transitive subentry (the agent interpretation) or that it be the possessor (possibilities (1) and (3) of (40a) discussed above). It is easy to see how all the other *a priori* possible combinations of readings for *tua* and *di Giorgio/me* (see note 40) are ruled out on principled grounds. Given that the possessor can be realized only as the syntactic subject of the N, under  $N''$ , and that the agent can

<sup>45</sup> There is a fourth possibility, which, however, has the same interpretation of (2), for *di Giorgio* can be generated under  $N'$ , as the syntactic object of the transitive subentry (corresponding, as in (2), to the syntactic object of the related V). This is the only structural possibility available for forms like (40b). See the text.

likewise only be realized as the subject of N, under N'', no combination of the two should be expected to be possible in that it would lead to the presence of two subjects in LF. This rules out readings (a) and (d) of note 40. On the other hand, *tua*, even when it gets the object reading in the object nominalization subentry, will qualify as the syntactic subject of the N generated under N'' so that it will be incompatible with the expression of a possessor or an agent to the right of the N if these two have to be generated under N'', as assumed here. This rules out the existence of the remaining readings (b) and (c) of note 40. The explanation for (40e) is also straightforward. Again it reduces to the fact that both the possessor and the agent can only qualify as the syntactic subject of the N, so either one or the other will appear but not both simultaneously. Example (40e) is thus ruled out for the same reasons that rule out *\*la sua partenza di Giorgio*: the presence of two subjects in LF.<sup>46</sup>

This ends the rather long diversion on the question of determining what counts as the syntactic subject for the major classes of Ns in Italian. If in trying to deal with this question one takes into account the problem of relating the classes of Ns with the classes of related Vs, the lexical approach taken here to the former question becomes somewhat more natural. If lexical redundancy rules are needed anyway to relate (the properties of) classes of Ns to (the properties of) the classes of related Vs, it may be reasonable to expect such relationships between the V and the related N as the active/passive one that was proposed above in the case of *catturare/cattura*, *descrivere/descrizione*<sub>(2)</sub> (quite parallel to the ordinary active/passive relation of V/A pairs such as *read/readable* etc.).

As a final remark it may be noted that the classes of action nominalization Ns which have been isolated above on the basis of the particular relations holding between the grammatical relations of the arguments

<sup>46</sup> Note that three [*di* NP] PPs are possible if the one that is not the subject or the object is open to a "place" interpretation rather than to a real "possessor" interpretation. Thus contrast *il ritratto di Monna Lisa di Leonardo del Louvre* with *\*Il ritratto di Monna Lisa di Leonardo di Carlo (è evidentemente falso)* "The picture of M.L. of L. of C. (is obviously false)." A few cases seem in fact to admit of a combination of possessor and "agent," apparently in contrast to the analysis sketched here, but they are rather marginal and perhaps stereotyped to some degree: *?i miei quadri di Picasso* "my paintings of Picasso" (better: *i miei Picasso*).

Also quite marginal appear forms like *i miei quadri suoi* "my pictures his" with two possessive adjectives where the preferred reading is with the first referring to the possessor and the second to the agent. Since the second adjective is a sort of an adjunct, it may well be analyzed as being outside of the "core" NP structure.



of the N and the related V are fairly naturally characterizable on independent semantic terms. Leaving aside class I, which contains all the intransitive Ns, the class of transitive Ns that were discussed seem to have the following general properties. Class II comprises Ns like *desiderio* ("desire"), *paura* ("fear"), *opinione* ("opinion"), *concetto* ("conception"), etc., in which the subject of the related V is an "experiencer" and the object a "patient": the class of Postal's (1971) "psych-movement" Vs and Anderson's (1978) class of mental statives.<sup>47</sup> Class III comprises Ns such as *cattura* ("capture"), *uccisione* ("execution by shooting"), *distruzione* ("destruction"), *allontanamento* ("removal"), etc., whose related Vs have an "agentive" subject, a "patient" for object and where such a patient is describable, in some intuitive sense, as having been changed, or affected, by the action.

The presence vs. absence of such change of the object seems to constitute the crucial difference between this class and class IV (*descrizione* "description," *interpretazione* "interpretation," *annuncio* "announcement," *lettura* "reading," *acquisto* "purchase," etc.) which shows the same thematic structure but for which the "patient" cannot be described sensibly as having been changed or affected by the action. The precise characterization of what "change" or "affect" must be understood to imply remains to be determined, of course. (See also Anderson 1978.) Such correlation of redundancy properties and semantic properties of the N/V pairs seems quite typical of the internal structure of the lexicon and shows the presence of clear subregularities.

**2.3** Recently in the literature, a somewhat different approach has been suggested for these properties of the internal structure of NPs (in English) which is based on an essentially similar subdivision of classes of Ns; it crucially resorts, however, to the transformational rule "Move  $\alpha$ "

<sup>47</sup> Note that not all the Ns that correspond to "psych-movement" Vs or As have the object (corresponding to the object of the V or A) introduced by the preposition *di*. For a significant set of them the object is introduced by *per* (see: *G. ama A.* "G. loves A."; *il suo amore per A.* "his love for A."; *G. odia A.* "G hates A."; *il suo odio per A.* "his hatred for A."; *di* instead of *per* is not allowed). Perhaps there is some subregularity governing the phenomenon. This observation may weaken the idea that it is a productive transformational process that is responsible for the presence of *di* (or *per*) in front of the object NP of this N class. It is at least conceivable that the ultimate choice of *di* or *per* be lexically determined by the subcategorization features of the relevant subclass of class II Ns, directly. Note that, perhaps as should be expected under this view from the fact that Ns are not subcategorized by their subjects, the subject of Ns is always introduced by *di*, with no exceptions.

applying within the NP (see Anderson 1978). One can plausibly wonder whether such an alternative approach can be extended to the facts of Italian. Reasons of space prevent us from going into a detailed comparison of the two approaches, but a few observations may be worth while.

It should be stressed, in any event, that the ultimate choice between the “lexical” and the “transformational” approach is essentially immaterial for the major point of this discussion: the hypothesis regarding the problem of extraction from NP. From this narrow point of view it is of no relevance whether the determination of what counts as the syntactic subject of each class of Ns is based purely on lexical redundancy regularities or on the interaction of some such regularities with the transformational rule “Move  $\alpha$ ”; at least as long as both approaches arrive at the same relevant conclusions about what is the syntactic subject of each N (class).

The essential features of Mona Anderson’s analysis are the following: transformations cannot specify their domain of application as part of the rule, the canonical domains of application being the cyclic categories NP and S. Thus NP-preposing (a subcase of “Move  $\alpha$ ”) will apply in both S and NP if its structural description, as well as other conditions, is met. The anomalies in the application of NP-preposing within NPs are reduced to independent external restrictions on the application of NP-preposing. Anderson notes that objects of prepositions (other than *of*) can never be NP-preposed in NPs. For example, no sentence like \**This leader’s reliance on was a mistake* can be derived from *The reliance on this leader was a mistake* through NP-preposing.<sup>48</sup> It seems thus reasonable to assume that no object of a preposition can ever be NP-preposed (see note 48). Superficially it appears that the object of the preposition *of* can be NP-preposed with some Ns but not with others (cf. *the rehabilitation of the criminal* / *the criminal’s rehabilitation*, vs. *the enjoyment of the play* / \**the play’s enjoyment*). Anderson proposes that those Ns in which the object of the preposition *of* appears not to be preposable are in fact subcategorized for a [*of* NP] PP, whereas those Ns that admit of NP-preposing are in fact subcategorized for a bare NP (which acquires the preposition *of* later in the derivation). The property of preposability vs.

<sup>48</sup> This seems to be related to a similar restriction in Ss discussed by Chomsky (1978). In many cases the object of a preposition cannot be NP-preposed in Ss either. See:

- (i) \*The church was run into by the boys

Within the system proposed in Chomsky (1978) this restriction follows from the theory of case marking which would be generalizable to nominals. See also Riemsdijk (1978), Anderson (1978).

non-preposability of the object NP appears to correlate with an independent semantic distinction. Those object NPs which are in fact preposable are somehow affected by the action expressed in the N; those that are not preposable are not likewise “affected,” where “affected” means “changed, moved, altered in status or created” (see Anderson’s paper for discussion). It thus appears possible to define a lexical/semantic principle predicting which complement a certain N will have, either a PP or a bare NP. Note, incidentally, that the correlation holds “observationally” between the preposability property of the object NP and the semantic property of the NP of being affected by the head N or not. The idea that preposable objects are bare NPs and non-preposable objects belongs to a base-generated PP is a theoretical hypothesis to reduce the problem to an independently available solution; certainly a very interesting hypothesis. No evidence, however, is available in Anderson’s paper to substantiate the hypothesis on syntactic grounds, for example by showing one but not the other of NP sequence to have a true PP status.

We will not attempt a general discussion of this proposal here but will limit ourselves to consider the implications of an application of it to (part of) the Italian facts discussed above. The observations made below should not be taken to extend straightforwardly to the English case, although some may be relevant.

There are certain clear differences between the two languages that need to be accounted for in a principled manner. But we will not address this question here.

We recall the basic facts observed above, couching them in Anderson’s terms. Notice that the most patent difference between Italian and English regarding NP-preposing within NPs is that no full NP appears to be preposable in Italian (cf. *\*la (di) Giorgio descrizione* “G.’s description”). At most only pronominal NPs, later spelled out as possessive adjectives, can. This may relate, we have assumed, to Italian having no case assignment in the specifier position of a NP.<sup>49</sup> Thus the reference to NP-preposing in Italian NPs will only be understood here to involve pronominal NPs. The class of Ns that, within these terms, does not allow for

<sup>49</sup> Note that, granting this, the lexical approach taken here is perfectly compatible with Anderson’s theoretically desirable assumption that NP-preposing (or, in fact, any transformation) should not be relativized to certain domains of application only. Thus it might be the case that NP-preposing simply “appears” to be inapplicable within NPs in Italian because it gives rise to no well-formed output (for unsatisfied case requirements).

NP-preposing is class II of mental statives (cf. *il desiderio di te* vs. \**il tuo desiderio*; the \* pertains to the same meaning of the former). All other classes of Ns related to transitive Vs appear to allow NP-preposing (class III: *la cattura del fuggiasco* “the capture of the fugitive” / *la sua cattura*; class IV: *la descrizione dell’incidente* “the description of the accident” / *la sua descrizione*; class VI: *il protettore di Giorgio* “the patron of G.” / *il suo protettore*; class VII: *la fotografia della casa* “the picture of the house” / *la sua fotografia*).

The object NP of class II, in fact, can be characterized as not being affected by the N, in Anderson’s meaning of the term. In general it is also the case that the object NP of those Ns that appear to be NP-preposable is characterizable as being affected by what the N expresses.<sup>50</sup> Thus apart from the modifications required by the case mentioned in note 50, we may extend Anderson’s correlation to Italian. Within this framework, class II (*desiderio*) objects would be PP only; class III (*cattura*) objects bare NP only; class IV (*descrizione*) objects either PP or bare NP (apparently one needs to stipulate further that if the phrase *da parte di* NP occurs then the object can only be a bare NP [see the example \**La tua fotografia da parte di Cesare* on p. 38 and (33) and (34)]);<sup>51</sup> class VI objects (*protettore*) again only NP and class VII (*fotografia*) objects again either PP or bare NP.

Suppose we were to make the following additional assumptions:<sup>52</sup> subjects are always bare NPs. Possessive adjectives arise from underlying bare NPs only. If the NP-preposing of a pronominal subject (part of the possessive formation rule) is taken to be (semi-)obligatory, there is a way to derive the (semi-)complementary distribution of [*di* (full) NP] phrases and possessive adjectives.

This would explain the unique reading of *il mio desiderio di te* (= (30d)), since the only bare NP that can “become” a possessive is the subject NP (*desiderio* being subcategorized for an object PP). To explain

<sup>50</sup> One difference between English and Italian, however, shows up in our class IV Ns which allow NP-preposing. This class comprises Ns that are not moved nor changed nor altered in status nor created which nonetheless admit of NP-preposing, contrary to English. Compare these Italian examples with the English (ungrammatical) analogues: *la discussione di questo problema* / *la/sua sua discussione* vs. *the discussion of this problem* / \**this problem’s discussion*; *l’inseguimento della volpe* / *il suo inseguimento* vs. *the pursuit of the fox* / *the fox’s pursuit*.

<sup>51</sup> See also Milner (1977: 79): “avec un adjectif possessif dénotant l’objet, le génitif Agent ne peut être introduit que par *par*.”

<sup>52</sup> We are indebted to Richard Kayne for many observations relevant to this alternative approach.

the impossibility of *\*la mia cattura di te* (cf. (32d)) (and the unique reading of *la mia descrizione di Giorgio*) one would have to assume something like the following: a NP, NP<sub>x</sub>, governed by N, acquires the genitive case in (i) [<sub>NP</sub>N (PP) NP<sub>x</sub>] but not in (ii) [<sub>NP</sub>N NP NP<sub>x</sub>]. Furthermore, a possessive adjective derives only from a [+ genitive] pronoun. In this case the subject NP of *cattura* (the NP<sub>x</sub> of (ii)) will not get case (nor will it, consequently, be possessivizable, nor, presumably, will it get the preposition *di*) and the phrase will be excluded by the case filter.<sup>53</sup> Certainly the approach can be refined and completed, but we will stop here. We restrict ourselves to a couple of very general observations that will not do full justice to the issue. For one thing, there is no independent reason why class III (*cattura*) objects should only be bare NPs, whereas class II (*desiderio*) objects are only PP and class IV (*descrizione*) objects both. Furthermore, the fact that class IV objects can be both NP and PP, but NP only in case a *da parte di* NP phrase cooccurs, receives no principled account either.

More generally this approach appears to be not easily compatible with a generalization of the X' rules that expand complements. According to this generalization, all lexical categories have a bare NP complement, only later supplemented, for some of them (Ns and As) by a PP, for case requirements. In addition to that the needed split in the lexicon to the effect that some Ns subcategorize for [*di* NP] PPs and others for bare NPs makes it appear an accident, as it were, that the preposition inserted transformationally before [+ genitive] bare NPs is identical to the preposition base-generated in the base-generated PP.

We will leave the question here, keeping in mind that however it is going to be settled it will be of no consequence for our main concern: the problem of extraction from NP, to which we now return.

3 Granting that we have characterized in section 2 a way to tell, on grounds independent from extraction, which NP position counts as the *syntactic* subject for essentially each class of relevant Ns, we are now in a position to test the hypothesis about extraction that we tentatively suggested at the beginning of section 2. The hypothesis was that the problem of extraction in Italian is essentially reducible to opacity. We have assumed for convenience that both the trace of Clitic Movement and

<sup>53</sup> Something more needs to be specified to prevent the subject NP of Ns like *cattura* from getting genitive case in the absence of the object NP which is not obligatory (cf. *Temevano la cattura* "They feared the capture"), and thus to be possessivized, if a pronoun. For *la loro cattura* "their capture" can never mean that "They captured someone."

that of *Wh*-movement count as anaphors and that every NP has a syntactic subject position (either overt or concealed). If we can indicate univocally for each N (class) which NP position counts as the syntactic subject of the NP, a clear prediction will be available: namely that, of all the NP positions of a NP, only that particular position that qualifies as the syntactic subject of the NP will be extractable, under ordinary circumstances. Given that the syntactic subject position of a NP is realized as a [*di* NP] PP, the observational generalization stated in section 1 above turns out to be a necessary consequence of the explanatory hypothesis.

Consider now how this general prediction is articulated more precisely in each case. Given that possessive adjectives, which introduce the (pronominal) syntactic subject, have no way to be extracted, we will restrict our attention to the extractability properties of [*di* NP] PPs. Since [*di* NP] PPs happen to introduce both the syntactic subject and the syntactic object of a N, we are led to expect, by the hypothesis, that only those [*di* NP] PPs that qualify as the syntactic subject, not those that qualify as the syntactic object, will be extractable. We have seen, for class I Ns, that the only [*di* NP] PP possible with that class *is* the syntactic subject of the N. Thus extraction should be possible, and indeed is, systematically. See:

- (42) a. Giorgio, [<sub>PP</sub>di cui] è stata annunciata [<sub>NP</sub>la partenza *t*]  
           G., of whom has been announced the departure  
       b. [ne] è stata annunciata [<sub>NP</sub>la partenza *t*]  
 (43) a. Giorgio, [<sub>PP</sub>di cui] apprezziamo [<sub>NP</sub>l'onestà *t*]  
           G., of whom we appreciate the honesty  
       b. [ne] apprezziamo [<sub>NP</sub>l'onestà *t*]

Class II Ns which comprise transitive Ns corresponding to so-called “psych-movement” predicates was analyzed as having the following properties: the PP with the subject reading qualifies as the syntactic subject; the PP with the object reading qualifies as the syntactic object of the NP. Thus we will expect all [*di* NP] PPs with a subject reading, and no [*di* NP] PP with the object reading, to be extractable (just as the possessive adjective of these Ns has a subject reading only). This is confirmed by the facts. See:

- (44) a. Anna, [<sub>PP</sub>di cui] abbiamo ricordato [<sub>NP</sub>il desiderio *t*]  
           A., of whom we have recalled the desire  
       b. [ne] abbiamo ricordato [<sub>NP</sub>il desiderio *t*]

- (45) a. \*Anna, [<sub>PP</sub>di cui] abbiamo ricordato [<sub>NP</sub>il vostro desiderio *t*]  
 A., of whom we have recalled your desire  
 b. \*[ne] abbiamo ricordato [<sub>NP</sub>il vostro desiderio *t*]

In (45a–b) the subject is introduced by the overt possessive adjective (which has the “subject” reading) and *di cui, ne* can only introduce the object (with the “object” reading). These two sentences are thus predicted to be out, since they display an extraction of the object (P) NP which leaves a free anaphor in the domain of the subject of the NP, leading to a violation of opacity. The same reasons account for the non-ambiguous character of (44a–b). In fact the unique interpretation of *di cui, ne* as having the subject reading (paraphrasable as “Anna desires someone/something”; in no way as “Someone desires Anna”) is a consequence of the analysis sketched above. *Di cui, ne* with an object reading would qualify, in this class, as the syntactic object of the NP, the subject position being in this case a “zero” possessive adjective. Thus this reading is blocked just as (45a–b) were blocked. *Di cui, ne* are instead extractable when they introduce the subject, under N” (hence their “subject” reading).

Class III Ns (*cattura*) were analyzed above as being inherently “passive,” with their syntactic subject corresponding systematically to the (initial) syntactic object of the related V (the syntactic initial subject of the V corresponding to the object of the complex preposition *da parte di*). We should thus expect the [*di* NP] PP with the “object” reading to be extractable with such Ns, since it qualifies as their *syntactic* subject. This is indeed the case. See:

- (46) a. l’unica persona, [<sub>PP</sub>di cui] avevano annunciato [<sub>NP</sub>la cattura *t*]  
 the only person of whom they had announced the capture  
 b. [ne] avevano annunciato [<sub>NP</sub>la cattura *t*]

Note that extraction of *da parte di* NP phrases (with the “subject” reading) is, as expected, impossible, since it would leave a free trace in the domain of the subject:

- (47) a. \*i carabinieri, [<sub>PP</sub>da parte dei quali] avevano annunciato [<sub>NP</sub>la  
 (sua) cattura *t*] . . .  
 the c., by whom they had announced (his) capture  
 b. \*i carabinieri, [<sub>PP</sub>da parte dei quali] avevano annunciato [<sub>NP</sub>la  
 cattura di Giorgio *t*]  
 the c., by whom they had announced the capture of G.

Consider now class IV Ns (such as *descrizione*). They were analyzed above as involving two separate subentries, one identical to class II, the other identical to class III. We may thus expect to find the extraction properties of both classes. A consequence of this analysis for class IV is that the PP with the “object” reading can qualify as the syntactic subject of the NP only if there is neither a possessive adjective (which, being under N”, would automatically qualify as the syntactic subject) nor another [*di* NP] PP (with the “subject” reading). If either one of these two elements is present, extraction of the [*di* NP] PP with the “object” reading is predicted to be impossible (just as with class II Ns). This is what we find:

- (48) a. \*Giorgio, [<sub>PP</sub>di cui] abbiamo messo in ridicolo [<sub>NP</sub>la tua descrizione *t*]  
 G., of whom we have made fun of your description  
 b. \*[ne] abbiamo messo in ridicolo [<sub>NP</sub>la tua descrizione *t*]<sup>54</sup>
- (49) a. Giorgio, [<sub>PP</sub>di cui] abbiamo messo in ridicolo [<sub>NP</sub>la descrizione di Anna *t*]  
 G., of whom we have made fun of the description of A.  
 b. ?[ne] abbiamo messo in ridicolo [<sub>NP</sub>la descrizione di Anna *t*]

Examples (48a–b) are impossible as expected, since *di cui* and *ne* cannot qualify as the syntactic subject of the NP, being a possessive adjective present in the NP. Examples (49a–b) are also ill formed under the interpretation in which *di cui*, *ne* have the “object” reading (“Anna described Giorgio/him”) and again for the same reasons that ruled out (48a–b). They have not been marked as ill formed since they are perfectly good under a different interpretation; that in which *di cui*, *ne* are understood as designating the person who “does the description of” Anna (the “subject” reading). Again this is what we should expect under the hypothesis we have advanced above.

If, on the other hand, no possessive adjective appears, nor any other [*di* NP] PP, a [*di* NP] PP with the “object” reading appears to be extractable (this being the subentry corresponding to class III Ns such as *cattura*). In fact we find that in forms like

<sup>54</sup> A different choice of matrix verb may lead to a better sentence. See below for a discussion of such cases that we argue are only apparent counterexamples to the hypothesis discussed here.



- (50) a. Giorgio, [PPdi cui] ricordiamo perfettamente [NP<sub>la</sub> descrizione *t*]  
 G., of whom we remember perfectly well the description  
 b. [ne] ricordiamo perfettamente [NP<sub>la</sub> descrizione *t*]

*di cui, ne* can perfectly well have the “object” reading (according to which *Giorgio* is the person being described).<sup>55</sup> The same forms can be complemented by a *da parte di NP* phrase, again as expected. Class V and VI Ns also confirm the prediction. With object nominalizations (class V) the [*di NP*] PP (corresponding to the syntactic subject of the related V) qualifies as the syntactic subject of the NP. So extraction is expected to be possible. See, in fact:

- (51) a. Lavoisier, [PPdi cui] non si utilizzò subito [NP<sub>la</sub> scoperta *t*]  
 L., of whom wasn't immediately used the discovery  
 b. non se [ne] utilizzò subito [NP<sub>la</sub> scoperta *t*]

With agent nominalizations such as *protettore* (class VI) the [*di NP*] PP corresponding to the (initial) syntactic object of the related V, as was argued, introduces the syntactic subject of the N in the NP. Thus extraction should be possible and in fact is. See:

- (52) a. Giorgio, [PPdi cui] conosco [NP<sub>il</sub> protettore *t*]  
 G., of whom I know the patron  
 b. [ne] conosco [NP<sub>il</sub> protettore *t*]

Finally, consider class VII Ns (such as *fotografia*). Recall that (40a) *la fotografia di Giorgio* was three-ways ambiguous, with *Giorgio* qualifying as the syntactic subject of the NP for each of them. Thus we should expect the extraction of *Giorgio* in (40a) to retain the same threefold ambiguity, which is indeed the case. *Di cui, ne* in (53) can in fact be interpreted as designating either the possessor of the picture or the one who took it, or the one who is depicted in it:

- (53) a. Giorgio, [PPdi cui] ho sporcato [NP<sub>la</sub> fotografia *t*]  
 G., of whom I have dirtied the picture  
 b. [ne] ho sporcato [NP<sub>la</sub> fotografia *t*]

<sup>55</sup> Of course, they can also be interpreted with a subject reading (in the subentry corresponding to class II Ns; cf. *Anna, di cui / Ne ricordiamo il desiderio* [ . . . ], also allowing for the subject reading of *di cui, ne*).

In (40d) (*la tua fotografia di Giorgio/me*), *Giorgio/me* qualify as the syntactic object of the NP so it will be expected that their extraction is blocked. See:

- (54) a. \*Giorgio, [<sub>PP</sub>di cui] ho sporcato [<sub>NPl</sub>a tua fotografia *t*]  
           G., of whom I have dirtied your picture  
       b. \*[ne] ho sporcato [<sub>NPl</sub>a tua fotografia *t*]

In those cases where two [*di* NP] PPs appear instead of a [*di* NP] PP plus a possessive adjective, a similar situation obtains. In (55)

- (55) a. Giorgio, [<sub>PP</sub>di cui] ho sporcato [<sub>NPl</sub>a fotografia di Cesare *t*]  
           G., of whom I have dirtied the picture of C.  
       b. ?[ne] ho sporcato [<sub>NPl</sub>a fotografia di Cesare *t*]

*di cui*, *ne* can only be interpreted as either the possessor of the picture or the one who took it (with *Cesare* being the one depicted in it). No other reading is permitted, for principled reasons. Since the explanation is parallel to that given for (49) and is in any event derivable from the discussion of (40), we will not go over it again.

We have seen that a more careful analysis of the internal properties of the different classes of Ns (or rather N/Vs) has enabled us to explain away a number of facts that *prima facie* could be taken to constitute counterexamples to the hypothesis presented here: in particular, the fact that in such forms as (46), (50), and (52) what appears to have been extracted is a [*di* NP] PP introducing the “object” (reading) of the NP. The hypothesis suggested here, that what counts as the *syntactic* subject of an NP may in fact correspond systematically (lexically) to the syntactic object of the related V, has made it possible to overcome such apparent anomalies.

A further class of cases (cf. the analogous French facts noted in Ruwet (1972c: 273)) which appears to be in direct contrast with the prediction of the hypothesis about extraction is:

- (56) a. il cataclisma, [di cui] possediamo solo [una/la sua descrizione]  
           ...  
           the cataclysm, of which we have only a/the his description  
       b. il cataclisma [di cui] possediamo solo [una/la descrizione di  
           Plinio] ...  
           the cataclysm, of which we have only a/the description of  
           Pliny

- (57) a. [ne] possediamo solo [una/la sua descrizione]  
of-it (we) have only a/the (his) description  
b. [ne] possediamo solo [una/la descrizione di Plinio]

In (56a), (57a) *di cui, ne*, respectively, appears to have been extracted from a NP which has a possessive adjective qualifying as the syntactic subject of the NP. In (56b), (57b), *di cui, ne* have been extracted from a NP which contains another [*di NP*] PP which, having the subject reading, qualifies for this class as the syntactic subject of the NP.<sup>56</sup> And yet these sentences seem to be well formed. If we were forced to analyze them as involving extraction we would be confronted with a patent violation of opacity. Some considerations, however, cast doubts on this interpretation. For one thing, the substitution of *possedere*, in (56)–(57) with a different predicate renders these ill formed, perhaps with varying degrees of illformedness. See

- (58) a. \*?il cataclisma, [<sub>PP</sub>di cui] ho usato [<sub>NP</sub>una/la ⟨sua⟩ descrizione  
⟨di Plinio⟩ *t*]  
the cataclysm, of which I used a/the (his) description (of  
Pliny)  
b. \*?[ne] ho usato [<sub>NP</sub>una/la ⟨sua⟩ descrizione ⟨di Plinio⟩ *t*]  
(59) a. \*il cataclisma, [<sub>PP</sub>di cui] avevano interrotto [<sub>NPl</sub>la ⟨sua⟩  
descrizione ⟨di Plinio⟩ *t*]  
the cataclysm, of which (they) interrupted the (his) descrip-  
tion (of Pliny)  
b. \*[ne] avevano interrotto [<sub>NPl</sub>la ⟨sua⟩ descrizione ⟨di Plinio⟩ *t*]

Secondly, and more importantly, there is evidence that a quite different derivation is available for (56)–(57); in fact, one which does not involve extraction. With Vs like *possedere* which allow such forms as (56)–(57), the following forms are also possible:

- (60) La descrizione che ne possedevano (del cataclisma) era imper-  
fetta  
the description that of-it (they) had (of the cataclysm) was faulty

<sup>56</sup> The interpretation of (57b) according to which *ne* has the subject reading and Pliny the object reading poses instead no problem to the hypothesis on extraction.

where the N *descrizione* appears to have been *wh*-moved independently of its object [*di NP*] PP (*del cataclisma*). The latter here is in fact cliticized independently to the V.

On the basis of such forms it seems reasonable to posit a structure like V [<sub>NP</sub>*puna descrizione di Plinio*] [<sub>PP</sub>*del cataclisma*] underlying (56)–(57) rather than V [<sub>NP</sub>*puna descrizione*] [<sub>PP</sub>*del cataclisma*] [<sub>PP</sub>*di Plinio*], at least where the V belongs to a certain class of Vs, including *possedere*, *avere*, *leggere* (“own,” “have,” “read”), etc.<sup>57</sup> If the NP and what looks like its “object” PP are in fact base-generated as separate constituents, their autonomy in undergoing movement rules is directly explained as is the apparent violation of opacity in (56)–(57).

In what has been said so far, the explanation is implicit for one observation made at the beginning of section 2: namely, for the observed asymmetry between the two cases that forbid a strengthening of the generalization about extraction. It was noted there that a [*di NP*] PP may not be extractable if (i) there is another [*di NP*] PP present in the NP or (ii) if there is a possessive adjective. It was also noted, however, that whereas extraction is invariably blocked in the presence of a possessive adjective, it is not always blocked in the presence of another [*di NP*] PP. The explanation for this is now obvious. Whereas a possessive adjective can only qualify as the syntactic subject of the NP, thus blocking the extraction of any other PP in the same NP, a [*di NP*] PP can qualify as either the syntactic subject or the syntactic object of the NP according to the conditions reviewed above. Thus a [*di NP*] PP which qualifies as the syntactic subject can be extracted even if another [*di NP*] PP is present within the NP, but the opposite will not be permitted. The contrast between (17)–(18) and (20) is thus to be expected.

The hypothesis formulated above about extraction thus appears to provide a principled account for a significant range of facts. One non-trivial theoretical problem remains: namely, the crucial assumption that the trace of *Wh*-movement behaves in the same way as the trace of Clitic Movement with respect to opacity. Although in other domains of facts the motivated conclusion seems to be that the trace of *Wh*-movement (or rather the variable substituted for the trace) is not sensitive to opacity (see Chomsky 1978 for a general discussion) here the opposite assumption appears to have the right consequences, in underlining, among other

<sup>57</sup> Note that such forms as (60) are impossible with Vs like *usare* and *interrompere* that were shown above to render (56)–(57) also impossible:

things, the exactly symmetrical behavior of extraction through Clitic Movement.

Though it is far from being inconsequential, we will leave this problem open here. The limited goal of this article was to show that *wh*-extraction from NP in Italian appears to obey the same condition that limits extraction through Clitic Movement. In spite of the obvious problem, we have argued here that this condition coincides with the opacity condition of Chomsky (1978). It may be noted that the theoretical problem would turn out to be spurious if the observed behavior that “opacity” was here intended to account for followed from some other principle(s) of the theory for which the trace of *Wh*-movement and that of Clitic Movement act as the same entity. In Cinque (forthcoming) we argue in fact that the theory of Government, as recently developed, may indeed play a crucial role in explaining this problem away.

## 2 *On the theory of relative clauses and markedness\**

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A guiding assumption of much current work in the theory of grammar is that (most) apparent differences among languages are merely the superficial consequences of relatively few different choices open to languages at an abstract level, at the margins of a unitary core, invariant across languages. In comparing, in their essentials, the relativization systems of Italian, French, and English, we will aim at a fundamentally unified treatment of the three systems, in spite of the many overt differences existing among them.<sup>1</sup> In particular, we will try to show that it is possible to assign to the three languages one and the same theoretical apparatus for relative clause constructions and to localize a number of significant differences among them in terms of the slightly different way the three languages utilize this apparatus – perhaps one or two parametric choices. The analysis is conducted more broadly within the framework of the Extended Standard Theory, specifically, within the version of it presented in Chomsky (1979a, 1981a) and recent related work.

\* Parts of this chapter re-elaborate, in a quite different form, material and ideas presented in Cinque (1978). I wish to thank Richard Kayne, Giuseppe Longobardi, Luigi Rizzi, and an anonymous referee of *The Linguistic Review* for their observations on an earlier draft.

<sup>1</sup> To cite only two well-known cases at this point: English appears to differ from both Italian and French in that, in English appositives, a (bare) *wh*NP cannot be deleted (in COMP), whereas it can in both Italian and French; cf.:

- (i) a. Elaine, *who/\*that/\*∅* we saw just yesterday
- b. Elaine, (?) *la quale/che* abbiamo visto proprio ieri
- c. Elaine, (?) *laquelle/que* nous avons vue justement hier

From another respect, Italian differs from both English and French in that it does not allow (with the relative pronoun *cui*) for any kind of pied piping except for the pied piping of a preposition. See, for example, the contrast between (ii a) and (ii b–c):

- (ii) a. Giorgio, *\*con* la figlia di cui ho parlato ieri
- b. Giorgio, *avec* la fille duquel j'ai parlé hier
- c. Giorgio, with whose daughter I talked yesterday

and the relevant discussion in sections 1 and 2.

We will begin by giving (section 1) a somewhat more detailed analysis of Italian relative constructions and will sketch, in so doing, what we take to be the “core” grammar of relative clause structures for this type of languages. The French and English systems will then be discussed (section 2) against the background of the general conclusions arrived at on the basis of Italian. Though the analysis appears to extend more or less straightforwardly to Spanish, and perhaps to other related languages, not much will be said in that connection here (see note 49).

As a last, minor, general point, it has proved a very fruitful heuristic principle to interpret the different stylistic levels existing within a single area of phenomena as an indication that (partially) distinct theoretical principles, or subsystems, are involved in the analysis of that area, perhaps with different costs (in terms of the theory of markedness) associated with each such subsystem. We may perhaps conjecture, more generally, that stylistic contrasts are never theoretically innocent in this sense.

## 1 Italian relative clauses

### 1.1 The basic facts

Italian has essentially two relative pronouns: *cui*, which is invariable, and article + *qual-*, where *qual-* (henceforth *quale*) agrees in number, and the article in number and gender, with the antecedent NP. Their syntax shows the essential diagnostic properties of *Wh*-movement constructions (see Chomsky 1977a).<sup>2</sup> Both pronouns enter the restrictive and the appositive constructions. Examples (1)–(4) illustrate the basic syntactic properties of *cui* and *quale*. Example (1) represents the restrictive paradigm of *cui*, (2) the appositive paradigm of *cui*, and (3) and (4) represent the (unmarked) restrictive and the appositive paradigms of *quale*, respectively.

- (1) a. L'uomo  $\left\{ \begin{array}{l} \text{che} \\ *cui \end{array} \right\}$  ti vuole è là  
The man that wants you is there
- b. L'uomo  $\left\{ \begin{array}{l} \text{che} \\ *cui \end{array} \right\}$  vedi è suo zio  
The man you see is her uncle

<sup>2</sup> See Rizzi (1980), Chomsky (1980a) for a possible reason why the *wh*-island diagnostic criterion of Chomsky (1977a) appears not to hold in Italian.

- c. L'uomo  $\left\{ \begin{array}{l} \text{a cui} \\ * \text{che} \end{array} \right\}$  parlavi è cieco  
 The man to whom you were speaking is blind
- d. \*L'uomo la figlia di cui fuma è generalmente contrario  
 The man whose daughter smokes is generally against it
- e. \*L'uomo alla figlia di cui hai scritto è in collera  
 The man to whose daughter you have written is angry
- f. \*L'uomo fuggire da cui non osava è morto  
 The man fly from whom he did not dare has died
- (2) a. Giorgio,  $\left\{ \begin{array}{l} \text{che} \\ * \text{cui} \end{array} \right\}$  ti vuole, è là
- b. Giorgio,  $\left\{ \begin{array}{l} \text{che} \\ * \text{cui} \end{array} \right\}$  stimi, l'ha fatto  
 G., who you esteem, has done it
- c. Giorgio,  $\left\{ \begin{array}{l} \text{a cui} \\ * \text{che} \end{array} \right\}$  tieni, ti odia  
 G., who you are fond of, hates you
- d. \*Giorgio, la figlia di cui fuma, è contrario
- e. \*Giorgio, alla figlia di cui hai scritto, è in collera
- f. \*Giorgio, fuggire da cui non osava, è morto
- (3) a. L'uomo  $\left\{ \begin{array}{l} \text{che} \\ * \text{il quale} \end{array} \right\}$  ti vuole è là
- b. L'uomo  $\left\{ \begin{array}{l} \text{che} \\ * \text{il quale} \end{array} \right\}$  ti vuole è suo zio
- c. L'uomo  $\left\{ \begin{array}{l} \text{al quale} \\ * \text{che} \end{array} \right\}$  parlavi è cieco
- d. \*L'uomo la figlia del quale fuma è generalmente contrario
- e. \*L'uomo alla figlia del quale hai scritto è in collera
- f. \*L'uomo fuggire dal quale non osava è morto
- (4) a. Giorgio,  $\left\{ \begin{array}{l} \text{che} \\ \underline{\text{il quale}} \end{array} \right\}$  ti vuole, è là
- b. Giorgio,  $\left\{ \begin{array}{l} \text{che} \\ * \text{?il quale} \end{array} \right\}$  stimi, l'ha fatto
- c. Giorgio,  $\left\{ \begin{array}{l} \text{al quale} \\ * \text{che} \end{array} \right\}$  tieni, ti odia
- d. Giorgio, la figlia del quale fuma, è contrario
- e. Giorgio, alla figlia del quale hai scritto, è in collera
- f. Giorgio, fuggire dal quale non osava, è morto



The (a) examples involve the relativization of the subject NP; the (b) examples that of the direct object NP; the (c) examples that of the object of a preposition (where the preposition has been pied-piped with the NP).<sup>3</sup> The (d)–(f) examples represent the other basic cases of pied piping: (d) the pied piping of a NP larger than and containing the *wh*NP; (e) the same case with a preceding preposition; (f) the pied piping of a clausal constituent containing the *wh*NP. The first thing to notice, in comparing the four paradigms, is that the restrictive and appositive paradigms of *cui* ((1) and (2)) and the (ordinary) restrictive paradigm of *quale* (3) are identical in the distribution of grammatical and ungrammatical forms.<sup>4</sup> In purely observational terms, the essential properties of the three identical paradigms seem to be the following:

- 1        When either a subject or an object is relativized, neither *wh*-form (*cui* or *quale*) may appear in sentence-initial position. In their place, the form *che* is found which is identical to the ordinary complementizer of tensed (subordinate) clauses.
- 2        When the NP object of a P is relativized (and fronted along with P; see fn. 3), only *cui* or *quale* preceded by that P can appear, not *che*.
- 3        All the other cases of pied piping (i.e. except that of PPs) are excluded. See (d)–(f).

The remaining paradigm (in (4)), which represents the appositive construction of *quale*, differs in the same way from the appositive (and restrictive) paradigm of *cui* and from the (ordinary) restrictive paradigm of *quale*, essentially in two respects. First, whereas in the other three paradigms, when either a subject or an object is relativized only *che* is allowed (never the *wh*-form), in this paradigm both *che* and the *wh*-form appear to be allowed (cf. (4a–b)). The second difference is that all the cases of pied piping disallowed in (1)–(3) are here allowed. We have underlined the forms in (4) that differ from the other three paradigms. It should be mentioned that such forms are generally felt as slightly more formal in style than the non-underlined forms: that is, crucially, the

<sup>3</sup> Italian does not allow for the stranding of (simple) prepositions so that the option of fronting a bare oblique NP is unavailable (we assume, for principled reasons; see Riemsdijk 1978; Weinberg and Hornstein 1981; Kayne 1978, 1981a; Chomsky 1981a for relevant discussion).

<sup>4</sup> See, below, section 1.5, for a discussion of another, stylistically more marked, restrictive paradigm of *quale* with quite different properties.

alternative with the *wh*-form vs. the alternative with *che* in (4a–b) and all the pied-piping forms in (d)–(f) vs. the pied-piping form in (c). This is something that must be accounted for. Ideally, it should be one of the consequences of the correct analysis for this domain of facts.<sup>5</sup>

Alongside the four paradigms just considered there are two more, stylistically quite marked, constructions (one with *cui* and one with *quale*) to which we return later.<sup>6</sup>

### 1.2 *The “core” grammar of relative clauses (in Italian)*

We will now sketch the essential lines of what we take to be the “core” grammar for relative clause structures in Italian (and, in fact, this type of language). The attempt will be at maximal possible generality in the statement of the principles involved. From the respects relevant here, such “core” grammar will be seen to consist of four quite general and, for the most part, independently needed assumptions. We will discuss each of them as we proceed to introduce them.

#### 1 “Move $\alpha$ ” is involved in the derivation of (1)–(4).

Plainly, the most general interpretation of (1) is with “Move  $\alpha$ ” interpreted as a *rule* (i.e. “move [a constituent]”), not as a *rule schema* (where  $\alpha$  is once instantiated as “NP,” once as “*wh*-phrase,” etc.), the over-generation induced by movements of *wh*-phrases to non-COMP positions and that of non-*wh*-constituents to COMP being remedied by quite general and independently needed principles of LF (for a discussion of some such cases, see May 1979, 1982; Chomsky 1979a). Under this interpretation the phenomenon of “pied piping” is simply an automatic consequence of “Move  $\alpha$ .”

<sup>5</sup> The less-than-perfect status of *quale* as an object (cf. (4b)), when compared with a subject *quale* (cf. (4a)) seems to be due to a superimposed, extraneous, factor, and will be disregarded here. For relevant discussion, see Cinque (1978: section 3.7).

<sup>6</sup> Paradigms (1)–(4) are typical of normal “accurate” style (more formal style in the case of the underlined forms of (4)). We will not be concerned here with yet another system for constructing relative clauses in Italian, which belongs to a very colloquial style and does not involve the relative pronouns *cui* and *quale*. This system is characterized throughout by the presence of the sentence introducer (complementizer) *che* followed by either a gap or a resumptive pronoun and recalls the systems of so-called “popular” French (see Guiraud 1966) and modern Greek “*pou*” relatives (see Ingria 1978; Maling 1978a).

The assumption that “Move  $\alpha$ ” is involved in (1)–(4) accounts furthermore for the familiar diagnostic properties of *wh*-constructions shown by the syntax of *quale* and *cui* (see note 2).

- 2 The relativization structure for both restrictives and appositives (in the “core” grammar (of Italian)) is  $[_{NP}NP S']$ .<sup>7</sup>

Consider now the question of deletions in COMP. In the Government and Binding (GB) system (see Chomsky 1979a, 1981a) and implicitly in the “On binding” system (OB) (Chomsky 1980a), the recourse to a specific rule of free deletion in COMP such as that proposed in Chomsky and Lasnik (1977) (C&L) is rendered unnecessary by the joint effect of (a) the optionality of syntactic rules (e.g., the rule expanding COMP may or may not apply), (b) the principle of “obligatory deletion of *wh*-phrases up to recoverability” of Chomsky (1980a: 21ff.).<sup>8</sup> In OB and GB the obligatoriness of the deletion is relativized to the context “\_\_\_ infinitive,” the reason for this being the systematic contrast which exists in English between tensed and infinitival relatives. Only in the latter, and not (necessarily) in the former, a *wh*-phrase (non-distinct from the head) *must* apparently delete:

- (5) a. I was looking for someone (\*whom) to invite to the party  
b. I know someone (who(m)) you can invite to the party.

<sup>7</sup> For the discussion to follow, it is, strictly speaking, immaterial whether restrictives have this structure or the structures shown in (i), occasionally advocated by some linguists:

- (i) a.  $[_{NP}[_{N'}N S']]$   
b.  $[_{NP}N' S']$

as long as the head does c-command the relative  $S'$ . We avoid entering this controversial question here, and adopt throughout structure 2 of the text.

<sup>8</sup> The formulation given by Chomsky there is a modification of the obligatory rule of relative NP deletion proposed and discussed in Kayne (1976). The two differ in one major respect: whereas Chomsky’s rule is obligatory only up to the point where recoverability is violated (and blocks whenever recoverability would be violated), Kayne’s rule applies obligatorily even in those cases where the deletion leads to a violation of recoverability. Kayne’s interpretation was meant to account for the non-perfect status of such French sentences as *\*l’homme la femme de qui/duquel tu as insultée* (“the man whose wife you insulted”). This, however, may not be the correct idealization of the facts. Such sentences (at least where the NP in COMP is a subject) do not seem to be impossible in very formal styles (cf. the example cited in note 47). It may be that the lower level of acceptability of object NPs in COMP (\*) is due to some other factor (plausibly related to the lower acceptability of object *lequel* vs. subject *lequel*; see note 5). In this case no motivation would be left for this interpretation of the obligatory character of the deletion vs. Chomsky’s.

The most general statement of the principle of deletion would be one which disposed of the context restriction. Thus, in line with our general aim, we will drop the context restriction and say that the deletion of (relative) *wh*-phrases up to recoverability in COMP is obligatory *everywhere* (i.e., tensed and infinitival, restrictive and appositive relative clauses). Our third assumption will thus be:

- 3 There is a principle of obligatory deletion of (relative) *wh*-phrases in COMP up to recoverability.

The obvious problem presented by (5) and similar cases in English will be dealt with in a later section (see section 2).

The notion of recoverability itself which appears in 3 merits some discussion. In GB, much of the content of this notion falls under the Empty Category Principle (ECP), which requires of an empty category that it be *properly governed* (see Chomsky 1979a).<sup>9</sup> There is, however, at least one part of the notion of recoverability that does not fall under ECP as defined in Chomsky (1979a): this is the area of so-called deletions under identity (or non-distinctness). Under the assumption that some of the phenomena traditionally taken to involve deletion under identity (VP deletion, gapping, etc.) are more appropriately interpreted as involving base generation of null/PRO categories plus an anaphoric interpretation of these (see e.g. Williams 1977), this whole area may in fact reduce just to the deletion of *wh*-phrases in COMP.<sup>10</sup> That ECP cannot subsume the notion of recoverability involved in the deletion of *wh*-phrases follows under the currently widely shared assumptions that ECP is operative on the LF side of the grammar (see Kayne 1979; Chomsky 1979a, and class lectures MIT, 1979), whereas deletions are operative on the phonology side (C&L): Chomsky (1979a, 1981a). Plainly, ECP cannot be invoked as

<sup>9</sup> Where A properly governs B iff A governs B and either  $A = \pm N \pm V$  or A is coindexed with B. A governs B, in turn, iff A minimally c-commands B. A minimally c-commands B =<sub>def</sub> A c-commands B and there is no C such that A c-commands C and C c-commands B and not C c-commands A. C-command is understood as in Chomsky (1981a). We have to refer to Chomsky (1981a) for relevant discussion and exemplification.

<sup>10</sup> In the earlier literature of transformational grammar, two further classes of deletion were assumed to fall under recoverability; the deletion of specific items (Chomsky 1965: 144; 1980a: 5–6), for instance, *you* in imperatives and *self* under Equi; and the deletion of the designated representative of a category (Chomsky 1964: 40f.; 1965: 144f.) as in the “Deletion of objects” with verbs like *eat*, etc. Both on general grounds (the quest for severely limiting the types of [deletion] rules) and on specific grounds (the existence of viable alternatives to most such rules; see Dowty’s [1978] discussion of unspecified object deletion and Chomsky’s [1981a] on *self* deletion) it appears desirable and perhaps possible to dispose of these cases of deletion. We will thus feel free to neglect them here.

a principle ruling over empty categories in COMP if these categories are non-empty in LF. Within this organization of the theory, an independent principle of recoverability (of deletions) is needed in addition to ECP.

All of this might be taken to indicate a certain redundancy in the system and one might try to reduce even this residue of recoverability to ECP. One such possibility is in fact explored in Kayne (1981a). Suppose, however, for the sake of argument, that the reduction of this part of recoverability to ECP were not feasible. The question would then arise as to what essential properties this “phonology” notion of recoverability of deletion should have.

One obvious first requirement for the deletion of a category to be recoverable would seem to be that it be non-distinct (in the sense of Chomsky 1965: chapter 4) from some other category in its context; what we will refer to as the “controller” of the deletion. It seems also clear that further restrictions must be imposed on the relative positions of the controller and the category to be deleted. Only under certain configurational conditions can a category act as the controller for the deletion of another (non-distinct) category. In earlier frameworks, this configurational requirement was incorporated (implicitly) in the formulation of the transformation itself (see e.g. Chomsky 1964: 41). Given the drastic simplification of the structural condition of transformational rules in the framework presupposed here (Chomsky 1976 and subsequent work) to the effect that the rule under consideration would simply be “Delete *wh*-phrases” (or maybe “Delete  $\alpha$ ”), we will have to incorporate such “configurational” requirement into the notion of recoverability itself. Suppose, then, that in addition to the “non-distinctness requirement” we say that the deletion of a category  $\beta$ , non-distinct from a category  $\gamma$  (the controller), counts as recoverable only if the controller c-commands  $\beta$  (call this the “c-command requirement” on recoverability).

Note that, given the assumptions made so far ((a) that “Move  $\alpha$ ” is involved; (b) that  $[_{NP}NP S']$  is the relativization structure for both restrictives and appositives; (c) that the deletion of *wh*-phrases is obligatory in tensed and infinitival *S*'s, up to recoverability – where recoverability requires non-distinctness with the controller and c-command by the controller), we are already in a position to derive the first and second properties of paradigms (1)–(3) (see p. 57 above). Recall the first property: when either a subject or a direct object is relativized the form *che* (homophonous with the complementizer) appears and no *wh*-form may appear. Now, subjects and objects, being bare NPs, are non-distinct from

the head. Furthermore they are c-commanded by the head in the configuration:

- (6)  $[_{NP}NP [_{S'}[COMP[_{NP}wh-]] \dots] \dots]$

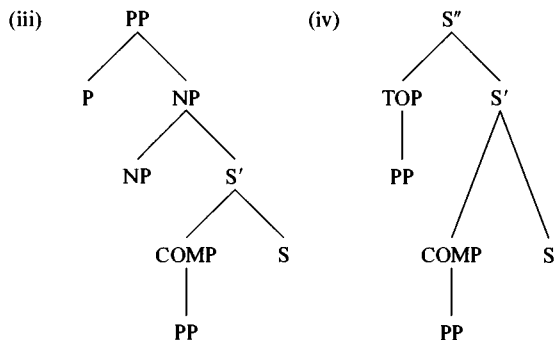
a structure that we have assumed to underlie both restrictives and appositives. So, given assumption 3 above, with the interpretation of recoverability just discussed, it follows that subject and object *wh*-phrases (as in (1a,b)–(3a,b)) *must* delete, since their deletion counts as recoverable.<sup>11</sup> The further conclusion we can draw is that the *che* which stands in place of the deleted *wh*-phrases in these cases is nothing other than the complementizer *che* of ordinary subordinate (tensed) clauses. On the general undeletability of *che* in Italian, see Cinque (1981b); see also Hirschbühler and Rivero (1980) for a comparable situation in Catalan. It also follows from the discussed interpretation of recoverability that the deletion of the entire PP in COMP is impossible in that the latter category is obviously distinct from the head (NP). Hence the impossibility of *il ragazzo che ho parlato* in the intended sense of (1c)–(3c): the second property of paradigms (1)–(3) noted above.<sup>12</sup> Note that the notion of

<sup>11</sup> Strictly speaking, the prediction is wider. It asserts that any bare NP non-distinct from the head must delete. In fact, more bare NP positions exist in Italian than just subject and object NPs; certain predicative NPs (see Vergnaud 1974) and certain temporal adverbial NPs. The relativization on such positions bears out the prediction in an interesting way. For a fuller discussion, we refer to Cinque (1981b).

<sup>12</sup> Note that – as desired – the deletion of a PP in COMP is still impossible, even if the head NP is within a PP, non-distinct from that in COMP, as in:

- (i) Ho scritto al ragazzo a cui hai scritto tu  
I have written to the boy to whom you have written  
(ii) \*Ho scritto al ragazzo che hai scritto tu

This is because of the c-command requirement on recoverability. In (iii)



recoverability so far assumed would make the (wrong) prediction that the deletion of the *wh*NP alone in (1c)–(3c) is obligatory, yielding:

(7) L'uomo [<sub>S'</sub>[COMP<sub>a</sub>]parlavi] ...

This is because the NP object of the preposition is non-distinct from the head and is c-commanded by it. A similar problem arises in C&L's system and is recognized explicitly there (p. 446). A number of accounts have been proposed in the literature to deal with it. We may interpret this fact to suggest that a narrower requirement than c-command is needed for the (phonology) notion of recoverability discussed. So, for example, as pointed out by L. Rizzi, Rouveret and Vergnaud's (1980) notion of c-subjacency would be sufficient.<sup>13</sup> This notion would correctly distinguish the case of a bare NP in COMP (which is c-subjacent to the head) from that of an NP object of a P in COMP (not c-subjacent to the head). Thus our notion of recoverability could be stated in terms of c-subjacency rather than c-command. The distribution of asterisks in the (a–c) cases of (1)–(3) is thus a consequence of the general assumptions 1–3 as discussed so far (with the mentioned strengthening of the “c-command requirement” on recoverability, even though we shall keep referring to c-command here, for simplicity).

There is one last point to complete this first part of the discussion. The two basic cases we have considered so far are the case where the *wh*-phrase in COMP is deleted and the complementizer has been expanded (to *che*), and the case where the *wh*-phrase fails to delete and there is no concomitant complementizer expanded in COMP. However, given the entirely optional character of the rules expanding the complementizer in COMP and their independence from the rule deleting *wh*-phrases, there are two more outputs which are freely generated by the grammar; namely the case where no deletion occurs and the complementizer is expanded, as in:

(8) \*L'uomo  $\left\{ \begin{array}{l} \text{a cui} \\ \text{a quale} \end{array} \right\}$  che hai parlato è cieco  
the man to whom that you have spoken is blind

which is the essential structure underlying (i), the head NP and the preceding preposition do not form a constituent that c-commands the PP in COMP, so that the deletion cannot count as recoverable. Unlike this case is Topicalization, where under the structure suggested in Chomsky (1977a) – see (iv) above – there is a c-commanding constituent PP and where, consequently, the deletion is recoverable (see also Chomsky 1980a).

<sup>13</sup> A node A is c-subjacent to a node B if B c-commands A and either A or the c-domain of A c-commands B (see Rouveret and Vergnaud 1980). The definition of c-command relevant here is that of Chomsky (1980a).

and the case where deletion occurs and the base rules do not expand the COMP node (to *che*), as in:

- (9) a. \*L'uomo ha riso non è ubriaco  
       the man has laughed is not drunk  
       b. \*L'uomo hai visto è suo zio  
       the man you saw is her uncle

Both cases are ill formed but they seem to be so for reasons which are quite general and independent from the order of problems considered here in terms of assumptions 1–3 (see C&L, and Cinque (1981b) for a more detailed discussion of the cases (8) and (9) above). It seems, thus, legitimate to conclude that the properties of cases (a)–(c) of (1)–(3) turn out to be quite straightforward in terms of the general assumptions discussed so far.

What remains to be accounted for in paradigms (1)–(3) are the (pied-piping) cases (d)–(f). In fact, given assumptions 1–3, and in particular, the interpretation of “Move  $\alpha$ ” as an unrestricted rule, we should expect, in the absence of other factors, all the cases of pied piping (not just the pied piping of PPs) to be well formed. But this is not so. A clear demarcation line exists between the pied piping of a PP and the pied piping of any other material. A rather puzzling situation, especially if contrasted with the relatively more ample freedom of pied piping displayed by interrogatives<sup>14</sup> and appositive relatives with *quale*, for which see the discussion in section 1.3. Obviously, given the level of generality we are trying to keep to, there is no way to represent this difference in pied piping between the two *wh*-constructions in the statement of the rule (the undifferentiated rule “Move  $\alpha$ ”). This forces us to look for an independent factor, in the (distinct) interpretation of the two constructions, that may account, in a principled manner, for their difference and for why that difference is the way it is. Some evidence exists that seems to support, in an interesting

<sup>14</sup> Contrast (1d–f)–(3d–f) with the perfectly acceptable

- (i) Non sapevamo con la macchina di chi fossero riusciti a scappare  
       We did not know with whose car they had managed to escape  
 (ii) Non ricordo per salvare chi avesse detto di averlo fatto  
       I do not remember to save whom he had said he had done it

As one may expect, the heavier the fronted phrase becomes, the less acceptable the resulting sentence is. This phenomenon, however, is quite general and must be kept distinct from the clearcut demarcation found in (1)–(3).



way, this approach to the problem. A very natural assumption, in view of the correct LF interpretation of relative structures is that the head NP and the *wh*NP in COMP bear the same index. In the GB system the theory of indexing consists of two very general conventions: a coindexing convention for the movement of categories and a free indexing convention (presumably limited to non-empty categories in LF: lexically filled categories and PRO).<sup>15</sup> A *wh*-phrase receives an index through the former convention when it moves by itself and through the latter when it moves within a larger phrase. Within this maximally impoverished (and general) theory of indexing no coindexing rules are available (apart from the coindexing convention of movement rules itself). So the “coindexing” of the *wh*NP and the head NP may arise only by a casual assignment of the same index to the two NPs. One may assume that some general principle of interpretation for relative structures should ensure that only those derivations in which the two NPs happen to bear the same index will qualify as well formed.

Suppose that this principle essentially reduces to a property of *wh*-pronouns: a property whereby they must refer, by their very nature, to an antecedent. Lexical items that can inherently refer to an antecedent seem to fall essentially into one of two classes: “bound anaphors” (reflexive, reciprocal pronouns, etc.; henceforth, simply, “anaphors,” in the sense of Chomsky 1980a and later work) and free anaphors (non-reflexive, non-reciprocal pronouns, demonstratives, etc.).<sup>16</sup> Suppose, then, that relative pronouns are, in the unmarked case (in a sense to be better qualified later) inherently bound anaphors, that is, suppose we assume 4:

- 4        Relative pronouns belong to the inventory of lexical (bound) anaphors of the language.

If so, it is to be expected that they fall under the effect of principle A of the Binding Theory, which requires of an anaphor that it be bound in every minimal governing category (see Chomsky 1979a, 1981a). We return to the notion “governing category” directly.

<sup>15</sup> In the absence of this restriction, there would be a certain redundancy. Coindexing, ordinarily obtained by “Move NP” (as in Passive, etc.), would also be available as a consequence of free indexing on base-generated empty categories.

<sup>16</sup> From the point of view of the Binding Theory of GB, the latter class is, properly speaking, spurious in that non-reflexive/reciprocal pronouns behave as pronominals (subject to principle B), and so-called “demonstrative” pronouns as full NPs (subject to principle C).

This last assumption seems to have the right consequences for the problem noted above in that it provides a general explanation for the curious asymmetry found among the different cases of pied piping. Recall that the pied piping of a PP was allowed in (1)–(3) but not that of a NP larger than the *wh*NP nor that of a (S or) S' containing the *wh*NP. The three cases are schematically represented in (10)–(12):

- (10) ... [NPNP<sub>i</sub>[S'[COMP[PPP[NP<sub>i</sub>*wh*]]–WH] S]] ...  
 (11) ... [NPNP<sub>i</sub>[S'[COMP[NPN'[[PPP[NP<sub>i</sub>*wh*]]]–WH] S]] ...  
 (12) ... [NPNP<sub>i</sub>[S'[COMP[S ... [NP<sub>i</sub>*wh*]]]–WH] S]] ...

The first case does not violate principle A under the reasonable assumption that S and NP are the only governing categories (see Chomsky 1979a, 1981a).<sup>17</sup> The minimal governing category for the *wh*-anaphor will be the underlined NP (in 10), the NP which dominates the head NP and the relative clause. And the *wh*-anaphor is bound within it (by the head NP). This is not true, however, for the remaining two cases, where the *wh*-anaphor, though bound to the head NP, is free in its minimal governing category, the underlined NP in (11) and the underlined S in (12). Thus, the assumption that relative pronouns are anaphors (in [NPNP S']) seems to explain the otherwise puzzling asymmetry of paradigms (1)–(3).<sup>18</sup> The demarcation line between PPs, on the one hand, and NPs and Ss, on the other, is, under this view, a direct consequence of the independent theory of Binding, and mirrors the contrast found with such other anaphors as *each other* between PPs (*They wrote* [<sub>PPto</sub> *each other*]) on the one hand, and NPs (*\*They were impressed by* [<sub>NPmy stories about</sub> *each other*]) and Ss (*\*They thought* [<sub>S</sub> *I liked each other*]), on the other.

The interaction of the theory of Binding with the transformational component (“Move  $\alpha$ ”) and the lexical characterization of *wh*-pronouns as “anaphors” thus allows retaining each relevant assumption in its maximally general form – a welcome result.

<sup>17</sup> A governing category for A is any NP or S that contains both A and a governor for A (possible governors being  $\pm N \pm V$ ). A minimal governing category for A is a governing category which contains no other governing category for A.

<sup>18</sup> Note that were it the case that S', rather than S, qualified as a governing category (see Chomsky 1981a for relevant discussion), we could not draw the correct distinction – for, in such a case, the *wh*-anaphor would be free in its minimal governing category (S') even in (10), thus excluding the relevant derivation (unless they were taken to delete, or not count as a governing category, in the structure [NPNP S']; see, in fact, Kayne's [1981a] related suggestion that S' not count as a barrier to government in such a structure). We will take up directly the obvious problem posed to this general approach by paradigm (4) in Italian (and similar facts in French and English [section 2]).

This analysis appears, however, to fail in two other cases of pied piping, that of APs and that of Adverbial \*Phrases (AdvPs). The pied piping of such phrases is as bad as that of NPs and Ss. See:

- (13) a. \*Il ragazzo affezionati  $\left\{ \begin{array}{l} \text{a cui} \\ \text{al quale} \end{array} \right\}$  non sembravate era  
 Giorgio  
 The boy fond of whom you did not look like was G.  
 b. \*Giorgio, affezionati a cui non sembravate, ...
- (14) a. \*Questo è l'uomo diversamente  $\left\{ \begin{array}{l} \text{da cui} \\ \text{dal quale} \end{array} \right\}$  avete agito  
 this is the man differently from whom you have acted  
 b. \*Giorgio, diversamente da cui noi abbiamo aderito, ...  
 G., differently from whom we have given our assent, ...

Given that just NPs and Ss qualify as governing categories, one should expect such cases, schematically represented in (15)–(16):

- (15) [NPNP<sub>i</sub>[S' [COMP [AP A [PP P [NP<sub>i</sub> *wh*-]]] ]-WH]S]] ...  
 (16) [NPNP<sub>i</sub>[S' [COMP [AdvP Adv [PP P [NP<sub>i</sub> *wh*-]]] ]-WH]S]] ...

not to violate principle A, and thus to be well formed, for the same reason that the pied piping of PPs was seen to be well formed, for the *wh*-pronoun appears to be bound within its minimal governing category (the underlined NP in (15)–(16)). There is, however, some independent evidence that APs (and AdvPs),<sup>19</sup> except where they are reanalyzed with a governing V, are “translated” in LF as Ss (with a PRO subject), much in the same way as the predicative structures discussed by Chomsky (1980a: 17–18) in terms of a structure-building process (see also Chomsky 1981a for relevant discussion). The following contrast provides part of the justification for this claim:

- (17) a. Ne sembravate contenti  
 You of-it seemed glad  
 b. Giorgio gliene sembrava contento  
 G, to him of-it seemed glad  
 c. \*Giorgio ne sembrava a tutti contento  
 G, of it seemed to all glad

<sup>19</sup> We are assuming that APs and AdvPs are essentially the same category (with the same category feature constitution) generated in different contexts (see Bowers 1975) and thus, for simplicity, we will limit our remarks to APs.

The clitic *ne* (“of it”) in (17a) is “construed” with *contento* rather than with *sembrare*; in fact it subcategorizes *contento*. We may thus plausibly assume that *ne* is base-generated as a complement to the A (G. [<sub>V</sub>*sembrava*][<sub>AP</sub>*contento* [<sub>PP</sub>*ne*]]) before being cliticized to the V. If the AP in LF were to translate as [<sub>S</sub>PRO *contento* (e)], as we claim, the cliticization should be impossible, since the trace of *ne* (an anaphor) would be free within its minimal governing category (S). Suppose, however, that in such cases a reanalysis rule takes place (before the level at which the structure-building rules and the Binding conditions operate) to form a constituent out of the copulative V and the A, to give essentially: [<sub>V</sub>*sembrava*][<sub>A</sub>*contento*][<sub>PP</sub>*ne*].<sup>20</sup> In such a case *ne* cliticizes to the complex predicate and its trace is bound within its minimal governing category, which is the (first) S dominating the complex predicate. A reasonable requirement on such a reanalysis (see Kayne 1981b) is that the V govern the A(P). Suppose, now, that in Italian a V can govern a category only if no other (major) category intervenes between the governor and the category (this, incidentally, seems to be independently supported by the absence, in Italian, of analogues of *John gave Bill a book*). Note that in (17b–c) there is one such major category between the V and the A(P), namely *a tutti* in (c) and the trace of *gli* (“to him”) in (b), so that, we assume, no reanalysis may take place there. Now if we assume that the structure-building rule forming an S out of a predicative AP is in fact obligatory where no reanalysis has taken place, the illformedness of (17b–c) is straightforwardly accounted for, since the trace of the clitic is now free in its (new) minimal governing category (the structure-built S).<sup>21</sup> If so, in such cases as (13)–(14), there is obligatory structure-building of an S-structure, the reanalysis between V and A being unavailable, which in turn causes the *wh*-pronoun to be free in its minimal governing category, with the expected consequence for grammaticality. In brief, what appeared to be a difficulty for the proposed analysis of *wh*-pronouns as anaphors (in (1)–(3)), turns out to confirm it in an

<sup>20</sup> This reanalysis rule between copulative Vs (*be*, *seems*, etc.) and predicative As is in fact motivated in Kayne (1981a) on independent grounds, having to do with government requirements for ECP.

<sup>21</sup> Note that under Stowell’s (1980) hypothesis, according to which all major categories have a PRO subject, there may be no need for the structure building of an S in the relevant examples if “governing categories” are all the categories where a subject–predicate relation holds (i.e., Ss, NPs, and those APs, AdvPs [and PPs] where no reanalysis takes place – but see the text discussion of (18)–(19)).

interesting way when considered within the wider framework of the syntax of APs in Italian.<sup>22</sup>

It should be noted that the facts so far reviewed seem to be compatible only with the “stricter” interpretation of *governing category* given by Chomsky (1979a, 1981a) according to which S and NP *always* qualify as governing categories, irrespective of whether there is a subject within them which is “accessible” to the anaphor.<sup>23</sup>

This seems to be indicated by such cases as:

- (18) \*Questo è l'uomo alla morte di cui eravamo già preparati  
This is the man to the death of whom we were already prepared
- (19) \*Giorgio, l'arrivo di cui era stato già annunciato  
G., the arrival of whom had already been announced

where, if there is a subject within the larger NPs (*la morte di cui*), (*l'arrivo di cui*), this must be [<sub>NP</sub>*cui*]. If so, however, the larger NP should not qualify as a governing category for the anaphor *cui* in that *cui* is not in the domain of the subject of such an NP, being itself the subject. Since the next governing category up is the relative NP dominating the head and the relative clause, and *cui* is bound within it, there should be no violation, quite contrary to the facts. The impossibility of (18)–(19) follows,

<sup>22</sup> The pied piping of so called “composite” PPs (those of the form [<sub>P</sub> PPP]) is in general possible, as expected; cf.:

- (i) a. Una persona  $\left\{ \begin{array}{l} \text{di fronte} \\ \text{davanti} \end{array} \right\}$  a cui non oserei mai dire queste cose è Giorgio  
A person in front of whom I would not dare to say such things is G.  
b. Gli unici insieme a cui mi sentirei di dividere la casa sono i Rossi  
The only people together with whom I feel I would share my house are the R.  
c. Giorgio, attorno a cui si era formato un folto gruppo di giovani, ...  
G., around whom several young people had gathered, ...

In some cases, the judgments seem to be less sharp (cf. *?Giorgio, incontro a cui non vanno neanche i suoi figli* “G., toward whom not even his children run.” Few of them, on the other hand, seem rather awkward (*\*?Giorgio, insieme con cui ho fatto tutte le scuole* “G., together with whom I went through school”). It may be that the structure-building process discussed for APs and AdvPs above is relevant here too (at least for some of them). A more definite answer must wait a deeper understanding of their syntax than is now available.

<sup>23</sup> In lectures given by Chomsky during the Fall semester of 1979 at MIT, a somewhat different conception of governing category was advanced, in which NP and S qualify as governing categories for an anaphor only if they contain a governor for that anaphor and a subject which is *accessible* to the anaphor (where A qualifies as an “accessible” subject for B if A c-commands B [and A is a subject]). The two interpretations of governing category imply a number of distinct empirical consequences which we will not review here. For a general discussion, see Chomsky (1981a).

instead, from the stricter interpretation of governing category mentioned above. This asymmetry between the anaphor *cui* and other anaphors (reflexive and reciprocal in English and Italian: cf. *They burned pictures of themselves/each other*; *Hanno bruciato fotografie di se stessi/l'uno dell'altro*) could be accounted for by positing, in line with Chomsky (1979a, 1981a) that, in the unmarked case, governing categories (*tout court*) are NP and S, perhaps as the only two propositional content categories and the only two typical domains of rule application; and that only in the case of lexical anaphors like *Pro-self*, *se stesso*, *each other*, *l'un l'altro*, etc. which typically look for subject antecedents can this definition of governing category be relaxed to one involving the notion of "accessible subject," with greater cost for the grammar (hence also, perhaps, their stylistically more marked character).

The extent to which this distinction between anaphors like *each other* etc., which typically look for *subject* antecedents (see Chomsky 1981a), and *cui*, which does not, correctly expresses the mentioned asymmetry, must be left open here.

### 1.3 *Marked additions to the "core" grammar (of Italian)*

The four assumptions so far discussed, to the extent to which they account correctly for paradigms (1)–(3), appear to make some obviously false predictions about paradigm (4) (which we repeat here for convenience):

- (4)
- a. Giorgio,  $\left\{ \begin{array}{l} \text{che} \\ \underline{\text{il quale}} \end{array} \right\}$  ti vuole, è là
  - b. Giorgio  $\left\{ \begin{array}{l} \text{che} \\ \underline{*\text{?il quale}} \end{array} \right\}$  stimi, l'ha fatto
  - c. Giorgio,  $\left\{ \begin{array}{l} \underline{\text{al quale}} \\ *\text{che} \end{array} \right\}$  tieni, ti odia
  - d. Giorgio, la figlia del quale fuma, è contrario
  - e. Giorgio, alla figlia del quale hai scritto, è in collera
  - f. Giorgio, fuggire dal quale non osava, è morto

For they assert that the underlined forms in (4) are impossible and that only those not underlined are possible, quite contrary to the facts. In spite of such obvious counterevidence we take this to be a desirable and in fact correct result. We will argue, in fact, that paradigm (4) (which represents the appositive construction of *quale*) is not a coherent or genuine

paradigm, but is rather the conflation of two quite distinct paradigms. Recall that the underlined forms in (4) were said to belong to a slightly more formal style than those not underlined. Let us suppose that they do not belong properly to the paradigm but rather that they form a separate paradigm. The result of dissociating the underlined from the other forms of (4) is represented by the following two (abstract) paradigms:

- (20) a. Giorgio,  $\left\{ \begin{array}{l} \text{che} \\ \text{(*il quale)} \end{array} \right\}$  ti vuole, è là  
 b. Giorgio,  $\left\{ \begin{array}{l} \text{che} \\ \text{(*il quale)} \end{array} \right\}$  stimi, l'ha fatto  
 c. Giorgio,  $\left\{ \begin{array}{l} \text{al quale} \\ \text{*che} \end{array} \right\}$  tieni, ti odia  
 d. \*Giorgio, la figlia del quale fuma, è contrario  
 e. \*Giorgio, alla figlia del quale hai scritto, è in collera  
 f. \*Giorgio, fuggire dal quale non osava, è morto
- (21) a. Giorgio,  $\left\{ \begin{array}{l} \text{il quale} \\ \text{(*che)} \end{array} \right\}$  ti vuole, è là  
 b. Giorgio,  $\left\{ \begin{array}{l} \text{*?il quale} \\ \text{(*che)} \end{array} \right\}$  stimi, l'ha fatto  
 c. Giorgio,  $\left\{ \begin{array}{l} \text{al quale} \\ \text{*che} \end{array} \right\}$  tieni, ti odia  
 d. Giorgio, la figlia del quale fuma, è contrario  
 e. Giorgio, alla figlia del quale hai scritto, è in collera  
 f. Giorgio, fuggire dal quale non osava, è morto

Note that (20), which represents paradigm (4) deprived of the underlined forms, is now exactly identical to the other paradigms (1)–(3) (i.e., obligatory deletion in COMP of subject and object NPs, impossibility of pied piping except for that of Ps). This dissociation thus allows us to reach a maximum of generality in terms of the assumptions needed to treat the syntax of *cui* and *quale* (which now have identical paradigms for both the restrictive and the appositive construction).<sup>24</sup> However, we can reach a maximum of generality to the extent that we can show that the underlined forms of (4) (paradigm (21)), which now remain unexplained, are indeed a genuine independent paradigm, amenable to a separate, coherent, analysis.

<sup>24</sup> For example, we do not need to relax the generalized principle of obligatory deletion up to recoverability as discussed above.

We will now present, assuming this to be essentially correct, an analysis which is to account for the differential properties of the more formal paradigm (21). We will then show that such an overall more complex but more elegant analysis (in terms of the generality of the principles involved) leads to a number of interesting empirical predictions that could not be reached in the simpler and less abstract analysis which relaxed the obligatory character of the deletion of *wh*-phrases and the prohibition against the pied piping of categories other than PPs in appositives with *quale*. Suppose that alongside [<sub>NP</sub> S'], which we have assumed to be the ordinary structure for both restrictive and appositive relative clauses (in Italian), a second structure is available, typically for appositives, namely:

(22) NP... S', ...

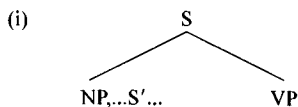
In this structure, the S' is to be interpreted as a juxtaposed clause; essentially a parenthetical clause. It seems reasonable to assume that in such (parenthetical) structures no c-command (or stronger) relation should obtain between the NP and the material within the S'.<sup>25</sup> In any event, let us suppose that no such relation obtains in such a structure.<sup>26</sup> Two interesting consequences stem from this assumption. The first is that the deletion of the *wh*NP in the COMP of a parenthetical S' relative cannot count as recoverable (in the interpretation of recoverability discussed above), because, even if it is non-distinct from the head, it is not c-commanded by the head. The second is that no instance of anaphor *cui* or

<sup>25</sup> This assumption is supported by contrasts such as the following:

- (i) \*He<sub>i</sub> said that John<sub>i</sub> did not like it
- (ii) Even he<sub>i</sub> said that, and John<sub>i</sub>, to be sure, is not the kind of person that could be blamed in these matters.

Coreference between the full NP *John* and a preceding (higher) pronoun is possible in (ii) where the full NP is within a parenthetical structure, but not in (i). The contrast follows from principle C of the Binding Theory (which requires that a full NP be free in every governing category) if the pronoun c-commands the NP *John* in (i) but not in (ii).

<sup>26</sup> Note that we will assume this even in those cases where a parenthetical relative clause "modifies" a subject NP, i.e. where there is apparently no way to have the parenthetical relative hang from a node higher than the node dominating the head NP:



This may mean that parenthetical clauses are in fact outside of the theory of phrase structure proper.



*quale* will *prima facie* be possible in the COMP of the parenthetical relative either, since the anaphor will not be c-commanded by any antecedent.<sup>27</sup> It then follows that in a structure like (22), with its properties, no anaphoric relative pronoun give well-formed results. So both anaphoric *cui* and *quale* are ruled out there. Suppose, now, that *quale* (although not *cui*) can be used as both an anaphor and a lexical element. A non-anaphoric relative pronoun will not be ruled out in (22) since it does not need a c-commanding antecedent, as does an anaphor. Thus the fact that *quale*, but not *cui*, can be used as a non-anaphoric element (besides its “unmarked” use as an anaphor) is crucial in accounting for the asymmetry in the appositive paradigms of *cui* and *quale*. *Cui* has no appositive paradigm corresponding to (21) since it can only be used as an anaphor and thus can enter a structure like [<sub>NP</sub>NP S'] with its properties, but not a structure like (22). The properties of the additional paradigm (21) with non-anaphoric *quale*, now follow simply as a consequence of the properties associated with (22):

- 1 Subject and object *wh*-phrases are retained (in fact must be retained) because the deletion would not count as recoverable (there being no c-commanding controller).
- 2 All the cases of pied piping which were not allowed in (1)–(3) and (20) are allowed in (21) since, being the *wh*-pronoun, not an anaphor, its relation to the head NP is not limited by principle A of the Binding Theory.

This dual analysis, in terms of structure [<sub>NP</sub>NP S'] and structure (22) with their respective properties, turns out to express a particular, unforeseen, correlation: one between the deletion of *wh*-phrases and pied piping (i.e. where you must have deletion of *wh*-phrases, you cannot have pied piping [except for that of PPs]; where you cannot have deletion, you have free pied piping). We will in fact encounter this correlation again and

<sup>27</sup> This crucially presupposes that an anaphor must have (by definition) an antecedent. Principle A of the Binding Theory ensures this condition for anaphors in governed positions. But such left dislocation cases as

- (i) \*Se stesso, Giorgio non parla mai di se stesso  
Himself, G. never speaks of himself

where the anaphor is without an antecedent, in an ungoverned TOP position, seem to indicate that quite apart from the Binding Theory the definition of (lexical) anaphor must require that there be an antecedent for the anaphor.

again in related constructions, which suggests that it is indeed a genuine generalization.

Another consequence of this analysis is that what appeared to be an optional deletion of the subject and object *wh*-phrase in the appositive paradigm of *quale* (see the spurious paradigm (4)) is now reduced to two separate obligatory choices: obligatory deletion in [<sub>NP</sub>NP S'] and obligatory retention (impossibility of deletion) in (22), for principled reasons, thus permitting maximal generality: we can keep the principle of obligatory deletion up to recoverability *per se* unaltered. It is the requirements of the notion of recoverability that once require, once forbid, the deletion. This dual analysis has another consequence: it is now possible to provide a formal, theory-grounded basis for the distinction in stylistic markedness between paradigms (1)–(3) and the forms that are not underlined in (4) (i.e. (20)) on one side and the underlined forms of (4) (i.e. (21)) on the other. It was said before that the latter were (slightly) more formal than the former. The grammar of Italian may reflect this distinction if we interpret (at least in this case) stylistic markedness as a manifestation of the use of more peripheral options left open by the grammar (in the construction of relative clauses).

Recall what has been proposed so far. The core grammar for (Italian) relative clauses contemplates structure [<sub>NP</sub>NP S'] for both (ordinary) restrictives and appositives, a generalized principle of obligatory deletion of *wh*-phrases up to recoverability and anaphoric relative pronouns. Paradigms (1)–(3) and (20) have the properties predicted by this set of principles (and other independently motivated principles of the general theory). Paradigm (21), on the other hand, can be generated by the grammar only with the addition of two supplementary principles: (a) that structure (22) is also available for appositives; and (b) that *quale* can also be used as a non-anaphoric element. If we take the former set of principles to comprise the unmarked core of the grammar and the latter to be a more marked option available (at a higher cost) to the grammar, we can straightforwardly derive the observed difference in style once we assume stylistic markedness to be an overt effect of the utilization of a more costly theoretical apparatus. Besides these, more general and conceptual, advantages which we may attribute to the more elaborate analysis, there are empirical advantages to it.

## 1.4 Some empirical consequences of the overall analysis

We shall consider, in this section, some predictions that the analysis affords. The claim that (subject and object) *quale* cannot be deleted in (22) may not be tested directly in such a structure as (21) because of the existence of the parallel paradigm (20), where they are deleted (in fact, obligatorily). In this sense, the two paradigms (20) and (21) were said to be “abstract” paradigms. We have interpreted the apparent optionality of the deletion in terms of the ambiguity of the structures that may underlie such cases, either [<sub>NP</sub>NP S'] or NP... , S' , ... Either structure may underlie the forms in (4). To put to test the proposed analysis we will have to consider cases where one of the two structures is in principle excluded. One such case is represented by relative clauses which are non-adjacent to the head and thus cannot be instances of structure [<sub>NP</sub>NP S'].<sup>28</sup> In this case subject and object NPs turn out in fact to be undeletable as we would expect, given that the structure involved is NP... , S' , ...:

- (23) a. Una sola possibilità gli rimaneva per salvarsi.  $\left\{ \begin{array}{l} \text{La quale} \\ * \text{Che} \end{array} \right\}$ ,  
 purtroppo, non era stata prevista da nessuno  
 One possibility was left for him to save himself. Which,  
 unfortunately, hadn't been foreseen by anybody
- b. Un solo libro affronta questi problemi.  $\left\{ \begin{array}{l} ? \text{Il quale} \\ * \text{Che} \end{array} \right\}$  voi tutti  
 avrete letto  
 Just one book deals with these problems. Which you all will  
 have read

This also shows, incidentally, the untenability, on empirical grounds, of the more simple but less desirable alternative interpretation of paradigm (4) whereby the principle of obligatory deletion of *wh*-phrases is rendered optional for the appositive construction of *quale*. Here we have an

<sup>28</sup> It should be noted in this connection that no relative clause extraposition appears to be possible (from subjects) in modern Italian (nor PP extraposition, for that matter). Structures corresponding to such English sentences as *A man has arrived today with whom you should talk*, namely *\*Un uomo è arrivato oggi con cui/col quale dovresti parlare* are impossible (see also Cinque 1978: fn. 65). We have no definite answer to this. It could be that relative clause extraposition is (syntactically) available in Italian but that there is no semantic interpretation rule in Italian of the type found in English and French (see Guéron 1980) so that no link can be established between the two discontinuous constituents. It is instructive that PP extraposition is likewise absent in Italian. It may be suggestive to relate this property of Italian to the possibility which exists in this language of moving to the right the whole subject (or object) NP (the one which contains the relative clause or PP).

instance of appositive *quale* in which, still, deletion is impossible. This impossibility follows, instead, from the proposed analysis.

A second expectation is that no occurrence of *cui* should be possible in relative clauses which are non-adjacent to the head. Their structure is NP... , S' , ... , and the anaphor *cui* would consequently be unbound. *Cui* is in fact ruled out in such structures:<sup>29</sup>

- (24) Solo i Rossi non hanno aderito,  $\left\{ \begin{array}{l} \text{per i quali} \\ * \text{per cui} \end{array} \right\}$  il nostro progetto  
non ha alcuna possibilità di riuscita  
Only the Rossis have not given their assent, for whom our project has no chance of success

Which should be compared with the acceptable:

- (25) Soli i Rossi, per cui/per i quali il nostro progetto non ha alcuna possibilità di riuscita, non hanno aderito

which differs from (24) only in that *per cui* is adjacent to the head, so that the structure underlying the relative clause may be [<sub>NP</sub>NP S'] (the parallel derivation with NP... , S' , ... would of course be excluded as is that of (24)).

A similar fulfilled expectation concerns relative clauses with split antecedents. For the same reasons as above these, too, cannot be instances of structure [<sub>NP</sub>NP S']. As expected, no deletion is possible here, of subject and object *wh*-pronouns, nor is *cui* allowed in such structures:

- (26) a. Se Piero<sub>i</sub> non si trova più tanto bene con Ida<sub>j</sub>,  $\left\{ \begin{array}{l} \text{i quali}_{i,j} \\ * \text{che}_{i,j} \end{array} \right\}$   
d'altronde non hanno mai avuto molto in comune, ...  
If P. doesn't get along with I. anymore, who in any case have never had much in common, ...  
b. Se Piero<sub>i</sub> non si trova più tanto bene con Ida<sub>j</sub>,  $\left\{ \begin{array}{l} \text{tra i quali}_{i,j} \\ * \text{tra cui}_{i,j} \end{array} \right\}$   
d'altronde non c'è mai stata una vera amicizia, ...  
If P. doesn't get along with I. anymore, between whom in any case there never was a true friendship, ...

A further test for the analysis comes from the pronominalization facts discussed in note 25. The asymmetry between (i) and (ii) of that footnote

<sup>29</sup> There is an irrelevant good reading for the starred alternative of (24) where *cui* is a pro-form of a propositional type, roughly paraphrasable as "for which thing, reason, etc." This is not an instance of anaphor *cui* (see also fn. 37) and may be not even an instance of the relative pronoun.

was interpreted as an indication that no c-command relation holds between NPs within the parenthetical clause and NPs outside. If the structure NP... , S', ... is indeed a kind of parenthetical structure in which NPs are not c-commanded by anything preceding or following the S', we should expect coreference between a NP c-commanding the head NP and a NP within the parenthetical relative clause to be possible in appositives with *quale*. This appears to be the case:<sup>30</sup>

- (27) ... Se lui<sub>i</sub> non è molto amato dai figli, all'affetto dei quali Giorgio<sub>j</sub> non ha mai mostrato di tenere, una ragione c'è: ...  
 ... If he is not loved by his children, about whose love Giorgio never appeared to care, there is one reason: ...

Conversely, no such coreference relation should be possible in relative clauses having the structure [<sub>NP</sub>NP S'] since in that case NPs within the relative S' are c-commanded by those NPs that c-command the head NP. Taking deletion of *wh*-pronouns and the use of *cui* to be indications that structure [<sub>NP</sub>NP S'] is involved, we should expect no such coreference to be possible. See the following cases, which are in fact judged as unacceptable in the suggested reading:

- (28) \*Se lui<sub>i</sub> dette la parola a Rossi, che poi il Preside<sub>j</sub> voleva ringraziare anche di quanto aveva fatto per la Facoltà, ...  
 If he called upon Rossi to speak, whom the Dean wanted to thank for what he had done for the Faculty, ...
- (29) \*Se lui<sub>i</sub> non è molto amato dai figli, a cui poi Giorgio<sub>j</sub> non sembra tenere, ...  
 If he is not loved by his children, about whom G. does not appear to care, ...

Two more predictions will be discussed in the next section.<sup>31</sup>

<sup>30</sup> These facts, if taken seriously, seem to rule out the possibility proposed in Jackendoff (1977: chapters 4 and 7) that appositives are attached to N<sup>'''</sup>. If they were, the NP subject of the appositive would still be c-commanded by the coreferential pronoun in the matrix (and be, thus, bound in some governing category). It seems that at least one type of appositive (the parenthetical one, to which English appositives typically belong; see section 2.2 below) must not enter the c-command domains of categories of the matrix.

<sup>31</sup> Further indirect evidence for positing two *quale*'s, an anaphoric *quale*, in [<sub>NP</sub>NP S'] for paradigms (3) and (20), and a non-anaphoric *quale*, in NP... , S',... for paradigms (21) (and (30)), may derive from the fact that in stylistically marked appositives with *quale* (cf. (21)) the pronoun may be distinct in number from its antecedent (*Prima che fosse terminata quella lite, le quali alla corte di Roma non pare che abbiano mai fine*, ... "Before that quarrel ended, which (pl.) it seems are never put an end to in the Rome Court, ..." adapted from Fornaciari 1881: 360), or may be followed by a N which is distinct from the

1.5 *A more marked restrictive paradigm with quale*

It was stated above that the restrictive paradigm of *quale* is exactly parallel to the restrictive paradigm of *cui* (cf. (1) and (3), which display the properties following from the assumptions that *quale* and *cui* are [also] anaphors in the structure [<sub>NP</sub>NP S']). This statement, however, is not complete. Alongside (3), which belongs to the ordinary accurate style of Italian, there is another, stylistically quite marked, restrictive paradigm of *quale* which shows the same features of the more formal appositive paradigm of *quale* (cf. (21)): namely, retention of subject and object *wh*-pronouns and free pied piping. See:

- (30) a. I soci i quali non abbiano ancora versato la quota annuale  
sono pregati di farlo al più presto  
The members who have not paid the annual fees are  
requested to do so as soon as possible
- b. ?Gli studenti i quali non aveste ancora potuto esaminare, ...  
The students who you have not been able to examine, ...
- c. I genitori i figli dei quali non siano in possesso del certificato  
di vaccinazione, ...  
The parents whose children have not yet the certificate of  
vaccination, ...
- d. Le lingue a tradurre dalle quali non siate ancora abituati, ...  
The languages to translate from which you are not yet used  
to, ...

The very marked style of this paradigm (typically, official and bureaucratic) is also apparent from the peculiar limitations existing on the choice of the mood for the relative clause verb, which must be subjunctive. If the subjunctive of the examples in (30) were to be changed into an indicative the form would become very marginal, if at all possible.<sup>32</sup>

antecedent (*Gli ultimi quattro, col qual numero completeremo la squadra, sono ...* "The last four, with which number we shall complete the team, are ..."). This behavior is shared by non-anaphoric demonstrative pronouns (*questo* "this," *quello* "that," etc.).

These two possibilities are instead excluded from ordinary restrictives with *quale* (cf. *\*la lunga lite alle quali abbiamo assistito* "the long quarrel which (pl.) we witnessed"; *\*I quattro col qual numero completeremo la squadra sono ...* "The four with which number we shall complete the team are ..."). This is expected if [<sub>NP</sub>[art.] *quale*] is recorded, in this form, as an anaphor. A fuller discussion of these two cases is to be found in Cinque (1978: 81–2).

<sup>32</sup> The different choice of lexical items (in (3)), in addition to the indicative, renders even less plausible the reinterpretation of that paradigm as belonging to the bureaucratic style of (30). Hence the unqualified use of asterisks for (3).

Given the coherent properties (30) shows (retention of subject and object *wh*-phrases, free pied piping), the theory sketched so far is forced to analyze this paradigm as an instance of the parenthetical structure NP . . . , S' , . . . in which *quale* is a non-anaphoric element.

Various considerations favor this analysis over an alternative which again resorted to a simple relaxation of the obligatory character of the deletion of *wh*-phrases up to recoverability (and of the prohibition against the pied piping of categories other than PPs). First, there would be no principled account for the contrast in acceptability between (30) and (3). Second, the proposed analysis permits again keeping to maximal generality (e.g., we do not need to relax the principle of obligatory deletion). Third, it makes it non-accidental that there is no marked (or unmarked) restrictive paradigm of *cui* with the same properties of the restrictive paradigm (30), an *a priori* possible situation. The analysis excludes its existence on principled grounds by maintaining the strict anaphoric status of *cui*. Fourth, it makes it non-accidental that the highly marked paradigm (30) has the observed cluster of properties that it has (identical to the more marked appositive paradigm of *quale*) rather than some other *a priori* equally conceivable arrangement of properties. We could, for example, expect of this stylistically marked paradigm that it have deletion of *wh*-phrases as optional but no pied piping of categories other than PPs or free pied piping but obligatory deletion of *wh*-phrases. However, again the same correlation between free pied piping and retention of subject and object *wh*-phrases is found here (see above, pp. 73f.). To the extent that such an analysis excludes on principled grounds such (inexistent) possible states of affairs, it is a more restrictive and "falsifiable" analysis than the mentioned alternative which allows for such conceivable variants of the observed paradigm. Last but not least, it permits a theory-based account of the stylistically highly marked character of (30). Note that the restrictive paradigm (30) is more marked than the already "formal" appositive paradigm (21). In fact, its "doubly" marked character could very well be a function of the inherent cost of the parenthetical structure NP . . . , S' , . . . it shares with (21), plus a further factor of cost. Differently from (21), (30) is a restrictive paradigm. It does not seem unnatural to suppose that the semantic notion of restrictive modification has (characteristically) a structural correlate. It seems that in the unmarked case the relation between the restrictive modifier and the modified category is one of adjacency and of mutual c-command (something of the sort is, for example, implicit in Jackendoff's [1977]

treatment of restrictive modification). But NP, ..., S', ..., which underlies (30), is a parenthetical structure; and this is plausibly at odds with a (semantic/syntactic) notion of restrictive modification. In particular, of the requisites for restrictive modification, (30) retains the adjacency condition and the non-autonomously referential character of the head, but relaxes the mutual c-command condition with (plausibly) a consequent high cost for the grammar. Thus the higher degree of stylistic markedness of (30) with respect to (21) can be computed, as it were, by adding to the cost of employing the more marked structure NP... , S' , ... the further cost of relaxing one of the requisites for restrictive modification.

From a different point of view, this analysis may be taken to provide some evidence for the idea that stylistic markedness is in some systematic fashion a function of the markedness (cost) of the theoretical constructs employed.<sup>33</sup>

Further empirical support for the analysis of (30) in terms of the structure NP... , S' , ... derives from some facts concerning stacked relatives. We take the structure of a stacked relative to be  $[_{NP}[_{NP}NP S']S']$  ..., but nothing in this discussion hinges on this particular decision. Given the two restrictive constructions of *quale* ((3) and (30)), *a priori* we could expect a stacking of the two types to be possible in both orders. But this is not so. A stacked relative like:

- (31) I candidati che superino lo scritto, i quali diano anche prova di conoscere una lingua straniera, potranno presentarsi all'orale

The candidates that will pass the written examination who will show that they know a foreign language may sit for the oral examination

where the "internal" relative is of the unmarked type (cf. the presence of *che*) and the "external" one of the marked type (cf. *i quali* in COMP) is possible, whereas a stacked relative with the inverse order of the two types appears to be impossible. See:

- (32) \*?I candidati, i quali abbiamo superato lo scritto, che possiate ritenere maturi sono davvero pochi

<sup>33</sup> It should be noted that the notion of markedness employed throughout here pertains more to the evaluation component of linguistic theory than to the theory of markedness proper, in the sense of Kean (1979).



The candidates who have passed the written examination that you may consider mature are really few

Although neat judgments concerning this particular style may be hard to formulate, the contrast between (31) and (32) seems quite clearcut. The question is, then: why should there be such a contrast? Within an analysis that treated the two constructions essentially on a par, by simply making the deletion of *wh*-phrases optional (for the more marked style), there is no obvious answer. The contrast, however, follows from the proposed analysis. According to it, the “internal” relative clause of (32) must be an instance of the juxtaposed structure NP... , S', ... (cf. the retained subject *i quali*). If so, the external stacked relative, it seems, cannot be an instance of the structure [NP NP S'] either, given the intervention of ... , S', ... (In fact, *i candidati* and the “internal” relative clause do not even form a constituent of type NP that can be the antecedent of the “external” S'). The further consequence of this is that the deletion of the *wh*-phrase in the COMP of the stacked relative (cf. the presence of *che* in (32)) now violates recoverability, there being no c-command relation between the head and the *wh*-phrase.<sup>34</sup> Not so, however, for (31), where the deletion of the *wh*-phrase occurs in the “internal” relative clause and where noth-

<sup>34</sup> This argument assumes crucially that no parenthetical S' can be inserted between the head NP and the relative S' of the structure [NP NP S'] as is shown in (i):

- (i)
- ```

      NP
     / | \
    NP S' S'
  
```
- (ii) \*i candidati, { *e loro non lo meritano* }, che sono stati bocciati  
           { *e già si è saputo* }
- the candidates, { *and they don't deserve it* }  
                   { *and we have already come to know it,* } that have been  
                   failed

Less clear are judgments with parenthetical elements of a non-S' type.

It could be thought that a further factor for the unacceptability of (32) is the fact that the head NP and the “internal” (parenthetical) S' in (i) do not form a constituent that can be the antecedent of the relative pronoun in the stacked relative clause. This, however, is rendered less plausible by the relative acceptability (in this particular style) of forms like:

- (iii) i candidati i quali abbiano superato lo scritto i quali dimostrino di sapere una lingua straniera  
       the candidates who have passed the written examination who show they know a foreign language

which represents a sequence of two (stacked) parenthetical S's. Note that the proposed theory allows for such a situation.

ing forbids us to have structure [<sub>NP</sub>NP S'] followed by a parenthetical (restrictive) S'. The further expectation that *cui* should also be impossible in the "external" relative when the "internal" one is of the type NP... , S',... seems to be satisfied. The contrast between the following two cases seems to go in the expected direction:

- (33) Gli studenti che conoscono bene il tedesco a cui potete rivolgervi sono pochi  
The students that know German well whom you can turn to are few
- (34) \*?Gli studenti i quali conoscano bene il tedesco a cui potete rivolgervi sono pochi

The anaphor *cui* is c-commanded by the head in (33) but not in (34).<sup>35</sup> Some other facts bear on the hypothesis that "two" *quale* pronouns exist, an anaphoric one in unmarked restrictives and appositives, in [<sub>NP</sub>NP S'], and a non-anaphoric one in marked appositives and restrictive, in NP... , S',... Another well-known asymmetry exists between the (unmarked) restrictive and the appositive paradigms of *quale*. We have already noted that *quale* need not be identical in number with the head in (certain special) appositives (cf. the discussion of note 31). It is plausible to relate this asymmetry to yet another one between the two paradigms. Consider:

- (35) a. \*Non ricordo ora il nome della ragazza della quale ragazza Ivo si è invaghito  
I can't remember the name of the girl with which girl I. has fallen in love
- b. Giorgio è riuscito a sposare quella ragazza. Della quale ragazza, devo dire, ero invaghito anch' io  
G. has succeeded in marrying that girl. With which girl, I must say, I had fallen in love too

<sup>35</sup> Conjoined relatives that pattern like (32) and (34) also seem of dubious acceptability, although here the judgments tend to be somewhat hazier than with stacked relatives. See:

- (i) ??gli studenti i quali abbiano superato lo scritto e con cui vi incontrerete  
the students who have passed the written exam and (with) whom you will meet
- (ii) \*?i genitori i figli dei quali siano stati vaccinati e che non abbiate ancora sentito  
the parents whose children have been vaccinated and that you have not heard from

The impossible case (a) is an (unmarked) restrictive (cf. the indicative mood). The (b) example is an appositive. Apparently, in appositives but not in restrictives, *quale* can be followed by other material in the NP (note that the asymmetry holds whether or not the material is strictly identical to the head – as in (a); that is, even if we substitute *ultima* [‘last’] for *ragazza* in (35)). Why is this so? A simple answer is available in the proposed double analysis of *quale*. Recall that unmarked restrictives can enter only a structure like  $[_{NP}NP S']$  where the *wh*-pronoun is an anaphor. Suppose, now, that  $[_{NP}[_{art.} quale] as such]$  is listed in the inventory of anaphors. This means that a form like  $[_{NPpart.} quale X]$ , where X is non-null, cannot be interpreted as an anaphor but only as an instance of the non-anaphoric *quale*. Since unmarked restrictives require an anaphoric pronoun, (35a) cannot be well formed. On the other hand, appositives may enter structure  $NP\dots, S'\dots$  where the *wh*-pronoun is non-anaphoric. Hence nothing forbids non-anaphoric forms like  $[_{NPpart.} quale [_{N}ragazza]]$  to occur in appositives. If the proposed analysis of the more marked restrictive paradigm of *quale* is essentially correct, we should expect to find  $[_{NPpart.} quale X (non-null)]$  to be possible in such structures, which utilize  $NP\dots, S'\dots$ . Indeed, such cases are possible (note the use of the subjunctive here):

- (36) a. Cercava delle macchine le quali macchine fossero in grado di produrre 10 tonnellate di chiodi al secondo  
He was looking for machines which machines would be able to produce 10 tons of nails per second
- b. Si mise alla ricerca di un farmaco col quale farmaco i suoi concittadini potessero debellare l'epidemia  
He set himself to search for a medicine with which medicine his fellow citizens could wipe out the epidemic

### 1.6 A special use of *cui*

Alongside the uses of *cui* discussed so far (and leaving out the irrelevant one of note 29), there is, in literary Italian, a further special usage of *cui* which seems to raise a serious difficulty for the claim that such a *wh*-pronoun is always an anaphor in Italian. This usage is exemplified by such sentences as:

- (37) Giorgio, le cui affermazioni si rivelavano essere sempre infondate, ...  
 G., whose statements always turned out to be unfounded, ...

in which *cui* is embedded within a larger NP and thus should be ruled out just as ... *le affermazioni di cui* ... is (by assuming it to be an anaphor not bound within its governing category, the larger NP). In fact, this “genitive” *cui*, as we will call it, consistently displays all the distributional properties of a non-anaphoric element like *quale* (in (21)) and none of the *cui* of paradigms (1)–(2). See:

- (38) a. Giorgio, alla morte della cui figlia eravamo già preparati, ...  
 G., to the death of whose daughter we were already prepared, ...  
 b. Giorgio, sottratti alla cui vendetta, ancora non eravamo, ...  
 G., subtracted from whose revenge we weren't yet, ...  
 c. Giorgio, ricordare le cui ultime volontà sarebbe oggi indelicato, ...  
 G., to recall whose last will would be rather unfair today, ...  
 d. Invitarono il pubblico ministero a moderarsi; le cui proteste dovevano essere sembrate un'offesa alla corte  
 They invited the prosecuting attorney to moderate himself;  
 whose protests must have appeared an offense to the Court  
 e. Da quando Carlo<sub>i</sub> aveva rotto con Anna<sub>k</sub>, i cui<sub>i,k</sub> rapporti reciproci erano già da tempo incrinati, ...  
 Since C. had broken up with A., whose mutual relations had already been spoiled, ...

Examples (38a–c) are cases of pied piping other than a simple PP. Example (38d) is a case of non-adjacent “across-the-discourse” relativization, and (38e) of non-adjacent relativization with split antecedents. On the basis of these facts there seems to be little doubt as to the non-anaphoric nature of this *cui* (but see note 37). Further support for this conclusion may come from the fact that this use of *cui* is typically appositive. Just as with non-anaphoric *quale*, the restrictive use of this *cui* is quite marginal if the verb is in the indicative:

- (39) a. ?La finestra i cui vetri hai rotto è stata riparata  
 The window the glass of which you have broken has been repaired  
 (Cf. ?La finestra i vetri della quale hai rotto ...)

- b. \*?Le ragazze della cui bellezza hai parlato sono di là  
 The girls about whose beauty you have talked are in the other  
 room  
 (Cf. \*?Le ragazze della bellezza delle quali hai parlato ...)

and gets markedly better if subjunctive is substituted (the result being a stylistically quite marked construction):

- (40) a. Le finestre i cui vetri abbiate rotto saranno riparate  
 The windows the glasses of which you (may) have broken will  
 be repaired  
 b. L'unico i cui discorso ricordi bene dopo tanto tempo è  
 Giorgio  
 The only one whose speech I remember well after so much  
 time is G.

Its stylistic markedness would follow (along the lines sketched above) again under the assumption that the unmarked structure [NP NP S'] is precluded to a non-anaphoric element and that only the parenthetical structure NP ... , S' , ... is thus available, with the familiar consequences deriving from this fact. If we grant the conclusion that this *cui* is a non-anaphoric element, however, the question arises as to how we can distinguish, in a principled way, the non-anaphoric from the anaphoric *cui*, which is like asking, from a different perspective, how a child learning the language can distinguish between the two uses of *cui*. For if *cui* were listed both as an anaphor and a non-anaphoric element (as with *quale*) nothing would prevent taking the *cui* of (1)–(2) as a non-anaphoric element, thus compromising the account for the asymmetries in the properties of *quale* and *cui* proposed above. An answer to this question may come from a special property of this construction. Under the reasonable suggestion (made by L. Rizzi) that this *cui* is the *wh*-form corresponding to the possessive adjective *suo/a/etc./* ("his/her/etc."), which we may take to be the spelling out of a pre-N genitivized (pronominal) NP (see Kayne 1977; Belletti 1978), one could expect it to display the same NP-internal distribution of the possessive adjective. But this is not so. The following examples clearly show the systematic contrast between the distribution of possessive adjectives and that of the corresponding *cui* form:

- (41) a. La figlia sua era malata  
 His daughter was ill  
 b. \*Giorgio, la figlia cui era malata, ...

- (42) a. L'altro suo difetto era questo ...  
His other defect was the following ...  
b. \*Giorgio, l'altro cui difetto era questo ...
- (43) a. Questa sua dichiarazione è assurda  
This statement of his is absurd  
b. \*Giorgio, questa cui dichiarazione è assurda, ...
- (44) a. Sue proprietà risultano ancora invendute  
Properties of his turn out to be still unsold  
b. \*Giorgio, cui proprietà risultano ancora invendute, ...
- (45) a. (I miei libri sono qua.) I suoi sono spariti  
(My books are still here.) His have disappeared  
b. (I miei libri sono qua.) \*Giorgio, i cui sono spariti, ...

Whereas the possessive adjective may occur in a variety of contexts, the corresponding *wh*-form, *cui*, admits of just one context, namely:

- (46) [<sub>Npart.</sub> *cui* (X) N]<sup>36</sup>

Suppose, then, that we maintain the claim that *cui*, as such, belongs to the inventory of anaphors and that only in a structure like (46) does it admit of a non-anaphoric usage. As such, it must be learned as a special usage on the basis of positive evidence like (38). Note that cases like those of (1)–(2) would not be interpretable as non-anaphoric elements since they do not meet the context for this special usage of *cui*, namely (46). (Slight) evidence for the idiom-like interpretation of this *cui* seems to come from the special frozen character of the construction which admits of no variants, something which has no analogue even in the formal paradigm of *quale*. In principle, one could test this account (in terms of an unmarked anaphoric usage of *cui* and its more marked idiom-like usage in (46)) by checking whether the latter usage is actually “learned” after the former, as a correction of the conclusions reached on the basis of (1)–(2) in the face of non-cooperative facts like (38). Given the stylistically more marked character of the structure (46), typical of literary Italian, there is some reason to think that this might indeed be the case.<sup>37</sup>

<sup>36</sup> The “X,” which may be null, stands for a number of pre-N adjectives (cf. *le cui ultime speranze* “whose last hopes”; *la cui grande esperienza* “whose great experience,” etc.).

<sup>37</sup> In this view, the *cui* of (38) is outside of the core. An interesting alternative has recently been suggested by Kayne, who proposes to treat *cui* uniformly as an anaphor. The apparent difference between (38) and (1)–(2) would, in this view, follow from assuming the *cui* of (38), in determiner position, to be ungoverned (and hence with no governing

## 1.7 Some residual issues

We take up here a number of issues that, in what precedes, have been dealt with in too gross a detail or that lie outside of the main line of the discussion. The first concerns the proposed dual nature of the (unmarked) *wh*-relative pronoun (as both an anaphor and a quantifier binding a variable). How does this dual nature relate to the requirements imposed by the Binding Theory (BT)? On one side, the facts discussed in section 1.2 appeared to motivate taking the relation head/*wh*-pronoun as an antecedent/anaphor relation. On the other side, such *wh*-pronouns can be observed to behave like quantifier-like elements binding a variable in LF. For example, they induce the same cross-over effects induced by *wh*-phrases in interrogatives:

- (47) \*Questo è  $[_{NP}[_{NP_i} \text{il ragazzo}] [_{S'}[_{COMP}[\textit{wh-}] \textit{che}]]$   
 $[_{S}[_{lui_i} \text{ ha visto } [_{NP_i} e] \text{ alla TV}]]]$   
 This is the boy that he has seen on TV

The illformedness of the structure follows from principle C of BT if we take the trace to be a variable (argument-bound by *lui*). If *lui* in (47) has a different index, the structure gives rise to a well-formed sentence. The “double face” nature of the *wh*-phrase seems compatible with such “configurational” definitions of variable and (quantifier-like) operator as “variable is a case marked NP bound by an operator”, “operator is

category in which to be bound) vs. the governed *cui* of (1)–(2). Less clear, within this analysis, appears to be the “frozen” character of this *cui* as well as the stylistic markedness of the construction (and the subject/object asymmetry it shares with appositive *quale*) which could be taken again to be a function of a non-anaphoric element in NP, ..., S', ... If we adopt a variant of his suggestion (that the *cui* of (38) is case-marked structurally, may be like the subject of tensed Ss, so that it has a governing category, although not a lexical governor, like the subject of tensed Ss), which requires it to be still a non-anaphor) we may derive an explanation for the asymmetry between (38) and (i):

- (i) \*Giorgio, cui credo che  $[_{NP} \text{ t progetto}]$  sia stato approvato  
 G., whose I think that project has been approved

where *cui* has (unsuccessfully) been extracted (note that subadjacency is not involved if only S' and NP count for subadjacency in Italian). (i) is excluded because the moved *cui* leaves an ungoverned trace. (38) and (i) reduce, thus, to the familiar contrast in tensed Ss between *I believe that someone was here* and *\*Who do you believe that was here?* The coindexing part of proper government as in *Who do you believe was here?* is inoperative in (i) given the intervention of an NP boundary: *cui<sub>i</sub> [s[<sub>NPpart</sub> [<sub>NP</sub> e]N]]*. The structural case must be able to apply just to *cui<sub>i</sub>*, not to full NPs (cf. *\*la Giorgio morte* “G.’s death”): another fact pointing to the special marked character of this construction.

a phrase in the context \_\_\_\_ [s...]' (see Chomsky 1981a). In turn, it seems possible for the operator in \_\_\_\_ [s...]' to be an anaphor which will independently need an antecedent of its own (see note 27). Note, however, that the variable is still coindexed (by "transitivity") with the head NP. Principle C of BT does not rule out the structure if only the larger NP (the underlined one in (47)), not the head NP, qualifies as an argument, as seems natural. The variable, thus, is not *argument*-bound by the head NP. A problem, however, remains which can be phrased in the following way: how can the trace be argument-free (as dictated by principle C of BT) and, at the same time, the *wh*-anaphor be *argument*-bound (as dictated by principle A of BT)? If the trace is argument-free in that the head NP does not qualify as an argument, then the *wh*-anaphor will *not* be *argument*-bound by the head NP. If, on the other hand, we take the head NP to qualify as an argument, the *wh*-anaphor will be properly *argument*-bound, but now also the *wh*-trace will be *argument*-bound by it. In either case, we seem to get an undesirable result. An obvious solution to this predicament is to take principle A of BT to involve the specification that anaphors should be *bound* (coindexed to a c-commanding antecedent) but not necessarily *argument*-bound. This, in fact, appears to be independently motivated by the syntax of clitics in Romance, in which the trace of the clitic behaves like an anaphor and as such is necessarily bound by the antecedent (the clitic) within its minimal governing category. And in this case too the antecedent does not seem to qualify syntactically as an argument.

Under this view, the trace of the *wh*-pronoun and the *wh*-pronoun may be, at the same time, argument-free and (non-argument-)bound, respectively.

Consider now the question of how a non-anaphoric *wh*-pronoun chooses its antecedent. It seems plausible to assume that the relation between the non-anaphoric *wh*-pronoun and the head NP can be assimilated essentially to that between a demonstrative pronoun and its antecedent, the nature of the relation being one of discourse grammar and not one of sentence grammar (cf. the "across-discourse" case discussed above). No particular stipulations need be made. The free indexing convention suffices to ensure the coindexing if only the lexical entry for such *wh*-pronouns specifies that they need a linguistic antecedent. An obvious difference from demonstrative pronouns is the fact that non-anaphoric *wh*-pronouns must still move to sentence-initial position. They cannot stay put. Compare (48) with (49):



- (48) Se il nostro progetto è fallito, al quale d'altra parte nessuno credeva, ...  
 If our project failed, which nobody really trusted, ...
- (49) \*Se il nostro progetto è fallito, d'altra parte nessuno credeva al quale, ...

This, however, may be reasonably thought to relate to the quantifier-like nature of such *wh*-pronouns. One could assume, for example, that the quantifier interpretation of any *wh*-relative pronoun can be carried out properly only if the *wh*-pronoun is found in COMP position, quite independently of its further nature as an anaphoric or non-anaphoric element. This would ensure the "obligatory" character of the movement to COMP.

We end this section by simply pointing out a possible problem with our interpretation of the pied-piping convention for which the just-mentioned LF requirement might ultimately prove of some relevance, although we will not elaborate on this point here.

In aiming at maximal generality we have assumed that pied piping simply follows from the most general formulation of *Wh*-movement as "Move  $\alpha$ ," according to which, in principle, any phrase (of any complexity) can (optionally) move to COMP, as long as it contains, by LF requirements, a *wh*-phrase in it. We have in fact seen pied pipings of NPs, PPs, APs, AdvPs, and Ss to be possible in conformity with the proposed "null hypothesis" for pied piping.<sup>38</sup> By an obvious point of logic, this hypothesis does not entail that phrases of any complexity should actually be found to pied-pipe. Different conditions (of possibly distinct components) might interact with the "Move  $\alpha$ " component to restrict its potentialities. We will in fact briefly mention a number of such restrictions here. It seems to us, however, that whatever the ultimate explanation for them is, the fundamental desirability of the "null hypothesis" for pied piping is not thereby affected.<sup>39</sup> An upper bound to pied piping seems to be represented by tensed Ss; cf.:

<sup>38</sup> A number of earlier specific formulations of the pied-piping convention (see, for example, Ross 1967; Bresnan 1976; Nanni 1976) appear, in the face of such cases, overly restrictive; see also Nanni and Stillings (1978).

<sup>39</sup> The "Move  $\alpha$ " format predicts that pied piping should *always* be optional. We in fact assume that instances of obligatory pied piping should be attributed to the unavailability of the non-pied-piping option due to independent reasons. Cases in point are the movement of left branch constituents (see Kayne 1981a for a recent discussion) and objects of prepositions in Romance and other languages (see the references of note 3).

- (50) a. \*Giorgio, che voi abbiate scritto al quale credo sia stato un errore, ...  
 G., that you have written to whom I think it was a mistake,  
 ...  
 b. \*They will give me a hat that I won't like which I know

This was explicitly recognized by Ross (1967: section 4.3 – (50b) is an example of his) who proposes to incorporate the restriction against the pied piping of Ss (and NPs dominating coordinate NPs) in the pied-piping convention itself.<sup>40</sup> Since we assume no specific convention for pied piping we must assume this restriction to follow from some external factor. A further factor diminishing acceptability appears to be the presence of a (preverbal) subject; cf. the (slight) contrast between:

- (51) a. I suoi studenti, il non aver promosso i quali, potrà essere interpretato tendenziosamente, ...  
 His students, not having passed whom may be interpreted tendentiously, ...  
 b. ??I suoi studenti, il non aver *voi* promosso i quali, potrà essere...

A last, more drastic, factor of unacceptability is represented by the relativization of the (preverbal) subject of the pied-piped S. Cf.:<sup>41</sup>

- (52) \*I suoi studenti, il non essere i quali stati promossi, potrà essere interpretato tendenziosamente, ...  
 His students, not having whom been passed may be interpreted tendentiously, ...

<sup>40</sup> That Ross' restriction may be too strong is shown by the possibility of pied piping (some) infinitival Ss (see (51) and (53) and Nanni and Stillings 1978). Note that there seems to be no restriction on the number of infinitival Ss pied-piped, for instance:

- (i) Giorgio, l'aver promesso di invitare il quale credo sia stato un errore  
 G., to have promised to invite whom I think was a mistake  
 (ii) Giorgio, l'aver promesso di fare in modo di invitare il quale  
 G., to have promised to have whom invited

<sup>41</sup> That the restriction concerns (primarily) *preverbal* subjects is perhaps indicated by the contrast between (53c) and the following relatively acceptable forms in which a postverbal subject is relativized:

- (i) a. I senatori, (essendo) intervenuti i quali, noi tutti ...  
 the senators, having participated who, we all ...  
 b. ?I senatori, avendone parlato i quali, ...  
 The senators, having spoken-of-it who, ...

It thus seems possible to isolate at least three factors which limit the absolute freedom of pied piped of Ss: the tensed/untensed distinction; the presence vs. absence of an overt (preverbal) subject; the relativization of the subject (of the pied-piped S) vs. that of other NP positions. The first and third factors affect acceptability more seriously than the second. The various combinations of such factors contribute to form a scale of decreasing acceptability:

- (53) a. *Giorgio, aver invitato il quale ci porterà solo problemi, ...*  
*G., to have invited whom will bring us problems, ...*  
 (untensed; no overt (preverbal) subject; no relativization of the subject)
- b. *??Giorgio, aver noi invitato il quale ci porterà solo problemi, ...*  
 (untensed, presence of an overt (preverbal) subject; no relativization of the subject)
- c. *\*Giorgio, l'essere il quale stato invitato non è indice di serietà, ...*  
*G., for whom to have been invited is not an indication of ...*  
 (untensed; presence of a (preverbal) subject; relativization of such a subject)
- (54) a. *\*?Giorgio, che abbiate scritto al quale, credo che sia un errore, ...*  
*G., that (you) have written to whom, I think it was a mistake, ...*  
 (tensed; no overt (preverbal) subject; no relativization on the subject)
- b. *\*Giorgio, che Piero abbia scritto al quale credo che sia stato un errore, ...*  
 (tensed; presence of an overt (preverbal) subject; no relativization on the subject)
- c. *\*\*Giorgio, che il quale sia stato invitato credo sia un errore, ...*  
*G., that whom has been invited I think was a mistake, ...*  
 (tensed; presence of a (preverbal) subject; relativization on such a subject)

Comparable facts appear to hold in French and English (see Nanni and Stillings 1978), which seems to suggest that some deep-seated reasons(s) may be responsible for these apparently capricious phenomena. In spite

of this obvious problem, we will continue to assume that the “null hypothesis” for pied piping is desirable and (maybe) essentially correct.

## 2 Extending the analysis to French and English

### 2.1 *French*

One of the crucial assumptions of the analysis of Italian relative clauses sketched above was that *quale* but not *cui* can be both an anaphor (in [<sub>NP</sub>NP S']) and a non-anaphor (in NP... , S', ...). A number of interesting consequences have been seen to derive from this assumption. The question, however, remains as to why the difference between *quale* and *cui* should be the way it is and not, say, the other way round. In principle, their difference might just be one of lexical chance. Certain considerations, however, indicate that it may not be entirely accidental. There is another difference between *quale* and *cui* which we may want to relate to the above difference: namely, that *quale* but not *cui* is used, in Italian, as an interrogative pronoun (or adjective), that is, as a quantifier-like element.<sup>42</sup> Suppose that we continue to assume that a relative pronoun is ordinarily an anaphor but that it can be used as a non-anaphoric element (in NP... , S', ...) just in case it has quantifier-like usages in other *wh*-constructions.<sup>43</sup> Since *quale* but not *cui* has a parallel non-anaphoric usage in *wh*-interrogatives, it, but not *cui*, can enter NP... , S', ... structures as a non-anaphoric relative pronoun.<sup>44</sup> Note that under this statement, the condition for a non-anaphoric usage of a relative pronoun is a necessary but not a sufficient requirement. In other words, if it is used elsewhere as a non-anaphor, it can be but *need not* be used as a non-anaphoric relative pronoun. We thus leave open the possibility that a

<sup>42</sup> Strictly speaking, when used as an interrogative element *quale* may not be preceded by the definite article that characterizes it in relatives. This morphological difference may be plausibly related to the different semantics of the two constructions (see Kuroda 1969; Browne 1970). If so, the claim that they are the same lexical element in both constructions is not weakened.

<sup>43</sup> Henk van Riemsdijk points out that the condition may be generalized to: “just in case it has non-anaphoric usages *elsewhere* in the grammar.” This permits encompassing the non-anaphoric usage of those relative pronouns of Dutch and German which can be used elsewhere in the grammar, not as interrogative pronouns but as demonstratives (that is, as non-anaphors).

<sup>44</sup> It is, in this respect, interesting to note that in the Italian of the thirteenth and fourteenth centuries in which *cui* was also used as a non-anaphoric relative pronoun (see Noordhof 1937: 20) one finds that *cui* was ordinarily used as an interrogative as well (see the entry for *cui* in Battaglia 1964).

relative pronoun that can be used elsewhere in the grammar as a non-anaphor can still be used just as an anaphor in *wh*-relatives. This, in fact, we take to be the unmarked case. And this is the case, for example, for Spanish *que* (which is used both in interrogatives and in relatives but displays the same properties of *cui*; that is, is a relative anaphor only; see note 49) and French *quoi* and *qui* (see below).

Extending now our exploration to French, we may note that under this view the relative pronouns *lequel* and (animate) *qui* satisfy the necessary requirement for being used as non-anaphors since they have non-anaphoric usages elsewhere in the languages, for instance in *wh*-interrogatives (*Qui a dit ça?* ‘‘Who said that?,’’ *Quel est l’homme qui  tait ici?* ‘‘Who’s the man who was here?’’) We may (though need not) expect that they display non-anaphoric usages. In fact of the two only *lequel* (not *qui*) turns out to have a non-anaphoric usage (a situation which parallels the Italian contrast between *quale* and *cui*). If we assume that French utilizes, like Italian, the structure [<sub>NP</sub>NP S’] for both unmarked restrictives and appositives, with *qui* and *lequel* as anaphors there, we expect to find deletion of subject and object NPs (in fact any ‘‘bare’’ NP) to be obligatory, and piped piping other than that of PPs to be impossible. This is what we find. For *lequel*, expectedly, the situation is not of the clearcut type found with *cui* and *qui* (that have no parallel non-anaphoric usages) but of the more delicate type we found with *quale* relatives (which instead allow for a parallel, stylistically more marked, non-anaphoric usage in the structure NP . . . , S’ . . .). The following cases represent the unmarked restrictive paradigms of *qui* and *lequel* (cf. (1) and (3)):

- (55) a. Le gar on  $\left. \begin{array}{l} \text{(animate)* qui} \\ \text{*que} \\ \text{qui} \end{array} \right\}^{45}$  est l  est malade  
 The boy that is (t)here is ill

<sup>45</sup> Paradigm (55) is an ‘‘abstract’’ paradigm in that *qui* is starred in (a) just as it is in (b), although the superficial form *Le gar on qui est l  est malade* is perfectly well formed. The (well-formed) *qui* found here is not the animate pronoun *qui* of (55b) or *l’homme   qui j’ai parl * but an instance of the *que* → *qui* phenomenon which is independently motivated in the grammar of French (see Moreau 1971; Kayne 1976; and for a more recent discussion Kayne 1981c). The ‘‘ambiguity’’ of the *qui* of (55a) is resolved under extraction, as expected:

la fille  $\left. \begin{array}{l} \text{que} \\ \text{*qui} \end{array} \right\}$  je crois qui est arriv e  
 the girl that I think has arrived

- b. Le garçon  $\left\{ \begin{array}{l} *qui \\ que \end{array} \right\}$  tu as invité est arrivé  
The boy that you have invited has arrived
- c. Le garçon  $\left\{ \begin{array}{l} \grave{a} qui \\ *que \end{array} \right\}$  tu as parlé est mon frère  
The boy to whom you have talked is my brother
- d. \*le politicien aux discours contre qui nous sommes habitués  
the politician to the discourses against whom we are accustomed
- e. \*le garçon pour parler à qui nous sommes allés chez toi  
the boy to speak to whom we went to your place
- (56) a. Le garçon  $\left\{ \begin{array}{l} (*)lequel \\ *que \\ qui \end{array} \right\}$  est là est malade
- b. Le garçon  $\left\{ \begin{array}{l} (*)lequel \\ que \end{array} \right\}$  tu as invité est arrivé
- c. Le garçon  $\left\{ \begin{array}{l} auquel \\ *que \end{array} \right\}$  tu as parlé est mon frère
- d. (\*)le politicien aux discours contre lequel nous sommes habitués
- e. (\*)le garçon pour parler auquel nous sommes allés chez toi

As with the unmarked restrictive paradigm of *quale*, subject and object (animate) *qui* and *lequel* are not possible, whereas P+*qui/lequel* are (see Grevisse 1969; Kayne 1976) for reasons that are now familiar under the assumptions made above.<sup>46</sup> Example (56a–e) are indicated as impossible for the unmarked paradigm, employing *lequel* as anaphor in  $[_{NP}NP S']$ . There is, however, a (more marked) parallel derivation for (a)–(e): namely, the one involving the more marked structure NP..., S',... with *lequel* as non-anaphor.

As with the comparable *quale* facts discussed above (section 1.5), this theoretically marked derivation accounts for the characteristic stylistic markedness of the forms with retention of subject and object *lequel* and with pied pipings other than PPs.<sup>47</sup> Relative *quoi* (for neuter Ns)

<sup>46</sup> For a different account of this property of French relative clauses, see Vergnaud (1979: 109–10).

<sup>47</sup> *Lequel* as subject and object typically belongs to literary and bureaucratic styles, object *lequel* being somewhat harder (which recalls the analogous fact in Italian *quale* relatives (see note 5)): cf. *un trésor plus précieux que celui lequel nous avons trouvé* ‘a more precious

shows the same behavior: obligatory deletion of subjects and objects and no pied piping (other than that of PPs). See Moignet (1967), Kayne (1976 and references cited there). This is expected if *quoi* is analyzed as an anaphor only (in relatives) which enters structure [<sub>NP</sub>NP S']:

- (57) a. J'aime ce  $\left\{ \begin{array}{l} \text{qui} \\ * \text{quoi} \end{array} \right\}$  me plait  
 I love what I like
- b. J'aime ce  $\left\{ \begin{array}{l} \text{que} \\ * \text{qui} \\ * \text{quoi} \end{array} \right\}$  tu aimes  
 I love what you love
- c. Ce à  $\left\{ \begin{array}{l} \text{quoi} \\ * \text{qui} \\ * \text{que} \end{array} \right\}$  je pensais, c'est à ceci  
 What I was thinking of is this
- d. \*ce à l'origine de quoi elle n'attachait aucune importance  
 the thing to the origin of which she did not attach any importance
- e. \*ce de réparer quoi je suis en train  
 the thing to repair which I am going to

Appositives with *qui* and *lequel* essentially mirror the appositive paradigms with *cui* and *quale* in Italian, respectively. See:

- (58) a. ma sœur,  $\left\{ \begin{array}{l} \text{laquelle} \\ (\text{qui}) \end{array} \right\}$  est arrivée justement hier ...

treasure than the one which we have found," cited in Grevisse (1969: 487). The same is true for the pied-piping cases (d)–(e): cf. *Vous voyez ici les romans les auteurs desquels sont des espèces de poètes* "You see here the novels whose authors are kinds of poets" (Grevisse 1969: 489).

The starred forms of (55) with (animate) *qui* do not show a corresponding more marked usage (just like the comparable *cui* forms of Italian). This follows if (animate) *qui* is always an anaphor. This means that such acceptable cases as *l'homme avec la femme de qui tu t'es disputé* (Kayne 1976: 261), with *de*, will have to receive a special treatment. As R. Kayne pointed out, it might be tempting to relate this "exception" to the special movement of *dont* (*de* + pronoun) in such sentences as *la fille dont au frère tu plais* "the girl of whom the brother likes you," Kayne (1977: 114, fn. 57), maybe through an LF movement of *de qui*, comparable to the syntactic movement responsible for the *dont* sentence. It should be noted, incidentally, that since *dont* has no usage in French other than its "relative" usage, the generalization expressed above leads us to expect the ungrammaticality of such forms as \**Jean, avec la fille dont je suis sorti justement hier* "J., with whose daughter I went out yesterday" (cf. Kayne 1976: 273–4) since *dont* can qualify as an anaphor only.

- b. ma sœur,  $\left\{ \begin{array}{l} *qui \\ (qui) \end{array} \right\}$  est arrivée justement hier, ...  
 my sister, who has just arrived yesterday ...
- (59) a. ma sœur,  $\left\{ \begin{array}{l} laquelle \\ que \end{array} \right\}$  le magistrat avait convoquée pour le  
 lendemain ...  
 b. ma sœur,  $\left\{ \begin{array}{l} *qui \\ que \end{array} \right\}$  le magistrat avait convoquée pour le len-  
 demain ...  
 my sister, who the magistrate had summoned for the next  
 day ...
- (60) a. ma sœur, à laquelle tu as parlé hier  
 b. ma sœur, à qui tu as parlé hier  
 my sister, to whom you have talked yesterday
- (61) a. ma sœur, aux discours contre laquelle nous sommes habitués  
 \*ma sœur, aux discours contre qui nous sommes habitués  
 my sister, to the discourses against whom we are accustomed
- (62) a. ma sœur, pour voir laquelle vous êtes allés chez moi  
 b. \*ma sœur, pour voir qui vous êtes allés chez moi  
 my sister, to see whom you have gone to my place

We interpret the appositive paradigm of *lequel* as we interpreted paradigm (4) above: namely, as the conflation of two distinct paradigms, one of which has obligatory deletion of subjects and objects and no pied piping (other than that of PPs) (with *lequel* being an anaphor in  $[_{NP}NP S']$ ); and the other which retains (obligatorily) subjects and objects and has free pied piping (with *lequel* as non-anaphor in  $NP \dots, S', \dots$ ). Hence the stylistically more marked nature of the alternative with the pronoun in (58)–(59a) and of the pied-piping cases of (61) and (62) vs. that of (60) where a simple PP is pied-piped.<sup>48</sup> As with Italian *quale* relatives (see section 1.5) non-anaphoric *lequel* may be used (in literary style) as an adjective even in cases where there is no identity with the head of the relative clause (*Je viens de toucher deux mille francs, de laquelle somme ...* “I have just touched two thousand francs, of which sum ...,” etc.; see also, above, note 31, and Kayne 1976) and may be used in positions which are non-adjacent to the head and are “across-discourse” (see Gross 1977: 136).<sup>49</sup>

<sup>48</sup> See Sandfeld (1936, vol. II: 183) “Tandis que *lequel* sujet (ou régime) ne se trouve que dans la langue écrite, ..., il est en plein usage dans la langue parlée comme régime de prépositions, surtout en parlant de choses.”

<sup>49</sup> The relativization system of Spanish appears to be essentially identical to the Italian and French systems, with obligatory deletion of bare *wh*NPs in tensed and infinitival restric-



2.2 *English*

Suppose that English, just like Italian and French, draws from the above “core” and marked options. Then a number of superficial differences between this language and the other two may reduce fundamentally to one difference at the abstract level of analysis. This difference may be characterized as follows: whereas French and Italian utilize [<sub>NP</sub>NP S’], with its properties, as the fundamental structure for both (unmarked) restrictives and appositives (and still more marked restrictives), English utilizes [<sub>NP</sub>NP S’] *only* for restrictives, and NP..., S’,... typically for appositives (and more marked restrictives). Suppose, in other words, that English, unlike Italian and French, cannot utilize [<sub>NP</sub>NP S’] for appositives (but only NP..., S’,...). Within the set of assumptions made above, the consequences of this hypothesis are straightforward. First, it will follow that in appositives bare *wh*-phrases will not be able to delete (even if identical to the head), the reason being that the deletion would not count as recoverable since no c-command (or stronger) relation obtains between the head and the *wh*-phrase in COMP. Hence the well-known contrast with Italian and French pointed out in note 1 (cf. (i) of note 1). Secondly, assuming that English relative pronouns all have both an anaphoric usage (in [<sub>NP</sub>NP S’], which is open to restrictives) and a non-anaphoric usage (something that is now rather natural, given that they all have quantifier-like usages as well [e.g., in interrogatives]), it follows that in appositives pied piping is not limited to the pied piping of a PP (unlike the appositive paradigms of *cui* and *qui* in Italian and French: see (ii) of note 1 and section 1.3), but is essentially free. For the relative pronoun is not an anaphor in NP..., S’,... so that its relation to the head will not be restricted by the Binding Theory.<sup>50</sup> It will also follow

tives, and ordinary appositives (in which article *que*, [art.] *cual*, *quien* are anaphors in [<sub>NP</sub>NP S’]), and no pied piping: cf. \**Maria, la casa de la que* “M., whose house” – this is especially clear with *que*, which has no non-anaphoric usages (like *cui* in Italian); the behavior of *cual* and *quien* is of the more delicate type found with Italian *quale* relatives since these appear to enter also NP..., S’,... as non-anaphors in more marked appositives (and restrictives), where retention of subject and object pronouns is found (see RAE 1959: 322 and 325), as expected, and where pied piping is equally possible (see Alcina Franch and Blecua 1975: 1095). For a detailed argumentation that *que* is a pronoun in oblique relativization (*Este es el artículo de(l) que le hablé ayer* “This is the article about which I spoke to you/him yesterday”) but the complementizer of ordinary subordinate clauses in non-oblique relativization (*el profesor que visitamos* “the professor we visited”), see Rivero (1979).

<sup>50</sup> The analysis suggested here, incidentally, accords with conclusions independently reached by Emonds (1979) about English appositives. On the basis of a number of

that (appropriately construed) appositives are possible in positions non-adjacent to the head and “across discourse” (just as in Italian *quale* and in French *lequel* appositives):<sup>51</sup>

- (63) a. If John had been invited, for whom, I am sure, all of you have the greatest respect, . . .  
 b. We will assume that movement leaves an empty category. Which empty category will then be subject to a specific condition.

Suppose further that English has the same two possibilities for constructing restrictives that Italian and French have: namely, structure [<sub>NP</sub>NP S'] with anaphoric relative pronouns for unmarked restrictives and structure NP . . . , S' . . . , with non-anaphoric relative pronouns, for more marked restrictives. Given that all relative pronouns in English have also a non-anaphoric usage, alongside a restrictive constructed on [<sub>NP</sub>NP S'], there will always be a parallel restrictive derivation constructed on NP . . . , S' . . . . That is, we expect deletion of subject and object *wh*-phrases (in fact, all bare *wh*-phrases) to appear as optional here (in contrast with appositives), being in fact obligatory in [<sub>NP</sub>NP S'] and impossible in NP . . . , S',<sup>52</sup> and pied piping to be as free as in appositives (being in fact possible in NP . . . , S' . . . , and impossible in [<sub>NP</sub>NP S']). In

differences between restrictives and appositives in English, Emonds hypothesizes that appositives have the same structure of (main) parenthetical clauses, from which he in fact proposes to derive them. This recalls Ross' (1967) proposal to transformationally derive appositives from conjoined main clauses, through a kind of parenthetical formation. The analysis proposed here for English is in fact that English appositives (in contrast with both French and Italian) can enter *only* structure NP . . . , S' . . . , which was claimed above to be a sort of parenthetical structure, juxtaposed to the NP (this does not entail that appositives be actually “derived” via “Parenthetical Formation” in our analysis). It should be noted that, if our analysis of Italian and French is correct, most of Emonds' arguments for the derivation of English appositives from main clauses lose much of their force. This appears to be so since the same properties which distinguish English appositives from restrictives and which Emonds claims to follow from the main clause source of appositives in English, are found to distinguish Italian *cui* appositives from restrictives; and we have claimed that Italian appositives with *cui* can only enter [<sub>NP</sub>NP S']: a “subordinate” source.

<sup>51</sup> “Distant” appositives with *who* (rather than *which* N) are less readily accepted by some speakers. They are, however, generally recognized as possible in the most formal style of the language.

<sup>52</sup> The predicted stylistic contrast between the forms which show a retained *wh*NP (which should be more marked) and those that do not (which should be unmarked) is clearer with inanimate antecedents (though less conspicuous than in Italian and French). See for example:

particular, we expect the pied piping of anything other than PPs to be possible but to be stylistically more marked than that of PPs (in that the more marked option NP... , S', ... is involved here). This turns out to be correct in general.<sup>53</sup> The following forms, when possible at all, are all stylistically rather marked and generally more marked than the corresponding appositives:

- (64) a. the parents the children of whom have passed the examination ...  
 b. The house whose roof was damaged has now been repaired<sup>54</sup>  
 c. ??the woman seated next to whom you saw me yesterday  
 d. ??Here is the girl to marry whom would certainly be a mistake on your part
- (i) a. ?the table which you have kicked  
 b. the table that you have kicked  
 c. the table you have kicked

With animate antecedents, if anything, the opposite seems to be true. *The boy who was here yesterday* is felt by many to be even more preferable than *the boy that was here*. This might have to do with an independent requirement of animacy put on the relative form, only the *wh*-form, not the complementizer *that*, being able to satisfy it fully (as suggested by N. Chomsky) so that the intrinsic more marked status of *who* vs. *that* would be relaxed here. This may be related to the observation made in Kayne (1981a) that *that* appears to be impossible in clefts with animate "antecedents."

<sup>53</sup> This contrast was in fact part of the motivation that led Emonds (1976: chapter 5, fn. 10) to propose that *Wh*-fronting should be essentially limited to move the sequence (Prep.) WH (this being the unmarked case) and that other types of pied piping (i.e., those other than P) should be derived in ways that involved other (presumably more marked) processes. Under the assumptions made here, this need not be stipulated; in fact, it could hardly be stipulated in a "Move  $\alpha$ " format of *Wh*-fronting. The same result follows for the essential part from the Binding Theory, as suggested above. Strictly speaking, the pied piping of a P is somewhat marked, in apparent contrast with what the analysis predicts. This, however, seems to be due to an external factor of added markedness: namely the existence (for VP PPs) of an alternative derivation in which the preposition is stranded; cf. the stylistic contrast between *the boy to whom I spoke* and *the boy who(m) I spoke to*. It seems plausible to assume that whatever accounts for the strandability of Ps (in VP PPs) in English might at the same time account for the more formal status of the option involving no stranding. One could envisage, for example, attaching a cost to the derivation in which no reanalysis is performed of the P with the preceding predicate (in Weinberg and Hornstein's terms). Suffice to note that where no P stranding option exists, (stylistic) contrasts like the following are in the direction predicted:

- (i) a. These are the circumstances under which you should say such things  
 b. \*?These are the circumstances your departure under which would cause wild rumours

<sup>54</sup> Less marked seem the uses of *whose* where the antecedent is animate, perhaps for the reasons that also render *who* preferable with animate antecedents in restrictives; see Quirk *et al.* (1972: 863).

- e. ??The song singing which they betrayed themselves was renowned for its revolutionary content

This conforms to the proposed analysis which allows such structures to enter only NP... , S', ... , which is the marked option for restrictives but is the only option open to appositives (hence the fact that such pied pipings are felt as less marked in the latter). Though problems may remain which deserve a better clarification than has been given here, the proposed analysis seems in general to have the correct consequences for the grammars of French and English (as well as Italian). In this connection it may be interesting to add that the extension to English attempted here seems to offer a solution to two well-known problems in the grammar of English relative clauses.

In Chomsky and Lasnik (1977) and elsewhere the suggestion has been made that the deletion of *wh*-phrases in restrictives vs. the non-deletability of *wh*-phrases in (English) appositives may be related to the fact that in appositives but not in restrictives the *wh*-phrase has lexical content in connection with its quantifier-like role in appositives (see their note 46). However, the fact that *wh*-phrases do delete in appositives in a number of languages (cf., for example, the Italian and French examples cited above) seems to suggest that this relation may not be so direct. The analogous deletion of *wh*-phrases in Middle English (ME) appositives (and some modern Scandinavian languages) has in fact led someone to question the relevance or correctness of the recoverability condition on deletions itself (see Maling 1978b; Pullum and Postal 1979). Within the proposed analysis there appears to be a solution for the apparent inconsistency of this notion; namely, to assume that the grammar of Middle English (and of the Scandinavian languages) was (is), for the relevant aspect, identical to that of modern Italian and French in allowing, for appositives, both structures [<sub>NP</sub>NP S'] and NP... , S', ... . The change from Middle to modern English can, in this interpretation, be viewed as a specialization and differentiation of appositives in terms of structure NP... , S', ... . The notion of recoverability can thus be preserved in its most unitary and general form. While retaining C&L's basic idea, the proposed analysis relates the non-deletability of *wh*-phrases to general requirements on the recoverability of deletion rather than to the nature of the *wh*-phrase itself.

The second problem relates to two apparently disconnected sets of facts concerning infinitival relatives. On the one hand, it is well known that pied piping, which is relatively acceptable in tensed restrictives and

best in appositives, is impossible in infinitival (restrictive) relatives (except for that of simple PPs). On the other hand, it is equally well known that subject and object (in fact, all bare) *wh*-phrases, while allowed in tensed restrictive relatives, are excluded in infinitival relatives. See the following two contrasts:

- (650) a. \*I was looking for someone with whose help to repair my bicycle  
 b. I was looking for someone with whom to repair my bicycle
- (66) a. \*I found someone whom to give the book to  
 b. I found someone to give the book to

Separate solutions have been suggested in the literature for both asymmetries between tensed and infinitival restrictives. For example, one could try to account for the second asymmetry by making the deletion of *wh*-phrases optional in tensed restrictives but obligatory in infinitival (restrictive) relatives (see Chomsky 1980a: 21). We have, however, argued that apart from the desirability of doing away with a specific reference to infinitival relatives in the deletion convention, there is evidence for the correctness of a generalized obligatory deletion of *wh*-phrases. In which case, the asymmetry turns out to be only apparent. Similarly, one could try to account for the first asymmetry between infinitival and tensed relatives by appealing to a principle such as “Avoid complicated *wh*-phrases,” which would be maximally operative in infinitival relatives (and, to decreasing degrees, in restrictive and appositive tensed relatives) (Chomsky, class lectures, MIT, Fall term 1979). However, the analysis sketched above, insofar as it is capable of relating the two asymmetries and insofar as it makes no appeal to any special principle, appears to provide a more principled answer to both of these questions. Recall first that by assuming that (tensed) appositives enter NP... S',... only, while unmarked tensed restrictives enter structure [NP NP S'] and more marked tensed restrictives structure NP... S',... the fact that pied piping is best in appositives and relatively more marked in restrictives follows under the proposed assumptions. Implicationally related to this was the fact that *wh*-phrases are retained in NP... S',... (where pied piping of categories other than PPs is possible), whereas they cannot be retained in [NP NP S'] (in which pied piping other than that of PPs is equally excluded).

Now, if we assume that structure [NP NP S'] is in fact the only structure available for infinitival relatives in English, both of these properties fol-

low as necessarily interconnected properties. Under this view, it is non-accidental that English infinitival relatives have the same properties of the restrictive (and appositive) paradigm of *cui* in Italian (see section 1.2 above) rather than some other conceivable arrangement of the same properties such as, for example, free pied piping but obligatory deletion of bare *wh*-phrases or vice versa. For it is a consequence of the proposed analysis that free pied piping should correlate necessarily with the retention of bare *wh*-phrases and that the (obligatory) deletion of *wh*-phrases should correlate necessarily with the possibility of pied piping just PPs (see the relevant discussion at p. 73).<sup>55</sup>

Interesting support comes from an examination of infinitival relatives in both Italian and French. In these languages sentences corresponding to (65a), with pied piping other than that of PPs, are acceptable (at a quite formal stylistic level). See, for example, the following Italian cases:

- (67) a. Cercavo qualcuno con l'aiuto del quale (poter) riparare la mia bicicletta (= (65a))<sup>56</sup>  
 b. ?Cercavano un farmaco a somministrare il quale poter riuscire senza troppe resistenze  
 They were looking for a medicine to distribute which to be able to manage without too many resistances

This may be accounted for if we assume that structure NP... , S', ... is available for (marked) infinitival relatives in Italian (and French). If so, we should expect sentences corresponding to the starred English (66a) to

<sup>55</sup> Note that both C&L's system and the system of 'On binding' (Chomsky 1980a) face a problem in this connection. They make two partially different predictions, both of which are not entirely correct. In C&L's system, the convention of free deletion in COMP and the filter \*[NP to VP] make the correct prediction about \**I was looking for someone whose dog to play with* which is ruled out on a par with \*... *someone whom to invite to the party* but are unable to rule out \**I was looking for someone with whose help to repair my car* since the structural description of the filter is not met, just as in *I was looking for someone with whom to go out to dinner* (this time a right result). The OB system also correctly draws the distinction between \**I found someone whom to give the book to* and *I found someone to whom to give the book* with its notion of obligatory deletion of *wh*NPs in COMP up to recoverability in the context "infinitive complement." The same notion, however, allows for such impossible cases as *I found someone whose dog to play with* / *with whose dog to play*. The proposed analysis draws instead the correct distinction in all such cases and expresses a generalization (that between pied-piping facts and deletion facts) that does not seem to be easily statable under the two systems above.

<sup>56</sup> See also *Cercavo una ragazza con la quale ragazza uscire a cena* "I was looking for a girl with which girl to go out to dinner."

be likewise possible (at the same stylistic level); which, in fact, appears to be true:<sup>57</sup>

- (68) ?Cercavo una ragazza la quale poter invitare alla cerimonia di inaugurazione  
I was looking for a girl to be able to invite to the inauguration ceremony

The same seems to hold for (literary or very formal) French; cf.:

- (69) ??Je cherche un homme, lequel photographeur  
I'm looking for a man to photograph  
(reported in Kayne 1976: fn. 22)<sup>58</sup>

This is another case where we find the correlation between retention of *wh*-phrases and free pied piping to hold.

<sup>57</sup> This case is slightly less natural than (67a) but apparently for quite independent reasons, having to do with the less than perfect relativizability of objects, in NP... S',... In fact the same holds in tensed restrictives (of the more marked type) and marked appositives (see (30b) and (21b) above). See also the fronting of heavier object NPs in infinitival relatives:

- (i) ?Cercavamo qualcuno la figlia del quale poter invitare alla festa  
We were looking for someone whose daughter to be able to invite to the party

<sup>58</sup> Interestingly, *Je cherche un homme qui photographeur* is impossible, as noted by Kayne in the same footnote. This impossibility follows from the proposed analysis in that retention of object (bare) *wh*-phrases occurs in NP... S',... only and *qui*, being an anaphor only, cannot occur in NP... S',...

### 3 *Bare quantifiers, quantified NPs, and the notion of operator at S-structure\**

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1 Representations at the linguistic level of LF-structure, since its introduction into grammatical theory,<sup>1</sup> are conceived of as essentially analogous in form to the representations of standard logical analysis. A sentence such as *John likes everyone*, for example, is assigned a representation like (2) at LF-structure, derived from the S-structure representation (1) via a rule of Quantifier Movement (QR) (see Chomsky 1977b: essay 4; May 1977):

- (1) [s[<sub>NP</sub>John] INFL [<sub>VP</sub>likes [<sub>NP</sub>everyone]]]  
(2) [s[<sub>NP</sub><sub>i</sub>Everyone][s[<sub>NP</sub>John] INFL [<sub>VP</sub>likes [<sub>NP</sub>]]]]

The empty NP left, under trace theory, by movement of [<sub>NP</sub>everyone], in (2) is understood as a variable (*vbl*) bound by the phrase [<sub>NP</sub>everyone], taken as an operator, much as in the standard logical analysis of (1), a version of which is represented in (3):<sup>2</sup>

- (3) [For every  $x_i$  /  $x_i$  a person] John likes  $x_i$

In Government and Binding Theory, the notions of “operator” and “variable” also play a role at S-structure. As Chomsky (1977b: essay 1, p. 59) observed, “under the trace theory of movement rules . . . a surface structure is in some respects similar to a logical formula with bound variables” (read “surface structure” as “S-structure”). In an S-structure like (4)

- (4) [s[<sub>NP</sub>Who] did [sJohn like [<sub>NP</sub>]]]?

\* I wish to thank the participants at the 1984 Tromsø workshop on Romance syntax, where a preliminary version of this paper was presented, and Richard Kayne for their helpful observations.

<sup>1</sup> See Chomsky (1975, 1977b: Introduction and essays 1, 3, 4).

<sup>2</sup> In fact, representations like (2) can be converted into representations like (3) quite straightforwardly. See Chomsky (1977b: essay 3).



the trace left by the overt application of "Move  $\alpha$ " is understood as a variable bound by an operator (the quasi-quantifier *who*), much as the trace left by the (abstract) application of "Move  $\alpha$ " to [<sub>NP</sub>everyone] in (2). Such S-structures as (4) can, in fact, be seen as "anticipations, in the Syntax, of the operator/variable structures normally created in LF."<sup>3</sup>

The standard analysis thus recognizes the presence of an operator/variable configuration both at S-structure and LF-structure. By regarding such configurations as fundamentally identical, this analysis is able to express significant generalizations which could not be expressed as readily, it seems, under competing, even intertranslatable, notations (see, for discussion, Chomsky 1977b: essay 4; 1980b: chapter 4, pp. 160ff; Higginbotham 1980; May 1982).

Whatever differences there are between the operator/variable configurations created at S-structure and at LF-structure, they are not regarded as qualitative. They simply reduce to the different classes of quantificational phrases that undergo the movement at each level: (under the standard analysis) *wh*-phrases and a few other types of quantificational phrases that may move to COMP, at S-structure;<sup>4</sup> and quantificational phrases in general, at LF.

Recent work, some of which will be briefly reviewed in section 3 below, redresses this picture of LF at least in part by suggesting that not all quantificational phrases taken in standard logic as having an operator/variable form enter an operator/variable form in the linguistic component of LF. So, for example, it has been suggested that certain quantificational phrases such as *anyone*, *any N*, and *a certain N* do not enter an operator/variable configuration at LF-structure, as they appear to behave like

<sup>3</sup> Cases like (4) contrast with those in (i):

- (i) a. \*I invited everyone<sub>i</sub> without knowing [<sub>NP<sub>i</sub></sub>]
- b. \*Who<sub>i</sub>? John may not like [<sub>NP<sub>i</sub></sub>], though

Examples (i a–b) are unacceptable because the empty NPs there, as opposed to the empty NP in (4), do not qualify as variables at S-structure (as, in fact, no other type of empty category either). This is so because, at S-structure, the empty NP fails to be A'-bound by an operator (see note 10). That such a requirement has to be met at S-structure is already clearly shown by the illformedness of (i a), whose LF-structure (ii)

- (ii) [<sub>S</sub>Everyone<sub>i</sub> [<sub>S</sub> I invited [<sub>NP<sub>i</sub></sub>] without knowing [<sub>NP<sub>i</sub></sub>]]]

does contain a potential binder for the empty NP (the operator *everyone* found in A'-position at that level). See Chomsky (1982). Example (4), instead, as noted, is well formed because its empty NP is correctly A'-bound by an operator at S-structure.

<sup>4</sup> See Guéron (1981). They comprise certain negative phrases and *so*-phrases. For the logical properties of the class of negative quantifiers that undergo syntactic "Move  $\alpha$ ," see May (1982).

Names. They always have wide scope and show none of the properties normally associated with the rule QR which creates operator/variable configurations at LF-structure (see Aoun, Hornstein and Sportiche 1981; Chomsky 1981a: 239; Hornstein 1984a, b; Dobrovie-Sorin 1984; Pesetsky 1986, who suggest further restrictions of the class of operator/variable configurations in LF).

According to their analyses, (certain) bare quantifiers, but not their corresponding quantified NPs, are subject to QR in LF, so that only the former enter an operator/variable form at LF-structure. The latter observation is particularly relevant here, for it is suggested below that a similar, systematic, asymmetry between bare quantifiers and quantified NPs is detectable at S-structure as well, despite *prima facie* evidence.

In general, no distinction is ever made between bare quantifiers (such as *what* or *nothing*) and quantified NPs (such as *which film* or *no news*) at S-structure, apparently for very good reasons. In the ordinary case, either kind of quantificational expression appears to be able to function as an operator at S-structure:

- (5) a. [What<sub>i</sub> did [you see e<sub>i</sub>]]?
- b. [Which film<sub>i</sub> did [you see e<sub>i</sub>]]?
- (6) a. [Nothing<sub>i</sub> would [he do e<sub>i</sub> to help them out]]
- b. [No news<sub>i</sub> was [he prepared to give e<sub>i</sub>]]

In these structures, either kind of quantificational expression is in COMP, a characteristic operator position (for the negative phrases in (6), see Thiersch 1981). Outside of the COMP position, however, an asymmetry emerges, in certain contexts, between bare quantifiers and quantified NPs suggesting that only the former, not the latter, may “inherently” function as operators.

Two such contexts are provided by the Clitic Left Dislocation (CLLD) construction in Italian (and other Romance languages) and the *L-tous* construction in French.

We discuss these in turn in section 2, and return, in section 3, to the more general questions which they raise, as well as to their relation to the notion of operator in LF.

**2** A brief digression is required on the basic properties of CLLD and *L-tous*. Let us first of all consider CLLD.

**2.1** This construction differs in a number of respects (which need not concern us here) from English-type Left Dislocation.<sup>5</sup> In this connection suffice it to say that the left peripheral phrase in CLLD is in close connection with the S-internal position related to it. It behaves with respect to various grammatical principles as though it actually occupied the S-internal position, a property sometimes claimed to be a consequence of a general process of Reconstruction (see Guéron 1979; Belletti and Rizzi 1981; Chomsky 1981a; and other recent work). Nothing of the sort holds for English-type Left Dislocation (the analogue of which is also present in Italian). CLLD bears instead a close similarity to Topicalization (despite the presence in the former of clitic resumptive pronouns).<sup>6</sup> The two constructions can in fact be regarded as a syntactic minimal pair. The various properties which differentiate the two apparently reduce to a single abstract parameter: the presence in Topicalization vs. the absence in CLLD of *Wh*-movement (see Cinque [1984] for a discussion of the reasons that motivate such a conclusion and whose essential correctness will be presupposed hereafter). Consider, for example, the most obvious difference between the two constructions: the possible presence of resumptive clitics in CLLD but not in Topicalization:

- (7) Gianni, lo<sub>i</sub> inviterò domani (non oggi)  
G. him (I-)will invite tomorrow (not today)
- (8) GIANNI<sub>i</sub> (\*lo<sub>i</sub>) inviterò (non Pietro)  
G. him (I-)will invite (not P.)

The contrast between (7) and (8) can be seen as a consequence of the assumption that Topicalization but not CLLD involves *Wh*-movement. Under this analysis, the relevant S-structure representations of (7) and (8) are:

- (9) a. [<sub>TOP</sub>Gianni<sub>i</sub>] [<sub>S'</sub>[<sub>COMP</sub>][<sub>S</sub>lo<sub>i</sub> inviterò [<sub>NP</sub><sub>i</sub>]]]  
b. [<sub>TOP</sub>GIANNI] [<sub>S'</sub>[<sub>COMP</sub>NP<sub>i</sub>] [<sub>S</sub>lo<sub>i</sub> inviterò [<sub>NP</sub><sub>i</sub>]]]

Example (9b) is thus entirely parallel to (10) or (11) (which are also excluded):

<sup>5</sup> See, for discussion, Cinque (1984) and the references cited there. This section is in fact largely based on the central section of that work.

<sup>6</sup> What we call Topicalization here (which is the syntactic analogue of English Topicalization) should perhaps in Italian be named, more accurately, "Focus Movement," owing to the heavy stress and pragmatic contrast falling on the topicalized phrase. But we will adhere to the traditional terminology, for clarity's sake.

- (10) \* $[_S \text{Chi}_i [_S \text{lo}_i \text{inviterai} [_{NP} ]]]?$   
Who will you invite him?
- (11) \* $[_S \text{Qui}_i \text{a-t-il}_i [_S [_{NP} ] \text{dit cela}]]?$   
Who has he said that

Their ungrammaticality appears to be a consequence of the fact that in (9b), (10), and (11) the operator in COMP does not bind any variable (see Chomsky's [1982] discussion of the principle barring vacuous quantification). The empty NP in S is locally A'-bound by a clitic, not by the operator in COMP, thus presumably failing to qualify as a variable.<sup>7</sup> Example (7), on the contrary, is well formed. The principle against vacuous quantification which excluded (9b), (10), and (11) is here inoperative (at least under the assumption that the construction does not involve *Wh*-movement).<sup>8</sup>

There is a more interesting property of the resumptive clitic in CLLD which supports the assumption that the construction does not involve *Wh*-movement. We discuss it here since it also serves the purpose of introducing the basic facts which illustrate the particular asymmetry referred to above. The property is the following: with left-dislocated non-NP categories, resumptive clitics are systematically optional. But they turn out to be obligatory with left-dislocated NPs.<sup>9</sup> See, for example, (12) vs. (13):

- (12) a.  $[_{PP} \text{A Gianni}]_i, (\text{gli})_i \text{ho scritto} [_{PP} ]$   
To G., (to-him) I have written

<sup>7</sup> See Cinque (1984) for a fuller discussion of this point. Kayne (1984: chapter 10), from which (11) is drawn, with (roughly) the structure indicated, suggests essentially the same analysis for (11).

<sup>8</sup> The fact that even non-NP resumptive clitics are excluded in *wh*-constructions

- (i) a. \* $\text{Di cosa ne/hai parlato?}$   
About what did you talk about it?  
b. \* $\text{A casa ci sono stato!}$   
Home, there I went

may suggest either that the notion of syntactic variable should be extended to non-NP categories or, more plausibly, that (9b), (10), and (11) violate two separate conditions, the one suggested in the text, which is restricted to NPs, and an independent one which limits the occurrence of resumptive clitics to some specific constructions (not including *wh*-questions and Topicalization).

<sup>9</sup> Only examples with object NPs are discussed here. Subject NPs, due to the pro-drop nature of Italian, apparently do not lend themselves to a verification of the hypothesis. It can be shown, however, that the relevant distinction is between NPs and non-NPs rather than between object NPs and everything else. See Cinque (1984) for discussion of this point.

- b. [<sub>AP</sub><sub>i</sub>Bella], non (lo<sub>i</sub>) è mai stata [<sub>AP</sub>]  
 Beautiful, not (it) she never was
- c. [<sub>VP</sub><sub>i</sub>Criticato], non (lo<sub>i</sub>) è stato [<sub>VP</sub>]  
 Criticized, not (it) he has been
- (13) a. \*[<sub>NP</sub><sub>i</sub>Gianni], ho visto [<sub>NP</sub>]  
 G., I have seen
- b. [<sub>NP</sub><sub>i</sub>Gianni], l<sub>i</sub>'ho visto [<sub>NP</sub>]  
 G., I have seen him

Why is there such an asymmetry? An answer is directly available if CLLD does not involve *Wh*-movement. For the asymmetry, then, follows from very general and (for the most part) independent principles:

- (14) Clitics are uniformly optional in CLLD (the null hypothesis).
- (15) Only NPs are partitioned by the features [ $\pm$  pronominal]  
 [ $\pm$  anaphor] (a standard, though perhaps implicit, assumption).

The optionality of the clitic in the non-NP cases is a consequence of (14). How does the obligatoriness of the clitic with NPs (13a–b) follow? The hypothesis (14) implies the existence of the double option in (13), just as it does for (12), but of the two options, (13a) turns out to be excluded on independent grounds: namely, on the basis of (15) and of the conditions on empty NP-types. This is so because the object empty category (e.c.) does not qualify as any one of the various (empty) NP-types. It cannot be PRO, because governed; it cannot be pro, because unidentified; it cannot be NP-trace because free in its governing category. Finally, it cannot be a variable because there is no operator binding it. In sum, no well-formed output is associated with (13a), though one is associated with (13b). Hence the apparent obligatoriness of the clitic with left-dislocated NPs.

Note that the absence of (abstract) *Wh*-movement in CLLD is crucial to the argument. For, otherwise, the e.c. in (13a) would qualify as a variable (bound by the abstract operator in COMP) and (13a) would, incorrectly, be ruled grammatical. This presupposes also that A'-binding alone (e.g., by *Gianni* in TOP) does not suffice to identify an e.c. as a variable. We take this to favor (16) over (17) as the appropriate definition of variable:

- (16)  $Vbl =_{\text{def}} [_{NP^e}]$  in A-position operator-bound and locally A'-bound<sup>10</sup>
- (17)  $Vbl =_{\text{def}} [_{NP^e}]$  in A-position and locally A'-bound

Following Chomsky (1982: 102), we further assume (18) as a tentative definition of “operator” (to be slightly revised later):

- (18) S-structure operators = *wh*-phrases (certain negative phrases – see note 4) and (optionally) null NPs in COMP (see note 10)

This has the consequence that [*Gianni*] in (13) will not qualify as an operator, the e.c. of (13) failing in turn to qualify as a variable: a desirable result, as noted.

There is an interesting exception to the obligatoriness of the clitic with NPs, which provides indirect evidence for the analysis so far sketched. The clitic ceases to be obligatory (becoming, in fact, impossible) when the left-dislocated NP is a bare quantifier. See (19), originally pointed out to me by Paola Beninca’ (see also Beninca’ 1988):

- (19) a. Qualcosa<sub>i</sub>, di sicuro, (\*I<sub>o<sub>i</sub>) farò [<sub>NP<sub>i</sub></sub>]  
 Something, surely, I’ll do  
 b. Tutto<sub>i</sub>, non dovrà vender (\*I<sub>o<sub>i</sub>) [<sub>NP<sub>i</sub></sub>]  
 Everything, he will not have to sell  
 c. Molto<sub>i</sub>,  
 Troppo<sub>i</sub>, } non (\*I<sub>o<sub>i</sub>) ha fatto [<sub>NP<sub>i</sub></sub>] per noi  
 Poco<sub>i</sub>, }  
 Much,  
 Too much, } he hasn’t done for us  
 Little, }</sub></sub></sub>

The examples in (19) contrast sharply with those in (20), where the left-dislocated phrase is a quantified NP rather than a bare quantifier. The resumptive clitic is here obligatory again:

- (20) a. Qualche sbaglio, ogni tanto, { \*fa anche Gianni  
 lo fa anche Gianni  
 Some mistake, every now and then, (it) makes G. too

<sup>10</sup> See Chomsky (1981a: 102; 1982: 35) and Kayne (1984: 222) for considerations favoring (i) over (17):

- (i)  $V_{bl} =_{def} [_{NP}]$  in A-position locally operator-bound

Here, we opt for (16) over (i), due to such cases as

- (ii) Who<sub>i</sub> did you say [<sub>S’</sub> t<sub>i</sub>’] [<sub>t<sub>i</sub> was sick</sub>]?

where the variable [<sub>t<sub>i</sub></sub>] is locally A’-bound (by t<sub>i</sub>’) and operator-bound (by who<sub>i</sub>), but not locally operator-bound. t<sub>i</sub>’ must not (necessarily) count as an operator, or else t<sub>i</sub> would be bound by two operators (who<sub>i</sub> and t<sub>i</sub>’), in violation of the Bijection Principle (see Chomsky 1982; Koopman and Sportiche 1982).

- b. Tutti (i tuoi libri), prima o poi, *dovrai*  $\begin{cases} *vendere \\ venderli \end{cases}$   
 All (your books), sooner or later, you'll have to sell (them)
- c. Molte lettere,  $\begin{cases} *ho ricevuto in ufficio \\ le ho ricevute in ufficio \end{cases}$   
 Many letters, (them) I received in my office

This complex pattern of obligatory, optional, and impossible resumptive clitics finds a very simple account under the assumptions made so far if we merely add bare quantifiers (but not quantified NPs) to the class of (S-structure) operators in (18) (see (21)):

- (21) S-structure operators (i.e. NPs capable of identifying an e.c. as a variable when in A'-position at S-structure):
- (inherent): bare quantifiers [<sub>NP</sub>Q]
  - (structural): NPs in COMP (*wh*-NPs, certain negative NPs, and [optionally] null NPs)

Let us review how the various patterns observed earlier follow from (21) and the other assumptions made so far, and repeated here:

- (14) Clitics are uniformly optional in CLLD
- (15) Only NPs are partitioned by the features [ $\pm$  pronominal] [ $\pm$ anaphor]
- (16)  $V_{bl} =_{def} [_{NPE}]$  in A-position operator-bound and locally A'-bound

Example (13a) follows as indicated earlier: the object e.c. does not qualify as any of the possible NP-types: in particular it does not qualify as a variable since the construction does not contain operators (it does not involve [abstract] *Wh*-movement nor can the A'-binder *Gianni* qualify as an operator, if (21) is correct). The cliticless variants of (19) are, instead, well formed because, although CLLD does not involve *Wh*-movement, the phrase base-generated in TOP qualifies as an (inherent) operator, and is in an A'-position, so that the e.c.s come to be identified as variables. The impossibility of there being a clitic in (19), which recalls that in ordinary *wh*-constructions (see (10) and (11) and (8)), is further indirect support for taking the phrase in TOP to be an operator, because the illformedness of the variants of (19) with a clitic will then be a consequence of the principle barring vacuous quantification.<sup>11</sup>

<sup>11</sup> See Cinque (1984) for a discussion of some apparent exceptions to the incompatibility of an inherent operator with a clitic. They in fact turn out to provide further support for the

The examples in (20) are again ungrammatical because quantified NPs, as against bare quantifiers, do not qualify as operators, so that (20) simply reduces to the case of (13).

As far as the S-structure concept of “operator” at issue here is concerned, it seems that quantified NPs behave as Names rather than operators.

Such a difference between bare quantifiers and quantified NPs may have a structural correlate, if indeed bare quantifiers are instantiations of the maximal N projection (N<sup>''</sup>) rather than of the specifier node of N<sup>''</sup>, as indicated in (22):<sup>12</sup>

- (22) a. ‘bare’ quantifiers: [N<sup>''</sup> [Q[P]]]  
 b. quantified NPs: [N<sup>''</sup> [QP]N<sup>'</sup>]<sup>13</sup>

incompatibility in question and the principle inducing it. Also, note that the obligatory vs. impossible presence of a resumptive clitic cannot be attributed simply to the referential vs. non-referential character (respectively) of the left-dislocated phrase. *Troppi libri* (“too many books”) in (i b) is just as non-referential as *troppo* (“too much”) in (i a):

- (i) a. *Troppo<sub>i</sub>, non deve aver\*(lo<sub>i</sub>) letto e<sub>i</sub>, lui*  
 Too much he must not have read, he  
 b. *Troppi libri<sub>i</sub>, non deve aver\*(li<sub>i</sub>) letti e<sub>i</sub>, lui*  
 Too many books he must not have read, he

The difference, rather, seems to be “syntactic,” in the sense made clear in the text.

<sup>12</sup> See Kayne (1977). Possible evidence in favor of the structure (22a) for “bare” quantifiers comes, as noted there, from the fact that “bare” quantifiers are in general incompatible with specifiers and (non-appositive) modifiers (see *\*l’ultimo qualcosa* “the last something”: *\*qualcosa interessante* vs. *qualcosa di interessante* “something interesting” – the wellformedness of the latter in English might relate to the possibility in English, but not in unmarked Italian, of interpreting restrictively an appositive modifier). See the independent difference between *the man who you saw* and *\*l’uomo il quale hai visto*, with an appositive structure interpreted restrictively (see chapter 2 here).

A further indication of the correctness of (22a) comes from the following fact in Italian. Such forms as *tutti, molti* (“all,” “many”) can identify an e.c. as a variable:

- (i) a. *Tutti<sub>i</sub>, non abbiamo visto e<sub>i</sub>, ancora*  
 All, we haven’t seen yet  
 b. *Molti<sub>i</sub>, non vedrete e<sub>i</sub>, li*  
 Many, you will not see there

but only if they are interpreted as animate. (i a–b) can thus mean “all/many people” but not “all/many books.” With a non-animate interpretation a resumptive clitic is again required. Note that this would follow under the present analysis if *tutti, molti* with the special animate interpretation had the structure (22a). This is exactly what Belletti and Rizzi (1981: note 9) argue on independent grounds.

<sup>13</sup> Luigi Rizzi suggested to me that the operator status of bare quantifiers vs. the non-operator status of quantified NPs might be related to the independent distinction between the two in terms of the notions non-restricted vs. restricted quantification. This would be especially clear if restricted quantification, in natural language, required the structure



As already noted, the difference between bare quantifiers and quantified NPs apparently neutralizes in COMP position. See (5) and (6), repeated here as (23) and (24):

- (23) a. What<sub>i</sub> did you see e<sub>i</sub>?  
 b. Which film<sub>i</sub> did you see e<sub>i</sub>?  
 (24) a. Nothing<sub>i</sub> would he do e<sub>i</sub> to help them out  
 b. No news<sub>i</sub> was he prepared to give e<sub>i</sub>

This is understandable if we regard that position characteristically as an operator position. In spite of the fact that only bare quantifiers, we would suggest, are “inherent” operators, both bare quantifiers and quantified NPs seem to acquire “structural” operator status when in COMP. Hence the lack of asymmetry in (23)–(24). See, however, section 3, where it will be seen that the asymmetry between bare quantifiers and quantified NPs reemerges even with *wh*-phrases: precisely when they are in non-COMP positions.<sup>14</sup>

[<sub>NP</sub>QP N'] with QP indicating the type of quantification and N' the restriction on the domain of quantification. For elaborations along these lines, see Allegranza (1983).

Note that, in this sense, *who* or *everyone* would semantically be (minimally) restricted quantifiers (for which/every x<sub>i</sub> / x<sub>i</sub> a person), and syntactically unrestricted quantifiers, if their structure is [<sub>NP</sub>*who/everyone*].

<sup>14</sup> In this light, the ungrammaticality of (13a) and (20) suggests that the TOP position is not an operator position. Note that if bare quantifiers acting as operators in CLLD could be shown to actually be in COMP (in contrast to quantified NPs), then the notion of “inherent” (or “lexical”) operator would seem to become unnecessary. Their operator status would simply derive from their (putative) ability to occupy COMP. And we would just have “structural” operators at S-structure. However, apart from the asymmetries to be discussed in sections 2.2 and 3, which clearly do not involve the COMP position, there is also evidence that the bare quantifiers of CLLD do not occupy COMP, but TOP. If so, the notion of “inherent operator” appears to be needed, at least if we want to express the noted asymmetry between bare quantifiers and quantified NPs, which, structurally, occur in the same position: TOP.

The evidence is of the following kind. In subordinate clauses, a left-dislocated phrase can (marginally) be found at the left of the complementizer, as illustrated in (i a–b) (for the complementizer status of *di* in Italian infinitival clauses such as (i b), see Rizzi 1982a: chapter 3; Kayne 1984: chapter 5).

- (i) a. ?Vorremmo, i soldi, che non li spendeste subito  
 We would like the money (pl.) that you did not spend them, immediately  
 b. ?Credo, i soldi, di averli già spesi tutti  
 I believe the money (pl.) to have spent them all already

Now, given the filter against doubly filled COMPs in Italian, the (relative) wellformedness of such forms as (ii)

- (ii) ?Credo, qualcosai, di poter fare e<sub>i</sub> anch'io  
 I believe something to be able to do I too

appears to be a positive indication that the bare quantifier binding the variable occupies TOP, not COMP.

Let us consider now the French *L-tous* case.

**2.2** The class of elements which participate in the French *L-tous* construction (studied in detail in Kayne 1977, 1978, 1984: chapter 4) overlap substantially with the class of NPs that do not require (are in fact incompatible with) a clitic in CLLD. Compare (19a–c) with (25):<sup>15</sup>

- (25) a. J'ai  $\left\{ \begin{array}{l} \text{tout} \\ \text{?beaucoup} \\ \text{?trop} \\ \text{?peu} \end{array} \right\}$  acheté, aujourd'hui

I have bought everything/much/too much/little, today

- b. Je n'ai rien acheté, aujourd'hui  
I bought nothing today

In these structures, the Projection Principle requires the presence of a postverbal object (here an e.c. whose “antecedent” is *tout*, etc.). What kind of NP-type is this e.c.? It cannot be PRO, pro, nor NP trace, for familiar reasons. Following Kayne, it seems reasonable to take it to be a variable, since it is locally A'-bound by a quantifier-like element. This analysis appears to be supported by the contrast between (26a) and (26b) (Kayne 1984: chapter 4):

- (26) a. J'ai tout<sub>i</sub> voulu [<sub>S</sub>sacheter *e<sub>i</sub>*]  
I wanted to buy everything  
b. \*Je l<sub>i</sub>'ai voulu [<sub>S</sub>sacheter *e<sub>i</sub>*]  
I wanted to buy it

where the “antecedent” of either e.c. is outside of the governing category of the e.c. The contrast follows if the e.c. in (26a) is a variable and the e.c. of (26b) an anaphor, as Kayne suggests.

Thus, (26a) is, in essence, parallel to the *wh*-case in (27):

Richard Kayne suggested that the inability of *qualcosa* (and the other bare quantifiers) to function as a free relative pro-form (\**Farò qualcosa farai tu* “I will do something you will do” vs. *Farò quanto farai tu* “I will do what you will do”) may be taken as further indication that *qualcosa* (and, in general, bare quantifier operators) are not found in COMP.

<sup>15</sup> The few discrepancies in membership can apparently be ascribed to independent factors. See, for some discussion, Cinque (1984).

- (27) Qu<sub>i</sub>'avez-vous voulu [<sub>S</sub>sacheter  $e_i$ ]?  
What did you want to buy?

Consider now the following contrast within the L-*tous* construction in French:

- (28) Elle a voulu *tout<sub>i</sub>* lire  $e_i$   
She wanted to read everything
- (29) a. \*Elle a voulu *tous ces livres<sub>i</sub>* lire  $e_i$   
She wanted to read every one of these books  
b. \*Elle a voulu *tous<sub>i</sub>* lire  $e_i$  (ok: ... *tous les<sub>i</sub>* lire  $e_i$ )  
She wanted to read all (ok: to read them all)

Such contrast recalls point by point the contrast seen above in (Italian) CLLD between the cliticless variant of (19b) and (20b), repeated here:

- (19) b. Tutto<sub>i</sub>, non dovrà vendere  $e_i$
- (20) b. \*Tutti (i tuoi libri<sub>i</sub>), prima o poi, dovrà vendere  $e_i$  (ok: ...  
venderli<sub>i</sub>  $e_i$ )

In (20b), *Tutti i tuoi libri* is a quantified NP in TOP which by itself cannot identify an e.c. as a variable. *Tutti* is either a single QP [[<sub>QP</sub>*tutti*]] (as such unable to bind an e.c. of category NP) or a quantified NP with a null head [[<sub>NP</sub>[<sub>QP</sub>*tutti*] [<sub>N'</sub> $e$ ]]], in which case we fall back again to the previous case. In (19b), on the other hand, there is a bare quantifier ([<sub>NP</sub>Q]). It was suggested above that the contrast may follow simply by taking bare quantifiers, but not quantified NPs, to be operators at S-structure. It is thus tempting to extend essentially the same account to the contrast just noted in the French L-*tous* construction.

Only in (28) is there an operator (the bare quantifier *tout*) capable of identifying the object e.c. as a variable at S-structure. In (29a–b), whether there is a quantified NP [<sub>NP</sub>[<sub>QP</sub>*tous*] *ces* [<sub>N'</sub>*livres*]] / [<sub>NP</sub>[<sub>QP</sub>*tous*]<sub>N'</sub>] (respectively) or a single QP [[<sub>QP</sub>*tous*]], the object e.c. will fail to qualify as a variable for the reasons just reviewed, whence the contrast.<sup>16</sup>

<sup>16</sup> Note that the class of “bare quantifiers” (hence operators) is taken here to comprise *tout*, *rien*, *beaucoup*, etc. when they stand for a NP and do not imply a quantification over sets (examples in (25) above). The same elements, in their use as QP specifiers of N' as in *Elle a mangé tout le gâteau* “She ate the whole cake,” *Jean en a beaucoup*, *lu e<sub>j</sub> e<sub>i</sub>*; “J. of-them has many read,” are not operators. We take [*tous*], which quantifies over sets, not to be an operator either but a QP specifier of N', thus differing from Kayne (1984: 100), Haik (1982). The non-operator status of *tous* is indicated by the contrast between (28) and (29b), repeated here:

The parallelism between CLLD and the L-*tous* case may in fact be less systematic than has been presented (but in ways that do not seem to affect the main point). Note that a clitic may “save” (29b) (. . . *tous les<sub>i</sub> lire e<sub>i</sub>*) just as it “saves” the variant of (20b) with *tutti* [. . . *venderli<sub>i</sub> e<sub>i</sub>*], as expected. A clitic will also “save” the variant of (20b) with *tutti i libri* (cf. (30)), but it will not “save,” unexpectedly, the parallel L-*tous* case (29a) (cf. (31)):

- (30) *Tutti i tuoi libri<sub>i</sub>, prima o poi, dovrai venderli<sub>i</sub> e<sub>i</sub>*  
 (31) \**Elle a voulu tous ces livres<sub>i</sub> les<sub>i</sub> lire e<sub>i</sub>*

Such a lack of perfect symmetry between (Italian) CLLD and French L-*tous* may, however, be due to external reasons. As Kayne (1977: section 1.3) suggests, full-fledged NPs may be systematically excluded from the L-*tous* position, if that is essentially an adverbial-like position. If so, the ungrammaticality of the forms in (32) is also expected, despite the fact that they contain bare quantifiers, capable, in principle, of identifying the object e.c. as a variable (as can be seen from their counterparts in Italian CLLD):

- (32) a. \**Il va quelque chose<sub>i</sub> faire e<sub>i</sub>*  
           He will do something  
       b. *Il va quelqu'un<sub>i</sub> voir e<sub>i</sub>*  
           He will see someone  
       c. \**Il ne va personne<sub>i</sub> voir e<sub>i</sub>*  
           He will see nobody

This implies that *tous* in (29b) can only be a single QP, not the specifier node of a full-fledged NP. How can we account, then, for the wellformedness of (28)? Apparently, either one of the available analyses (as [<sub>NP</sub>*tout*] or [<sub>QP</sub>*tout*]) should yield an ungrammatical result. Clearly, a

- (28) *Elle a voulu tout<sub>i</sub> lire e<sub>i</sub>*  
 (29b) \**Elle a voulu tous<sub>i</sub> lire e<sub>i</sub>* (ok: . . . *tous les<sub>i</sub> lire e<sub>i</sub>*)

and the wellformedness of

- (i) *Ces garçons, O<sub>i</sub> que mon ami a tous<sub>i</sub> voulu revoir e<sub>i</sub> . . .*  
       These boys, which my friend wanted to see all again . . .

in which, if *tous* were to be an operator, the variable would come to be simultaneously bound by two operators (*tous* and the null NP in COMP) in violation of the Bijection Principle. See also Cinque (1984).

Haik (1982) and Obenauer (1983) suggest that *beaucoup*, *trop*, etc. are not operators, but they in fact consider there only their use as QP specifiers of N', not their “bare quantifier” use as found in (25) in the text.

finer analysis is needed which can distinguish between *tout* (and *beaucoup*, *peu*, *rien*, etc.), on the one side, and *quelque chose*, *quelqu'un*, *personne*, etc., on the other (and both from *tous ces livres*, etc.). One such analysis is sketched in Kayne (1977: 30, fn. 21) on partly independent grounds. He suggests that certain coreference facts pertaining to such expressions as *quelque chose* “pourraient être rattachés à ceux qui concernent *tout* et *rien* si *quelque chose* était analysé, non comme *quelque* +N, mais comme [<sub>NP</sub>quelque chose] où P est le symbole de catégorie, quel qu’il soit, qui domine *quelque* dans *quelques livres* [<sub>P</sub> ≠ Q: \*il va *quelque chose faire*].” Let us assume, then, the following analysis, departing minimally from Kayne’s (for us, [*quelque chose*] must ultimately be an instantiation of NP, if we want to allow for the possibility of its Italian counterpart to bind a NP variable in CLLD):<sup>17</sup>

(33) a. quantificational NPs: [<sub>NP</sub>[<sub>P</sub>quelques]][<sub>N'</sub>[<sub>N</sub>livres]]

b. “bare” quantifiers:

1 [<sub>NP</sub>[<sub>P</sub>quelque chose]]

2 [<sub>NP</sub>[<sub>Q</sub>tout]], [<sub>NP</sub>[<sub>Q</sub>beaucoup]]

(see also Kayne 1977: 62)

(34) Only Q<sup>n</sup> elements can occur in the L-*tous* position

(see Kayne 1977; Obenauer 1984–5)

(35) The NP of (33b2) can simultaneously be taken as QP, the maximal projection of Q (given that Q is its only “head”): [<sub>NP/QP</sub>Q]

Given these assumptions, the appropriate distinctions follow. Quantificational NPs and bare quantifiers (33b1) will not occur in the L-*tous* construction because their categorial analysis does not satisfy (34). Bare quantifiers (33b2), however, do so, by virtue of the Q-projection side of their double analysis. They will also identify the object e.c. as a variable by virtue of their NP side.

Further evidence for the operator status of *tout* (*beaucoup*, etc.) at S-structure and for the similarity with (Italian) CLLD cases is the fact that no clitic is possible in (36), just as it was impossible in (19b), repeated below:

<sup>17</sup> See also (i), containing a bare quantifier in CLLD position, in French:

(i) Tout<sub>i</sub> elle ne comprend pas e<sub>i</sub>, mais . . . cela si  
All she does not understand, but that she does

See Cinque (1984) for discussion.

- (36) \*Elle a tout<sub>i</sub> voulu le<sub>i</sub> lire e<sub>i</sub>  
 (19b) \*Tutto<sub>i</sub>, non dovrà venderlo<sub>i</sub> e<sub>i</sub> (with *tutto* ≠ “entire”)

this being plausibly due to the principle barring vacuous quantification, as suggested above.

In sum, the *L-tous* construction does appear to parallel the CLLD construction except for the additional construction-specific restriction (34).

3 The evidence so far reviewed thus illustrates the existence of a particular asymmetry among quantificational expressions at S-structure. Bare quantifiers, but not quantified NPs, act as *inherent* operators, capable of binding an empty NP as a variable when they are found in A'-position at S-structure (abstracting from *wh*-phrases, as noted). This observation interestingly converges with some recent work by Carmen Dobrovie-Sorin and David Pesetsky on operator/variable structures in LF. Their work also reveals the existence of asymmetries between bare quantifiers *in situ*, on one side, and quantified NPs *in situ*, on the other.

One such contrast, pointed out in Dobrovie-Sorin (1984), involves clitic doubling of quantificational expressions in Rumanian. Whereas clitic doubling of a quantified NP *in situ* is possible, no clitic doubling is allowed of a bare quantifier *in situ*. See (37a–b), among the contrasts discussed by C. Dobrovie-Sorin:

- (37) a. Nu (I)-am văzut pe nici-un copil citind  
 (I) not (him) have seen any child reading  
 b. \*Nu I-am văzut pe nimeni (cf. N-am văzut pe nimeni)  
 (I) him have seen nobody

In that article, she suggests that the difference could be related to the different quantificational properties of the two quantifier phrases: the latter being subject to QR at the S-level, in opposition to the former, which only involves a quantification inside the NP.

In the context of the analysis sketched above, a simple account of the contrast between (37a–b) seems possible which incorporates Dobrovie-Sorin's suggestion and generalizes it to the S-structure contrasts seen in section 2. Suppose that only bare quantifiers, not quantified NPs, are inherent operators in LF, just as they are at S-structure (so the evidence in section 2 suggested). And suppose, further, that only inherent opera-

tors (in A-position, at S-structure) undergo movement in LF yielding a proper operator/variable configuration.

This amounts to saying that only quantifier expressions which qualify as operators (either inherently – bare quantifiers – or by virtue of their occupying an operator position – *wh*- or negative phrases in COMP) will be able to bind a variable. And when they do, they do it at every level (both S-structure and LF-structure).

Returning to (37), this means that only *pe nimeni*, a bare quantifier, hence an operator, not *pe nici-un copil*, a quantified NP, is moved by QR to S-initial position (an A'-position) in LF, as suggested by C. Dobrovie-Sorin herself. If so, (37b), though not (37a), will be ruled out by the principle barring vacuous quantification applying at LF-structure. For, after QR, the operator *pe nimeni* in A'-position will end up binding no variable in (37b), its trace being locally bound by the “doubled” clitic, not by an operator. In this light, the contrast in (37) is parallel to that found at S-structure, in CLLD in Italian, between (38a) and (38b):

- (38) a. Molti, non ha voluto comprarli  
 Many, he didn't want to buy them  
 b. \*Molto, non ha voluto comprarlo (cf. Molto non ha voluto comprare)  
 Much, he didn't want to buy it

The illformedness of (37b) is in fact the exact LF analogue of the S-structure violation found in (38b) above, and (10) and (11), repeated here:

- (10) \* $[_S \text{Chi}_i [_S \text{lo}_i \text{inviterai} [_{NP_i} ]]]?$   
 Who will you invite him?  
 (11) \* $[_S \text{Qui}_i \text{a-t-il}_i [_S [_{NP_i} \text{dit cela}]]]?$   
 Who has he said that?

In all of these cases there is, at S-structure, an operator binding no variable (the e.c. being locally bound by a clitic).

Above, it was noted that the asymmetry between bare quantifiers and quantified NPs is neutralized in the case of *wh*-phrases and certain negative phrases (cf. (23) and (24)). But that effect was attributed to the fact that such phrases acquire “structural” operator status by virtue of being in COMP, an operator position. If that is correct, one is to expect the asymmetry to surface again whenever such phrases are found outside COMP. In A-position (i.e., *in situ*), only bare *wh*-quantifiers, not

*wh*-quantified NPs, should qualify as operators, hence be able to move in LF and enter an operator/variable configuration at LF-structure.

Precisely this conclusion is argued for in detail in Pesetsky's study on *wh-in-situ* (1986). In that paper, he proposes to derive a number of well-known asymmetries between bare *wh*-phrases and *wh*-quantified NPs, such as those in (39) and (40) below, from the fact that the former, though not the latter, are subject to movement in LF.<sup>18</sup>

- (39) a. \*I don't remember what<sub>i</sub> [<sub>S</sub> *who* read *e<sub>i</sub>*]  
 b. ?I don't remember what<sub>i</sub> [<sub>S</sub> *which people* read *e<sub>i</sub>*]
- (40) a. \*Who<sub>i</sub> did you introduce *who* to *e<sub>i</sub>*?  
 b. Who<sub>i</sub> did you introduce *which people* to *e<sub>i</sub>*?

More generally, the distribution of bare *wh-in-situ* quantifiers, but not of *wh-in-situ* quantified NPs, consistently shows the properties diagnostic of movement, among which sensitivity to ECP, to the Nested Dependency Condition, and to Subjacency.<sup>19</sup> I refer again to Pesetsky (1986) for more careful discussion of this and related questions.

Various aspects of this analysis remain to be investigated in more detail and evaluated in their capacity to account for some (limited) parametric variation as that found, apparently, between Rumanian and Spanish (see note 19). But some converging evidence exists, it seems, for recognizing a formal difference between bare quantifiers and quantified NPs, at both S-structure (section 2 above) and LF (see Dobrovie-Sorin's and Pesetsky's works). This, in turn, promises to lead us to a better understanding of the *linguistic* notion of operator and its relation to the standard logical notion. If anything, the evidence discussed here seems to support Hornstein's (1984a) conclusion that "in natural language semantically natural classes of expressions do *not* form syntactic natural classes" (p. 118).

<sup>18</sup> Contrasts such as (39) were originally noted by R. Kayne (cf. Chomsky 1980a). Various analyses have been put forth to account for the contrasts in (39) and (40). For discussion, see Fiengo (1980), Kayne (1984), Pesetsky (1982, 1986), and references cited there.

<sup>19</sup> Note that this analysis requires that bare quantifiers move at LF, but it is still compatible with the possibility that some external factor may exceptionally neutralize their operator status, thus allowing them not to move (cf. the marginal cases of discourse-linked bare *wh*-quantifiers discussed in Pesetsky 1986). With respect to quantified NPs there is some evidence that not only are they not required to move, but that apparently they cannot move in LF (see Pesetsky 1986: fn. 25). However, see also the case of Spanish clitic-doubled quantified NPs discussed in Dobrovie-Sorin (1984). The fact that they cannot be doubled by a clitic just as bare quantifiers would seem to suggest that they are operators subject to QR in LF.



## 4 *On si constructions and the theory of arb\**

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There are some peculiar restrictions on the occurrence of impersonal *si* in untensed and tensed clauses with specific time reference in Italian that have gone largely unnoticed in the literature and are not expected under the standard analysis of the construction. I will show that they are in fact simple consequences of very general principles, Theta Theory and Case Theory, under a finer analysis of impersonal *si*: one that provides, among other things, for two distinct uses of the morpheme, an argumental and a non-argumental one.

Although it introduces a further distinction in the class of *si* constructions, this analysis is in principle compatible with the program of unifying all uses of *si* (impersonal, middle, and reflexive).<sup>1</sup> The unification approach and the one pursued here simply set themselves at different levels of abstraction. A question to which we return below.

After reviewing the fundamental restrictions on impersonal *si* in untensed clauses (section 1), we will suggest an analysis which accounts for them via principles that are already independently justified (section 2). In section 3, the differences in the interpretation of impersonal *si* in finite clauses with specific and generic time reference will be discussed and

\* The original nucleus of this analysis was presented in May 1982 at the University of Paris VIII during a course on Italian syntax given jointly with Luigi Rizzi. Subsequent re-elaborations were presented in talks at MIT (October 1982), at the Scuola Normale Superiore (February 1983), and at the GLOW conference in Barcelona, in March 1986. I am indebted to those audiences, and in particular to Adriana Belletti, Paola Beninca', Luigi Burzio, Carmen Dobrovie-Sorin, Richard Kayne, Giuseppe Longobardi, Maria Rita Manzini, and Luigi Rizzi. I must also thank Luigi Burzio, Anna Cardinaletti, Richard Kayne, Luigi Rizzi, Anne Zribi-Hertz, and two *Linguistic Inquiry* reviewers for their written comments.

<sup>1</sup> See Manzini (1983, 1986), Everett (1984), Haider and Rindler-Schjerve (1985), and Kayne (1986b) for four such recent attempts within the Government and Binding Theory. Earlier attempts include Castelfranchi-Parisi (1976) and Pimenta-Bueno (1979). As far as I can see, the analysis of *si* developed here is immediately compatible only with the unification approach of Kayne (1986b).

related to the same analysis in interaction with a more general theory of “arbitrary” (*arb*) interpretation. Section 4 contains a reexamination of so-called passive *si*, reinterpreted in part in the light of the preceding results on impersonal *si*. In section 5, some (provisional) comparative remarks are made on impersonal *si* constructions in other Romance languages. Finally, in section 6, we take up the general question of the parametrization and acquisition of the various usages of *si*.

### 1 Some unexpected asymmetries

In tensed contexts, impersonal *si* is found to occur with all major verb classes in Italian (transitive, unergative, ergative, psych-movement, copulative, passive, and raising verbs):<sup>2</sup>

- (1) a. *Transitive*  
 (Prima o poi) *si* scopre sempre il colpevole  
 (Sooner or later) one always discovers the culprit
- b. *Unergative*  
*Si* lavora sempre troppo  
 One always works too much
- c. *Ergative*  
 Spesso *si* arriva in ritardo  
 Often one arrives late
- d. *Psych-movement*<sup>3</sup>

<sup>2</sup> This is, in itself, problematic for any analysis which regards *si* as an *argument subject clitic* base-generated in INFL or in clitic position, as one would expect a theta-criterion violation at D-structure in all those cases where the verb assigns no theta-role to [NP, S] (contexts (1c–g)).

This fact is explicitly recognized in Burzio (1986: 45f.) and Belletti (1982a, fns. 21,37, appendix), where two different solutions to this problem are suggested. The former, following Rizzi (1976b), assumes that *si* can be base-generated in any NP position, though it cliticizes (after possible applications of NP-movement) only from the preverbal subject position. The latter assumes *si*-insertion into INFL at *S-structure*, where the internal argument is also changed from [PRO] to [e], with consequent transmission of its theta-role to *si*. In Manzini (1983, 1986: 243) another solution still is adopted. In such cases as (1c, f) *si* is taken to enter a chain with both the object and the subject. Here, a rather different approach will be pursued. One that may extend to the infinitival cases to be discussed shortly in the text.

<sup>3</sup> With this label we refer here and below just to the class of psych-movement verbs of Belletti and Rizzi (1986) which assign (inherent) Accusative to the experiencer and thus select auxiliary *avere* (“have”) despite their taking only internal arguments. The class assigning (inherent) Dative and selecting auxiliary *essere* (“be”) appears to be indistinct from the wider class of “ergative” verbs.

Spesso *si* preoccupa anche chi non *si* vorrebbe  
 Often one worries even those one would not like to

e. *Copulative*<sup>4</sup>

Non *si* è mai contenti  
 One is never satisfied

f. *Passive*

*Si* è spesso trattati male  
 One is often ill-treated

g. *Raising*

Spesso *si* risulta non essere in regola  
 One often turns out not to be in order

whereas it is uniformly excluded in untensed control clauses. Cf. (2):

(2)

a. *Transitive*

\*Sarebbe meglio scoprir*si* il colpevole  
 It would be better one to discover the culprit

b. *Unergative*

\*Sarebbe meglio lavorarsi un po' di più  
 It would be better one to work a bit more

c. *Ergative*

\*Sarebbe meglio arrivar*si* puntuali  
 It would be better one to arrive on time

d. *Psych-movement*

\*Sarebbe meglio non essersi preoccupato nessuno  
 It would be better one not to have worried anybody

e. *Copulative*

\*Sarebbe meglio essersi ricchi  
 It would be better one to be rich

f. *Passive*

\*Sarebbe meglio essersi aiutati da qualcuno  
 It would be better one to be helped by someone

g. *Raising*

\*Sarebbe meglio risultarsi essere in regola  
 It would be better one to appear to be in order

<sup>4</sup> Copulative verbs are kept distinct here from raising verbs, but it should be noted that ample evidence has been accumulated recently for analyzing them as raising verbs. See Couquaux (1979, 1981), Stowell (1981), Burzio (1981), Rizzi (1982c), and Kayne (1985), among others.

The ungrammaticality of (2) is standardly attributed to a violation of the Case Filter (Zubizarreta 1982: 146; Manzini 1983, 1986; Everett 1984; Burzio 1986: 44).<sup>5</sup> As a clitic, a lexical nominal element, *si* must be part of a CHAIN assigned Case if it is to satisfy the Case Filter. Being in a CHAIN with the preverbal subject position, it is predicted that it will only occur in environments in which Case is assigned to that position. Hence not in infinitival control clauses, in which the preverbal subject position fails to be assigned one.

If this analysis is correct, impersonal *si* should then be possible in those untensed clauses in which the preverbal subject position is (part of a CHAIN) assigned Case (in some special manner). Two such untensed clause environments are: (a) infinitival complements to Raising verbs (Chomsky 1981a: 266f.) and (b) untensed clauses involving Aux-to-COMP (Rizzi 1981, 1982a: chapter 3). Consider (3), an example of the first case:

- (3)  $e_i$  sembrano [ $e_i^k$  esserne arrivati molti<sup>k</sup>]  
 seem to be of-them arrived many  
 "It seems many have arrived"

After Raising, the preverbal subject NP of the infinitival complement is part of a chain which receives Case (Nom[inative]). What (3) further shows is that a lexical argument in a CHAIN with it also counts as part

<sup>5</sup> Concerning (2a), see the more detailed discussion in section 4 on transitive environments. The incompatibility of control PRO and *si* in these cases has also been attributed to the (illicit) government of PRO by *si* (see Rizzi 1982b). In this view, (i) would minimally differ from (ii) in that PRO is governed in the former, though not in the latter, in violation of Binding Theory:

- (i) \*Loro vorrebbero [PRO [invitarsi]]  
 They would like *si* to invite ("... to be invited")  
 (ii) Loro vorrebbero [PRO [essere invitati]]  
 They would like to be invited

Burzio (1981, 1986: 78, fn. 41; see also Chomsky 1981a: 63f., 141 fn. 43) notes, however, that the same contrast is preserved even if PRO undergoes Raising, which has the effect of rendering PRO ungoverned. Compare (iii) and (iv):

- (iii) \*Loro vorrebbero [PRO risultare [ $t$  essersi invitati]]  
 They would like to appear *si* to have invited ("... to have been invited")  
 (iv) Loro vorrebbero [PRO risultare [ $t$  essere stati invitati]]  
 They would like to appear to have been invited

This suggests a different approach (see Burzio 1981, 1986; and section 4 below). One must also exclude that *si* in infinitival contexts be in a CHAIN, not with PRO, but with whatever empty category is found in the corresponding tensed clauses. Case considerations seem to suffice, providing a unitary answer to both problems.

of the same chain (Chomsky 1986a: section 3.4.3), coming to “inherit” the Case (Nom) assigned to the head of the chain and thus complying with the Case Filter. Hence also the “curious” phenomenon of the matrix verb in (3) agreeing with the embedded VP-internal NP.

The second environment in which the preverbal subject NP of an untensed clause receives Nominative Case is represented by the small number of constructions studied in Rizzi (1981, 1982a: chapter 3) which allow for an auxiliary to move to COMP (= C of Chomsky 1986b).

The Aux-to-COMP option is allowed (at its peculiar stylistic level) in the infinitival complement of “verbs of thinking” (in (4a)), in adjunct gerundive clauses (4b), in “nominalized” infinitives (4c), and in the infinitival complement of certain non-subcategorized prepositions (in (4d)):

- (4) a. Ritenevano [<sub>CP</sub> non esser [<sub>IP</sub>io/Gianni *t* idoneo a tale compito]]  
 They thought I/G. not to be suitable for that task
- b. [<sub>CP</sub>non essendo [<sub>IP</sub>io/Gianni *t* idoneo a tale compito]] ...  
 I/G. not being suitable for that task
- c. [<sub>NPL'</sub>[<sub>CP</sub>esser [<sub>IP</sub>io/Gianni *t* disposto ad aiutarvi]]] ...  
 I/G. being willing to help you
- d. [<sub>PPER</sub> [<sub>CP</sub>non esser [<sub>IP</sub> io/Gianni *t* disposto ad aiutarvi]]] ...  
 for not being I/G. willing to help you ...  
 “As I/G. was not ...”

The prediction that impersonal *si* will be found in Raising and Aux-to-COMP environments (as opposed to control infinitives) is indeed fulfilled, *but only in part*. While it is grammatical, in such contexts, with transitives and unergative intransitives, it is ungrammatical with all other verb classes. See (5) and (6)/(7) (we limit the exemplification of the Aux-to-COMP environment to the infinitival complement of “verbs of thinking” (6) and to the gerundive (7) constructions):

- (5) a. *Transitive*  
 Sembra non essersi ancora scoperto il vero colpevole  
 It seems one not to have yet discovered the true culprit
- b. *Unergative*  
 Sembra non essersi lavorato a sufficienza  
 It seems one not to have worked sufficiently

- c. *Ergative*  
 \*Sembra essersi arrivati troppo tardi  
 It seems one to have arrived too late
- d. *Psych-movement*  
 \*Sembra essersi preoccupato solo un genitore<sup>6</sup>  
 It seems one to have worried only one parent
- e. *Copulative*  
 \*Sembra non essersi benvenuti qui  
 It seems one not to be welcome here
- f. *Passive*  
 \*Sembra non essersi stati invitati da nessuno  
 It seems one not to have been invited by anybody
- g. *Raising*  
 \*Sembra non risultarsi ignorare il problema  
 It seems one not to appear to ignore the problem

- (6) a. *Transitive*  
 Ritengo non essersi ancora scoperto il vero colpevole  
 I believe one not to have discovered the true culprit

<sup>6</sup> Example (5d), as well as (6d)/(7d) below, are acceptable, in an irrelevant reading, with “inchoative” *preoccuparsi* “worry” (“It seems that only one parent got worried”). See Belletti and Rizzi (1986). What is crucial is that they cannot be interpreted as instances of impersonal *si*. Thus (5d) cannot mean “It seems one worried only one parent.”

As noted in Gracia i Solè (1986: 245ff.), Belletti and Rizzi’s (1986) analysis of psych-movement verbs can be extended to the class of “measure verbs” (*pesare* “weigh,” *misurare* “measure,” *valere* “be worth,” etc.) (See also Burzio 1981: 490, fn. 7; 1986: 314, fn. 34.) In their non-agentive use, their surface subject appears to be a *theme* (see Jackendoff 1972: 44) and should thus be mapped to the internal object position at D-structure. The measure phrase is assigned inherent Accusative VP-internally (cf. *Cento chili, non li pesa di certo* “A hundred kilos, he does not weigh them (Acc, certainly”); *Non li misura, due metri* “He does not measure them (Acc, two meters,” etc.). Under this analysis, no theta-role is assigned to [NP, S], whence their non-passivizability (\**Cento chili sono pesati da poche persone* “A hundred kilos are weighed by few people”; \**Due metri erano misurati solo dal tavolo* “Two meters were measured only by the table,” etc.). See Gracia i Solè (1986).

It is interesting to note that their behavior under impersonal *si* is exactly parallel to that of psych-movement verbs selecting auxiliary *avere*. Compare (i) and (ii):

- (i) Quando *si* misura solo un metro, non si può essere prepotenti  
 When one measures only one meter, one cannot be a bully
- (ii) a. \*Qui risulta non misurarsi più di un metro  
 Here it seems not *si* measures more than one meter
- b. \*Ritengo non essersi mai misurato più di un metro in quel paese  
 I deem never *si* to have measured more than one meter in that country

- b. *Unergative*  
 Ritengo non essersi provveduto alle sue necessità con la dovuta solerzia  
 I believe one not to have taken care of his needs with zeal
  - c. *Ergative*  
 \*Ritengo non essersi arrivati in sufficiente anticipo  
 I believe one not to have arrived sufficiently ahead of time
  - d. *Psych-movement*  
 \*Ritengo essersi preoccupato solo un genitore  
 I believe one to have worried only a parent
  - e. *Copulative*  
 \*Ritengo non essersi idonei per tale compito  
 I believe one not to be suitable for that task
  - f. *Passive*  
 \*Ritengo non essersi stati trattati col dovuto rispetto  
 I believe one not to have been treated with due respect
  - g. *Raising*  
 \*Ritengo non essersi risultati essere in regola  
 I believe one not to have turned out to be in order
- (7)
- a. *Transitive*  
 Non essendosi ancora scoperto il vero colpevole, ...  
 One not having (lit.: being) yet discovered the true culprit, ...
  - b. *Unergative*  
 Non essendosi provveduto alle sue necessità con la dovuta solerzia, ...  
 One not having taken care of one's needs with due zeal, ...
  - c. *Ergative*  
 \*Non essendosi morti in giovane età, ...<sup>7</sup>  
 One not having died young, ...

<sup>7</sup> The (c)–(g) examples of (7), although still unacceptable, sound somewhat better than the corresponding cases of (6). This can be attributed to the fact that “referential” pro-drop (in the sense of Rizzi 1982a: chapter 4) is excluded more strongly in infinitival than in gerundive Aux-to-COMP constructions. See the contrast between (i a) and (i b), whose non-complete unacceptability recalls the marginal possibility of pro-drop with absolute past participles (see Belletti 1984: 23, from where (i c) is taken):

- (i) a. (Quanto a Carla,) \*ritenevano non esser  $e_i$  degna di stima  
 (Concerning C,) they believed not to be worthy of esteem
- b. (Quanto a Carla,) ??non essendo  $e_i$  degna di stima, si ritennero liberi di assumere qualcunaltro

d. *Psych-movement*

\*Essendosi preoccupato solo un genitore, ...  
 One having worried only a parent, ...

e. *Copulative*

\*Non essendosi contenti del proprio lavoro, ...  
 One not being happy with one's work, ...

f. *Passive*

\*Non essendosi stati invitati da nessuno, ...  
 One not having been invited by anybody, ...

g. *Raising*

\*Essendosi risultati a tutti essere in regola, ...  
 One having appeared to everybody to be in order, ...

Such an asymmetry, in untensed clauses, between transitives and unergatives, on one side, and all other verb classes, on the other, is unexpected under the standard analysis, especially if one compares these structures with their tensed counterparts, which are grammatical (see (1)). The three solutions to the thematic problem mentioned in note 2 clearly do not lead one to expect any difference between tensed clauses and untensed clauses in which Nominative Case is assigned to [NP, IP].<sup>8</sup>

(Concerning C.,) not being worthy of esteem, they felt free to appoint someone else

- c. (A proposito della ben nota sfortuna di Maria,)??appena uscita di casa, cominciò a piovere  
 (Concerning M.'s notorious bad luck,) once out of her house, it began to rain

That is to say, gerundive Aux-to-COMP (and absolute past participle) constructions are, as it were, more like tensed clauses than are infinitival Aux-to-COMP constructions. Hence their contrast, in the expected direction, also in the domain of impersonal *si*.

<sup>8</sup> As noted in Manzini (1983, 1986: 244), impersonal and passive *si* is not possible in untensed clauses in which the preverbal subject position is (part of a CHAIN) assigned Accusative, rather than Nominative, as in the complement of perception verbs:

- (i) \*Ho visto [<sub>e</sub> ballarsi freneticamente]  
 I have seen *si* to dance frenetically  
 (ii) \*Ho visto [Carlo<sub>i</sub> invitarsi <sub>e<sub>i</sub></sub> malvolentieri]  
 I have seen C. *si* to invite (be invited) unwillingly

This could be taken to suggest that [+arg] *si* requires not just any Case, but Nominative Case (see Burzio 1986: 50; and, for a different account, Manzini 1986: 253). See also Keyser and Roeper (1984: 386), where a similar observation is made about English middles, and note 48 below for the occurrence of middle *si* in such context.



## 2 A finer analysis of impersonal *si*

### 2.1 Argument and non-argument *si*

The facts reviewed in section 1 pose essentially two problems:

- 1 Why is there an asymmetry in non-finite clauses between transitive and unergative verbs, on the one hand, and all other verb classes, on the other?
- 2 Why is such an asymmetry absent from finite clauses?

Concerning 1, one may immediately exclude that Case considerations play any role. *Si* is in every case part of a CHAIN assigned Nominative Case.

The natural domain to refer to is rather Theta Theory. We know independently that transitive and unergative verbs differ from all the other verb classes in being the only verb types which assign one of their theta roles *externally* (Williams 1981). If *si* is an *argument*, by the theta-criterion under the Projection Principle it must be associated with a theta-role at every level of representation, including D-structure. As a [NP, IP] clitic, it must, in particular, be associated with the theta-role assigned by the verb (via the VP) to the [NP, IP] position, namely the *external* theta-role.

This predicts that *si* will be possible only in those contexts where an external theta-role is assigned, i.e. in clauses with transitive and unergative verbs. In every other case, a theta-criterion violation will take place at D-structure. (We crucially assume that *si* cannot be sometimes a [NP, IP] clitic and sometimes a [NP, VP] clitic, matched with an internal theta-role. An ambivalence of this kind would be entirely unprecedented for a clitic.) Thus if we analyse *si* as an *argument clitic* coindexed with [NP, IP] (and AGR), we have an immediate and simple solution for problem 1.

It may be noted that the grammaticality pattern of (5) and (6)/(7) reproduces itself in Passive (in languages which also allow for impersonal passives).<sup>9</sup> See, for instance, the case of German in (8), and that of French in (9):

<sup>9</sup> German “impersonal/middle” *sich* displays exactly the same asymmetry. See (i), from Boschetti (1986: 147ff.):

- (i) a. Diese Bücher lesen sich gut  
These books read *sich* well
- b. Hier tanzt es sich gut  
Here it dances *sich* well

- (8)
- a. *Transitive*  
Er wird eingeladen  
He is invited
  - b. *Unergative*  
Es wird getanzt  
It is danced
  - c. *Ergative*  
\*Es wird angekommen  
It is arrived
  - d. *Psych-movement*  
\*?Er wird gerührt  
He is moved
  - e. *Copulative*  
\*Es ist glücklich gewesen  
It has been happy
  - f. *Passive*  
\*Es ist eingeladen worden  
It has been invited
  - g. *Raising*  
\*Es wird (von ihnen) glückliche Menschen zu sein geschienen  
It has appeared (by them) to be happy people
- (9)
- a. *Transitive*  
Il a été invité  
He was invited
  - b. *Unergative*  
Il a été fumé récemment dans cette cuisine  
It was smoked recently in this kitchen
  - c. \*Hier kommt es sich schnell an  
Here it arrives *sich* quickly
  - d. \*Hier ist es sich nur schwer zufrieden  
Here it is *sich* happy with difficulty
  - e. \*Hier wird es sich schlecht versorgt  
Here it is *sich* supplied badly
  - f. \*Dass es sich nie scheint, Ordnungsgemäss zu handeln ...  
That it *sich* never seems to behave properly ...

Haider and Rindler-Schjerve (1985) also note the impossibility of middle *sich* with ergatives. See also Haider (1985) and Abraham (1986) for general discussion.

c. *Ergative*\*Il a été arrivé à la fête très tard le soir<sup>10</sup>

It was arrived at the party very late in the evening

d. *Psych-movement*

\*Il (expletive) a été très ému par cette catastrophe

It was very much moved by this catastrophe

e. *Copulative*

\*Il (expletive) n'a jamais été heureux dans cette maison

It was never happy in this house

f. *Passive*

\*Il a été invité dernièrement

It has been invited lately

g. *Raising*

\*Il n'a jamais été semblé être heureux dans cette maison

It has never appeared to be happy in this house

The impossibility of passivizing ergative, psych-movement, copulative, passive, and raising verbs analogously follows if one assumes, as often proposed (see e.g. Roberts 1985; Jaeggli 1981, 1986a) that passive morphology necessarily “absorbs,” or “suspends” at D-structure,” the theta-role that would otherwise be externalized. For passive morphology to absorb or suspend it, there must be an external theta-role at D-structure to begin with. Hence the illformedness of (8)/(9c–g), which contain predicates that do not assign one. If passive morphology and “impersonal *si*” both have the effect, among others, of “dethematizing” the [NP, IP] position (see section 2.4), it is not surprising that they behave alike with respect to theta requirements.

A difference between *si* and passive morphology remains, but it is peripheral. *Si*, as an argument, must retain the external theta-role that

<sup>10</sup> For the impossibility of passivizing what later came to be recognized as ergative (“unaccusative”), as opposed to unergative, verbs, see Kayne (1977: chapter 3, fn. 56), Zribi-Hertz (1982: 368), Grewendorf (1984: 18), Pollock (1985: section 6.1), Haider and Rindler-Schjerve (1985), and Dobrovie-Sorin (1987b: 492), among others. See Perlmutter (1978) for a different account of this fact. A number of exceptions are reported in the literature. See Ruwet (1987: fn. 5) and references cited there. Milan (1985: 75) reports the possibility in German of such forms as *Hier wird nur gestorben* (“Here it is only died”), containing an apparently ergative verb in the impersonal passive form.

Roberts (1987) discussed the apparent existence of passives in certain languages, suggesting possible ways to reconcile this case with standard analyses of Passive in Government and Binding Theory.

it “absorbs,” whereas passive morphology need not, if it is not an argument. So, in the latter, though not in the former, the external theta-role may be reassigned to another position. See (10a) vs. (10b) and Belletti (1982a: 7f.), Jaeggli (1986: section 4):<sup>11</sup>

- (10) a. Gestern wurde von allen getanzt  
 b. \*Ieri si è ballato da tutti ( $\neq$  *chez tous*)  
 Yesterday it was danced by everybody

This analysis does not yet offer a solution to problem 2; rather, it predicts that the same asymmetry should also be found in finite clauses, contrary to fact.

In spite of this, I will assume the foregoing to be a correct consequence and that what is “surprising” is the behavior of finite (i.e. (1)), not that of non-finite (i.e. (5),(6)/(7)), clauses.

The analysis of impersonal *si* which we have so far followed, essentially based on the standard analysis, is given in (11) (we defer a more detailed discussion of each choice, and of its possible alternatives, until later – see section 2.3):

- (11) Impersonal *si*  
 a. (syntactically)  
 1 argument;  
 2 clitic pronoun coindexed with [NP, IP] (and, by transitivity, with AGR, when present).  
 b. (morphologically)  
 1 person: unspecified (hence *generic* or *arb*);  
 2 number: plural;  
 3 gender: masculine.  
 c. (semantically) [+ human]

As noted, the assumption that *si* is an argument and a clitic coindexed with [NP, IP] provides an account for the asymmetry present in (5) and

<sup>11</sup> Some languages only have agentless passives (see Eckman 1974; Siewierska 1984: 35). Perhaps a parameter is involved whereby passive morphology can optionally count as an argument, thus retaining the external theta-role.

Note also that, in more rhetorical styles of Italian, *by*-phrases are found to cooccur with *si*, as observed in Lepschy (1986: fn. 4). (See also Ruwet (1972a) and Fellbaum and Zribi-Hertz (1987: fn. 7) for a similar observation concerning French.) It is, however, interesting that all of the examples cited are instances of what we analyze below as “middle” *si/se*, which is a non-argument. Apparently, one does not find *by*-phrases in sentences of the strict “impersonal” type (such as (10b)).

(6)/(7). This analysis implies, however, that *si* cannot be an argument in (1c-g). If it were, a theta-criterion violation would obtain at D-structure. Rather, in (1c) (repeated in (12)), which we now take to represent all of (1c-g), the argument at D-structure must be found in [NP, VP], the only position to which a theta-role is assigned (cf. (13)):

- (12) Spesso, *si* arriva in ritardo  
Often, one arrives late
- (13) [ $e_i^k$  AGR<sup>k</sup> *si*<sup>k</sup> arriva  $e_i$  sempre in ritardo]

What element in the class of empty categories can “ $e_i$ ” be? It cannot be a variable, since no operator is present which can A'-bind it at S-structure and LF. It cannot be PRO, since it is governed, whether it remains *in situ* or moves to [NP, IP]. It cannot be NP-trace, as this element does not qualify as an argument. It can only be *pro*, which by S-structure must be in [NP, IP] to be identified (as a generic pronominal) after entering a CHAIN with AGR and *si*.

Let us assume, then, that the argument or non-argument status of impersonal *si* is the result of a parametric choice, replacing (11) by (14) (we shall see below that the parameter is also relevant for the other uses of *si* – see Haider and Rindler-Schjerve 1985):

- (14) Impersonal *si*
- a. (syntactically)
    - 1 ± **argument**;
    - 2 clitic pronoun coindexed with [NP, IP] (and, by transitivity, with AGR, when present).
  - b. (morphologically)
    - 1 person: unspecified (hence *generic, arb*);
    - 2 number: plural;
    - 3 gender: masculine.
  - c. (semantically) [+human]

The parameter gives rise to two uses of impersonal *si* which share all features except for those following from the positive or negative specification of the parameter. In particular, [+arg(ument)] *si* will require association with a theta-role at every level of representation, while [-arg(ument)] *si* clearly will not. What purpose is then served by [-arg] *si*?

We suggest that it serves as a syntactic means to supplement personal AGR with the features able to “identify” (in the sense of Chomsky 1982: chapter 5; Rizzi 1986a) the content of *pro* as an unspecified (generic)

person pronominal, an interpretation that would not, otherwise, be available to the ordinary person inflection paradigm. *Arriva* can only mean “*He/she* arrives” while *Si arriva* acquires the meaning “One (unspecified) arrives.”

As a syntactic marker for unspecified (generic) *person*, it is natural to assume that it will need to combine with *personal* AGR. In structural terms, this can be expressed by saying that it needs to govern personal AGR, and/or be governed by it, according to whether it is in INFL or not.<sup>12</sup> This predicts that non-argument *si* will only be found in contexts where personal AGR, and personal inflection markers, are found, namely, *in finite clauses*, in Italian. A desirable result, since we have seen that impersonal *si* is possible with ergative, psych-movement, copulative, passive, and raising verbs only in finite, not in non-finite, clauses.

This analysis thus solves our second problem (i.e., why the asymmetry found in non-finite clauses is absent from finite clauses). Consider in more detail how. In finite contexts, [-arg] *si* is possible (with all verb types) because it can “amalgamate” with personal AGR. On the other hand, [+arg] *si* is only possible with those verb types that assign an external theta-role, as noted. Thus (1a–g) above can all be instances of [-arg] *si*, but only (1a–b) can also be instances of [+arg] *si*. The latter will thus be grammatically ambiguous between the two uses of impersonal *si*. Consider now the non-finite raising (i.e. (5)) and Aux-to-COMP (i.e. (6)/(7)) environments. Here [-arg] *si* is uniformly excluded since, as a syntactic person marker, it needs *personal* AGR and no personal AGR is found in non-finite clauses in Italian (recall that non-finite Aux-to-COMP constructions have AGR, but only pleonastic, not personal, AGR – Rizzi 1982a: chapter 4). Moreover, its feature composition (see (14b–c)) is incompatible with pleonastic *pro*.

So only [+arg] *si* is left, which requires association with an external theta-role and Nominative Case. While Nominative Case is accessible to

<sup>12</sup> Chomsky (1981a), following Belletti (1982a), assumes impersonal *si* to be in INFL. Manzini (1983, 1986) and Rizzi (1986a: fn. 18) note that the most plausible S-structure position of *si* is under VP, not INFL, since it clusters with object clitics.

The assumption that *si* is in INFL at S-structure can, however, be maintained if object clitics in Romance can themselves be (optionally) located under INFL, as suggested in Kayne (1989a). If in INFL, *si* will govern and be governed by personal AGR; if in VP, it will be governed by personal AGR only if it is non-distinct from the V *head* of VP, as in Kayne’s (1977) original analysis of object clitics (as elements adjoined to V). We leave the exact location of *si* (and object clitics) open here, although, for concreteness, we shall assume *si* to be in INFL. Otero (1986: 87f.) observes that certain uses of *se* affect the aspectual content of INFL, a natural effect if *se* is itself in INFL.

*si* in every verbal context of (5) and (6)/(7), an external theta-role is available to *si* only in transitive and unergative contexts. Hence the observed asymmetry.

Finally, consider (2). Here [-arg] *si* and [+arg] *si* are both systematically excluded: the former because of the lack of personal AGR in control infinitives in Italian; the latter because of the systematic lack of Nominative Case in the same environment.

## 2.2 [-arg] *si* in infinitives: the case of Portuguese

According to the analysis developed so far, should a language allow for personal AGR in infinitives (and for [-arg] *si*), then it should also allow for impersonal *si* in infinitives with ergative, psych-movement, copulative, passive, and raising verbs, just as in finite clauses in Italian. One such language appears to be Portuguese, whose infinitive can be inflected with personal agreement markers according to the paradigm in (15) (see Raposo 1987: 86 and references cited there):

|      |                 |               |
|------|-----------------|---------------|
| (15) | <i>Singular</i> | <i>Plural</i> |
|      | 1 eu comer+0    | nós comer+mos |
|      | 2 tu comer+es   | vós comer+des |
|      | 3 ele comer+0   | eles comer+em |

I/you (sg.)/he/we/you (pl.)/they to eat + AGR

The presence of personal AGR in the infinitive renders both lexical (16a) and null (16b) subjects possible, as in the corresponding inflected tensed sentences:<sup>13</sup>

- (16) a. Será difícil [eles aprovarem a proposta]  
 It will be difficult for them to approve-AGR (3pl.) the proposal
- b. Será difícil [pro aprovarem a proposta]  
 It will be difficult pro to approve-AGR (3pl.) the proposal

<sup>13</sup> This is not to say that the two have the same distribution. See Raposo (1987) for discussion and for an account of the difference between tensed and untensed inflected clauses in European Portuguese. The Portuguese examples discussed in this section have been kindly provided (or checked for me) by Manuel Gonçalves Simões, of the University of Venice.

The expectation that [-arg] *si*, interpreted as a syntactic personal agreement marker for the unspecified (generic) person, should be possible in the Portuguese infinitive with personal AGR appears to be confirmed. See (17a–e), which systematically contrast with the impossible Italian examples (5c–g), repeated here as (18a–e):<sup>14</sup>

- (17) a. Parece ter-se chegado demasiado tarde  
It seems one to have arrived too late  
b. Parece ter-se preocupado apenas um dos pais  
It seems one to have worried only one parent  
c. Parece não se ser benvindo aqui  
It seems one not to be welcome here  
d. Parece não se ter sido convidado por ninguém  
It seems one not to have been invited by anybody  
e. Parece não se resultar ignorar o problema  
It seems one not to turn out to ignore the problem
- (18) a. \*Sembra essersi arrivati troppo tardi  
It seems one to have arrived too late  
b. \*Sembra essersi preoccupato solo un genitore  
It seems one to have worried only one parent  
c. \*Sembra non essersi benvenuti qui  
It seems one not to be welcome here  
d. \*Sembra non essersi stati invitati da nessuno  
It seems one not to have been invited by anybody

<sup>14</sup> Note that the parallelism between (17) and (18) (and between (5a–b) and (19a–b)) is not as absolute as it appears. Differently from Italian, the Portuguese examples of (17) are not instances of the Raising construction. They are inflected infinitival complements of the verb *parecer*. Inflected infinitives are, in fact, incompatible with Raising (see (i)), for principled reasons:

- (i) \*Os miúdos<sub>i</sub> parecem [e<sub>i</sub> trabalharem de tarde]  
The boys seem to work in the afternoon

As pointed out in Mateus *et al.* (1983: 413), from which (i) is drawn, the chain formed by the two subject NPs in (i) is assigned (Nominative) Case twice, once by the embedded and once by the matrix AGR, in violation of the uniqueness requirement on Case assignment to chains (Chomsky 1981a: 334). Example (i) presumably violates principle A of Binding Theory as well. The embedded subject anaphor is free in its governing category, the embedded IP, which contains a governor and an accessible subject for the anaphor (AGR).

Examples similar to (i) are apparently possible in Brazilian Portuguese. See Moreira da Silva (1983: section 4.2.1) for discussion and for evidence that they do not involve Raising, however.



- e. \*Sembra non risultarsi ignorare il problema  
It seems one not to appear to ignore the problem

Note that in transitive and unergative contexts such as (19)–(20) below impersonal *se* can be either [+arg], as in the corresponding Italian sentences (5a–b), or [–arg], with the inflected infinitive as in (17). The difference is not expressed morphologically, given the zero ending of the third-person singular inflected infinitive form.

- (19) Parece não se ter ainda descoberto o verdadeiro culpado  
It seems one not to have yet discovered the true culprit  
(20) Parece não se ter trabalhado bastante  
It seems one not to have worked sufficiently

The existence of an infinitive with personal AGR in Portuguese is also responsible for the apparent wellformedness of paradigm (2) in this language, as opposed to Italian. Compare (2) with (21):

- (21) a. Seria melhor descobrir-se o culpado  
It would be better one to discover the culprit  
b. Seria melhor trabalhar-se um pouco mais  
It would be better one to work a bit more  
c. Seria melhor chegar-se pontualmente  
It would be better one to arrive on time  
d. Seria melhor não se ter preocupado ninguém  
It would be better one not to have worried anybody  
e. Seria melhor ser-se ricos  
It would be better one to be rich  
f. Seria melhor ser-se ajudados por alguém  
It would be better one to be helped by someone  
g. Seria melhor resultar-se estar em ordem  
It would be better one to appear to be in order

(Once again, the Portuguese examples are not the exact analogues of the Italian examples. They are not cases of *control*, but of inflected infinitival extraposed sentences, an option not available to Italian.)

In summary, the postulation of a [–arg] use of the impersonal morpheme (analyzed as a syntactic suppletive form of personal AGR) allows for a straightforward account of various contrasts in impersonal *si/se* constructions in Italian and Portuguese. It also allows us to dispense with the rather odd assumption that clitic *si* is affected by NP-movement

(see Rizzi 1976b; Burzio 1981, 1986). Rather, *si* can be assumed to be base-generated (in INFL or VP) like all the other clitics.

Besides these advantages and the motivation it receives from the account of the distribution of *si* in untensed clauses in Italian, the double analysis of impersonal *si* is supported by other evidence. Before reviewing this in section 2.4, a more detailed discussion of the morphological features attributed above to *si* is in order.

### 2.3 *The features of impersonal si*

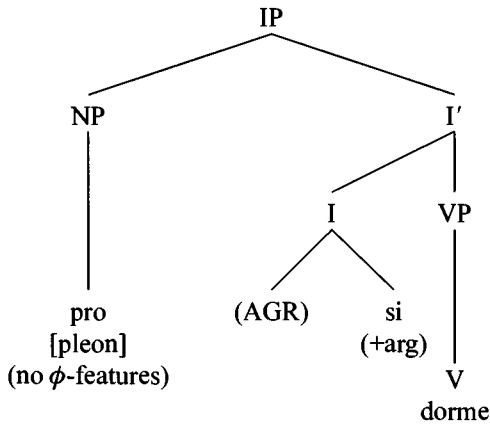
The unitary characterization of impersonal *si* given above was (14), repeated here as (22):

- (22) Impersonal *si*:
- a. (syntactically)
    - 1  $\pm$ argument;
    - 2 clitic pronoun coindexed with [NP, IP] (and, by transitivity, with AGR, when present).
  - b. (morphologically)
    - 1 person unspecified (hence generic, *arb*);
    - 2 number: plural;
    - 3 gender: masculine.<sup>15</sup>
  - c. (semantically) [+human]

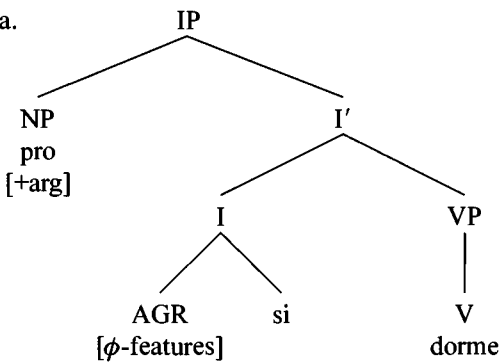
The different setting of the parameter (22a1) gives rise to the following two D-structure configurations (with *si* [-arg] there are two possible cases, which depend on whether the V assigns an external theta-role or not). For concreteness, we shall assume *si* to be in INFL:

<sup>15</sup> The plural masculine, human features are common to all *arb* elements in Italian. So, possibly, they should be seen as a function of *arb*. The number value appears to be the result of a parametric choice, Spanish taking the opposite value (singular).

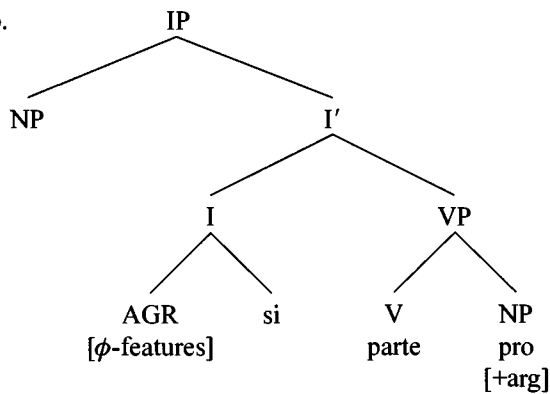
(23)



(24) a.



b.



In (23), *si* is the *argument*. So, as noted, it will have to be assigned a theta-role at D-structure. Given its (superscript) coindexation with [NP,

IP], which expresses its “*subject-oriented*” nature, the natural candidate is the external theta-role normally assigned to [NP, IP].

As to the precise mechanism of assignment, we may assume the following. If, as suggested in Belletti and Rizzi (1986: 14) “the external theta-role of the VP is first assigned to INFL under sisterhood, and is then transmitted by INFL to the subject NP under government,” *si* can be taken to “withhold” the external theta-role when this is assigned to INFL, thus preventing it from reaching [NP, IP]. As will be seen later (section 4.1), this assumption has some merit over the alternative that takes the external theta-role to be first assigned to [NP, IP] and then transferred from it to *si*. The [NP, IP] position in a CHAIN with [+arg] *si* will thus have to contain a non-argument: a pleonastic *pro*, we assumed, “identified” at S-structure by (pleonastic) AGR.<sup>16</sup> This relation bears some resemblance to the pleonastic argument CHAIN of subject “inversion” in Italian (as noted in Burzio 1986: 80, fn. 45 and 173, fn. 57; see also Chomsky 1986a: chapter 3, fn. 120), but cannot be identified with it entirely (at least considering agreement phenomena; see section 2.4.1 below).

In (24a–b), on the other hand, *pro* will be the argument in [NP, IP] and [NP, VP], respectively (theta-marking following its normal course). At S-structure, it will be identified in its  $\phi$ -features by the  $\phi$ -features of AGR augmented by those of *si*. We return to the agreement questions directly. Concerning Case, *si* is the lexical nominal element in both (23) and (24a–b). So, it will have to be part of a chain assigned (Nominative) Case at S-structure. In (23), *si* is in a CHAIN with the [NP, IP] of its clause. The Case Filter will be satisfied if either (Nominative) Case is assigned to that [NP, IP] directly (as in finite and Aux-to-COMP environments) or that [NP, IP] is itself part of a chain assigned (Nominative) Case (as in Raising environments).

Note that Case (if not theta) considerations require [+arg] *si* to be in a CHAIN with [NP, IP]. Otherwise, no Case would be assigned to *si* in such sentences as (5b) ( $e_i$  *sembra* [ $e_i$  *non essersi lavorato a sufficienza*] “[It] seems *si* not to have worked sufficiently”), which should thus be on a

<sup>16</sup> In tensed clauses, (pleonastic) AGR will be in the INFL containing *si*. In non-finite Aux-to-COMP clauses it will be in the head C of CP, while in Raising environments it will be in the matrix INFL. If expletives are to be replaced at LF (see Chomsky 1986a: 179), *si* can perhaps be taken to move to [NP, IP] at that level. Kayne (1989b: fn. 10) presents another case where a clitic should be assumed to replace an expletive at LF (French *il*). Alternatively, this case could be related to the question of expletive replacement in impersonal passives, which lack an appropriate overt NP.

par with the ungrammatical: \**Bisogna essersi lavorato a sufficienza* ‘‘It is necessary *si* to have worked sufficiently.’’ In (24a–b), *si*, as a [NP, IP] clitic identifying *pro* in [NP, IP] in conjunction with personal AGR, is part of a CHAIN with [NP, IP] (and AGR) which is assigned (Nominative) Case at S-structure.<sup>17</sup>

Consider now the morphological features of *si* and agreement. Slightly modifying Burzio’s (1981, 1986: 59) analysis, we assumed *si* to have a person feature in addition to number and gender features, just as any other *pronominal*.<sup>18</sup> Differently from the ordinary (first-, second-, and third-) person features, its unspecified (hence *generic*) person feature is non-referential (in the sense that it is by itself incapable of contributing toward picking a specific referent). Its number and gender features are those characteristic of the class of generic, *arb* NPs in Italian (see section 3): [+plural] and [+masculine], respectively. This is true (as expected under a unitary analysis of *si* beyond the differences which follow from the [ $\pm$  argument] distinction) of both [+arg] *si* (see (25a)) and [–arg] *si* (see (25b), where agreement is rather with a *pro* identified by *si*):

- (25) a. *Quand’anche risultasse non essersi parlato abbastanza di se stessi, ...*  
 Even if it should turn out that one has not spoken enough of oneself (pl., masc.), ...
- b. *Si è stati abbandonati a se stessi*  
 One has been (pl., masc.) abandoned (pl., masc.) to oneself (pl., masc.)

<sup>17</sup> If the Case Filter is derived from the theta-criterion (Chomsky 1981a: 336ff.), [+arg] *si* will have to be in a CHAIN with [NP, IP] for theta-, not just Case, considerations. The obligatory coindexation of [–arg] *si* with (personal) AGR should follow, on the other hand, from its very nature as a syntactic marker of person agreement for the generic person.

<sup>18</sup> Differently from Manzini (1983, 1986), we take ([+arg] *si* not to be an R-expression. This appears to be indicated by the wellformedness of (i) below, even under the interpretation in which the two *sis* refer to the same domain of unspecified people:

- (i) *Quand’anche mi si giurasse essersi fatto di tutto per salvarlo, ...*  
 Even if one swore to me one had done one’s best to save him, ...

The fact that *si* is in an A’-position is presumably immaterial. Principle C is apparently operative even where the bindee is in an A’-position, as shown by (ii), where *quel poveraccio*, in an A’-position, is disjoint from *Gianni*:

- (ii) \**Ha detto anche Gianni che quel poveraccio, non lo vogliono*  
 Has said even G. that that poor guy, they did not want him

Concerning the apparent agreement paradox in such cases as (25b) (where the verb agrees in third-person *singular* and the past participle in masculine *plural*), we follow Burzio (1981: 55, 1986: 59) and Belletti (1982b: fn. 20) (see also Manzini 1986: 242f.) in regarding it as due to the fact that the finite verb fails to undergo normal agreement, thus acquiring the default one (which in Italian is third-person singular masculine). The reason why the finite verb fails to undergo normal agreement resides in the person feature of *si* and in the fact that finite verb agreement expresses person and number features syncretically. Since the verbal inflectional paradigm has no inflectional ending for “unspecified person,” it will simply not apply, leaving the (plural) number feature unexpressed too. The default agreement will then take over, as noted.<sup>19</sup>

Past participle agreement is not analogously hampered, since it realizes just the features of number and gender, which do have a morphological expression: [pl.] and [masc.].<sup>20</sup> Whence the contrast.

In (25), *si* cooccurs with what looks like a third-person plural reflexive (*se stessi*) (see (26a), below). This would seem to suggest that *si* has a third-person plural default value, after all. Burzio (1986: 80f., fn. 46) notes, however, that *si* is incompatible with other clear third-person (plural) elements such as possessive adjectives (\**Si ama i suoi/loro eroi* “*si* loves his/their heroes”), taking this “to support [the] view that *si* lacks person features, under the assumption that *se stessi* (though not *suoi/loro*) is not only third person, but also an impersonal form” (p. 81).

Slightly modifying his basic insight, we have suggested that *si* has, in fact, unspecified (generic) person features. So, suppose we consider *se stessi* (and the possessive adjective *proprio*) to be analogously characterized, their unspecified person feature becoming third person by default. Then, their compatibility with third-person referential and non-referential NPs (see (26)–(27)), and their incompatibility with first and second person (see(28)–(29)) follows.<sup>21</sup>

<sup>19</sup> Burzio (1981, 1986) and Belletti (1982a) differ minimally in this respect. The former assumes that *si* lacks person features altogether. The latter that it has an unspecified person feature. The position taken in the text is closer to Belletti’s.

<sup>20</sup> After Kayne (1985), we take the past participle to agree with its subject, as indicated in (i) (an S-structure representation):

(i)  $\text{pro}^k \text{AGR}^k \text{si}^k \text{è} [t_i \text{stati} [t_i \text{abbandonati } t_i \text{ a se stessi}]$

<sup>21</sup> The fact that in the passive usage of *si*, to be examined later (section 4), *si* is compatible with third-person subjects only, even though agreement with the verb is given by the NP in [NP, IP] (*I Rossi si sono invitati più volte* “The R.’s *si* were invited several times” vs. \**Noi/voi si siamo/siete/sono invitati più volte* “We/you *si* were invited several times”) may again be a consequence of the default procedure that turns *unspecified* into *third* person, and the fact that *si* must be compatible with the features of AGR.

- (26) a. Loro non comprendono nemmeno se stessi  
 They (third-person ref.) do not even understand themselves  
 b. Loro non comprendono nemmeno il proprio ruolo  
 They (third-person ref.) do not even understand their role
- (27) a. Quando non si comprende nemmeno se stessi, ...  
 When one does not even understand oneself, ...  
 b. Quando non si comprende nemmeno il proprio ruolo, ...  
 When one does not even understand one's role, ...
- (28) a. \*Noi non comprendiamo nemmeno se stessi  
 We do not even understand themselves/oneself  
 b. \*Noi non comprendiamo nemmeno il proprio ruolo  
 We do not even understand their/one's role
- (29) a. \*Voi non comprendete nemmeno se stessi  
 You do not even understand themselves/oneself  
 b. \*Voi non comprendete nemmeno il proprio ruolo  
 You do not even understand their/one's role

## 2.4 Three further consequences of the double analysis of *si*

### 2.4.1 *A past participle agreement paradox*

Burzio (1981: 82f., fn.5) notes the existence of agreement contrasts such as the following:

- (30) Alla fine, *si* è risultati/\*risultato non aver dormito abbastanza  
 In the end, *si* is appeared (masc. pl.)/(masc. sing.) not to have slept enough (“... one/we appeared not to ...”)
- (31) Alla fine, è ?risultato/\*risultati non essersi dormito abbastanza  
 In the end, it appeared (masc. sing.)/(masc. pl.) *si* not to have slept enough (“... it appeared one had not slept enough”)

In his analysis, which assumes *si* to be base-generated in NP positions, the different collocation of *si* is a consequence of the order of application of *si*-cliticization and Raising. In (30), *si*-cliticization applies after Raising has moved *si* to the matrix [NP, IP] position. In (31), it applies before, moving the trace of *si* to [NP, IP] of the matrix clause, where it is properly governed by a non-argument pronominal INFL (Burzio 1986: 93). As he notes (1981: 83), the contrast in past participle agreement displayed by (30)–(31) appears particularly puzzling given that the trace of *si* triggers [pl. masc.] past participle agreement in other environments, such as:

- (32)  $Si_i$  dovrebbe  $e_i$  essere  $e_i$  risultati  $e_i$  aver mangiato bene  
*Si* (one) should have appeared to have eaten well

Within the analysis sketched in section 2.2, (30)–(31) have two quite distinct derivations. In both cases, *si* is base-generated in INFL (in the matrix INFL, and the embedded INFL, respectively). In (30), *si* must be the [–arg], affix-like, *si*, for no theta-role is assigned to the matrix [NP, IP] at D-structure. At D-structure, the argument is rather in the embedded subject position: a *pro* with the features unspecified for person, plural, masculine. From D- to S-structure, *pro* is raised to the subject position of the past participle phrase, from where it triggers agreement (see Kayne 1985), and then to the matrix subject position:

- (33)  $pro_i$   $si$  è [ $e_i$  risultati [ $e_i$  aver dormito abbastanza]]

The agreement facts here are entirely parallel to those of the simpler case discussed above (*si è partiti*; see note 20 above).

Consider instead (31). Here, *si* must be [+arg] *si*, in a CHAIN with pleonastic *pro*, since [–arg] *si* is incompatible with the non-personal AGR of infinitivals. What is raised to the subject position of the past participle phrase, and then to the matrix [NP, IP] position, is pleonastic *pro*.

It seems plausible to assume that, by itself, pleonastic *pro* has no person, number, and gender features, thus triggering default agreement in tensed inflection (third person singular) and past participles (singular, masculine). Compare (34), which contains an instance of NP-movement of pleonastic *pro* in a Raising environment:

- (34)  $pro_i$  è [ $e_i$  risultato [ $e_i$  evidente [ $_i$ che mentivano]]]  
 It turned out (as) obvious that they were lying

This, however, is not always the case. In sentences such as (35)

- (35)  $pro_i$  *sono* [ $e_i$  risultati [ $e_i$  esserne arrivati [anche troppi]]]  
 It have (lit. “are”) turned (pl. masc.) out to have arrived (pl. masc.) even too many (pl. masc.)

which are standardly analyzed as containing a pleonastic *pro* undergoing NP-movement (see, *mutatis mutandis*, Chomsky 1981a: 266), a non-default agreement appears on the inflected verb and the past participles.

What differentiates (34) from (35) is that, in the latter, *pro* is part of a CHAIN containing a nominal element with person, number, and gender



features (the element which apparently controls agreement “at a distance”). Given that, in (31), pleonastic *pro* is also in a CHAIN with a nominal element with person, number (plural), and gender (masculine) features, why is it the case that no [pl., masc.] agreement is found on the (matrix) past participle?

A difference between (31) and (35) is that the nominal element (potentially) controlling agreement in the CHAIN is in an A-position in (35), and in a non-A-position in (31).<sup>22</sup> Suppose we assume (36) (see Roberts 1985: 490 for a proposal very close in spirit to (36)):

- (36) Only nominal elements which are in A-positions in a CHAIN can transfer their features to the head of the CHAIN.

If this is so, the agreement puzzle of (30)–(31) disappears, for, in (31), *si* will be unable to transfer its features to pleonastic *pro*, which will then trigger the default (third-person singular) agreement with the finite verb.<sup>23</sup>

Indirect evidence for this failure of feature transfer in (31) (henceforth (36)) comes from the impossibility of *pro* to bind the generic reflexive *se stessi* (which presumably requires the features of *si*):

- (37) \*Risultava anche a se stessi non essersi dormito abbastanza  
It appeared even to themselves not to have slept enough

Example (37) contrasts with (38):

- (38) ?Risultava essersi parlato solo di se stessi  
It appeared *si* to have spoken only about themselves

where *si* itself presumably acts as the antecedent of *se stessi* given that it c-commands *se stessi*.

<sup>22</sup> This implies that the postverbal subject position of transitives and unergatives (which is apparently able to transmit its features to the head of the CHAIN) is an A-position. A possibility suggested on independent grounds in Koopman and Sportiche (1985), Belletti (1988), and Pollock (1986), among others.

<sup>23</sup> Burzio’s analysis could possibly derive the same results if it incorporated something like (36) and if the trace of *si*-cliticization were differentiated from that of *si*-raising. In note 5 of chapter 1 of Burzio (1981), he in fact discusses the possibility of accounting for the contrast in (30)–(31) by assuming insertion of a pleonastic element in the position vacated by *si*, but then dismisses it on the basis of other considerations (which are not relevant in the present context).

2.4.2 *Si and the reciprocal form l'uno ... l'altro*

While it can occur with the generic reflexive form *se stessi* (cf. (38) above), [+arg] *si* is apparently incompatible with the reciprocal form *l'uno ... l'altro* (*gli uni ... gli altri*) (see Belletti 1982b for a detailed study of this construction). Consider the contrast between (39) and (40):

- (39) *Si* era parlato l'uno con l'altro  
*Si* had spoken with each other
- (40) a. (Io non c'ero, ma) \**deve/sembra essersi* parlato l'uno con l'altro  
 (I wasn't there, but) it must/seems *si* to have spoken with each other
- b. \**Ritenevo essersi* parlato l'uno con l'altro  
 I deemed *si* to have spoken with each other
- c. \**Non essendosi affatto* parlato l'uno con l'altro  
*Si* not having at all spoken with each other

Given that (40) can only be an instance of [+arg] *si*, for familiar reasons, while (39) can be an instance of either [+arg] or [-arg] *si*, we interpret the contrast as indicating that only [-arg] *si* is compatible with the reciprocal form (this is confirmed by the wellformedness of *l'uno ... l'altro* in sentences where only [-arg] *si* is available: *Si è stati presentati l'uno all'altro*). But why should *l'uno ... l'altro* be compatible with [-arg], but not with [+arg], *si*? We would like to suggest that this is again a consequence of the different analysis attributed above to the two *sis* in interaction with one aspect of the grammar of the reciprocal form. Belletti (1982b: section 2) presents some evidence that the element *l'uno* must move in LF and adjoin to a c-commanding plural NP. If this is so, it becomes understandable why the form *l'uno ... l'altro* is compatible with [-arg], but not with [+arg], *si*. Only in the former case is there a plural NP to which *l'uno* may adjoin: the argument generic, plural masculine *pro* in [NP, IP]. In the latter case, [NP, IP] is filled by a pure pleonastic *pro* to which, as we saw in section 2.4.1, *si* is unable to transfer its features (we are also assuming that *l'uno* cannot adjoin directly to *si*, a clitic in A'-position).

## 2.4.3 Si and the “floated” quantifier tutti

The two *sis* [-arg] and [+arg] also differ with respect to the possibility of cooccurring with the “floated” quantifier *tutti*. See the contrast between (41) and (42):

- (41) a. Si è stati invitati tutti  
*Si* has been invited all (“We were all invited”)  
 b. Si è reagito a sproposito tutti  
*Si* has reacted off the point all (“We all reacted off the point”)
- (42) a. \*?Sembra essersi reagito a sproposito tutti  
 It seems *si* to have reacted off the point all  
 b. \*?Ritiene essersi reagito a sproposito tutti  
 He believes *si* to have reacted off the point all  
 c. \*?Essendosi reagito a sproposito tutti, ...  
 Having *si* reacted off the point all, ...

As in the case of *l'uno ... l'altro*, which it closely resembles, it seems that the contrast at hand can again be made to follow from the double analysis of *si*, in interaction with the analysis of “floated” quantifiers, under any, in fact, of the various alternatives proposed.

The classic analysis (see Baltin 1982 for one recent formulation) takes the quantifier to move rightward from a plural (subject) NP. Kayne (1981a), Belletti (1982b), Koopman and Sportiche (1985), and Bayer (1987), among others, argue instead for a “base-generation” analysis of the quantifier, within somewhat different sets of assumptions.

What all these analyses share is the idea that the “floated” quantifier must be construed with a plural NP antecedent in A-position. If this is so, the impossibility of *tutti* with [+arg] *si* can again be related to the fact that the only NP antecedent in A-position with which *tutti* could be construed is pleonastic *pro* in a CHAIN with *si*, and this lacks the required plural features.

To summarize: we have seen evidence to distinguish between a [+arg] and a [-arg] use of *si*. Such evidence was based (a) on the distribution of *si* in untensed clauses in Italian (sections 2.1 and 2.4) and (b) on certain systematic contrasts between Italian and Portuguese (section 2.2). In section 3, it will be seen that the asymmetry noted in section 1 above between transitive and unergative verbs, on the one hand, and all the other verb classes, on the other, arises in a quite different domain, having to do with the interpretation of *si*.

**3 *Si* in finite clauses with specific time reference**

While *si* receives a generic (arbitrary) interpretation (roughly paraphrasable as “people, one”) in generic sentences, in sentences with specific time reference *si* retains its generic/arbitrary reading only when it occurs with transitive and unergative verbs. With the other verb classes it acquires a new interpretation, roughly paraphrasable as “unspecified set of people including the speaker” (“we”). The difference is subtle, but real, I think, and it becomes clearer when a predicate can be selected which is pragmatically incompatible with the inclusion of the speaker (as is the case in (43c, f)). (% marks semantic oddity.)

- (43) a. *Transitive*  
 Oggi, a Beirut, *si* è ucciso un innocente  
 Today, in B., one killed an innocent
- b. *Unergative*  
 Oggi, a Beirut, *si* è sparato tutta la mattina  
 Today, in B., one shot the whole morning
- c. *Ergative*  
 %Oggi, a Beirut, *si* è morti inutilmente  
 Today, in B., we died in vain
- d. *Psych-movement*  
 %Oggi, a Beirut, *si* è preoccupato il contingente dell'ONU  
 Today, in B., we have been worrying the UN contingent
- e. *Copulative*  
 %Oggi, a Beirut, *si* è sfiniti dalla fame  
 Today, in B., we are worn out with hunger
- f. *Passive*  
 %Oggi, a Beirut, *si* è stati uccisi inutilmente  
 Today, in B., we have been killed in vain
- g. *Raising*  
 %Oggi, a Beirut, *si* è risultati non aver rispettato le convenzioni internazionali  
 Today, in B., we turned out not to have complied with international conventions

We will see that such semantic/pragmatic asymmetry, which exactly matches the syntactic asymmetry seen above, is related to the same double analysis of impersonal *si*, although it is, strictly speaking, an effect of a more general theory of “*arb(itrary)*” interpretation).

3.1 *Arbitrary third-person plural pronouns and the theory of arb*

The fact that in contexts of specific time reference a *pure* impersonal reading is available just with transitive and unergative verbs recalls the similar observation made in Beninca' (1980: fn. 6) and Belletti and Rizzi (1986: section 1.2) (see also Jaeggli 1986b) concerning the impersonal interpretation of third-person plural pronouns in specific contexts. There, an impersonal reading of third-person plural pronouns is open only to subjects of transitive and unergative verbs (where a theta-role is assigned externally).<sup>24</sup> Cf. (44):

- (44) a. *Transitive*  
 Ti hanno cercato: era un signore anziano  
 They have been looking for you: it was an elderly man
- b. *Unergative*  
 Prima, hanno telefonato: mi pareva tua sorella  
 Earlier, they telephoned: it seemed to me it was your sister
- c. *Ergative*  
 \*Sono venuti a vedere: era un signore anziano  
 They came to see: it was an elderly man
- d. *Psych-movement*  
 \*Hanno colpito il giornalista per l'estrema gentilezza: era il tuo amico

<sup>24</sup> Under this kind of interpretation of third-person plural pronouns, there is no commitment to semantic plurality. As the continuation of each sentence shows, the impersonal interpretation is compatible with there being a single individual satisfying the description (see Beninca' 1980; Belletti and Rizzi 1986). Examples (44a-c) and (44f) are from Beninca' (1980: 61), (44d) is adapted from Belletti and Rizzi (1986: section 1.2).

Beninca' (1980) and Jaeggli (1986b: 50) note that no impersonal interpretation is available in middles either. Differently from Jaeggli (1986b: 52), and in accord with Belletti and Rizzi (1986: section 1.2), we find an impersonal interpretation of a third-person plural subject impossible with raising (in specific contexts). Compare (44g). It is interesting that all of Jaeggli's examples with raising are generic rather than specific in time reference. These, as we will argue below, are characterized by a different interpretation of *arb*, compatible with derived subjects. An impersonal interpretation is equally impossible for us with inherent and true reflexives. Compare:

- (i) a. \*Ho saputo che si sono ammalati. Pare sia suo fratello  
 I learned that they got ill. It seems it is his brother  
 b. \*Si sono comprati i giudici. Pare sia stato l'avvocato  
 They bought the judges for themselves. It seems it was the lawyer

See, in particular, the minimal contrast between the latter and (ii):

- (ii) Hanno comprato i giudici. Pare sia stato l'avvocato  
 They bought the judges. It seems it was the lawyer

They impressed the journalist with their extreme kindness: it was your friend

e. *Copulative*

\*Ieri, sono stati villani con tutti: era tuo fratello

Yesterday they were rude to all: it was your brother

f. *Passive*

\*Sono stati catturati: era un ragazzo

They have been arrested: it was a boy

g. *Raising*

\*Gli sono sembrati (essere) in difficoltà: doveva essere Carlo

They appeared to him (to be) in difficulty: it must have been Carlo

The resemblance, however, is not complete. Besides the difference noted in Jaeggli (1986b: 54f.) and Belletti and Rizzi (1986: fn. 7),<sup>25</sup> the parallelism breaks down in at least one other context. While the *pure* impersonal interpretation is restored, in the *si* construction, if the ergative, psych-movement, copulative, passive, or raising verb is embedded in a context which suspends the specificity of the time reference, this is not true for the third-person plural construction. Consider the contrast between (45) and (46):

(45) a. *Ergative*

Se oggi, a Beirut, si è morti inutilmente(, ieri, a Belfast, non si è certo morti per una ragione sensata)

If today, in B., *si* has died in vain(, yesterday, in B., certainly *si* has not died for a reasonable motive)

b. *Psych-movement*

Se si è preoccupato il contingente dell'ONU (si è certamente fatto qualcosa di irregolare)

When *si* has worried the UN contingent (certainly something irregular was done)

c. *Copulative*

Quando si è sfiniti dalla fame (non si ragiona)

When *si* is worn out by hunger (one cannot reason properly)

<sup>25</sup> Belletti and Rizzi (1986) and Jaeggli (1986b: 54) point out that the impersonal interpretation of *si* (our [-arg] *si*), as well as that of PRO, and object pro, may include the speaker, whereas impersonal third-person plural pronouns exclude this possibility.

- d. *Passive*  
 Una volta che si è stati uccisi (cosa importa aver avuto ragione?)  
 Once *si* has been killed (it doesn't matter to have been right)
- e. *Raising*  
 Quando si è risultati non aver rispettato le convenzioni internazionali (si è automaticamente dalla parte del torto)  
 When *si* has turned out not to have respected international conventions (*si* is automatically in the wrong)
- (46) a. *Ergative*  
 \*Se sono venuti (era un signore anziano), un motivo ci sarà  
 If they came (it was an elderly man), there is a reason
- b. *Psych-movement*  
 \*Anche se hanno colpito il giornalista per l'estrema gentilezza (so che era il presidente), non conta  
 Even if they impressed the journalist with the extreme kindness (I know it was the president), it doesn't matter
- c. *Copulative*  
 \*?Se sono stati villani al telefono (era mio fratello), un motivo ci sarà stato  
 If they have been rude on the phone (it was my brother), there must be a reason
- d. *Passive*  
 \*Se sono stati arrestati (era un povero ragazzo), avranno potuto avere un avvocato, spero  
 If they have been arrested (it was a poor boy), they will have been able to have a lawyer, I hope
- e. *Raising*  
 \*Se sono sembrati (essere) in difficoltà (era il tuo amico), non è certo per colpa nostra  
 If they have turned out (to be) in difficulties (it was your friend), surely it was not our fault

Despite these differences,<sup>26</sup> the parallelism is sufficiently strong to suggest the presence, at some level, of a common property underlying the two *arb* constructions.

<sup>26</sup> Another difference between the two constructions, for which we have no adequate explanation, is that in the presence of a (tonic) reflexive pronoun an impersonal interpretation is lost in the third-person plural construction, though it is still possible in the *si* construction. Compare (i) vs. (ii):

Some light on this question is shed by the observation that the third-person plural construction enters a second *arb* usage. Belletti and Rizzi (1986: fn. 6) mention the existence of another interpretation of third-person plural pronouns, in generic contexts, which is close to universal quantification, where the first was close to existential quantification (e.g. *Qui hanno sempre rispettato gli americani* ‘Here they have always respected the Americans’). Starting from this observation, we would like to claim that these two usages, which will be seen to differ systematically in a number of ways (let us call them, for convenience, the ‘quasi-existential’ and ‘quasi-universal’ usages), are just two *contextual variants* of one and the same *arb* (indeed, to be found throughout the class of *arb* constructions).<sup>27</sup>

One important difference between the two usages is that the ‘quasi-universal’ one is apparently not constrained by theta-requirements. That is to say, we find the ‘quasi-universal’ interpretation of third-person plural pronouns to be possible also with verbs that do not assign an external theta-role. See (47):<sup>28</sup>

- (47) a. *Transitive*  
 Lì, odiano gli stranieri  
 There they hate foreigners

- (i) \**Qui hanno favorito se stessi. E' stato sicuramente Carlo.*  
 Here they have favored themselves. It was C. surely  
 (ii) ?*Qui, si è favorito se stessi*  
 Here *si* has favored themselves

<sup>27</sup> The unified approach to *arb* suggested here is reminiscent of Carlson's (1977) unified approach to (English) bare plurals, which also admit of a ‘quasi-universal’ (*Dogs run around in circles*) and a ‘quasi-existential’ (*Dogs are running around in circles*) interpretation. Like him, we will also suggest that the two interpretations relate to the particular tense and aspect of the sentence.

<sup>28</sup> Belletti and Rizzi (1986: fn. 6) claim that some contrast (albeit weaker than that present in the other usage) is still detectable in generic contexts, quoting the following examples:

- (i) *Qui, hanno sempre rispettato gli americani*  
 Here (people) always respected Americans  
 (ii) a. ?*Qui, sono sempre stati rispettati dagli americani*  
 Here (people) were always respected by Americans  
 b. ??*Qui mi sono sempre sembrati filoamericani*  
 Here (people) always to me seemed pro-American

It seems, however, that these cases imply some kind of repetition of a specific time reference. If a pure generic time reference is used, as in (47) in the text, all contrast disappears.



- b. *Unergative*  
Qui, lavorano anche di sabato  
Here they work even on Saturday
- c. *Ergative*  
Qui, vanno a scuola già a quattro anni  
Here they go to school when they are four years old
- d. *Psych-movement*  
(?)Qui, attirano i turisti anche senza volere  
Here they attract tourists even without wanting to
- e. *Copulative*  
In questo ufficio, sono molto gentili col pubblico  
In this office, they are very kind to the public
- f. *Passive*  
Qui, sono educati in un'atmosfera protestante molto rigida  
Here they are raised in a very strict Protestant atmosphere
- g. *Raising*  
Qui, sembrano ben disposti verso gli stranieri  
Here they seem to be favorably disposed toward foreigners
- h. *Reflexive*  
Qui, si fanno in quattro per aiutare  
Here they do their utmost to help

Here, differently from the quasi-existential interpretation, any continuation which implies the existence of a single individual satisfying the description gives rise to an ill-formed discourse (e.g. [\*] *Qui, sono gentili col pubblico: è quell'impiegato lì* "Here, they are kind with people: it is the clerk over there"). Also, the quasi-universal reading is lost if the time reference of the verb becomes specific (cf. *Sono (appena) andati a scuola in bicicletta* "They have [just] gone to school by bike"), but is restored if it is embedded in a context which suspends such specificity (*Se qui sono andati a scuola in bicicletta, si ricorderanno come si fa* "If they have gone to school by bike, they will remember how to do it"). These options are unavailable to the quasi-existential reading, as noted above.

We can summarize the different properties of the two usages as follows:

|      | <i>Quasi-existential interpretation</i>            | <i>Quasi-universal interpretation</i>                 |
|------|----------------------------------------------------|-------------------------------------------------------|
| (48) | a. compatible with specific time reference (49a–b) | a'. incompatible with specific time reference (44c–g) |
|      | b. incompatible with generic                       | b'. compatible with generic                           |

|    |                                                                                       |     |                                                                                            |
|----|---------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------|
|    | time reference (47)                                                                   |     | time reference (47)                                                                        |
| c. | incompatible with contexts<br>suspending the specificity of<br>the time reference     | c'. | compatible with contexts<br>suspending the specificity<br>of the time reference            |
| d. | compatible with the existence<br>of a single individual<br>satisfying the description | d'. | incompatible with the<br>existence of a single<br>individual satisfying the<br>description |
| e. | restricted to [NP, IP] theta-<br>marked in D-structure                                | e'. | not restricted to [NP, IP]<br>theta-marked in<br>D-structure                               |

Items (48a–c/a'–c') can in fact be seen as distinct effects of the same property. The key to an understanding of the two different *arb* interpretations and of their different clusters of properties appears to be the different semantics of the generic and specific time reference. As noted in the literature, in generic sentences, an indeterminate subject is understood as (roughly) equivalent to a universal, not an existential, quantifier.<sup>29</sup> (*A rhinoceros eats small snakes* is thus roughly equivalent to “For every *x*, *x* a rhinoceros, *x* (characteristically) eats small snakes.”) In sentences with specific time reference (*A rhinoceros is eating small snakes*), instead, an indeterminate subject cannot be so interpreted (\*“For every *x*, *x* a rhinoceros, *x* is eating small snakes”). The interpretation is rather that of an existential quantifier (“There is an *x*, *x* a rhinoceros, such that *x* is eating small snakes”).

In this light, it seems plausible to assume that *arb* (or impersonal) indeterminate subjects acquire the two different interpretations of quasi-universal and quasi-existential quantification as a function of the

<sup>29</sup> As Luigi Rizzi pointed out, this is reminiscent of Heim’s notion of unselective binding: the zero subject of (47) looks like a variable unselectively bound by the universal or existential tense operator.

Note that in generic sentences, as opposed to specific time reference sentences, the tense operator is roughly equivalent (if anything) to a universal quantifier (over times). As observed in Lawler (1973), for example, a generic sentence such as (i):

(i) Here a child goes to school by car

is false not only if the property is satisfied by only one child, but also if (most) children go to school by car one day out of six, thus suggesting a logical structure roughly equivalent to “For all (most) occasions . . .” For a general discussion of generic sentences, see Lawler (1973), Dahl (1975), and Nunberg and Pan (1975).

different time reference (generic and specific, respectively) of the tense/aspect of their sentence. In other words, they can be seen as two contextual variants of a single *arb* entity.

Under this assumption, the first four properties of the two interpretations of *arb* follow as simple consequences of this primitive difference. What about (48e-e')? Why should the quasi-existential interpretation, as opposed to the quasi-universal one, be restricted to D-structure subjects?

Jackendoff (1972: 310) notes that the interpretation of generics must be taken to apply at S-structure. According to him, the S-structure subject orientation of generics becomes apparent if we convert a generic sentence such as the one given above into a passive:

(49) Small snakes are eaten by a rhinoceros

In this sentence “the *by*-phrase [is] not generic in the same sense as [its] counterpart . . .; the surface subject is the thing whose properties are being described. We conclude that genericity is *determined at surface structure*” (our emphasis). If so, it is not surprising that a quasi-universal interpretation is available to surface *arb* subjects, which are not theta-marked in [NP, IP] at D-structure.

Concerning (48e), we will assume, instead (and without much motivation), that the quasi-existential interpretation of *arb* needs to be matched with INFL at *D-structure* (perhaps in the form of absorption of certain features by INFL – see Otero 1986). If we assume that, the availability of this kind of interpretation with transitive and unergative subjects only follows directly.

Although many aspects of this conception of *arb* may be wrong (we hope not the conception itself), this level of probing is sufficient, it seems, to draw the correct empirical consequences for the arbitrary third-person plural construction, as we have seen, as well as for the other *arb* constructions which we will briefly discuss now.

### 3.2 *The arbitrary second-person singular pronoun construction*

A prediction of the (rough) analysis of *arb* sketched in the previous section is that any other *arb* construction that does not restrict *arb* interpretation to [NP, IP] theta-marked in D-structure, will necessarily display the rest of the properties of the right column of (48), not those of the left column. This appears confirmed by the *arb* use of second-person singular

pronouns, which can be used impersonally with all types of verbs. See, for example:

- (50) a. *Lì lavori poco e sei pagato bene*  
 There you work little and you are paid well  
 b. *Se nasci ricco, hai qualche vantaggio in più*  
 If you are born rich, you have an additional advantage

The interpretation, as expected under the present analysis, is necessarily that of a quasi-universal quantification (“For all *x*’s, there, *x* works little and is paid well . . .”), not that of a quasi-existential one (\*“There is an *x* such that, if *x* works little . . .”).

Secondly, this *arb* interpretation is incompatible with specific time reference (48a’). Example (51) has only a personal interpretation:

- (51) *Lì hai lavorato poco e sei stato pagato bene*  
 There you worked little and you were paid well

The pure *arb* interpretation is, however, restored when (51) is embedded in a context which suspends the specificity of the time reference (48c’):

- (52) *Quando hai lavorato poco e sei stato pagato bene, . . .*  
 When you worked little and you were paid well, . . .

The existence of a single individual satisfying the description (48d’) leads to unacceptability:

- (53) \**Qui sei sempre a tuo agio: mi pare Giorgio*  
 Here you are always at your ease: it looks to me it is G.

Finally, it can be used in sentences with generic time reference:<sup>30</sup>

- (54) *Qui puoi anche morire per strada e nessuno ti aiuta*  
 Here you can also die in the street and nobody helps you

### 3.3 *Arb in non [NP, IP] positions*

Another consequence of the above analysis of *arb* is that non [NP, IP] positions interpreted impersonally (if any) should only allow for the

<sup>30</sup> We are not implying that third-person plural and second-person singular pronouns with “quasi-universal” *arb* interpretation are completely identical in interpretation and function, or that they should be freely interchangeable in the same contexts.

quasi-universal interpretation, not the quasi-existential one. The reason for this is that the quasi-existential interpretation requires *arb* to be in (a CHAIN with) [NP, IP] (and INFL) at D-structure, as noted (possibly to allow INFL to absorb some of the NP's features). And *arb* elements in non [NP, IP] positions clearly do not satisfy the requirement.

This prediction appears to be confirmed. Second-person singular pronouns do permit an impersonal interpretation in non [NP, IP] positions, and this is only "quasi-universal." See (54) above and (55):

- (55) Pretendono sempre tutto da te e non ti danno niente  
They always want everything from you and give you nothing

Consider now third-person plural pronouns. Jaeggli (1986b: 48) notes that one such pronoun "in object position associated with a clitic pronoun on the verb is always interpreted as definite in reference," and "the same is true of a *pro* subject of a small clause associated with a clitic on the governing verb." What is clear is that they cannot have a quasi-existential interpretation (as we indeed expect):

- (56) a. \*Li ho visti per strada: era Giovanni, credo  
I have seen them in the street: I think it was G.  
b. \*Li considerai interessanti: era un vecchio professore  
I considered them interesting: it was an elderly professor

Examples (56a–b) cannot mean "I have seen someone in the street: it was G.," "I considered someone interesting: it was an elderly professor."

However, nothing in the analysis of *arb* sketched here would seem to prevent an object third-person plural *pro* from being used impersonally in the quasi-universal interpretation (though nothing of course forces its existence either).

As a matter of empirical fact, this latter use is attested, unexpectedly for Jaeggli (1986b), but not under the above analysis of *arb*.<sup>31</sup>

- (57) a. In questo ufficio, non li smuovi neanche col fucile  
In this office, you don't move them even with a rifle  
b. In questo ufficio, tendono a pensare che *li* si consideri degli sfaticati  
In this office, they tend to think that you consider them idlers

<sup>31</sup> Incidentally, this impersonal use of an object clitic renders the approach pursued in Jaeggli (1986b) problematic.

Another interesting piece of evidence is provided by the null object with *arb* interpretation studied in detail in Rizzi (1986a):

- (58) a. Il bel tempo invoglia pro a restare  
           The nice weather induces to stay  
       b. Un generale può costringere pro a obbedire ai suoi ordini  
           A general can force to obey his orders

This instance of *arb* pro has only the quasi-universal interpretation, as we expect. Rizzi in fact notes (p. 504) that it cannot occur in specific time contexts, due to the fact that a quasi-universal interpretation normally requires generic time reference:

- (59) \*Alle 5, il generale ha costretto pro a obbedire ai suoi ordini  
       At 5, the general has forced to obey his orders

The further question, however, is: why can this instance of *arb* not be used in specific time contexts such as (59) in its quasi-existential interpretation (“... has forced someone ...”), which was seen above to be compatible with such contexts? The possibility is excluded if, as we suggested, the quasi-existential interpretation of a NP requires it to be in (a CHAIN with) [NP, IP] (and INFL) at D-structure.

The lack of the quasi-existential reading for *arb* object pros (whence the lack of any interpretation for (59)) is, on this view, not at all accidental.

### 3.4 *The first-person plural interpretation of si*

Let us go back to our original problem. Why is it the case that impersonal *si* loses its pure *arb* interpretation and acquires a first-person plural interpretation in specific contexts with ergative, psych-movement, copulative, passive, and raising verbs? (Compare the discussion around (43).)

The theory of *arb* sketched in section 3.1 answers part of the question. Under the assumption that *si* is an impersonal, *arb*, element, it is to be expected that no *arb* interpretation will be available to *si* in *specific time contexts* with such verbs, just as it was not with third-person plural pronouns. We know that the quasi-universal use of *arb* is incompatible with specific time reference and that its quasi-existential use is restricted to the [NP, IP] position of just transitive and unergative verbs; hence the lack of a pure *arb* interpretation for (43c–g) above. This theory of *arb*, however, does not yet provide a clue as to why in the context (43c–g) we

find what we may describe as roughly a first-person plural interpretation, that is one which denotes a plural set including, or involving, the speaker.

We tentatively interpret this as a strategy to reconcile the requirement that specific sentences have a referential subject with the requirement imposed by the impersonal, *arb*, meaning of *si*. In a sense, first-person plural pro represents the best approximation of a specific, referential, pronoun to an *arb* pronoun. This appears to be due to the fact, as Paola Beninca' points out, that *we* is the only combination of person and number features which may encompass all the other feature combinations. In its inclusive reading, *we* may comprise first, second, and third person, while all the others exclude some. In other words, it is the most general (and generic) of all personal referential pronouns.

Apart from this intuitive interpretation, there is some independent evidence that *si* in these contexts, identifies a first-person plural pro in [NP, IP]:

1 It is incompatible with morphologically third-person *arb* elements like *se stessi*- and *propri*- (see the text before (26) above).<sup>32</sup>

- (60) a. \*?Amici! Un minuto fa, si è stati abbandonati a se stessi  
My friends! One minute ago *si* was ("we were") abandoned to oneself  
b. \*?Non ricordate? Quel giorno si fu consegnati ai propri nemici  
Don't you remember? That day *si* was handed to one's enemies

2 It may cooccur with first-person plural emphatic pronouns (see Burzio 1986: 109–15):

- (61) Si è stati invitati anche noi  
*si* was invited we too

3 It may "resume" a (left-dislocated or relativized) first-person plural pronoun ((62b) is from Burzio 1981: 146):

- (62) a. Noi, ha detto che non si è stati invitati  
We, he said that *si* wasn't invited  
b. Proprio noi, che tutti ammettevano la possibilità che si sarebbe vinto le Olimpiadi senza difficoltà, ...

<sup>32</sup> Rather *noi stessi* ("ourselves") and *nostri* ("our") must be used.

Just us, who everybody admitted the possibility that *si* would have won the Olympic Games without any difficulty ...

4 It may control a PRO with first-person plural features (as evidenced by the embedded reflexive clitic)

- (63) Non *si* poteva ubriacarci ogni mattina  
 (from Skytte 1983: 88)  
*Si* could not get ourselves drunk every morning

5 It gives rise to disjoint reference effects with first-person pronouns (see Stefanini 1982: fn. 15 for a similar observation concerning Fiorentino):

- (64) a. \**Ieri sera, mi/ci si è stati presentati troppo in fretta*  
 Last night, *si* was introduced to me/to us too much in a hurry  
 b. \**Lì, non mi/ci si è stati simpatici*  
 There *si* wasn't agreeable to me/to us

The ungrammaticality of (64) and the like follows from the "Unlike Person Constraint" of Postal (1966) subsumed under (certain versions of) principle B of Binding Theory, if, crucially, *si* identifies a first-person plural pro in [NP, IP] (see \**Noi mi siamo stati presentati troppo in fretta* "We have been introduced to me too much in a hurry," \**Noi non mi siamo stati simpatici* "We haven't been agreeable with me").

Example (64) contrasts sharply with (65):<sup>33</sup>

- (65) *Mi si è scritto per dirmi di venire*  
*si* has written to me to tell me to come

where *si* can be interpreted as an instance of the quasi-existential quantification reading, because it is found in an unergative context. Thus, no first-person plural interpretation is forced and no disjoint reference effect ensues.<sup>34</sup>

<sup>33</sup> First-person plural (indirect) object clitic are slightly marginal:

(i) ?*Ci si è scritto per dirci di venire*  
 To-us *si* has written to tell us to come

This is possibly related to the interfering fact that *ci* is also used as the reflexive form of *si*.  
<sup>34</sup> In certain Tuscan dialects, most typically Fiorentino, *si* has virtually replaced the ordinary first-person plural ending of the verb (\**andiamo* → *si va*) (see Rohlf's 1968: 234, 252; Stefanini 1982: 98f. and fns. 11, 12, and 13; see also Lepschy and Lepschy 1977: 217–19).



If we take the pure *arb*-first-person plural semantic switch in these contexts to have no effect on the *morphological* features of *si*, verbal agreement will follow the standard default procedure (whence the third-person singular inflection on the verb). Past participle agreement, which is induced by first-person plural *pro* will be masculine or feminine (according to the gender of *pro*) (see Lepschy and Lepschy 1977: 218).

### 3.5 French *on*

Essentially the same account extends to the French impersonal (phonological) subject clitic *on*. Like *si*, and for the same reasons as *si*, *on* necessarily takes a first-person plural interpretation in specific time contexts with ergative, psych-movement, copulative, passive, and raising verbs (cf. (66c–g), which correspond point by point with (43)). It has a quasi-existential interpretation in specific contexts with transitive and unergative verbs (66a–b), and a quasi-universal interpretation in generic contexts (cf. (67)):

- (66) a. Aujourd’hui à Beyrouth, *on* a tué un innocent  
 b. Aujourd’hui à Beyrouth, *on* a tiré toute la matinée  
 c. (\*)Aujourd’hui à Beyrouth, *on* est mort inutilement  
 d. Aujourd’hui à Beyrouth, *on* préoccupe le contingent de l’ONU  
 e. Aujourd’hui à Beyrouth, *on* est épuisé par la faim  
 f. (\*)Aujourd’hui à Beyrouth, *on* a été atrocement tué(s)  
 g. Aujourd’hui à Beyrouth, *on* a semblé ne pas avoir respecté les conventions internationales
- (67) On n’est jamais contents  
 “One is never happy”

It triggers third-person singular agreement with the verb (like *si*) and with clitic reflexives, but it can perhaps be in a chain (Kayne 1984: 227, fn. 9) with a first-person plural NP. Compare (68), from Kayne (1972: fn. 32):

- (68) Pourquoi Jean et moi ne s’amuserait-on pas à la soirée?  
 Why J. and me shouldn’t enjoy at the dinner party?

3.6 Arb *PRO*

Another instance of *arb*, arbitrary *PRO*, shows a similar, albeit more complex, picture. It is interpreted as a quasi-universal quantifier when the finite verb that takes the infinitival clause as an argument is generic:

- (69) a. [PRO tacere] vuol dire [PRO acconsentire]  
 To remain silent means to consent  
 b. [PRO essere stati accusati] per me non significa  
 necessariamente [PRO essere colpevoli]  
 Having been accused does not mean for me being guilty  
 c. [PRO essere di nobile origine] non può comunque giustificare  
 certe azioni  
 To be of noble extraction cannot justify certain acts in any  
 event

When the finite *V* is specific in time reference, a quasi-existential interpretation is possible, as expected:

- (70) Avergli risposto sgarbatamente (mi pare fosse stato Carlo) ebbe  
 l'effetto di una provocazione<sup>35</sup>  
 To have answered him rudely (I think it was C.) had the effect of  
 a provocation

even though the interpretation often tends to be either coreferential with a previously delimited set of people or is intended as a first-person plural pronoun. (In all of these cases, care should be taken to eschew matrix predicates which allow for implicit arguments in order to focus on genuine *arb PRO*.)

What is of interest is that, as with other kinds of *arb*, ergative, psych-movement, copulative, passive, and raising verbs trigger the loss of the quasi-existential interpretation and induce a first-person plural reading (although a [discourse] coreferential reading is perhaps also possible):

- (71) a. Partire in ritardo (\*mi pare fosse stato Carlo) ha significato  
 perdere tutto  
 To have left late (I think it was C.) meant to lose everything  
 b. L'aver interessato la stampa (\*era, come al solito, Carlo) è  
 stato interpretato come indizio di colpevolezza

<sup>35</sup> Note that insertion of *mi pare fosse ... Carlo* ("It seems to me it was C.") in the sentences of (69) leads to unacceptability, as we expect.

- To have interested the newspapers (as usual, it was C.) has been interpreted as a sign of guilt
- c. Essere gentili con lui (\*è stato, credo, Mario) ha voluto dire irritarlo  
 To be kind with him (it was, I think, M.) implied irritating him
- d. Essere accusati di parzialità (\*era Mario) non ha contato  
 To be accused of being biased (it was M.) did not matter
- e. Risultare idonei (\*mi pare fosse Mario) non ha avuto conseguenze  
 To prove suitable (I think it was M.) had no consequences

We will not pursue the discussion of the interpretation of *arb* PRO any further here. Many of its properties are still poorly understood. What was of interest here was the parallelism between PRO and the other *arb* elements.<sup>36</sup>

To summarize: in this section we have seen that the syntactic contrast noted in sections 1 and 2 between transitive/unergative verbs and all the other verbs is mirrored by a comparable contrast in the interpretation of *si* in sentences with specific time reference. The latter contrast was reduced to the same principles underlying the former in interaction with a general theory of *arb* interpretation.

#### 4 *Si* in transitive contexts

##### 4.1 "Agreement and non-agreement with the object"

Within the standard analysis of impersonal *si*, *si* in transitive contexts is generally taken to avail itself of either one of two options.<sup>37</sup> It either retains the theta- and Case properties of impersonal *si* in intransitive contexts (thus absorbing the external theta-role and Nominative Case) or it absorbs the Accusative Case while still absorbing the external

<sup>36</sup> Another well-known feature of *arb*, shared, as noted, by all of its realizations (*si*, *on*, PRO, object pro *arb*, etc.), is its limitation to humans. As Paola Beninca' observes, there is another case where the interpretation is necessarily limited to humans: that of quantified NPs with a missing head in governed positions (*Ho visto tutti* "I saw all"; *Sono già arrivati molti* "Have already arrived many"; see Belletti and Rizzi 1981: fn. 9; Cinque 1986: fn. 12). Perhaps, they too involve an *arb* pro, although they can occur in contexts of specific time reference.

<sup>37</sup> See, for instance, Belletti (1982a) and Chomsky (1981a).

theta-role. As often noted, in the latter option *si* comes to perform a function closely resembling that of passive morphology.

The Accusative rather than Nominative Case absorbing property of *si* is generally regarded as entirely optional (see the references cited in note 37). Whence the dual possibility shown in (72) (where the option is not taken) and (73) (where it is):

- (72) a. Qui, *si* mangia spesso gli spaghetti  
       Here *si* often eats spaghetti  
       b. Qui, *li si* mangia spesso  
       Here *si* often eats them
- (73) a. Qui, gli spaghetti *si* mangiano spesso  
       Here spaghetti *si* often eat (are eaten)  
       b. Qui, *si* mangiano spesso gli spaghetti  
       Here *si* eat often spaghetti

In this view, the lack of agreement between the V and the object NP in (72a) and the possibility of an Accusative clitic in (72b) are both direct consequences of the fact that *si* has absorbed Nominative Case, leaving the verb's capability of assigning Accusative Case untouched.

Where Accusative Case is absorbed, the object NP must become subject, to be assigned Nominative Case. As a subject, it may be in [NP, IP] (73a) or in the "inverted" position (73b), in the specific case either in [NP, VP] or in a position adjoined to VP (see Belletti and Rizzi 1981; Burzio 1981, 1986).

Despite its simplicity and appeal, this general approach raises, however, a number of questions. First, the two variants (with and without "agreement with the object") are not equivalent. As many grammatical descriptions of Italian note,<sup>38</sup> the unmarked case is for the verb to agree with the object, the non-agreement option being possible in certain cases (cf. (72), (74)) and marginal in others (cf. (75)–(76)) (a comparable situation is apparently found in Spanish):

- (74) a. Da qui, *si* vedono le montagne  
       b. Da qui, *si* vede le montagne  
       From here *si* see(s) the mountains
- (75) a. In Italia non *si* vedono molti indiani

<sup>38</sup> See, for example, Lepschy and Lepschy (1977: 216) and Schwarze (1986: 106, 113).

- b. ??In Italia non si vede molti indiani  
 In Italy, *si* do(es) not see many Indians
- (76) a. In questo negozio, non si fanno mai sconti  
 b. ??In questo negozio non si fa mai sconti  
 In this shop, *si* never makes discounts

In the second place, this approach does not clarify why *si* can optionally absorb either Nominative or Accusative, indifferently, when both are present. This is a quite unprecedented state of affairs. Passive morphology, for example, does not have the same option, as can be seen from those languages such as German that also allow for impersonal passives. In German, in those environments where both (structural) Accusative and Nominative are assigned, passive morphology may only absorb the Accusative:<sup>39</sup>

- (77) a. Der Brief wurde von Ihnen geschrieben  
 The letter (Nom.) was by them written  
 b. \*Es wurde den Brief von Ihnen geschrieben  
 It was the letter (Acc.) by them written

Thirdly, and more importantly, the idea that *si* can retain in transitive contexts the properties it has in unergative ones (those of absorbing the external theta-role and Nominative) appears to run counter a well-established generalization (Burzio 1981: chapter 3, 1986: section 3.1). According to this generalization “all and only the verbs that can assign

<sup>39</sup> This follows, in fact, from “Burzio’s generalization,” which we address directly in connection with *si*. We take French to pattern like German, despite *prima facie* evidence. In such cases as (i):

- (i) Il a été écrit une lettre  
 It was written a letter

which look like impersonal passive forms of a transitive verb, we assume, following Belletti (1988), that the NP in [NP, VP] does not receive (structural) Accusative, but an inherent Case (possibly Partitive). See also Pollock (1981, 1982, 1984) and section 5.1 below for discussion.

Abraham (1986) notes the existence of certain cases in German where Nominative is absorbed even in the presence of an Accusative object:

- (i) Hier darf nicht Teppiche geklopft  
 Here must (sg.) not carpets (Acc. pl.) beaten

Interestingly he adds that “intuitively, there is a flair of an incorporated [object] to be noted in such cases warranting the canonic compounding orthography in German (*Hier darf nicht teppichgeklopft*).” Which suggests that these cases are not genuine counter-examples. See his article for further discussion.

theta-role to the subject can assign (Accusative) case to an object” (1986: 178).

The one half of the generalization that is relevant here is that by which *only* verbs which assign a theta-role to [NP, IP] can assign Accusative Case. Following Burzio, we can express this as in (78):

(78)  $-\text{theta}_s \rightarrow -A$

As he notes, in the context of “NP<sub>-theta</sub> V NP” “where ‘NP<sub>-theta</sub>’ is a NP which is not assigned a theta-role, ... the NP to the right of V ... will never appear in the Accusative” (1986: 179). An observation true as a matter of empirical fact.

Now, if such cases as (72a–b) above were to contain [+arg] *si*, which, as a [NP, IP] clitic, “withholds” the external theta-role (and absorbs Nominative) while permitting the verb to assign the Accusative, they would represent the only case contradicting (78). The NP in [NP, VP] would still receive Accusative despite the fact that the NP in [NP, IP] is assigned no theta-role.<sup>40</sup>

To reconcile “Burzio’s generalization” with the idea that *si* in (72) is [+arg] *si* (absorbing the external theta-role and Nominative), one would have to say either that the external theta-role is first assigned to [NP, IP] and then transmitted from there to *si*, or, as Luigi Rizzi suggested to me, that “Burzio’s generalization” simply makes reference to the assignment of a VP-external theta-role, and that theta-role absorption by *si* (in INFL) qualifies as such an assignment.

There is, however, independent empirical evidence that, in those transitive contexts where no “agreement with the object” takes place, *si* is [–arg] rather than [+arg] (hence also evidence for our interpretation of “Burzio’s generalization”). [–arg] *si* will not absorb the external theta-role, so that the verb will be able to assign Accusative unproblematically.

<sup>40</sup> Classical Latin (in which passive morphology is used where in Italian a reflexive form or *si* is used to construct ergative and impersonal verbs) would seem to provide a counter-example to “Burzio’s generalization.” In such forms as *Pallam induitur* (“He puts on the cloak”), corresponding to Italian *si mette il mantello*, the verb appears to assign Accusative even though [NP, S] is presumably not assigned the external theta-role (as a function of passive morphology). This, however, can either mean that passive morphology has the option of absorbing a Case distinct from (structural) Accusative (perhaps a benefactive Dative here – see Kayne 1986a) or that the Accusative of *pallam* is an inherent Accusative. See Ernout and Thomas (1953: 202): “Il est rare qu’un médio-passif – en dehors du type *pallam induitur* (section 38) – ait un complément direct d’objet à l’accusatif: dans Hor., A.P.302: *purgor bilem* ‘je purge ma bile’ ... , on peut reconnaître aussi un accusatif grec de relation: ‘je me purge quant à ma bile.’”

Let us consider the evidence. If indeed transitive contexts with no “agreement with the object” can only contain [-arg] *si* to comply with “Burzio’s generalization,” an immediate prediction follows. As [-arg] *si* is barred from untensed contexts (see section 2 above), transitive verbs which fail to “agree with the object” should be uniformly excluded in such contexts. This is indeed what we find. See the systematic contrast between (79) and (80), where “agreement with the object” obtains (which renders it possible for *si* to be [+arg], as we argue below):

- (79) a. \**Sembra/Deve essersi venduto poche automobili*  
It seems/must *si* have been sold few cars  
b. \**Ritengo essersi venduto poche automobili*  
I esteem *si* to have been sold few cars  
c. \*?*Essendosi venduto poche automobili, ...*  
Having *si* sold few cars, ...
- (80) a. *Sembrano/Devono essersi vendute poche automobili*  
b. *Ritengo essersi vendute poche automobili*  
c. *Essendosi vendute poche automobili, ...*

See also the ungrammaticality of (81)–(82), where, for different reasons, no “agreement with the object” is possible:<sup>41</sup>

- (81) a. \**Sembra/Deve esserlesi vendute a un prezzo eccessivo*  
It seems *si* them to have sold at an excessive price

<sup>41</sup> See Lepschy (1986: 146), where the illformedness of such cases as (i) below, of the same type of (81a) in the text, is noted:

- (i) \**Può capirlasi*  
It is possible one to understand it

Example (i) should in principle be possible given the wellformedness of (iia–c):

- (ii) a. *Si può capirla*  
One can understand it  
b. *Può capirsi*  
It can be understood

In a number of very perceptive works, Lepschy (1974, 1976, 1984, 1986) has gathered substantial syntactic and semantic evidence to distinguish, in transitive contexts, an impersonal and a passive *si*. Note that the illformedness of (81) and (i) cannot be due to the cluster of clitics, since *Le si è vendute* is grammatical, nor to the fact that such a cluster is found in an embedded context, since (iia–b) are perfectly acceptable:

- (iii) a. *Potrebbe esserglisi venduta una casa*  
It could to him be sold a house  
b. *Ritengo esserglisi venduta la casa ad un prezzo troppo alto*  
I esteem *si* to have sold him the house at too high a price

- b. \*Ritengo esserlesi vendute ad un prezzo eccessivo  
I esteem *si* them to have sold at an excessive price
- c. \*Essendolesi vendute ad un prezzo eccessivo, ...  
*si* them having sold at an excessive price, ...
- (82) a. \*Quando risulta essersi rovinato anche se stessi, ...<sup>42</sup>  
When it turns out *si* to have ruined even themselves, ...  
(cf. *Quando si è rovinato anche se stessi, ...*)
- b. \*Ritengo essersi rovinato anche se stessi  
I esteem *si* to have ruined even themselves
- c. \*Essendosi rovinato anche se stessi, ...  
*si* having ruined even themselves, ...

If both (80) above, where “agreement with the object” takes place, and (79), where it does not, were to be analyzed as containing the same type of *si* ([+arg] *si*), the contrast in untensed contexts between the two variants, with and without “agreement,” would be rather surprising. The contrast follows instead if we take the former to contain [+arg] *si* and the latter to contain [-arg] *si*, a result consistent with the requirements imposed by (a certain interpretation of) Burzio’s generalization, as noted.

Let us turn now to consider in more detail the variant with “agreement between the verb and the object.”

#### 4.2 *Passive and middle si*

Consider (73) again:

- (73) a. Qui, gli spaghetti *si* mangiano spesso  
b. Qui, *si* mangiano spesso gli spaghetti

The fact that the D-structure object NP determines agreement with the finite verb suggests that this NP is the S-structure subject. Although this cannot be verified directly (see Burzio 1986: chapter 1, fn. 35), we assume that the NP is assigned Nominative Case, given that only Nominative phrases are able to determine agreement in Italian.

This implies both that Accusative is not assigned (otherwise the NP would receive two conflicting Cases) and that [NP, IP] is non-thematic (otherwise the NP could not move to [NP, IP] – cf. (73a)). In the classical

<sup>42</sup> The impossibility for *se stessi* (“themselves”) to become a subject is presumably a consequence of principle A of Binding Theory.



analysis, this is regarded as an effect of the presence of *si*, which, much like passive morphology in this case, comes to absorb Accusative and the external theta-role.

As Burzio notes, however, the ungrammaticality of such cases as (83):

- (83) \**Quei prigionieri<sub>i</sub> vorrebbero [PRO<sub>i</sub> essersi già liberati e<sub>i</sub>]*  
Those prisoners would want *si* to be already freed

does not follow unless we assume that *si* continues to require Nominative Case as in (2b)(= \**Sarebbe meglio lavorarsi un po' di più* "It would be better *si* to work a bit more"). See his discussion in section 1.6.2 and note 41 of chapter 1 of Burzio (1986).

A solution to this apparent paradox (*si* appears to absorb both Accusative and Nominative, with Nominative being in fact shared by *si* and the NP determining agreement) is suggested in Chomsky (1986a). Suppose that in such cases as (84)–(85)

- (84) *Gli spaghetti si sono già comprati*  
The spaghettis *si* are already bought ("... have already been bought")
- (85) *Gli spaghetti sembrano essersi già comprati*  
The spaghettis seem *si* to be already bought ("... to have been bought")

*si* is [+arg]. As before, this means that *si* will require to be in a CHAIN assigned NOM and will withhold the external theta-role. The latter property, under "Burzio's generalization" has the further consequence that the verb will simply lose its capacity to assign Accusative. Thus Accusative does not need to be "absorbed" by some particular element. If the external theta-role is withheld by *si*, [NP, IP] is not a theta-position and the NP *gli spaghetti* may thus be moved to it. The competition of *si* and the NP in [NP, IP] for NOM is only apparent if we take the Visibility Condition of Chomsky (1981a, 1986a) to simply require that a lexical NP be part of a CHAIN assigned Case. In (84)–(85), *si* and the NP *gli spaghetti* are both in a distinct CHAIN, to which NOM is assigned (the CHAIN matrix subject, [embedded subject], *si*, and the chain matrix subject, [embedded subject], object, respectively), "so that we have no overlapping chains, but overlapping CHAINS" (Chomsky 1986a: 217).<sup>43</sup>

<sup>43</sup> I am indebted to Luigi Rizzi for discussions that clarified this issue.

In conclusion, we have found both theoretical and empirical reasons to analyze the *si* in transitive contexts that have “no agreement with the object” as [-arg], and the *si* of transitive contexts that have “agreement with the object” as [+arg]. Under that analysis, their respective properties were seen to follow directly.

There is in fact evidence, to be reviewed directly, that a pure passivizer use of *si* also exists autonomously (in what we will call *middle* structures, for reasons that will become apparent shortly). What the facts seem to indicate, however, is that such pure passivizer (or middle) use of *si* is not available in all cases. Let us consider the evidence distinguishing in transitive contexts ([+arg]) impersonal *si*, which for ease of reference we shall call *impersonal-passive si*, from *middle si*.

The first relevant observation concerns one aspect of the interpretation of passive *si* constructions. With specific time reference, these structures invariably imply that an agent took part in the event (whatever the verb is):

- (86) a. Questo vestito *si* lavò facilmente, sembra  
This suit *si* washed easily, it seems  
b. Questo tavolino *si* trasportò facilmente, pare  
This table *si* transported easily, it seems  
c. Il nemico *si* temette senza ragione  
The enemy *si* feared without reason  
d. Carlo *si* invitò con estrema difficoltà, sembra  
C. *si* invited with extreme difficulty, it seems

In contexts of generic time reference, instead, the construction admits (with certain verbs only) of a reading where the agent is put into the background, as it were, and the sentence predicates an inherent property of the subject.<sup>44</sup> Cf. (87):

- (87) a. Questo vestito *si* lava facilmente  
This suit *si* washes easily  
b. Questo tavolino *si* trasporta facilmente  
This table *si* transports easily

<sup>44</sup> This should not be taken to mean that no agent is implied, as with ergatives (see Keyser and Roeper 1984), only that no *actual* agent need exist. Following Hale and Keyser (1986), we may take the difference between middles and ergatives to descend from the fact that an agent is present only in the lexical conceptual structure of the former class of verbs (though it fails to be mapped to the theta-grid of the verb).

where the verb *predicates* a property of the subject (that it is *washable, transportable*), which is true regardless of the fact that someone has ever washed/transported it in the past, or will ever wash/transport it in the future. This recalls the similar contrast found with middles in other languages (e.g. English), where the middle construction is possible only with generic time reference (and a limited class of verbs).<sup>45</sup>

Other verbs (such as those in (88)) are less prone, even in generic contexts, to an interpretation that “backgrounds” the agent to simply predicate a property of the subject (“The enemy is ‘fearable,’” “Carlo is ‘invitable’”).

- (88) a. Neanche il nemico si uccide senza rimorsi  
Not even the enemy *si* kills without remorse  
b. Carlo si odia facilmente  
C. *si* hates easily  
c. Mario si festeggia con estrema difficoltà  
M. celebrates with extreme difficulty

The contrast is admittedly rather subtle, but it becomes much sharper in untensed contexts. Compare (89) with (90):<sup>46</sup>

- (89) a. (?)Questo vestito ha il vantaggio di lavarsi molto più facilmente di altri  
This suit has the advantage of washing more easily than others

<sup>45</sup> See Fiengo (1974), Keyser and Roeper (1984: 384), Roberts (1985), Jaeggli (1986a), and Fellbaum and Zribi-Hertz (1987), among others.

<sup>46</sup> Presumably for aspectual reasons, the sentences become better if a modal like *potere/dovere* is inserted (e.g. *Questo tavolo ha la prerogativa di potersi trasportare anche su una bicicletta* “This table has the property of *si* being able to transport even on a bicycle”). Insertion of such modals does not seem to affect the status of (90), however. Compare:

- (i) \*Neanche il nemico ha la proprietà di potersi uccidere senza rimorsi  
Not even the enemy has the property of *si* being able to kill without remorse

As noted in the text below, one important factor limiting middle formation is animacy of the subject. See the rather sharp contrasts between (89c) and (ii a) below, and (90c) and (ii b), brought to my attention by Luigi Rizzi:

- (ii) a. \*Gianni ha la caratteristica di vedersi spesso alle feste  
G. has the property of *si* often seeing at the parties  
b. Certi anniversari hanno il pregio di potersi festeggiare in famiglia  
Certain anniversaries have the advantage of *si* being able to celebrate with the family

- b. (?)Questo tavolino ha il vantaggio di trasportarsi con estrema facilità  
This table has the advantage of transporting extremely easily
- c. (?)La luce gialla ha la proprietà di vedersi bene anche nella nebbia più fitta  
Yellow lights have the property of seeing (be seen) well even in the thickest fog
- (90) a. \*Neanche il nemico ha la proprietà di uccidersi senza rimorsi  
Not even the enemy has the property of *si* killing without remorse
- b. \*Carlo ha il vantaggio di odiarsi facilmente  
C. has the advantage of *si* hating easily
- c. \*Mario ha il difetto di festeggiarsi con estrema difficoltà  
M. has the defect of *si* celebrating with extreme difficulty

Infinitival control structures are generally taken to be incompatible with passive *si*.<sup>47</sup> Judging from (89)–(90), this is not quite true. The reason for this is that attention was focused on cases that did not lend themselves to a pure middle interpretation. Where the latter is possible, “passive *si*” appears to be compatible with control.<sup>48</sup>

<sup>47</sup> See Rizzi (1976b), Belletti (1982a), Burzio (1981, 1986), and Manzini (1983, 1986). See also the contrast in English between *\*Bureaucrats want to bribe easily*, noted in Keyser and Roeper (1984) and *This shirt has the advantage of washing easily*. This may suggest that the clause embedded under this type of verb fails to describe an event, so that the result is incompatible with the construction (see Keyser and Roeper 1984; Roberts 1985).

<sup>48</sup> Another infinitival context that is apparently compatible with middle *si* is the infinitival complement to perception verbs where Accusative Case is assigned to the embedded subject:

- (i) a. Non ho mai visto spendersi così tanti soldi come quest’anno  
I’ve never seen *si* spend so much money as this year
- b. Non ho mai visto acquistarsi così tante merci come quest’anno  
I’ve never seen *si* purchase so many goods as this year

Note that these are apparent counterexamples to Manzini’s (1986: 244) observation that passive *si* is impossible in exceptional Case-marking contexts; but they are not if her observation is taken to cover just impersonal-passive *si*, not middle *si*. For reasons that we do not understand (i a–b) become unacceptable if the Accusative NP is cliticized to the matrix verb. See (ii a–b), pointed out to me by one reviewer:

- (ii) a. \*Non li ho mai visti spendersi così allegramente come quest’anno  
I’ve never seen them *si* spend so merrily as this year
- b. \*Non le ho mai viste acquistarsi così alla leggera come quest’anno  
I’ve never seen them *si* purchase so light-heartedly as this year

Suñer (1975: fn. 10) gives the following Spanish example with middle *se* embedded in an infinitival clause:

This suggests that middle *si* is a pure ([-arg]) passivizer which eliminates Accusative Case and the external theta-role. It differs from ordinary passive morphology in that it is unable to reassign the external theta-role (cf. *Questo vestito ha il vantaggio di potersi lavare (\*da tutti)*, ‘‘This suit has the advantage of *si* being able to wash [by everybody]’’). It also differs from what we have called *impersonal-passive si* (as found in (86), (88) above, for default of middle *si*) in that it does not need to be associated with Nominative (in a parallel structure); hence its occurrence in infinitivals.<sup>49</sup>

The unsatisfied need of Nominative is, then, what causes the ungrammaticality of (83) and (90), where a pure middle interpretation of *si* is not available.

Other properties distinguish middle *si* from impersonal-passive *si*. These properties can, again, be detected only in untensed contexts, since in tensed contexts a form with middle *si* can always be interpreted as an instance of impersonal-passive *si*:

- (91) a. Impersonal-passive *si*, but not middle *si*, is compatible with agentive adverbs (cf. 1 vs. 2):
- 1 Questi appartamenti *si* vendono volutamente occupati  
These apartments *si* sell deliberately occupied
  - 2 Questi appartamenti hanno il vantaggio di vendersi (\*volutamente) occupati  
These apartments have the advantage of *si* being sold deliberately occupied
- b. Impersonal-passive *si*, but not middle *si*, can control the PRO of a purpose clause (cf. 1 vs. 2):<sup>50</sup>

- (iii) Al annunciársele a Juan el resultado le echaron chispas los ojos  
When one announced the result, his eyes sparkled

For a comparable example in French, see fn. 54.

<sup>49</sup> The syntactic distinction drawn here between pure middle *si* and impersonal-passive *si* appears to have a semantic reflex in the two senses Lepschy (1976) perceives in sentences like *Si vedono le montagne* which ‘‘can mean either ‘One can see the mountains’ (impersonal) or ‘the mountains can be seen’ (passive)’’ (p. 158), although he adds that ‘‘in many contexts it may be difficult, or even impossible to choose between the two meanings.’’ His *impersonal si* appears to cover our [+arg] and [-arg] uses of *si*, while his first-person plural use is here treated as syntactically identical to (though semantically different from) [-arg] impersonal *si*. See his works (cited in note 41) for further, subtle, observations concerning the various uses of impersonal *si*, which are, as far as I can see, fully reproducible in the present system.

<sup>50</sup> As Vinet (1986: 283) notes, control of the PRO of *without*-clauses is apparently possible in middles. Compare:

- 1 Quell'uomo politico si può corrompere (facilmente) per dimostrare la propria influenza  
That politician *si* can bribe (easily) to show one's influence
  - 2 Quell'uomo politico ha il vantaggio di potersi corrompere facilmente (\*per dimostrare la propria influenza)  
That politician has the advantage of *si* bribing easily (to show one's influence)
- c. Impersonal-passive *si*, but not middle *si*, can control the subject of adjunct small clauses (cf. 1 vs. 2):
- 1 Il museo del campo si può visitare facilmente anche nudi  
The camping museum *si* can visit easily even naked
  - 2 Il museo del campo ha il vantaggio di potersi visitare facilmente (\*anche nudi)  
The camping museum has the advantage of *si* visiting easily (even naked)

These contrasts all stem from the presence in the former of the two examples, and the absence in the latter, of [+arg] *si*. They would remain quite puzzling if no distinction were made between impersonal-passive *si* (i.e. [+arg] *si* in transitive contexts) and "middle" *si*.

The separation of middle *si* from impersonal-passive *si* has the effect of rendering English and Italian middle constructions more similar than is standardly assumed (for the standard view, see Keyser and Roeper 1984; Jaeggli 1986a).

Once the interference of the impersonal-passive construction is eliminated, we see that in both languages the middle construction has the following characteristics:

- 1 It is natural only with generic time reference:

- (92) a. ??Yesterday, the mayor bribed easily  
(see Keyser and Roeper 1984: 384; Roberts 1985: 369)

- (i) a. This blouse washes normally without PRO adding any special product  
b. Ce chemisier se lave normalement sans ajouter de produit spécial

This suggests, as she observes, that control of such clauses can be exercised by an argument implicit at the level of the lexicon. On the pragmatic conditions that render purpose clauses too compatible with middles, see Fellbaum and Zribi-Hertz (1987).

- b. \*? Il sindaco ha il vantaggio di essersi già corrotto ieri  
 The mayor has the advantage of already *si* being bribed yesterday

2 It does not admit agentive adverbs:

- (93) a. \*The book sold voluntarily  
 (Roberts 1985: 363)  
 b. \*Il libro ha il pregio di venderci volutamente  
 The book has the merit of selling voluntarily

3 It does not admit control of the PRO subject of a purpose clause or small clause (see also fn. 50):

- (94) a. \*Bureaucrats bribe easily to show one's influence  
 b. \*I burocrati hanno la proprietà di corrompersi facilmente per dimostrare la propria influenza  
 Bureaucrats have the property of *si* bribing easily to show one's influence
- (95) a. The floor waxes more easily (\*naked)  
 b. Questa cravatta ha il vantaggio di potersi indossare facilmente (\*nudi)  
 This tie has the advantage of *si* being able to wear naked

4 It requires some kind of manner adverb modification.<sup>51</sup>

- (96) a. The wall paints (\*easily)  
 b. Questo muro ha il vantaggio di dipingersi \*(molto facilmente)  
 This wall has the advantage of *si* painting (very easily)

Nonetheless certain differences persist. So, for example, while unavailable with certain verbs taking animate subject and object (cf. (88)–(90) above), the Italian middle construction is more productive than its English counterpart on at least two counts:

1 It is possible with verbs taking non-affected theme objects, which disallow the middle construction in English (for French, see Fellbaum and Zribi-Hertz 1987):

<sup>51</sup> Although that requisite can be exceptionally satisfied in other ways (see Keyser and Roeper 1984: 385 and fn. 4; Fellbaum and Zribi-Hertz 1987).

- (97) a. La luce gialla ha il vantaggio di vedersi bene anche nella  
nebbia più fitta  
Yellow lights have the advantage of *si* seeing even in the  
thickest fog
- b. Certe lingue hanno la proprietà di impararsi con più facilità di  
altre  
Certain languages have the property of *si* acquiring more  
easily than others

2 It is possible with verbs that Case-mark a NP without theta-marking it:

- (98) a. Certe armi hanno il vantaggio di potersi rendere facilmente [*t*  
inoffensive]  
Certain weapons have the advantage of *si* rendering harmless  
easily
- b. ?Certe persone hanno la proprietà di non vedersi [*t* mai liti-  
gare tra loro]  
Certain persons have the property of *si* never seeing quarrel  
among each other

We take these discrepancies to stem from a single difference between the Italian and the English middle constructions. The construction is syntactic in Italian and lexical in English (see Zubizarreta 1982, 1986). In Italian it is formed by adding in the syntax the morpheme *si* in its pure passivizer usage. This has the effect of “suspending” the externalization of the external theta-role (whatever that is: an Agent, an Experiencer, a Locative, etc.), just as in syntactic passives, where the “suspension” of the external theta-role is not sensitive to the nature of the internal theta-role).

In English, middle formation is instead a lexical detransitivization rule, and as such it may be sensitive to the particular nature of the theta-roles involved (see Roberts 1985 for discussion).

There are, in fact, two ways in which we can conceive of such a lexical process. According to one, but not the other, the number of structural positions projected in the syntax is reduced. Roberts (1985) opts for the first alternative, as it appears to provide a straightforward solution to the so-called “affectedness constraint.” He proposes that middles are formed by externalizing the theme argument and leaving the external theta-role unassigned. In this view, middles are not derived via NP-movement.



There is, however, another way to capture the “affectedness constraint” while retaining a “transitive” structure and having NP-movement of the theme NP in the syntax.

Given the evidence for the presence of NP-movement in middles discussed in Keyser and Roeper (1984) and Zubizarreta (1982, 1986), we opt here for the latter approach (see, however, Roberts 1985: chapter 4, section 4), for some potential problems). The lexical part of middle formation can be conceived of as a device suspending the assignment of the external theta-role, the internal theme role being regularly assigned to [NP, VP]. Accusative Case, as a consequence of “Burzio’s generalization,” will concomitantly fail to be assigned to [NP, VP].

As to the limitation of middle formation to verbs with affected theme objects, we could take Jaeggli’s (1986a: 607) Affectedness Condition to be a condition on the lexical process (“If a complement of X is unaffected, it is impossible to eliminate the external theta-role of X”). Alternatively, if one assumes that only verbs with affected objects have a genuine agent subject (call it Agent<sub>1</sub>), the lexical part of middle formation could be formulated in such a way as to suspend the externalization of just Agent<sub>1</sub>.

Under either of these alternatives, the two differences between Italian and English middles follow from the lexical nature of the English process (constrained by the “Affectedness Condition”), in opposition to the syntactic nature of the Italian process.<sup>52</sup>

Their common properties are instead a function of the semantics of the construction (1 and 4 above) (see Roberts 1985), and of the fact that the agent theta-role is syntactically “active” in neither one of the two languages (2 and 3). In English it is lexically “frozen,” in Italian it is eliminated at the syntactic level but, in contrast to ordinary passives and impersonal(-passive) *si* constructions, it is borne, and rendered syntactically active, by no argument.

The syntactic nature of the Italian middle construction with *si* is highlighted in the comparison with the ergative (99) and inherent reflexive (100) constructions:

- (99) La macchina *si* ruppe  
The car broke

<sup>52</sup> The restrictions observed for Italian middles may instead depend on some semantic condition (sensitive to animacy) on what can function as a (permanent) property (“being inevitable” falling outside of the permitted class).

- (100) Giovanni si ammalò  
G. got ill

First, while middle *si* is productive (except for the specific semantic restriction mentioned in note 52), the latter two constructions are lexically highly restricted (and are in fact listed in their ergative and inherent reflexive usages in the dictionary, as noted by Richard Kayne [see Ruwet 1972: 105]).

Secondly, middle *si*, though apparently identical with ergative and inherent reflexive *si*, differs from them in that it is an autonomous morpheme while the latter are the morphological realization of the third-person reflexive form. The ergative and inherent reflexive constructions admit first- and second-person (singular and plural) forms as well, but the middle construction does not:

- (101) Io mi avvicino  
I am going near  
(102) Io mi ammalo  
I get ill  
(103) \*Io mi trasporto facilmente (in the sense “I am easy to transport”)<sup>53</sup>

This may again be suggestive of the different level at which *si* attaches to the verb. Although the reflexive character of a verb may be determined either in the lexicon (ergatives and inherent reflexives) or in the syntax (true reflexives and reciprocals), it seems reasonable to assume that *si*, as an independent morpheme (identical to the realization of a third-person reflexive), is projected as such at the syntactic level, since it is neither a feature nor a bound morpheme.

Despite this difference, the two *sis* may still be treated unitarily at a more abstract level. If Kayne (1986) is correct, one may assume that both reflexive morphology and (passivizer) *si*, as an autonomous element that formally coincides with the realization of the third-person reflexive, per-

<sup>53</sup> Richard Kayne made me aware of this limitation, which is apparently not found in English (nor in German or French): *I wash easily* (publicity for a shirt), *I do not transport easily* (said by a disabled person). According to my informants, this does not hold for the variant of the middle construction which employs reflexive pronouns: *I wash myself easily*, *I do not transport myself easily* (see Fiengo 1974). Abraham (1986) cites such German examples as *Ich unterhalte mich ganz einfach*, which can either mean “I am easy to entertain” or, irrelevantly here, “I entertain myself quite easily.” See also Haider (1987: chapter 5).

form the same function: that of dethematizing the [NP, IP] position and of suspending the assignment of structural Accusative Case, much like passive morphology. It may also be hoped that whatever differences are found between these constructions, and their various uses, they can be reduced to minimally distinct parametric choices: whether the operation takes place in the lexicon or in the syntax; whether the dethematizer is argumental or not; whether it is pronominal or anaphoric; etc.

In summary, in this section we have seen evidence that the  $\pm$  argument distinction of impersonal *si* motivated in section 2 plays a crucial role also in transitive structures. In particular, [-arg] *si* is necessarily involved where "agreement with the object" does not take place. Where it does, we have seen evidence to distinguish between a genuine impersonal construction involving [+arg] *si* and a *middle* construction, in which *si* acts as a pure [-arg] passivizer, restricted in certain ways.

## 5 Some comparative remarks

### 5.1 French

The French form *se* shows a distribution more restricted than its Italian equivalent. Of the various usages of impersonal *si* in Italian, *se* appears to have the pure middle use found in generic sentences (cf. (104)) and possibly the impersonal-passive use found in sentences with specific time reference (cf. (105)) (the sentences are all drawn from Zribi-Hertz 1982; see also Fellbaum and Zribi-Hertz 1987):<sup>54</sup>

- (104) a. Cet appareil se manie difficilement  
           This appliance *se* handles with difficulty  
       b. Ce fa dièse se joue avec le troisième doigt  
           This F-sharp *se* plays with the third finger

<sup>54</sup> Ruwet (1972a: 95), however, judges comparable sentences with specific time reference as marginal or impossible (e.g. \**Ces lunettes se sont nettoyées hier à huit heures et quart* "These glasses *se* have been cleaned yesterday at 8.15"). He in fact states that "la construction moyenne ne peut pas être utilisée pour signifier un événement particulier localisé en un point du temps." Perhaps, certain dialects do not possess the impersonal-passive use of *se*, but only the middle use. As in Italian, *se* is admitted in control structures whenever a pure middle interpretation is possible:

- (i) La lumière jaune a la propriété de bien se voir dans le brouillard  
       Yellow lights have the property of *se* being seen in the fog

- (105) a. La question s'est discutée hier dans la salle du conseil  
The issue *se* was discussed yesterday in the council hall  
b. Le crime s'est commis ce matin  
The crime *se* was committed this morning

No impersonal use of *se* is instead possible, for principled reasons. Compare (106), containing transitive verbs, and (107), containing intransitive verbs:

- (106) a. \*(*Il*) se mange souvent les gâteaux ici  
It *se* often eats cakes here  
b.\* (*Il*) se les mange souvent  
It *se* often eats them
- (107) a.\* (*Il*) se dort beaucoup ici  
It *se* sleeps much here  
b.\* (*Il*) se va beaucoup à Paris  
It *se* often goes to Paris  
c.\* (*Il*) s'est heureux dans cette ville  
It *se* is happy in this town  
d.\* (*Il*) s'a été invité beaucoup récemment  
It *se* has been invited much recently  
e.\* (*Il*) s'a semblé ne pas être en ordre  
It *se* appeared not to be in order

The illformedness of the variant of (106)–(107) without *il* can be related to the fact (Belletti 1982a: section 4.2) that French does not allow for null subjects.<sup>55</sup> Consequently, it permits in [NP, IP] neither a pleonastic pro cooccurring with [+arg] *se*, nor an argument-generic person pro cooccurring with a [–arg] *se* (assuming *se* to be [ $\pm$ arg], as Italian *si*).

<sup>55</sup> With a limited class of exceptions in the so-called “stylistic inversion” construction exemplified in (i) (see Kayne 1972; Kayne and Pollock 1978):

- (i) Je me demande quand pro<sub>i</sub> partira ton ami,  
I wonder when will leave your friend

Note, in this connection, that passive, but not impersonal, *se* is admitted in the “stylistic inversion” construction:

- (ii) a. Le restaurant où pro<sub>i</sub> se mangera la meilleure paella, ...  
The restaurant where *se* will eat the best paella ...  
b. \*Le restaurant où pro se danse jusqu'à minuit ...  
The restaurant where *se* dances till midnight ...

The parallel illformedness of the variant with *il* (which avoids a violation of the null subject parameter) could instead be attributed to a Case Theory violation (see again Belletti 1982a: section 4.2; Everett 1984).

The question is not entirely clear, though. In (106)–(107), there are indeed two lexical nominal elements (*il* and *se*) which compete for the same Case, but as Kayne (1984: chapter 10) notes, two lexical nominal elements can apparently occur in the same thematic chain (*Cela<sub>i</sub> est-il<sub>i</sub> e<sub>i</sub> faux* ‘That, is it false’), provided that the two do not both express the same Case morphologically (and meet other requirements not relevant here). Now, while *il* is morphologically a Nominative form, *se* is not (at least not in its characteristic uses). So a Case Theory explanation for the illformedness of the variant with *il* may not be right.

An alternative account is implicit in one of Pollock’s (1985) observations. If *il*, like English *it*, to which it corresponds exactly, must either head no chain or head a CHAIN with a clausal argument (but not with a nominal argument), then (106)–(107) with *il* are correctly excluded. *Se*, which would have to be in a CHAIN with *il* for Case reasons, is no clausal argument.

Consider now (108)–(109), with (108) minimally differing from (106):

- (108) Il se mange souvent des gâteaux dans ce bistro  
It *se* often eats cakes in this coffee house
- (109) a. Il s’est dit/écrit/découvert/raconté/etc. que Jean est malade  
It *se* was said/written/discovered/told/etc. that J. is ill  
b. Il se trouve/confirme/murmure/etc. que Jean est malade  
It *se* finds/confirms/murmurs/etc. that J. is ill

Their wellformedness would seem to contradict the account just given for (106)–(107); but it does not, if we consider such cases more carefully.

Pollock (1981, 1982, 1984) presents substantial evidence that in impersonal constructions such as (110) in French

- (110) a. Il a été mangé beaucoup de gâteaux  
It was eaten many sweets  
b. Il arrive beaucoup de linguistes au colloque  
It arrives many linguists at the conference

the postverbal NP is not in a CHAIN with *il* (sharing structural Nominative with it), but rather is assigned a distinct Case by the passive past participle and the ergative verb. He assumes that passive past participles assign Accusative, on the basis of sentences like

- (111) a. Comme il vous l'a été dit/déclaré, le colloque n'aura pas lieu  
 (= Pollock 1984: ex. (6))  
 As it was said/declared it to you, the conference will not take  
 place

which show a morphologically Accusative Case. By parity of reasoning, on the basis of sentences like (111b), whose relevance was pointed out to me by Richard Kayne,

- (111) b. Comme il me l'est passé par la tête, ...  
 As it came to my mind, ...

one must conclude, differently from Pollock (1984) – but see his note 4, that ergative as well as passive past participles assign Accusative.

We take this Accusative not to be an instance of *structural* Accusative. A conceptual reason for this may be the fact that passive morphology and ergative verbs are normally unable to assign structural Accusative, as a consequence of “Burzio’s generalization.” That such Accusative Case assignment differs from structural Accusative Case assignment is confirmed by the following observations:

1 The Accusative Case assigned by passive past participles is not available to NPs not theta-marked by the passive past participle (but J.-Y. Pollock finds (112) fairly acceptable):

- (112) \*Il a été trouvé [beaucoup de films très bons]  
 It was considered many films very good

2 It cannot be assigned to definite NPs, but only to indefinites (giving rise to the so-called “Definiteness Effect”):

- (113) \*Il a été condamné Jean  
 It was condemned J.

The same is found with ergative verbs. Compare (114)–(115):

- (114) \*Il semble [un homme être arrivé]  
 It seems a man to have arrived

- (115) \*Il est arrivé Jean  
 It has arrived J.

The impossibility for passive past participles and ergative verbs to assign Case to non-theta-marked NPs (see (112)–(114)) suggests that the Case

they assign is an *inherent* Case (see Belletti 1986 and her discussion of partly similar facts in Italian).

In this view, the wellformedness of (108) above, repeated here

(108) Il se mange souvent des gâteaux dans ce bistro

is not problematic for the account given above of the illformedness of *\*Il se mange souvent les gâteaux*. It would if *des gâteaux* in (108) were assigned structural Accusative with the consequence that *se* and *il* would have to be in the same CHAIN (assigned Nominative).

Given, however, the analysis of (110a–b), the possibility arises of analyzing (108) in the same terms, with *des gâteaux* receiving an inherent Case (Accusative) *in situ* by the V *mange* (while *il*, which heads a distinct chain, receives structural Nominative). In this view, the presence of *se*, which suspends the external theta-role and structural Accusative, has the effect of turning a transitive structure into an intransitive one akin to the ergative (and impersonal passive) construction.

Support for this conjecture comes from the fact that such structures as (108) share the same two properties noted for the impersonal construction with passive past participles and ergative verbs. The verb loses the capacity to assign Case to a NP which it does not theta-mark: .

(116) \*Il se considère [beaucoup de personnes malades]  
It *se* considers many people ill

and to *definite* objects:

(117) \*Il se mangera ce poisson avec appétit  
It *se* will eat this fish with appetite

The same account appears to extend to (109) above, repeated here as (118):

(118) a. Il s'est dit/écrit/découvert/raconté/etc. que Jean est malade  
b. Il se trouve/confirme/murmure/etc. que Jean est malade

except that possibly no inherent Case is required by the complement clause. *Se* suspends the external theta-role and (structural) Accusative while *il* receives (structural) Nominative.<sup>56</sup>

<sup>56</sup> Similarly to passive morphology: *Il a été rappelé/prévu/jugé/suggéré/etc. que Jean est malade* "It was reminded/foreseen/esteemed/suggested/etc. that J. is ill." In passivization of intransitive verbs, it is occasionally claimed that Nominative is absorbed by passive

Another apparent problem for the analysis of *se* sketched here is provided by the wellformedness of such forms as (119) and (120), which contain an apparently intransitive verb.

- (119) Il s'est discuté/traité/décidé/parlé de ce point à la dernière réunion

(from Zribi-Hertz 1982: fn. 28)

It *se* is discussed/treated/decided/spoken/etc. of this point at the last reunion

- (120) Il se réfléchit à de drôle de choses

(from Gross 1975: 102, cited in Belletti 1982a: fn. 34)

It *se* ponders about strange things

The general illformedness of *se* with (unergative) intransitives was attributed above to the fact that, for Case-theoretic reasons, *se* must be part of a CHAIN with *il*, thus violating the requirement that *il* not be coindexed with a non-clausal argument. Why then is *se* possible in (119)–(120)?

It can be observed that most of these apparently exceptional cases contain verbs that have an internal theme argument preceded by the preposition *de* (as in (119)), more marginally other prepositions (as in (120)). Moreover, with most of these verbs (*discuter/traiter/décider*, etc.), the preposition is entirely optional.<sup>57</sup>

This may be taken to suggest, as Belletti (1982a: fn. 34), Zubizarreta (1986: chapter 4, fn. 9), and Dobrovie-Sorin (1987b: 488, fn. 21) point out, that such verbs retain the possibility of assigning structural Accusative. *Se* suspends (or absorbs) it, while the theme argument receives an inherent Case which may be realized either as Accusative or as a PP (typically) headed by *de*. If something along these lines is correct, (119)–(120) cease to be exceptional *vis-à-vis* the syntax of middle *se*. In particular, *se* does not need to be in a CHAIN with *il*.

morphology (see e.g. Hoekstra 1986: 100f.). We do not adopt this position here, since we assume that Nominative is required by *il*. As Luigi Rizzi suggests, in impersonal passivization, one can think that passive morphology either absorbs no Case or absorbs Accusative (which is potentially available through "Burzio's generalization").

As to the contrast between French/German (which have impersonal passives) and Italian/English (which do not), we follow an idea of Burzio (1986: 147) and von Stechow (1987), who suggest that certain languages, but not others, allow for CHAINS containing no argument (a marked option taken by French and German, but not by Italian or English).

<sup>57</sup> Fellbaum and Zribi-Hertz (1987: fn. 4) note that in their prepositional usages such verbs "sont étiquetés 'transitifs indirect' dans la plupart des manuels de grammaire française."



There is, in fact, some evidence that these verbs are indeed treated as transitives. This evidence is provided by their behavior with respect to one property distinguishing transitive from intransitive verbs in the impersonal construction (see Zribi-Hertz 1982). With respect to it, the verbs in (119)–(120) (for ease of reference let us call them “pseudo-intransitives”) go with transitive verbs. The property is illustrated by the contrast between (121) and (122) (= (22d) and (22a) of Zribi-Hertz 1982):

- (121) Il a été parlé au colloque (\*par plusieurs Américains)  
It was spoken at the conference (by many Americans)
- (122) Il a été mangé du poulet par plusieurs clients  
It was eaten chicken by many customers

Examples (121)–(122) show that in the impersonal construction a *by*-phrase is admitted with transitive but not with intransitive verbs.

The “pseudo-intransitives” of (119)–(120), however, allow for such a *by*-phrase, thus clearly falling into line with transitives:

- (123) Il a été parlé/discuté de ceci par plusieurs personnes  
(= (ix a) of fn. 11 of Zribi-Hertz 1982)  
It was spoken/discussed about this by many people

## 5.2 Rumanian

Rumanian impersonal *se* also differs in part from Italian impersonal *si* (see Dobrovie-Sorin 1987b: section 5.3). In terms of the analysis sketched above, the difference appears to be characterizable simply by saying that Rumanian lacks the [–arg] use of the morpheme, despite its being a null subject language. This implies that *se* should be found with transitive and unergative verbs but never with ergative, psych-movement, copulative, passive and raising verbs, even in finite clauses. Except for the ergative case, this appears to be correct. See (124)–(127):

- (124) *Transitive*  
Piesa asta s-a jucat anul trecut  
This piece *se* played last year
- (125) *Unergative*  
S-a cântat bine  
*se* sang well

- (126) *Ergative*  
 Ieri s-a ajuns tîrziu acasa  
 Yesterday *se* arrived home late
- (127) a. *Psych-movement*  
 \*S-au speriat mulți copii  
*se* have frightened many kids
- b. *Copulative*  
 \*În țara asta nu se e bucuros  
 In this country *se* is not happy
- c. *Passive*  
 \*Adesea se e tradat de prieteni falși  
 Often *se* is betrayed by false friends
- d. *Raising*  
 \*Se pare a fi bucuros  
*se* seems to be happy

Concerning the unexpected wellformedness of the ergative case (126), it should be noted that not all ergatives are possible with *se* (see Dobrovie-Sorin 1987b: 493), which may suggest that those which are are in fact reanalyzed as unergatives (for this suggestion see, again, Dobrovie-Sorin 1987b: 495). Possibly relevant to this difference from Italian is the fact that ergatives in Rumanian select auxiliary *have*.<sup>58</sup>

If Rumanian has no [-arg] *se*, then *se* should also be impossible in transitive contexts where the verb does not “agree with the object” (this is due to the fact that there [+arg] *se* is also excluded as an effect of “Burzio’s generalization”). A correct result. Compare (128), noted in Dobrovie-Sorin (1987b: 497), which contrasts with the wellformedness of the Italian (and Spanish) equivalents:<sup>58</sup>

- (128) \*În școala asta se pedepsește prea des pe elevi  
 In this school *se* too often scold the pupils

<sup>58</sup> Interesting indirect confirmation that Rumanian lacks [-arg] *se* appears to come from the fact (pointed out to me by C. Dobrovie-Sorin) that Rumanian *se*, differently from the other Romance languages, never has a first-person plural interpretation. Above, it was suggested that such an interpretation is only found in contexts where [-arg] *si/se* is possible (see section 3.4). Thus, if Rumanian lacks [-arg] *se*, it is expected that it will lack the interpretation in question.

5.3 *Spanish, Catalan, and Portuguese*

The distinctions suggested for Italian appear in general to extend to these languages. Where differences appear, care should be taken to see whether they cannot reduce to independent differences. So, for example, most speakers reject sentences like

- (129) \**Parece trabajarse bien en esta biblioteca*  
It seems *se* to work well in this library

with ([+arg]) *se* embedded under *parecer*, a raising predicate ((129) is acceptable for I. Bordelois). It is then interesting that the following sentences, which involve raising of a pleonastic pro, are also generally excluded (the judgments are Torrego's):

- (130) a. \*?Resulta fumar Juan  
Turns out to smoke J.  
b. \*?Parecen fumar los niños  
Seem (pl.) to smoke the children

All speakers appear, instead, to accept *se* embedded under *poder*:<sup>59</sup>

- (131) *Puede comerse bien en Gerona*  
Can *se* eat well in G.

5.4 *Some northern Italian dialects*

Some of the dialects of the Veneto area provide additional interesting data for a parametric analysis of impersonal *si* constructions. So, for example, Trentino, according to Zubizarreta (1982: 150ff.) lacks passive *si* (middle and impersonal) altogether. See the contrast between (132a) and (132b), reported by her and the relative discussion:

<sup>59</sup> A potential problem for the extension of the above analysis of passive *si* to Spanish is raised by the following examples, from Zubizarreta (1982: 151) and Otero (1986: 103), respectively:

- (i) a. *Debe comerse las castañas con vino caliente*  
Must (sg.) *se* eat chestnuts with hot wine  
b. *Puede comerse las manzanas*  
It can (sg.) *se* eat the apples (pl.)

where the matrix raising verb does not agree with the embedded NP. Above, such lack of agreement was taken to suggest that [-arg] *se* is involved, which, however, should be excluded from (non-inflected) infinitivals.

- (132) a. \*Le castagne *se magna* col vin caldo  
 Chestnuts *se* eat (are eaten) with hot wine  
 b. Le castagne *se le magna* col vin caldo  
 Chestnuts *se* (one) eats them with hot wine

Paduan and Venetian show still another phenomenology.<sup>60</sup> In the framework developed here, their difference from Italian appears to be simply characterizable. While they possess middle *si* (in opposition to Trentino) (cf. (133a–b)), and [–arg] *si* (cf. (133c)), there is no evidence that they possess [+arg] *si*.

- (133) a. El terso canae *se vede* ben ancuo  
 The third channel *se* sees well today  
 b. El terso canae ga el difeto de vedarse mae  
 The third channel has the defect of *se* seeing badly  
 c. Se o ga magnà voentiera  
*Se* has eaten it willingly

That is to say that they systematically disallow *se* in exactly those contexts which were analyzed above as admitting only [+arg] *si* (infinitival sentences under raising and gerundive Aux-to-COMP constructions). See (134a–b), which contrast with the Italian equivalents (135a–b):

- (134) a. \*Dovaria verse magnà ben eà  
*se* should have eaten well there  
 b. \*Vendose magnà ben, ...  
 Having *se* eaten well, ...  
 (135) a. Dovrebbe essersi mangiato bene là  
 b. Essendosi mangiato bene, ...

Indirect support for this conclusion (and for the analysis of impersonal-passive *si* in Italian suggested above) comes from another difference between Paduan/Venetian and Italian. A difference that in the present analysis is not unrelated to the one just seen.

Paduan and Venetian appear not to allow for passive *si* with specific time reference (Paola Beninca', p.c.; Lepschy 1984: 71), but only with generic time reference. This suggests that they only have middle *si*, not impersonal-passive *si*. Which is in fact expected if impersonal-passive *si* is

<sup>60</sup> I am indebted to Paola Beninca' for the Paduan data and to Lepschy (1984) for the Venetian data.

simply [+arg] *si* in transitive contexts, and if Venetian/Paduan lacks [+arg] *si*, as evidenced by (134). See the contrast between (136a–c) and their equivalents in Italian (137a–c):

- (136) a. \*Maria se ga invita na volta ( $\neq$  refl.)  
           M. *se* has (was) invited once  
       b. \*Ana dovaria verse ciamà do volte ( $\neq$  refl.)  
           A. should have *se* been called twice  
       c. \*Mario se ga visto in strada poco fa ( $\neq$  refl.)  
           M. *se* has (was) seen in the street a while ago
- (137) a. Maria *si* è invitata una volta  
       b. Anna dovrebbe essersi chiamata due volte  
       c. Mario *si* è visto in strada poco fa

## 6 Some remarks on parametrization and the acquisition problem

In the previous sections, the following distinct “uses” of *si* have been singled out on the basis of their different syntactic properties:

- (138) a. impersonal [+arg] *si*  
       b. impersonal [–arg] *si*  
       c. passivizer (middle) *si*

Recall also that in transitive contexts [+arg] *si* correlates with “agreement with the object” (what for convenience we called *impersonal-passive*), and [–arg] *si* correlates with lack of agreement.

As noted, the first two can be seen as two minimal variants of a single entity: an *arb* [NP, IP] clitic. Some of its properties descend from this minimal characterization. So, for example, its being [+human], unspecified (hence generic) in person, plural in number, masculine in gender, is part of the more general notion of *arb* (shared by other *arb* elements).

Other properties follow instead, as noted, from the different choice of the [ $\pm$ argument] parameter. The fact that it can be either plus or minus argument is not a property peculiar just to *si*. In the literature, it is in fact suggested that other clitics have this option. For instance, clitics entering the so-called “Clitic Doubling” construction (see Aoun 1979; Borer 1984b; Dobrovie-Sorin 1987b). More interestingly, it has been suggested (see Burzio 1981, 1986; and Haider 1985 for German) that reflexive clitics display the same option. While genuine reflexive/reciprocal clitics (as in *Loro si temono* “They fear themselves/each other”) are [+arg], ergative

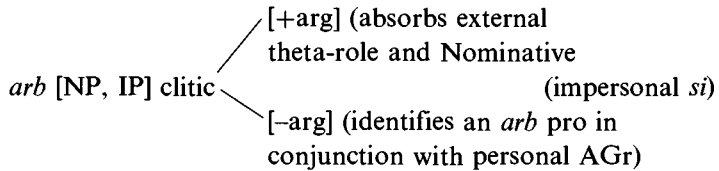
and inherent reflexive clitics (as in *Loro si sono feriti* ‘‘They wounded themselves’’ and *Loro si sono ammalati* ‘‘They got (themselves) ill,’’ respectively) are [-arg].

This is particularly significant in view of the desirable unification of impersonal and reflexive *si*. We have already noted that such a unification can only obtain at a certain level of abstraction, given certain differences among them, and given that impersonal and passive *si* are instances of a clitic used autonomously (i.e., not as the realization of a particular feature combination in a paradigm). On the contrary, reflexive *si* is precisely the realization of a certain feature combination in a paradigm (its properties being shared by all other reflexive forms).

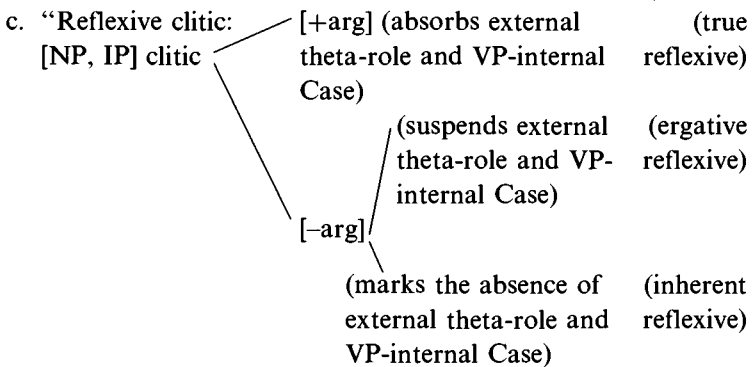
A promising line of unification is that suggested by Kayne (1986b), where reflexive clitics are also analyzed as *[NP, IP] clitics* (which can be either argument or not).<sup>61</sup>

The features that they share as well as those that minimally distinguish them can be summarized in their essence as in (139):

(139) a. Impersonal *si*:



b. ‘‘Passivizer’’ *si* [NP, IP] ([-arg]) clitic (middle *si*)  
(suspends external theta-role and accusative Case)



<sup>61</sup> For Kayne (1986b), (‘‘object’’) reflexive clitics are in fact to be analyzed as [NP, IP] clitics that ‘‘withhold’’ the external theta-role and Accusative (or another VP-internal Case,

An orthogonal difference is represented by the level at which the clitic forms. We have already noted that impersonal *si*, middle *si*, and [+arg] reflexive clitics are formed at the syntactic level. Thus, except for the case of passivizer *si* (which expressly suppresses it), the external theta-role is syntactically active with impersonal *si* and [+arg] reflexive clitics. Instead, [-arg] reflexive clitics appear to be a product of lexical processes (see Burzio 1986: 38), which preclude a syntactically active behavior of the suppressed external theta-role (see Borer 1984a; Rizzi 1986a).<sup>62</sup>

Consider now the parametrization of impersonal *si* from the perspective of markedness and acquisition. The remarks that follow will necessarily be even more tentative than the preceding ones.

where structural Accusative is assigned, as in *Gianni se li è comprati* ‘‘G. *si* them is bought’’ [‘‘G. has bought them for himself’’]. In this respect they are very close in function to the pure ‘‘passivizer’’ use of *si* (middle *si*), and, modulo the different Case which is suspended, impersonal ([+arg]) *si*, with other differences following from independent differences of the constructions involved.

<sup>62</sup> With inherent reflexives, the lexical process appears to be functionally vacuous. There is no external theta-role to suppress, so that the clitic may be simply taken as ‘‘a marker associated with lack of theta-role assignment to the subject position’’ (Burzio 1986: 40). Burzio (1986: 39ff., fn. 28) assumes all reflexive verbs to be ergative. There is, however, evidence that a class of them is not, as the impossibility of *ne*-cliticization out of their inverted subject shows:

- (i) a. \*Se ne interessano molti di fisica ultimamente  
Many are interested in physics lately
- b. \*Non se ne preoccupano molti dell'avvenire  
Not many get worried about the future
- c. \*Non se ne spaventano troppi, di bambini, qui  
Not too many get frightened, of the children, here
- d. \*Se ne scocciano molti dei tuoi ritardi  
Many get annoyed for your delays
- e. \*Se ne sono sbagliati molti, di partecipanti  
Many went wrong, of the participants

(Concerning (i e), we differ in judgment from Burzio (1986: 40).)

This non-ergative class of reflexive verbs appears to be related to the apparently transitive class of psych-verbs studied in Belletti and Rizzi (1986) (*La fisica interessa Gianni* ‘‘Physics interests G.,’’ *L'avvenire preoccupa molti* ‘‘The future worries many,’’ etc.). This observation suggests an immediate account for the impossibility of (i). If the input to the lexical rule adding reflexive morphology is the structure argued for by Belletti and Rizzi for their non-reflexive analogues (e.g. [IP [NP] I [VP *interessa la fisica G.*]]), the addition of reflexive morphology can be seen as simply suspending the assignment of inherent Accusative to the Experiencer (with the further consequence of forcing NP-movement of the Experiencer and of assigning inherent Case to the theme). Both before and after the addition of reflexive morphology, the Experiencer is not in [NP, VP] (whence its incompatibility with *ne*-cliticization). We assume that only a lexical process can affect the assignment of an inherent Case present in the Case grid of a lexical item.

If the suggestion is correct, *si*, here, is somewhat in between *ergative* and *inherent si*: like the latter, it does not require the presence of an external theta-role to suppress; like the former, it suppresses the assignment of (inherent) Accusative.

If we consider Rumanian (which apparently lacks [-arg] *si*) and the main Romance languages (which possess both [+arg] and [-arg] *si*), it is tempting to posit [+arg] *si* as the unmarked value of the parameter. In this light, the postulation of the negative value will necessitate the presence of data not reconcilable with just the positive value (data such as (1c-g) above). Lack of such data in Rumanian will thus leave [-arg] *si* as a non-actualized option.

Taking instead [-arg] *si* as the unmarked value would apparently leave the difference between Rumanian and the other Romance languages harder to explain. (What would prevent the Rumanian child from positing the existence of [-arg] *se* even in the absence of positive data?)

Similar remarks hold for passivizer *si*. Its absence in a language like Trentino suggests that it is simply an option (which needs positive evidence to be postulated).<sup>63</sup> In sum, it seems that the various combinations of *si/se* forms expected, under the present analysis, in the Romance languages are indeed compatible with reasonable hypotheses concerning their acquisition. One potential problem remains, however. It is provided by Venetian/Paduan, for which [-arg] *si*, but not [+arg] *si*, is attested (consider the impossibility of (134) and (136)). Under the present assumptions, nothing would seem to prevent the Venetian/Paduan child from positing [+arg] *se*, when exposed to such unergative structures as *Se ga ridesto* "One has laughed" (especially if [+arg] is the unmarked value of the parameter). At present, we see no simple way to reconcile the Venetian/Paduan case with that of the remaining Romance languages. The hope is that a deeper investigation of impersonal *se* in the former languages will eventually suggest a solution that is compatible with the overall analysis proposed in this chapter.

<sup>63</sup> In terms of actual stages of acquisition, it seems that, in Italian, impersonal *si* is acquired earlier than middle *si* (see Hyams 1983: section IV.3.1).



## 5 Ci si

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In those environments where impersonal *si* should cooccur with reflexive/reciprocal *si*, the expected sequence *si si* is found to be ill formed:

- (1) a. \**Si si è aiutati inutilmente*  
*Si* has helped each other in vain  
b. \**Si si è arrabbiati per nulla*  
*Si* got angry for nothing

In its stead we find the sequence *ci si*:

- (2) a. *Ci si è aiutati inutilmente*  
b. *Ci si è arrabbiati inutilmente*

In many traditional descriptions of Italian the *ci* which appears in (2) is taken to be the morphological variant of impersonal *si* in reflexive/reciprocal contexts (see Rohlfs 1968). It can, however, be shown that the opposite is true. That is to say, in the *ci si* sequence, *ci* functions as the reflexive/reciprocal form and *si* is the impersonal *si*. This can be determined on the basis of some ordering considerations (see Rizzi 1976a; Schwarze 1986: 117).

Accusative clitics follow reflexive/reciprocal clitics (cf. (3)) and precede impersonal *si* (cf. (4)):

- (3) a. *Se lo compra*  
To-himself it (s)he buys  
b. *Ce lo compriamo*  
To-ourselves it we buy  
(4) *Lo si compra*  
It one buys

The fact that in the *ci si* sequence Accusative clitics follow *ci* and precede *si* shows the former to be the reflexive/reciprocal form and the latter to be impersonal *si*:

- (5) Quando ce lo si compra, . . .  
When to-oneself it one buys, . . .

Why do we find the *ci si* sequence in place of the expected *si si*?

Burzio (1981, 1986: 55, 81, fn. 47) suggests that it arises as a consequence of the application of a phonological rule which changes the first *si* to *ci*. Certain considerations, however, militate against a pure phonological solution.

First, if a (phonological dissimilation) rule changing *si si* to *ci si* were at work, one would expect other comparable *si si* sequences to be analogously affected by the rule. But this is not the case. A sequence of two reflexive *sis* (one “inherent” and one argumental) is not changed to *ci si* (it is in fact inexpressible):<sup>1</sup>

- (6) \*Loro  $\left\{ \begin{array}{l} \text{si si} \\ \text{ci si} \end{array} \right\}$  precipitarono incontro  
They rushed toward each other  
(cf. Loro si precipitarono gli uni incontro agli altri)

- (7) \*Loro  $\left\{ \begin{array}{l} \text{si si} \\ \text{ci si} \end{array} \right\}$  sono dedicati con assoluta devozione  
They dedicated themselves to each other with absolute devotion  
(cf. Loro si sono dedicati gli uni agli altri . . .)

This contrasts with the phonological rule which lowers, in clitic clusters, a front high vowel that is followed by either a liquid or a nasal:

- (8) [A . . . i] → [A . . . e] / \_\_\_ [A nasal or liquid], where A is a clitic

The rule applies “blindly,” whatever the function of the clitic is. See, for example:

- (9) a. \*Si ne parla → se ne parla  
(impers.) *si* of it speaks  
b. \*Si ne pente → se ne pente  
(refl.) *si* of it repents  
(10) a. \*Ci lo darà → ce lo darà  
To us it (he) will give

<sup>1</sup> Rosen (1981: section 4. 3. 11), from whom (6)–(7) are drawn, assumes that reflexive *si* + impersonal *si* sequences are changed to *ci si* by a morphological rule.

- b. \*Ci lo metterò → ce lo metterò  
 There it (I) will put

Secondly, as Paola Beninca' pointed out to me, if the sequence *ci si* were the output of a phonological rule (of dissimilation) ( $si \rightarrow ci / \_ si$ ), one would expect the rule not to apply whenever some material intervenes between the target and the context of the rule. This is indeed what we find with rule (8). The "i" is not lowered if some other clitic, not beginning with a nasal or liquid, intervenes:

- (11) *Ci se n'è comprate molte* (not \**Ce se n'è comprate molte*)  
 There to himself of them (he) bought many

In the case of *ci si*, however, the sequence *si si* is always excluded, even if some other clitic intervenes between them. See:

- (12) a. *Quando ce le si è comprate,...*  
 When to oneself them *si* has bought, ...  
 b. \**Quando se le si è comprate*
- (13) a. *Quando ce lo si indirizza,...*  
 When to oneself it *si* addresses, ...  
 b. \**Quando se lo si indirizza,...*

The reason why *si si* sequences are excluded must then be sought elsewhere. It might be thought that an answer is available within Kayne's (1986b) framework. If one of the effects of *si* (whether reflexive or impersonal) is that of dethematizing the [NP, S] position, it is indeed to be expected that only one *si* at a time will be possible. Whenever two are present, one of them will not be able to satisfy its requirement (non-vacuously) because of the other.

This idea, however, does not explain why even sequences containing one reflexive *si* and one [-arg] impersonal *si* are excluded. Recall that [-arg] *si* does not dethematize the [NP, S] position, so no competing requirements would be involved in that case.

The factor blocking *si si* sequences must then be another. In fact, it so appears that no sequence of two identical clitics is allowed in Italian, whatever the function of the clitics. See (14) (where there is no question of two elements competing for the same theta-role):

- (14) a. \**Noi ci ci siamo comprati un vestito*  
 We there to us have bought one suit

- b. \*Voi *vi vi* siete trovati bene  
 You (pl.) there yourselves felt well
- c. \**Ne ne* furono ricavate molte  
 From it of them were obtained many  
 (cf. *Ne furono ricavate molte pietre* "From it were obtained many stones"; *Ne furono ricavate molte da quel blocco* "Of them were obtained many from that block")

The reason for this exclusion is perhaps to be sought in the nature of the clitic "template".

What (14) shows is that it is presumably wrong to think that to each function there corresponds a clitic realization. In the presence of *n* functions one should then expect *n* clitic realizations (which is clearly not the case). If we take the opposite perspective, instead, the impossibility of (14) follows straightforwardly. The clitic "template" attached to the verb contains one instance of each clitic form. So, even though each clitic can perform more than one function according to the syntactic environment, there cannot be more than one clitic of a kind.

If so, *si si* sequences simply cannot arise.<sup>2</sup> The *ci si* sequence that we find in place of the illegitimate (refl.) *si* (impers.) *si* sequence in Italian is thus a surrogate way to express an otherwise inexpressible form.

The clitic *ci* in Italian performs various functions: *locative* (as in *Ci vado spesso* "I often go there"), *existential* (as in *Non c'è nessuno* "There is nobody"), first-person plural *reflexive/reciprocal* and *pronominal* (as in *Ci siamo visti* "We saw ourselves/each other" and *Ci hanno visto* "They saw us," respectively).

<sup>2</sup> This implies that reflexive *si* and impersonal *si* are one and the same clitic. Note that sequences of apparently identical clitics could still arise if the language possessed homophonous clitics. Italian does not, but the dialects of the Veneto area appear to have one such case. So, in Venetian and Paduan, the first-person plural reflexive form *se* (= Italian *ci*) (*nialtri se vedemo sempre* "We always see each other") is homophonous to the impersonal form *se* (= Italian *si*) (*Se magna ben, qua "si eats well, here"*). Thus, although such sequences as (14a–c) are ruled out in Venetian and Paduan as well, the equivalent of Italian *Ci si vede sempre* "*si* always sees each other" is possible in these dialects with a sequence of two *ses* (see Lepschy 1984):

- (i) *se se vede sempre*

Sequences of two reflexive *ses* remain, however, excluded, as expected:

- (ii) \**Nialtri se se semo presentai tardi*  
 We have introduced ourselves to each other late

See also Rohlfs (1968, 234): "We find *se se* in part of Northern Italy, where, however, *ci* is rendered as *se*" (our translation).

Which one of these functions does the *ci* of the *ci si* sequence perform? We suggest that it is used in its first-person plural reflexive/reciprocal function, to cover its normal first-person plural interpretation (cf. (15)), and, by special extension, the *arb* interpretation as well (cf. (16)):<sup>3</sup>

- (15) (Noi) *ci si* è iscritti ieri  
(We) us *si* has joined yesterday

- (16) ? Quando *ci si* arrabbia con  $\left\{ \begin{array}{l} \text{se stessi} \\ \text{i propri figli} \end{array} \right\}, \dots$

When one gets cross with oneself/with one's children,...

In the latter (extended) use, it seems that it may suspend its first-person feature (cf. (16), where *ci si* cooccurs with a third-person *arb* form, *se stessi* and *proprio*).

Quite apart from its feature make-up, there is some theory-internal evidence that the *ci* of the *ci si* sequence is a reflexive/reciprocal form. Under this assumption, in interaction with the analysis of *si* developed above and Kayne's (1986b) analysis of reflexive clitics, it is possible to explain the cluster of properties characterizing the *ci si* construction.

Suppose that it is a reflexive clitic. Then, by Kayne's (1986b) analysis, it must absorb the theta-role assigned externally by the verb. This entails that the impersonal *si* which cooccurs with it cannot be [+arg] *si*, for it too would have to absorb the external theta-role. So, it must be [-arg] impersonal *si*. If so, various consequences follow. We can put the hypothesis to the test by checking whether these consequences are empirically correct.

A first consequence is that the *ci si* sequence will be excluded from non-finite contexts, since it necessarily contains [-arg] impersonal *si*, which we saw above cooccurs only with a finite AGR. This is entirely correct. See:

- (17) a. \*A Beirut, sembra essercisi sparati addosso tutta la notte  
In B., it seems *si* to have fired at each other all night long  
b. \*Ritengo essercisi aiutati inutilmente  
I believe *si* to have helped each other in vain  
c. \*?Essendocisi  $\left\{ \begin{array}{l} \text{sparati addosso} \\ \text{aiutati} \end{array} \right\}, \dots$   
*si* having fired at/helped each other,...

<sup>3</sup> The fact that the reflexive form of Venetian *arb se* is homophonous to the first-person plural reflexive form is, in this connection, hardly a coincidence.

This is in a sense surprising since (17) contains unergative verbs, which are potentially compatible with [+arg] *si* in these contexts (see the discussion in section 2 of the previous chapter). The “surprise” dissolves if here *si* must be [-arg] for independent reasons, as noted (the presence of *ci*).

Another consequence is that, in contexts of specific time reference, a *ci si* construction, irrespectively of the transitive or unergative nature of the verb, will only have a first-person plural interpretation (not a pure *arb* interpretation). Again, this is what we find:

- (18) A Beirut, *ci si* è sparati addosso tutta la notte, ieri  
In B., *si* have fired at each other all night long, yesterday

This is, once again, a function of the same reason that excludes the presence of [+arg] *si* in these contexts (namely, lack of theta-role assignment to [NP, S]). See section 3 of the previous chapter.

A third consequence is that no “agreement with the object” will be possible, since the [NP, S] position at S-structure will have to contain an argumental *pro* identified by [-arg] *si*. See section 4 of the previous chapter.

This is again empirically confirmed:

- (19) a. \**Ci si* comprano molte cose inutili a Natale<sup>4</sup>  
*si* buy many useless things at Christmas  
b. \**Ci si* sono prese delle belle soddisfazioni  
*si* got a great satisfaction for oneself  
(cf. *Ci si è preso/e delle belle soddisfazioni*)  
c. \**Quando ci si* aspettano delle buone notizie, . . .<sup>5</sup>  
When *si* expects good news for oneself, . . .  
(cf. *Quando ci si aspetta delle buone notizie, . . .*)

<sup>4</sup> Example (19a) is (29c) of Burzio (1986: 101). Its ungrammaticality is attributed there to the requirement that a reflexive clitic have [NP, S], not impersonal *si*, as its antecedent.

<sup>5</sup> Lepschy and Lepschy (1977: 217) analyze such forms as (i):

- (i) *Ci si* comprano due penne  
*si* buys two pens for oneself

as the impersonal form of *comprarsi due penne*, namely the agreement variant of *Quando ci si compra due penne* (in contrast to the text analysis). We agree, however, with Cennamo (1984: 53), who in discussing Lepschy and Lepschy’s analysis says she accepts (i) only in the interpretation in which “*ci* is no longer the phonologically conditioned allomorph of *si*, but a true first person plural pronoun, meaning: to us.”

## 6 *On a difference between English and Italian “Complement Object Deletion” constructions*

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If we compare English with Italian, we find a lack of perfect correspondence in the class of “Complement Object Deletion” (COD) constructions. Whereas English “tough” constructions such as (1a) and purpose clause constructions such as (1b) find a (near) exact counterpart in Italian (cf. (2a–b)), the English COD constructions in (1c–e) have no COD analogue in Italian. Rather, the object e.c. of the English sentence must be filled in Italian by an overt pronominal (see (2c–e)):

- (1) a. The problem is not easy [to solve *e* immediately]  
 b. They gave it to me [to review *e* for tomorrow]  
 c. This book is too biased [(for us) to adopt *e*]  
 d. This job isn’t remunerative enough [(for us) to accept *e* straightaway]  
 e. I bought it [(for you) to wear *e* tonight at the party]
- (2) a. Il problema non è facile [da risolvere *e* subito]  
 b. Me lo hanno dato [da recensire *e* per domani]  
 c. Questo libro è troppo di parte per  $\left\{ \begin{array}{l} *adottare\ e \\ adottarlo \end{array} \right\}$  noi  
 d. Questo lavoro non è abbastanza  $\left\{ \begin{array}{l} accettare\ e \\ accettarlo \end{array} \right\}$  subito remunerativo per  
 e. L’ho comprato per  $\left\{ \begin{array}{l} *indossare\ e \\ indossarlo \end{array} \right\}$  stasera alla festa

Why should the two languages display this particular asymmetry? The obvious thing to note, concerning (1)–(2), is that where the correspondence holds between the two languages, the infinitival complement in Italian is introduced by the preposition *da* (lit. “from”). Where the correspondence fails, that complement is introduced by a different preposition (*per* “for”).

It seems highly unlikely that the difference is due to some idiosyncratic lexical difference between the two prepositions. More reasonable seems

the conjecture that the two types of complement differ as to their structure (beyond the difference in the choice of preposition).

There are in fact indications that the complement introduced by *da* in (2a–b) is a “bare” CP complement (with *da* a prepositional complementizer filling the head position of CP) while the complement introduced by *per* in (2c–e) is a PP containing a CP (with *per* head of the PP).

As mentioned in chapter 3, certain prepositions in Italian (*di* “of,” *a* “to”) are unquestionably infinitival complementizers in such contexts as

- (3) a. Cercavo [di riposare]  
I was trying to rest  
b. Ho provato [a aggiustarlo]  
I attempted to mend it

See pages 227ff. below and references cited there for discussion (for example, they cannot take an NP or finite CP complement).

Other prepositions, instead, must be analyzed as genuine heads of PPs taking an infinitival CP as complement (in free alternation with NP and finite CP complements). The prepositions *senza* “without” and *dopo* “after” in (4) belong to this second class.

- (4) a. Se ne è andato [senza [salutarci]]  
He went away without saying goodbye to us  
b. Se ne è andato [dopo [averci salutato]]  
He went away after saying goodbye to us

To determine whether *da* and *per* in (2) above are prepositional complementizers or genuine prepositions heading a PP, we must look for properties which distinguish the clear cases of prepositional complementizers such as *di* and *a* from the clear cases of genuine prepositions like *senza* and *dopo*, and then check how the *da* and *per* of (2) behave with respect to such properties.

There are at least two properties which distinguish the prepositions *senza* and *dopo* from the prepositions *di* and *a* of (3). The first is the fact that *senza* and *dopo* allow for an auxiliary to move to the left of a lexical subject of the infinitival complement, while *di* and *a* do not. See:

- (5) a. La società fu sciolta senza aver i soci avuto la possibilità di salvarla  
The partnership was dissolved without having the partners had the possibility of saving it



- b. La nave fu abbandonata dopo esser stato anche l'ultimo passeggero tratto in salvo su un battello pneumatico  
The ship was abandoned after having been even the last passenger rescued on a life-boat
- (6) a. \*Ho cercato di aver anche il più piccolo di voi la possibilità di parteciparvi  
I tried to have even the smallest among you the possibility to take part
- b. \*Ho provato ad esser anche mio figlio ammesso a quel corso  
I tried to be even my son accepted in that course

The construction in (5)–(6) is an instance of the Aux-to-COMP rule studied in detail in Rizzi (1981, 1982a: chapter 3). The contrast in grammaticality between the two pairs of sentences is, in this light, not surprising. It supports the proposed analysis of (3)/(4) to the extent to which the contrast follows directly from that analysis.

An auxiliary can move to C in (5) because *senza* and *dopo* do not occupy the head of the infinitival CP, but it cannot move to C in (6) because that position is already filled by the prepositional complementizers *di* and *a*. The contrast is thus directly linkable to the “Doubly Filled COMP Filter.”

The second property distinguishing the two classes of prepositions is the possibility of interpolating (certain) adverbials between the preposition and the following infinitive. *Senza* and *dopo* appear to allow for it, while *di* and *a* do not (at least in the ordinary style):<sup>1</sup>

- (7) a. Gli parlerò senza  $\left\{ \begin{array}{l} \text{forse} \\ \text{per altro} \end{array} \right\}$  riuscire a convincerlo  
I will talk to him without perhaps/in any case managing to convince him
- b. Lo hanno convinto dopo  $\left\{ \begin{array}{l} \text{forse} \\ \text{per altro} \end{array} \right\}$  averlo più volte minacciato  
They convinced him after perhaps/in any case having menaced him many times
- (8) a. \*Cercherò di  $\left\{ \begin{array}{l} \text{forse} \\ \text{per altro} \end{array} \right\}$  vederlo  
I will try to perhaps/in any case see him

<sup>1</sup> See Rizzi (1982a: chapter 3), Cinque (1983) and references cited there for a more careful discussion and analysis of this property.

- b. \*Proverò a  $\left. \begin{array}{l} \text{forse} \\ \text{per altro} \end{array} \right\}$  aggiustarlo

I will attempt to perhaps/in any case mend it

We may now ask how the prepositions *da* and *per* of (2) above behave with respect to such properties. What we find is that *per*, but not *da*, allows for Aux-to-COMP and the interpolation of adverbials. This suggests that *per* is a genuine preposition followed by an infinitival CP, while *da* is a prepositional infinitival complementizer, like the *di* and *a* of (3). See:<sup>2</sup>

- (9) a. Gianni è troppo astuto per poter suo figlio sperare di ingannarlo  
 G. is too smart for being able his son to deceive him  
 b. Gianni è troppo astuto per forse non sapere che lo volevano ingannare  
 G. is too smart for perhaps not knowing that they wanted to deceive him
- (10) a. \*Glielo hanno dato da poter anche suo figlio utilizzare  
 They gave it to him for being able his son too to use  
 b. \*Glielo hanno dato da forse recensire per domani  
 They gave it to him to perhaps review for tomorrow

We may thus reasonably conclude that the relevant structures of (2a–b) and (2c–e) above are as indicated in (11) and (12), respectively (taking (2a) and (2c) as representatives of the two cases):

- (11) Il problema non è facile [da risolvere e subito]  
 (12) Questo libro è troppo di parte [per [C [adottarlo]]]

If so, we have some evidence for the following correlation: the complement object of a COD construction in Italian can be null only if the complement is introduced by an infinitival complementizer, not if it is introduced by a real preposition.

Interesting support for the correctness of this correlation (and against the alternative view that the possibility of an empty object be tied to the lexical choice of the preposition *da* vs. *per*) comes from the following minimal contrast provided by the preposition *da*.

<sup>2</sup> This converges with Rizzi's (1982a: chapter 3) conclusion that the *da* which introduces infinitival relatives in Italian is an infinitival complementizer.

Along with its use in such contexts as (2a–b) above, and in relative clauses, *da* is also used to introduce infinitival result clauses. Consider, for example, (13):

- (13) Mario è talmente distratto [da dimenticarsi perfino di mangiare]  
 M. is so absent-minded that he even forgets to eat (lit.: "to even forget to eat")

Now, with respect to the properties of Aux-to-COMP and interpolation of adverbials, this use of *da* gives results opposite to those of the *da* in (2). Compare (10a–b) with

- (14) a. Gianni è talmente furbo da non poter neanche lei sperare di imbrogliarlo  
 G. is so smart that not even she can hope to deceive him
- b. Carlo è talmente ignorante da  $\left\{ \begin{array}{l} \text{forse} \\ \text{sicuramente} \end{array} \right\}$  non sapere che ...  
 C. is so ignorant to perhaps/surely not know that ...

As it appears to allow for both Aux-to-COMP and interpolation of adverbials, we are led to conclude that *da* in this use is a genuine preposition, head of a PP, just like *per* in (2c–e).

Interestingly, this *da* behaves like *per*, and differently from the *da* of (2a–b), also in disallowing "object deletion" in its complement, a property supporting the correlation noted above. See:

- (15) \*Gianni è talmente furbo da non poter neanche lei sperare di imbrogliare *e*  
 G. is so smart that not even she can hope to deceive (lit.: "to not be able not even she to hope to deceive")

We may note, finally, that nothing principled prevents the complementizer *da* from introducing the complement of such adjective qualifiers as *abbastanza* ("enough") or *troppo* ("too") in (2c–e) above.

It seems to be simply a matter of lexical selection that they take a PP headed by *per*. If they selected a "bare" CP headed by the complementizer *da* (in some dialect), the prediction would be that a null object would then be possible, and Aux-to-COMP and interpolation of adverbials impossible.

Having tentatively established the correlation that the complement object of a COD construction in Italian can be null only if the

complement is introduced by an infinitival complementizer, we may raise the deeper question of what it is that causes the correlation to hold. Or, in other words, what is it that prevents the wellformedness of the configuration (16) below, parallel, in the relevant respects, to (11)?

- (16) \*Questo libro è troppo di parte [per[O [adottare e]]]

The answer to this question lies, we suggest, in the process of reanalysis that appears to characterize COD constructions.

Chomsky (1981a: chapter 5) assumes the formation of a complex adjective through “reanalysis” in the *easy to please* construction:

- (17) a. John is [easy [O [PRO to please e]]]  
 b. John is [[easy to please] e]  
 (cf. *How easy to please is John?*)

After reanalysis (i.e. 17b)), “e” is an anaphor, lacking Case, A-bound by *John*, an argument in a non-theta-position which “inherits” a theta-role from “e” in the chain. Note that, though a non-theta-position (cf. *It is easy to please John*), the matrix subject position cannot contain idiomatic chunks or other non-arguments. This is ensured by having the lexical insertion of *John* to apply at S-structure in this case (Chomsky 1981a: 313).

Suppose that we extend the reanalysis approach to the other COD constructions as indicated in (18):

- (18) a. John is [[too stubborn to talk to] e]  
 b. The job isn't [[remunerative enough to accept] e]  
 c. Mary is [[beautiful to look at] e]<sup>3</sup>

Compare *Too stubborn to talk to, he never was, Remunerative enough to accept straightaway, that job isn't, Beautiful to look at, Mary is not.*

That reanalysis may be involved in the constructions in (18) is perhaps indicated by the familiar fact that these constructions too, like the *easy-to-please* construction, “tend to be more acceptable with embedded infinitivals rather than tensed clauses . . . , tensed embedded clauses [being] more resistant to reanalysis than infinitivals” (Chomsky 1981a: 314).

<sup>3</sup> Extending the reanalysis idea to *They bought it to play with* requires reanalysis between *bought* and *to play with*, possibly with the creation of a complex V (*bought<sup>k</sup> . . . to play<sup>k</sup> with<sup>k</sup> e*). But we do not pursue this point here.

The extension of reanalysis to the constructions in (18) requires a slightly different interpretation of the process of reanalysis postulated in (17). Differently from the *easy-to-please* case, in (18), the matrix subject position is unquestionably thematic at D-structure, but must be non-thematic at S-structure, thus apparently violating the Projection Principle. This problem is, however, more general. It affects many “restructuring” processes proposed in the literature (see Rizzi 1982a: chapter 1; Zubizarreta 1982; Manzini 1983; Burzio 1986). Without entering the issue, I will assume some form of the “simultaneous or parallel” structures analysis that renders such cases compatible with the Projection Principle (see Zubizarreta 1982; Manzini 1983). This implies, in the case at hand, that each of the forms in (18) is one of a pair of simultaneous S-structure phrase markers, the other being a non-reanalyzed phrase marker respecting the Projection Principle:

- (19) a. John is [too stubborn [O [PRO to talk to e]]]  
 b. The job is [remunerative enough [O [PRO to accept e]]]  
 c. Mary is [beautiful [O [PRO to look at e]]]

If something of the sort is correct, we have an account for the curious asymmetry existing between English and Italian COD constructions noted above. Why are (2c–e), corresponding to (1c–e), impossible in Italian with an empty object? The answer is: because of the preposition intervening between the adjective and the verb to be reanalyzed.

As argued for in Kayne (1984), in Romance, prepositions cannot be “reanalyzed” with verbs or adjectives (as witnessed by the non-existence of preposition stranding). So, if reanalysis is obligatory in “Complement Object Deletion” constructions, there will be a violation whenever a preposition, head of PP, intervenes between the adjective and the verb to be reanalyzed.<sup>4</sup>

Given that, in English, prepositions can reanalyze with verbs and adjectives (as shown by the availability of preposition stranding), we predict that reanalysis should not to be blocked in English when the

<sup>4</sup> We differ here from the account suggested in Cinque (1983) based on the ECP, which faced some unresolved problems. Note that the P in COMP in (2), in Italian, will not block reanalysis if it itself is restructured to the following V, as argued for in Rizzi (1982a: chapter 3).

COD construction is introduced (governed) either by a P in COMP or by a P head of a VP PP.<sup>5</sup>

One example of the latter case, entirely parallel to the impossible Italian cases (2c–d), does appear to exist, and is well formed, in accord with the expectations. See:

(20) The bed is too uncomfortable for sleeping in

which has (21) as the non-reanalyzed structure:

(21) The bed is too uncomfortable [[for][O [PRO sleeping in e]]]

Here, *for*, differently from the *for* of (22),

(22) The bed is too uncomfortable [[O for][you to sleep in e]]

is a genuine P, head of a VP PP taking a gerundive complement. This is shown by two systematic contrasts between the two *fors*. See (23a) vs. (23b) and (24a) vs. (24b):

(23) a. The bed is too uncomfortable for [PRO sleeping in]  
b. \*The bed is too uncomfortable for [PRO to sleep in]

(24) a. \*The bed is too uncomfortable for [us sleeping in]  
b. The bed is too uncomfortable for [us to sleep in]

Both contrasts follow if, as suggested, the *for*-complement of (23a)/(24a) has the structure “[PP[*for*][CP[COMP][IP PRO/us...]]],” in which case it cannot govern (and assign Case to) the subject of its complement; and that of (23b)/(24b) has the structure “[CP[COMP*for*][IP PRO/us...]],” which allows it to govern (and assign Case to) the subject of its complement.

<sup>5</sup> The *for* which is found to optionally introduce COD constructions in English is uniformly analyzed as a complementizer in Chomsky (1977a, 1981a, 1982). For the possibility that the *for* which introduces *easy-to-please* constructions is a matrix “benefactive” PP, see Kayne (1984: chapter 3).

# 7 *Ergative adjectives and the Lexicalist Hypothesis\**

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## 1 Introduction

The theory of grammar predicts that a class of ergative adjectives should exist alongside the established classes of ergative verbs (Perlmutter 1978a, b; Burzio 1981, 1986), and ergative nouns.<sup>1</sup> Their existence is a consequence of the X-bar Theory of phrase structure within the more general Lexicalist Hypothesis of Chomsky (1970). X-bar Theory imposes the condition that all phrasal categories (VP, NP, AP, PP, QP, AdvP, IP, CP) have the same internal structure. And the Lexicalist Hypothesis demands that morphologically related verbs, nouns, and adjectives be represented in the lexicon as single, categorially unspecified, entries endowed with certain unique theta-marking and selectional properties.<sup>2</sup>

One would thus expect that an adjective morphologically related to an ergative verb (e.g. *morto* “dead” related to *morire* “die”) would also be ergative, that is, it should have its subject generated in object position, under A', just as the subject of the corresponding ergative verb is generated in the structural object position, under V'.

On the basis of various phenomena in Italian, I will argue that the ergative/unergative distinction does indeed extend to (superficially

\* This is a substantially revised and expanded version of an earlier paper (cited here as Cinque 1987) prepared for a syntax conference in Augsburg in 1987. Parts of this material were also presented at UFSAL, Brussels in January 1985, at the *XI Incontro Informale di Grammatica Generativa* held in Rome in the February of the same year, at the III Vienna Syntax Round Table in September 1987, and at the University of Geneva.

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<sup>1</sup> Burzio's (1981, 1986) “ergative” verbs are Perlmutter's (1978a) “unaccusative” verbs. Here, the term “ergative,” rather than the term “unaccusative,” is used as no adjective or noun ever assigns (structural) Accusative Case. For a history of the term “ergative,” see Seely (1977).

<sup>2</sup> The same prediction obtains under the variant of the Lexicalist Hypothesis developed in Jackendoff (1975), where morphologically related words are analyzed as distinct entries

intransitive) adjectives, in spite of the fact that adjectives which are morphologically related to ergative (and passive) verbs are not themselves ergative. Indeed, one of the reasons why the existence of a class of ergative adjectives was not immediately recognized, and is occasionally even explicitly denied (Burzio 1986; Levin and Rappaport 1986; Stowell 1987) is the absence of this “predicted” class of ergative adjectives. However, in section 5, I argue that this potential problem for the Lexicalist Hypothesis (and the theory of acquisition) disappears once one takes into account the role of derivational morphology and, in particular, the mechanics of the derivation of adjectives related to ergative (and passive) verbs.

In arguing for the existence of ergative adjectives, I will also provide indirect evidence that first, the internal structure of APs is fully hierarchical, as predicted by X-bar Theory; and second, the notion of c-command relevant for Binding Theory is the one making reference to “the first branching category” rather than “the first maximal projection,” in line with Chomsky (1986b: 8) and Giorgi (1986, 1987).

## 2 Two conceptual arguments

One general consideration pointing to the existence of ergative adjectives is the fact that there exist adjectives entering the alternation typical of strictly ergative verbs of the *affondare* “sink” class. Thus alongside pairs like (1a–b) (see Burzio 1981, 1986) one finds such pairs as (2a–b) (noted in Longobardi 1987):

- (1) a. Il capitano affondò la nave  
The captain sank the boat  
b. La nave affondò  
The boat sank
- (2) a. Gianni è  $\left\{ \begin{array}{l} \text{certo} \\ \text{sicuro} \end{array} \right\}$  [che verrò]  
G. is certain/sure that I will come

related by redundancy rules, rather than having a unique entry. The unmarked case in his framework would be for two related entries to “share” subcategorization properties.

In this chapter, we shall assume Chomsky’s (1970) variant of the Lexicalist Hypothesis. In fact there is evidence that the two variants are empirically distinguishable. See Stowell (1981: chapter 1, fn. 10) for possible arguments in favor of Chomsky’s approach.



- b. [Che verrò] è  $\left\{ \begin{array}{l} \text{certo} \\ \text{sicuro} \end{array} \right\}$

That I will come is certain/sure

The same alternation is also found when the propositional internal argument is realized as a NP (if we abstract away from the preposition *di* “of” which appears, for Case reasons, in front of the NP in the “transitive” variant of the adjective):<sup>3</sup>

- (3) a. Gianni è  $\left\{ \begin{array}{l} \text{certo} \\ \text{sicuro} \end{array} \right\}$  [di questo]

G. is certain/sure of this

- b. [Questo] è  $\left\{ \begin{array}{l} \text{certo} \\ \text{sicuro} \end{array} \right\}$

This is certain/sure

As is the case with the corresponding verbs, these systematic alternations can be given a maximally simple account (i.e., an account which leaves the selectional/subcategorization properties intact), if one assumes, as a minimal lexical parameter, that with such adjectives the external theta-role can either be assigned to [NP, IP] or be “suspended.” If it is assigned, then the (a) cases of (2) and (3) are generated. If it is not, then, after syntactic movement of the internal argument to [NP, IP], the (b) cases are generated.

A second theoretical argument for the existence of ergative adjectives is based on a derivational parallelism obtaining in English, where, unlike in Italian, raising adjectives are attested. Consider first the various uses of the verb *happen*:

- (4) a. John<sub>i</sub> never happens [*t*<sub>i</sub> to be punctual]  
 b. It never happens [that John is punctual]  
 c. \*John never happens that he is punctual  
 d. This never happens

As (4a–c) show, *happen* can select for (and theta-mark) a propositional internal argument (CP) while assigning no external theta-role to [NP, IP]. Example (4d) naturally reduces to the same entry if we assume that a

<sup>3</sup> It is not clear why the Case-marker *di* cannot be inserted in front of the object in the “ergative” use of *certo* (cf. \**E’ certo di questo* “It is certain of this” = “This is certain”). One reviewer suggested that this should possibly be viewed as a consequence of (an extended version of) “Burzio’s generalization.”

propositional argument can be realized in the general case as *either CP* (or, in certain cases, possibly IP) *or NP* (see Pesetsky 1982: chapter 1; Chomsky 1986a: chapter 3), and that Case Theory demands that the latter, unlike the former, may not remain *in situ*. Under this unitary lexical representation of *happen*, (4a) and (4d) undergo a parallel derivation, as is illustrated in (5a–b). Note that the raising configuration (5a) is but a special case of the “ergative” configuration (5b):

- (5) a. NP V [*t* X]  
           ↑  
       b. NP V *t*  
           ↑

Now, observe that adjectives like *certain* or *likely* occur in the same contexts as *happen*:

- (6) a. John is {*certain*  
           *likely*} [*t* to win]  
       b. It is {*certain*  
           *likely*} [that John will win]  
       c. This is {*certain*  
           *likely*}  
       d. \*John is likely that he will win

By parity of reasoning, they too should be characterized as having the same, unique, lexical property of selecting for an internal propositional argument, either CP or NP, where the NP is obligatorily moved to [NP, IP] for Case reasons. If so, then (6a) and (6c) also enter a parallel derivation, namely (7a–b), in which the raising configuration (7a) is but a special case of the ergative configuration (7b).

- (7) a. NP A [*t* X]  
           ↑  
       b. NP A *t*  
           ↑

In other words, just as (4a) renders an ergative derivation of (4d) plausible, so does (6a) for (6c). The fact that the raising configuration with adjectives is a marked structure (see Chomsky 1986b: 78) is, from this point of view, immaterial.

Aside from these general considerations, a number of empirical arguments can be adduced in support of the existence of ergative adjectives,

alongside a distinct class of unergatives. These arguments will be set forth in the next section.<sup>4</sup>

### 3 Some empirical arguments

The evidence discussed in this section is drawn almost exclusively from Italian, although there appears to be comparable evidence available in other languages (see Cinque 1989 for evidence based on German, and Roberts 1988b for evidence based on English). As we will see, different tests for ergativity tend to yield consistent results when they are applied to the same adjective, thus supporting the existence of ergative adjectives.

#### 3.1 *Ne-cliticization from the inverted subject*

In Burzio (1981, 1986) and Belletti and Rizzi (1981), substantial evidence is presented to motivate the following generalization:

- (8) *Ne-cliticization (to V) is possible only from the structural object position.*<sup>5</sup>

This generalization is illustrated by the contrast between (9) and (10):

- (9) Ne ha [affondate [due *t*]]  
Of-them (he/she) sank two
- (10) a. \*Ne ho fatto riferimento a [due *t*] (object of P)  
Of-them I referred to two
- b. \*Ne hanno avuto successo [due *t*] (inverted subject of transitive V)  
Of-them had success two
- c. \*Ne sono rimasti [due *t*] (di settimane) (adv. NP)  
Of-them they stayed two of weeks
- d. \*[Due *t*] ne sono arrivate ieri (preverbal subject)  
Two of-them arrived yesterday

<sup>4</sup> Our conclusion will thus differ both from that in Abraham (1983), Toman (1986), and Koster (1987: 264), where it is suggested that adjectives are characteristically ergative, and from that in Burzio (1986), Levin and Rappaport (1986), and Stowell (1987), where it is argued that adjectives can be only unergative.

<sup>5</sup> This generalization appears to be a consequence of the Empty Category Principle (ECP). For discussion, see Cinque (1987).

Apparent exceptions to this generalization are provided by the wellformedness of *Ne*-cliticization from the *inverted* subject of passive, *si*-passive, and ergative verbs as in (11). However, the NPs in these constructions, due to the “pro-drop” nature of Italian, may have remained *in situ* in the structural object position where they were generated at D-structure (see Burzio 1986).<sup>6</sup>

- (11) a. Ne sono state affondate [due  $t_i$ ] (inverted subject of passive)  
Of-them have been sunk two  
b. Se ne sono affondate [due  $t_i$ ] (inverted subject of *si*-passive)  
Of-them *si* sank two  
c. Ne sono affondate [due  $t_i$ ] (inverted subject of ergative V)  
Of-them sank two

In arguing for (8), Burzio (1981, 1986: 30f.) explicitly contrasts passive verbs with the most similar of the copulative–adjective constructions, the “unpassive” adjectives, first discussed in Siegel (1973). Unlike verbs, their inverted subjects appear not to allow for *Ne*-cliticization:

- (12) a. Ne<sub>i</sub> sarebbero [<sub>V</sub>riconosciute] molte  $t_i$  (di vittime)  
Of-them would be recognized many (of victims)  
b. \*Ne<sub>i</sub> sarebbero [<sub>A</sub>sconosciute] molte  $t_i$  (di vittime)  
Of-them would be unknown many (of victims)

Burzio (1986: 31) suggests that this is the case because they fill no structural object position. Burzio further notes that the configuration (12b), involving *Ne*-cliticization, “appears impossible with all adjectives”, thus

<sup>6</sup> Although Burzio (1981, 1986) and Belletti and Rizzi (1981) mention only the case of partitive *Ne*-cliticization, illustrated in (9)–(11), the generalization holds of “adnominal” or “genitive” *Ne*-cliticization as well:

- (i) a. Ne<sub>i</sub> ha affondato [la chiglia  $t_i$ ]  
Of-it (he) sank the keel  
b. Ne<sub>i</sub> è stata affondata [la chiglia  $t_i$ ]  
Of-it was sunk the keel  
c. Se ne<sub>i</sub> è affondata [la chiglia  $t_i$ ]  
Si of-it sank the keel  
d. Ne è affondata [la chiglia  $t_i$ ]  
Of-it sank the keel  
(ii) a. \*Ne<sub>i</sub> ho fatto riferimento al [la chiglia  $t_i$ ]  
Of-it I referred to the keel  
b. \*Ne<sub>i</sub> ha contato [la chiglia  $t_i$ ]  
Of-it counted the keel  
c. \*[La chiglia  $t_i$ ] ne<sub>i</sub> oscilla  
The keel of-it swings

suggesting “that there are no ergative adjectives, namely no adjectives appearing in the D-structure ‘[e] be-Adj NP.’ If any existed, they should allow Ne-Cl with respect to the NP . . . At this point, I know of no clear theoretical reason for the non-existence of such a class of adjectives” (p. 74, fn. 13). What I will suggest is that such a class of adjectives does exist and that it behaves as predicted by Burzio in allowing for *Ne*-cliticization from the inverted subject.

First, observe the contrast between (13)–(15) and (16)–(18), which contain unergative adjectives:<sup>7</sup>

- (13) a. Ne sono note solo alcune (delle sue poesie)  
Of-them are well-known only some (of his poems)  
b. Ne sono note le tendenze  
Of-them are well-known the tendencies
- (14) a. Ne sono probabili ben poche (di dimissioni)  
Of-them are likely really few (of resignations)  
b. Ne sono ormai probabili le dimissioni  
Of-them is already likely the resignation
- (15) a. Ne è oscuro più d’uno (di motivo)  
Of-them is obscure more than one (of reason)  
b. Ne sono oscuri i motivi  
Of-them are obscure the reasons
- (16) a. \*Ne sono buoni pochi (dei suoi articoli)  
Of-them are good few (of his articles)  
b. \*Ne sono buone le intenzioni  
Of-them are good the intentions
- (17) a. \*Ne sono ingiuste molte (di condanne)  
Of-them are unjust many (of condemnations)  
b. \*Ne è stata ingiusta la condanna  
Of-them has been unjust the condemnation

<sup>7</sup> With other adjectives the contrast is perhaps less sharp, and some variability among speakers is occasionally found. This suggests that certain adjectives may be marginally attributed (by certain speakers) to the ergative class (see also note 23). I will not attempt here a semantic/thematic characterization of the class of ergative adjectives, but will limit myself to listing some of the adjectives that appear to belong to this class (according to the ergativity tests discussed in this chapter): *noto* “well-known,” *chiaro* “clear,” *certo* “certain,” *sicuro* “sure,” *oscuro* “obscure,” *probabile* “likely,” *prevedibile*, “foreseeable,” *gradito*, “welcome,” *implicito* “implicit,” *esplicito* “explicit,” *evidente*, *ovvio* “obvious,” etc.

- (18) a. \*Ne sono pericolosi molti (di viaggi)  
 Of-them are dangerous many (of journeys)  
 b. \*Ne sono pericolosi gli atteggiamenti  
 Of-him is dangerous the attitude

This indeed suggests that with certain adjectives, namely those in (13)–(15), the “inverted” subject NP may remain where it is generated at D-structure, that is, in the structural object position of the AP (which is L-marked by a [+V] category):

- (19) [np<sup>i</sup> copulative V [<sub>AP</sub>[<sub>A</sub>'A NP<sup>i</sup>]]]

Such a structure conforms to Case Theory requirements by virtue of the fact that the inverted subject NP is in a CHAIN with the pre-copula subject position governed, and assigned Nominative, by INFL, just as in the corresponding verbal configurations. (For the possibility that NP<sup>i</sup> receives inherent Case from the adjective, see notes 26 and 32 below.)

As far as the adjectives such as those in (16)–(18) are concerned, namely those that do not allow for *Ne*-cliticization, we conclude that they occur in an unergative structure parallel to that of their corresponding verbs. That is to say, they realize their subject NP as an external argument at D-structure, either in the [NP, IP] of the copulative verb (20a), or, more likely, in the SPEC of the small clause (IP) selected by the copulative verb (20b).<sup>8</sup> In either case, the inverted subject will be in an adjunction position, adjoined to VP or AP, respectively, and not in the structural object position of AP:

- (20) a. [np [<sub>VP</sub>[<sub>VP</sub>copulative V AP] NP]]  
 b. [np copulative V [<sub>IP</sub>np [<sub>AP</sub>[<sub>AP</sub>A] NP]]]

As is the case with the inverted subject of unergative verbs, *Ne*-cliticization from the inverted subject of unergative adjectives will thus also be barred.<sup>9</sup>

<sup>8</sup> Copulative verbs can undoubtedly be assimilated to raising verbs. For evidence, see Couquaux (1979, 1981), Stowell (1978), Burzio (1981, 1986), Rizzi (1982c), and Cinque (1988).

<sup>9</sup> A variant of the previous argument is provided by *Wh*-extraction from the inverted NP subject, as *Wh*-movement from NP in Italian appears to mirror clitic extraction from NP (Cinque 1980a; Longobardi 1987). In essence, only those constituents which give rise, when cliticized, to well-formed clitic extraction from NP can be *Wh*-extracted. Compare (13)–(18) with (ia–b):

3.2 *Wh-extraction from the inverted sentential subject*

Successive cyclic extraction in Italian is not possible out of genuinely extraposed sentences (inverted sentential subjects of transitive and unergative verbs). But it is allowed from the complement of [+V] heads, including inverted sentential subjects of passive and ergative verbs (i.e. the complement may remain *in situ* in the VP-internal position). Consider the contrast between (21) and (22), the latter involving extraction of non-theta-governed phrases, which, given the ECP (Chomsky 1986b), can proceed only successive-cyclically:

- (21) a. \*In che modo / Per quale ragione li rovinerà [*t'* che lui se ne sia andato *t*]?  
 In which way / For which reason will it ruin them that he left?  
 b. \* In che modo / Per quale ragione avrebbe contato [*t'* che lui avesse reagito *t*]?  
 In which way / For which reason would it have mattered that he had reacted?
- (22) a. In che modo / Per quale ragione vi ha detto [*t'* che se ne andrà *t*]?  
 In which way / For which reason did he say that he will leave?  
 b. In che modo / Per quale ragione vi è stato detto [*t'* che se n'era andato *t*]?  
 In which way / For which reason was it told you that he had left?  
 c. In che modo / Per quale ragione potrà succedere [*t'* che se ne vada *t*]?  
 In which way / For which reason can it happen that he leaves?
- (i) a. Mario, di cui è nota/imminente una presa di posizione sul tema, ...  
 M., of whom is well-known/forthcoming a statement on the subject, ...  
 b. \*Mario, di cui è pericolosa/ingiustificata una presa di posizione sul tema, ...  
 M., of whom is dangerous/unjustified a statement on the subject, ...

The reason is the same, namely the ECP. For further discussion, see Cinque (1987), and, especially, the detailed account of this correlation in Longobardi (1987). The fact that, in several cases, *Wh*-extraction appears to yield results that are less ill formed than the corresponding impossible *Ne*-extraction cases (or are even quite acceptable) is argued in Longobardi (1987) and Cinque (1990c: chapter 1) to be due to the existence of parallel non-extraction derivations for the "fronted" *Wh*-phrase (a possibility unavailable to *Ne*-cliticization).

The explanation for the contrast, in a *Barriers* framework, is the need for each trace left by successive cyclic movement to be antecedent-governed (and head-governed). In (21), for example, while *t* is antecedent-governed by *t'* in the SPEC of the embedded CP, *t'* itself is not antecedent-governed, since a barrier (the embedded CP, owing to its non-L-marked status) intervenes. The adjunct extraction in (22) is, on the contrary, well formed, since the embedded CP does not qualify as a barrier, as it is L-marked by the matrix verb. As a consequence, not only *t*, but *t'* as well, will be antecedent-governed (and head-governed), in conformity with the ECP.

Restricting ourselves to the unergative/ergative pair, the crucial difference between (21b) and (22c) thus resides in the fact that the inverted sentential subject is found in a complement (L-marked) position in the latter (which contains an ergative verb), but not in the former (which contains an unergative verb). This observation provides an immediate diagnostic for distinguishing ergative from unergative adjectives as well. Successive cyclic extraction should be possible only from the inverted subject of ergative adjectives (which L-mark the inverted subject CP), not from that of unergative adjectives (which do not). The prediction is borne out. Only the class of adjectives that allow for *Ne*-cliticization from their inverted subject also allow for successive cyclic extraction from their inverted sentential subject. This is illustrated in (23) and (24) (we disregard here the irrelevant reading in which the adjunct is construed with the matrix clause):<sup>10</sup>

- (23) a. In che modo / Per quale ragione era prevedibile [*t'* che se ne andasse *t*]?  
 In which way / For which reason was it foreseeable that he would leave?
- b. In che modo / Per quale ragione è probabile [*t'* che reagisca *t*]?  
 In which way / For which reason is it likely that he will react?

<sup>10</sup> Similar contrasts are apparently found in English too, between such adjectives as *likely/clear* on the one hand and *strange/dangerous* on the other, thus suggesting the likelihood of a comparable distinction in that language:

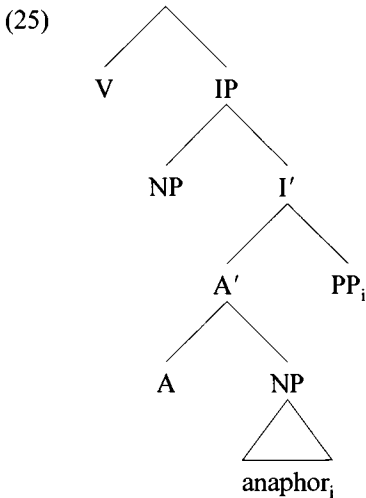
- (i) a. ?Who is it likely/clear will be invited?  
 b. ?How is it likely/clear that he behaved?
- (ii) a. \*Who would it be strange/dangerous were invited?  
 \*How would it be strange/dangerous that he would drive?



- (24) a. \*In che modo / Per quale ragione sarebbe stato pericoloso che se ne fosse andato *t*?  
 In which way / For which reason would it have been dangerous that he left?
- b. \*In che modo / Per quale ragione sarebbe controproducente [*t'* che avesse reagito *t*]?  
 In which way / For which reason would it be counter-productive that he had reacted?

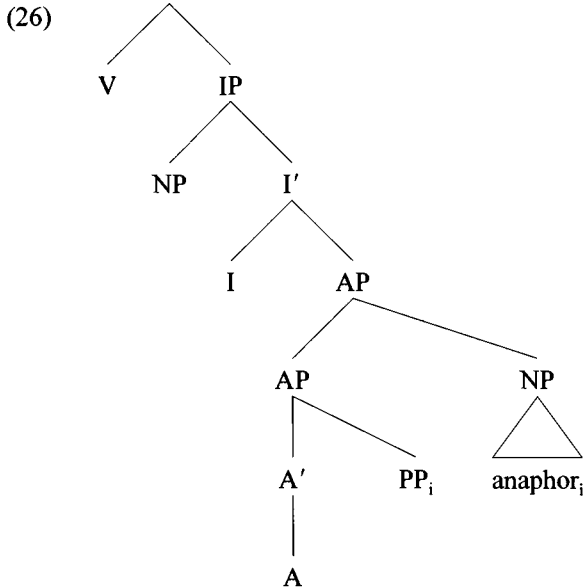
3.3 (*Short-distance*) *anaphor binding into the subject*

Some of the adjectives that allow for *Ne*-cliticization and *Wh*-movement from their inverted subject permit us to check a further prediction that follows from their classification as ergative, namely those taking a (prepositional) dative object. Since (prepositional) dative objects can (marginally) bind object anaphors in Italian,<sup>11</sup> and since, by hypothesis, the inverted subject of an ergative adjective can occupy the structural object position of AP, which is asymmetrically c-commanded by the dative object, it is predicted that a short-distance anaphor within the inverted subject of an ergative adjective should be bindable by the prepositional dative:



<sup>11</sup> Consider, for example, (i a–b):

The prepositional dative object of an unergative adjective, on the other hand, is predicted not to be able to bind an anaphor within the inverted subject, since the latter is adjoined to AP, and hence outside of its c-command domain:<sup>12</sup>



This twofold prediction is indeed satisfied, although it can be checked only indirectly, since, as (27) illustrates, (definite) inverted subjects can remain *in situ* (between the A and the dative object) only very marginally. This is, however, also the case with (definite) inverted subjects of ergative verbs as in (28).<sup>13</sup>

- (i) a. Ho fatto presente i propri<sub>i</sub> diritti ad ognuno di loro<sub>i</sub>  
I pointed out his rights to each of them  
b. l'apparizione dei propri<sub>i</sub> figli ad ognuno di loro<sub>i</sub>  
the appearance of his children to each of them

For further discussion, see Giorgi (1986) and Belletti and Rizzi (1988).

<sup>12</sup> This presupposes the adoption of the following strict definition of c-command, from Reinhart (1976):

- (i) *a* c-commands *b* iff *a* does not dominate *b* and the first branching category that dominates *a* dominates *b*.

For independent arguments supporting (i) over Aoun and Sportiche's (1982) definition, see Chomsky (1986b: 8), Giorgi (1986, 1987).

<sup>13</sup> See Antinucci and Cinque (1977) and, more recently, Belletti (1988), who suggests an account of this phenomenon within a more general treatment of the "Definiteness Effect." To our ears, even an indefinite inverted subject *in situ* gives somewhat marginal

- (27) \*?Era noto il suo libro a tutti  
Was well-known his book to everybody
- (28) \*?Era piaciuto il suo libro a tutti  
Was liked his book by everybody

The prediction can nonetheless be checked if the “inverted” subject is moved from its *in situ* position either to the left, into [NP, IP], by NP-movement, or to the right, into an adjunction position, by Heavy NP Shift. Observe the contrast between (29)–(30) containing the ergative adjectives *noto* “well-known” and *oscuro* “obscure,” and (31)–(32) containing the unergative adjectives *riconoscente* “grateful” and *fedele* “faithful”.<sup>14</sup>

- (29) a. Il proprio<sub>i</sub> destino non era noto a nessuno;  
His own destiny was not well-known to anybody  
b. Non era noto a nessuno<sub>i</sub>; neanche il proprio<sub>i</sub> destino
- (30) a. La propria<sub>i</sub> origine era oscura a tutti;  
Their own origin was obscure to everybody  
b. Era oscura a tutti<sub>i</sub>; la propria<sub>i</sub> origine
- (31) a. \*I propri<sub>i</sub> amici non sono riconoscenti a nessuno;  
His own friends are grateful to nobody  
b. \*Non sono riconoscenti a nessuno<sub>i</sub>; neanche i propri<sub>i</sub> amici
- (32) a. \*I propri<sub>i</sub> figli sono fedeli a tutti;  
His own children are faithful to everybody

results (??*Era noto qualche libro a tutti*, ??*Era piaciuto qualche libro a tutti*), for reasons that are presumably related to yet poorly understood pragmatic conditions on the informational structure of the (Italian) sentence. The deviance of V NP XP sequences with non-eventive predicates is also discussed in Belletti and Rizzi (1988).

<sup>14</sup> Note that the adjectives *riconoscente* “grateful” and *fedele* “faithful” also fail to allow for *Ne*-cliticization and *Wh*-extraction out of their inverted subjects, thus behaving consistently with the ergativity test under discussion here:

- (i) a. \*Ne erano riconoscenti pochi (dei suoi amici)  
Of-them were grateful few (of his friends)  
b. \*Ne erano riconoscenti anche i nemici, a lui  
Of-him were grateful to him even the enemies  
c. \*?Di che professore vi era riconoscente la figlia  
Of which professor to-you was grateful the daughter
- (ii) a. \*Ne è fedele più d'uno a Carlo (di amico)  
Of-them is faithful more than one to C. (of friends)  
b. \*Ne sono fedeli gli amici (di Carlo)  
Of-him are faithful the friends (of C.)  
c. \*?Di che amico vi era fedele la figlia?  
Of which friend to-you was faithful the daughter?



(prepositional) object is quantificational, exactly as happens with psych-verbs. Giorgi (1984: appendix) cites the following examples in illustration:

- (34) a. La propria<sub>i</sub> salute preoccupa [ognuno di loro]<sub>i</sub>  
 His own health worries each of them  
 b. Tu dici che il proprio<sub>i</sub> futuro non interessa a nessuno<sub>i</sub>  
 You say that his own future does not interest anybody

However this fact is to be interpreted, it reinforces the parallelism with psych-verbs and the hypothesis that the inverted subject of ergative adjectives originates in the structural object position of the AP.<sup>15</sup>

<sup>15</sup> Alessandra Giorgi (p.c.) notes that, under a hypothesis of “thematic” binding for the long-distance anaphor *proprio*, the contrast between (29)–(30) and (31)–(32) follows, quite independently of the ergativity issue, if the adjectives *noto/oscuro* have a theme subject and an experiencer object, and the adjectives *ricoscente/fedele* have an experiencer subject and a theme object. She also notes, however, that the contrast in (i a–b), which contain the short-distance anaphor *se stesso* (“himself”), provides an unambiguous argument for the ergative nature of *noto*:

- (i) a. ?Ritenevo solo se stesso ben noto a Gianni  
 I believed only himself to be well-known to G  
 b. \*Ritenevo solo se stesso fedele a Gianni  
 I believed only himself to be faithful to G

These judgments are explained if the binding requirements of *se stesso* are satisfied at D-structure in (i a), though not in (i b), which is consistent with the ergative nature of *noto*.

Burzio (1981, 1986: section 3.3) notes that the use of *ciascuno* “each” as a “floating quantifier” requires c-command by a plural antecedent at D-structure, as suggested by the relative wellformedness of (ii), in which the antecedent NP c-commands *ciascuno* at D-structure (though not at S-structure):

- (i) Hanno assegnato [un interprete ciascuno] ai visitatori  
 They assigned an interpreter each to the visitors  
 (ii) ??Un interprete ciascuno fu assegnato ai visitatori  
 An interpreter each was assigned to the visitors

When the antecedent NP c-commands *ciascuno* neither at D- nor at S-structure, as in (iii), the sentence is unacceptable:

- (iii) \*[Un interprete ciascuno] parlò ai visitatori  
 An interpreter each spoke to the visitors

Although such forms as (ii) are quite marginal to begin with, some difference with (iii) is still perceptible. We can use this as a further diagnostic to distinguish ergative from unergative adjectives. Only with the former will *ciascuno* be c-commanded by the dative at D-structure. Despite the marked character of the phenomenon, as noted, it seems that a difference is again detectable in the expected direction:

- (iv) ?Una sola cosa ciascuno era chiara/nota a quei ragazzi  
 Just one thing each was clear/well-known to those boys  
 (v) \*Un solo amico ciascuno era affezionato a quei ragazzi  
 Just one friend each was fond of those boys

3.4 *Long-distance anaphor binding by the subject*

One way to determine the ergative or unergative status of a particular V is to consider those grammatical phenomena that require the presence of a thematic subject at D-structure and check whether the verb permits those grammatical phenomena. If it does, it is unergative. If it does not, there is reason to think that it is ergative. Most such phenomena, however, such as impersonal passivization or impersonal *si* in certain infinitival contexts (Cinque 1988), and reflexive cliticization of an indirect object (Rizzi 1982c)<sup>16</sup> do not help to distinguish ergative from unergative adjectives. This is primarily because the relevant tests for ergativity normally must be carried out only in configurations in which the adjective (phrase) is embedded in a full sentential structure, that is, in configurations in which the AP is within a small clause complement to a copulative (raising) verb whose subject is non-thematic. This has the effect of neutralizing the “derived” vs. “non-derived” status of the adjective’s subject by having it become the derived subject of the copulative/raising verb in both cases.

There is, however, one grammatical phenomenon which provides a test for the thematic nature of the D-structure subject and which does not depend on the embedding of the AP in a full sentential structure. This is long-distance anaphor binding in Belletti and Rizzi’s (1988) reinterpretation of Giorgi (1984). In discussing the contrast in (35), which was observed in Giorgi (1984), Belletti and Rizzi note that the ungrammaticality of (35b) can be attributed, within their analysis of psych-verbs, to a basic configurational difference between verbs of the *temere* class and verbs of the *preoccupare* class.

<sup>16</sup> Observe the contrast between (i a–b), which shows that unergative, but not ergative verbs, are admitted in a raising context with impersonal *si* (Cinque 1988) and (ii a–b), which shows that the clitic reflexive *si* can refer only to a D-structure thematic subject (Rizzi 1982c):

- (i)
  - a. Ritengo non essersi dormito a sufficienza  
I esteem one not to have slept sufficiently
  - b. \*Ritengo non essersi nati in condizioni ottimali  
I esteem one not to be born in optimal conditions
- (ii)
  - a. Gianni si è telefonato  
G. phoned himself
  - b. \*Gianni si è venuto in mente  
G. came to (his) mind to himself

- (35) a. Gianni<sub>i</sub> teme coloro che vogliono sostenere la propria<sub>i</sub> candidatura  
 G. fears those who want to support him as candidate  
 b. \*Gianni<sub>i</sub> preoccupa chiunque dubiti della propria<sub>i</sub> buona fede  
 G. worries whoever doubts his good faith

The former, though not the latter, have a D-structure thematic subject. If one assumes that long-distance anaphors can only be bound from a *thematic* (subject) position, the contrast is explained. As independent evidence for the proposed condition on long-distance anaphor binding, they cite the following contrasts:<sup>17</sup>

- (36) a. \*Gianni<sub>i</sub> sembra [*t* essere efficiente] a chiunque sostiene la propria<sub>i</sub> candidatura  
 G. seems to be efficient to whoever supports him as candidate  
 b. Gianni<sub>i</sub> promette [*di* PRO essere efficiente] a chiunque sostenga la propria<sub>i</sub> candidatura  
 G. promises to be efficient to whoever supports him as candidate
- (37) a. \*Gianni<sub>i</sub> pare [*t* intelligente] a chiunque accetti le proprie<sub>i</sub> idee  
 G. appears intelligent to whoever accepts his own ideas

<sup>17</sup> Similar cases were observed in Giorgi (1984: 323), where an example is also noted which is at first sight problematic for the hypothesis that only thematic subjects can bind long-distance anaphors. As the acceptability of (i) below shows, it would seem that the derived subject of a passive can bind a long-distance anaphor:

- (i) Osvaldo<sub>j</sub> è stato convinto *t<sub>j</sub>* da Gianni<sub>i</sub> del fatto che la propria<sub>\**ij*</sub> casa è la più bella del paese  
 O. was convinced by G. of the fact that self's house is the nicest of the village  
 (= (50b) of Giorgi 1984)

It appears, however, that with such verbs as *convincere* "convince," *persuadere* "persuade," etc. (which arguably take an experiencer object and an optional agentive subject) the object too can bind long-distance anaphors. (ii), in fact, appears to have roughly the same status as (i) (perhaps "?"):

- (ii) Lo<sub>i</sub> avevano convinto che la propria<sub>i</sub> casa era la più bella di tutte  
 They had convinced him that self's house was the nicest of all

This confirms the idea that *experiencers* provide a systematic exception to the otherwise general condition that only *subjects* can bind long-distance anaphors. If so, then it seems reasonable that in (i), *proprio* is bound by the object trace, a thematic position, not by the subject. When binding by the object fails, for lack of c-command, unacceptability results, as expected, even though the subject c-commands *proprio*:

- (iii) \*Osvaldo<sub>i</sub> fu visto [*t* entrarvi] anche da coloro che dubitavano della propria<sub>i</sub> buona fede  
 O. was seen to enter there even by those who doubted of self's good faith

- b. Gianni<sub>i</sub> dà aiuto a chiunque accetti le proprie<sub>i</sub> idee  
 G. helps whoever accepts his own ideas

Despite the rather marked status of long-distance anaphor binding phenomena in Italian, the contrasts indicated are in fact quite clear.

We thus have a diagnostic to determine the thematic or non-thematic status of an adjective's subject. We simply embed a long-distance anaphor in the complement of the adjective (so as to ensure c-command of the anaphor by the preadjectival subject position) and see whether such binding is well formed or not. The prediction is that it should be well formed with unergative adjectives, whose external subject position is thematic, and ill formed with ergative adjectives, whose external subject position is non-thematic. The prediction is borne out. Once again, despite the generally marked status of the phenomenon, the contrast between ergative and unergative adjectives appears to be quite sharp. Contrast (38) and (39), which contain adjectives behaving as unergatives and ergatives, respectively, in relation to the previous tests:

- (38) a. Gianni<sub>i</sub> è [riconoscente a chiunque aiuti i propri<sub>i</sub> amici]  
 G. is grateful to whoever helps his own friends  
 b. Gianni<sub>i</sub> è [scostante con chi non accetta le proprie<sub>i</sub> idee]  
 G. is rude to those who do not accept his own ideas
- (39) a. \*Gianni<sub>i</sub> è [noto solo a chi abbia seguito la propria<sub>i</sub> storia sulla cronaca cittadina]<sup>18</sup>  
 G. is well-known only to those who followed his story in the local press  
 b. \*Un discorso del genere<sub>i</sub> è [chiaro solo a chi conosce la propria<sub>i</sub> logica]  
 A similar speech is clear only to those who know its own logic (cf. *Un discorso del genere ha la propria logica* "A similar discourse has its own logic")

### 3.5 *An asymmetry in come-clauses*

This argument is based on a peculiarity of the syntax of *come*-clauses such as (40) that has been noted in two recent studies of this construction

<sup>18</sup> Note that the trace in the structural object position (under A') cannot function as the thematic antecedent of *proprio* even though it c-commands it. This is due to the fact that, unlike the trace in (i) of the previous footnote, this trace is a theme, not an experiencer, and only experiencers can bind a long-distance anaphor from a non-subject position.



(and the related *as*-construction in English), namely Burzio (1987) and Stowell (1987):

- (40) Gianni è partito, come tutti sanno  
 G. left, as everybody knows

The relevant property of this construction is that *come* can only bind CP gaps found in the structural object position. Consider, for example, the contrast between (41) and (42):

- (41) a. Come [speravamo\_\_], Mario si è sistemato (object)  
 As we hoped, M. settled down  
 b. Come è stato [detto\_\_], M. si è sistemato (inverted subject of passive V)  
 As has been said, M. settled down  
 c. Come si è [detto\_\_], M. si è sistemato (inverted subject of *si* passive)  
 As *si* is said, M. settled down  
 d. Come spesso [succede\_\_], M. si è sbagliato (inverted subject of ergative V)  
 As often happens, M. was wrong
- (42) a. \*Come \_\_[conta\_\_] agli occhi di molti, M. ha vinto (subject of unergative V)  
 As counts for many people, M. won  
 b. \*Come \_\_ha [fatto scalpore]\_\_, M. si è sposato (subject of transitive V)  
 As made a big fuss, M. got married

Stowell's suggestion (for the corresponding *as*-clauses) is that the difference between the former and the latter case lies in the non-properly governed status of the CP gaps of (42) at D-structure. If one assumes that the ECP holds at every level of representation, *including D-structure*, then the contrast is derived in a principled way. At D-structure, the CP gaps of (41) are theta-governed, hence properly governed. Those of (42) are not theta-governed, nor, obviously, antecedent-governed, since movement has not yet applied. Whether or not this theoretical account of the peculiar restriction of CP gaps in *come*- (*as*-) clauses to directly theta-governed position will be confirmed by further research, the phenomenon represents by itself a test for ergativity that can be applied to adjectives as well. If the CP gap needs to be theta-governed at D-structure, the prediction is that the inverted subject of ergative, but not of unergative,

adjectives will be a well-formed gap in *come*-clauses. This prediction is indeed borne out by the facts, in a way that is consistent with the result of the previous tests:

- (43) a. Come è [probabile \_\_], G. ce la farà  
As is probable, G. will make it  
b. Come era [prevedibile \_\_], G. non è venuto  
As was foreseeable, G. did not come  
c. Come sembra ormai [certo \_\_], G. ce la farà  
As seems sure by now, G. will make it
- (44) a. \*Come è [sorprendente] \_\_, G. ha vinto  
As is surprising, G. won  
b. \*Come sembra [significativo] \_\_, G. è sparito  
As seems significant, G. disappeared  
c. \*Come era [possibile] \_\_, G. ha vinto  
As was possible, G. won

The same contrast emerges in the small clause analogues of (43)–(44):<sup>19</sup>

- (45) a. La delegazione sovietica, come noto, non parteciperà all'incontro  
The Soviet delegation, as well-known, will not take part in the meeting  
b. Come implicito in quanto è stato detto finora, si dissocieranno  
As implicit from what has been said so far, they will dissociate themselves

<sup>19</sup> Not all ergative adjectives occur in the absolute construction as easily as those in (45) (??*Come ormai sicuro*,... “As by now sure,...”). Often the addition of some aspectual/temporal element is needed to render the form more natural (cf. (61a)–(64a) below).

Stowell (1987) judges the analogues of (45) in English as totally unacceptable, and, indeed, takes their illformedness as evidence for the non-existence of ergative adjectives (in English). Although Burzio (1987: appendix) considers forms like (i) below to be well formed, the informants I have consulted tend to agree with Stowell’s judgments, even though they do perceive the same clear contrast between the English analogues of (45) and (46) that is perceived by Italian speakers.

(i) The government staged a brutal repression, as well known / as obvious from many gruesome discoveries

Perhaps the difference between the two languages concerning (45) lies in the fact that the variable is Case-marked in Italian, though not in English. Note that Italian has *Una volta noto questo*,... , whose English analogue \**Once this well-known*,... is ill formed (for discussion, see Kayne 1985, 1989b).

- c. Mario è stato, come prevedibile, bocciato  
M. has, as foreseeable, failed
- (46) a. \*Come deprecabile, l'incontro non avrà luogo  
As deprecable, the meeting will not take place
- b. \*Come ormai significativo, Mario rifiuta di farsi intervistare  
As by now significant, M. refuses to be interviewed
- c. \*Come pertinente per quanto è stato detto, Mario si dimetterà  
As relevant for what has been said, M. will resign

### 3.6 Complementizer selection

In Italian, only infinitival clauses that are complements of a lexical head are obligatorily introduced by a prepositional complementizer, which can be either *di* "of" or *a* "to," depending on the governing head.<sup>20</sup> The choice is not idiosyncratic. For present purposes, the following generalizations will suffice (for more discussion see Cinque 1990c: chapter 3):

- (47) *di* is chosen when:
- a. the lexical head subcategorizes for a *di* + NP complement;
- b. the infinitival clause is an object clause.

The generalizations in (47) are illustrated in (48):

- (48) a. Lui si compiace di non avere amici (cf. *Si compiace di questo*)  
He rejoices at not having friends (He rejoices at that)
- b. Gli ho chiesto di aiutarmi (cf. *Gli ho chiesto questo*)  
To-him-I-have asked to help me (To-him-I-have asked this)

- (49) *a* is chosen when:
- a. the lexical head subcategorizes for an *a* + NP complement;
- b. the infinitival clause is complement to certain verbs (*provare* "try," *cominciare* "begin," *continuare* "continue," etc.).

Generalization (49) is illustrated in (50):

- (50) a. Mi sono rassegnato a partire (cf. *Mi sono rassegnato a questo*)  
I resigned myself to leaving (I resigned myself to this)

<sup>20</sup> A limited exception to the otherwise obligatory presence of a prepositional complementizer in infinitival *complement* sentences is represented by the restricted class of "verbs of willing" and a few other verbs (*sapere* "know (how)," *osare* "dare", etc.).

- b. *Ho cominciato a fumare* (cf. *Ho cominciato questo*)  
I began to smoke (I began this)

(D-structure) subject clauses are never introduced by a prepositional complementizer. The (inverted) subject clauses of passive and ergative verbs, which are introduced by the prepositional complementizer *di*, are only an apparent exception. They can plausibly be taken to fall under (47b) if we assume that they are generated in object position at D-structure and that complementizer selection operates at that level.<sup>21</sup> Consider, for example, the contrast between (51), which contains transitive or unergative verbs and (52), which contains passive or ergative verbs:

- (51) a. *Comporta dei rischi anche solo* [(*\*di*) cercarlo]  
It implies risks even only looking for him  
b. *Non ha contato* [(*\*di*) essere ricchi]  
It did not count to be rich
- (52) a. *Mi è stato chiesto* [(*\*di*) rimanere]  
I was asked to stay  
b. *Mi è capitato* [(*\*di*) assistere ad un curioso incidente]  
It happened to me to witness a curious accident

Such a contrast suggests that (aside from the case of complements of verbs subcategorized by *di* + NP phrases) only infinitival subject sentences that realize the internal object argument at D-structure can (and must)<sup>22</sup> be introduced by the prepositional complementizer *di*. This is particularly interesting in the present connection since it provides a new diagnostic to determine the D-structure position of an adjective's inverted sentential subject.

<sup>21</sup> For example, dislocated CPs preserve the same pattern of obligatory presence or absence of prepositional complementizers as the corresponding non-dislocated CPs. Contrast (i) with (51)–(52):

- (i) a. *(Di) rimanere, credo che non gli sia stato chiesto*  
To stay, I think that he hasn't been asked  
b. *(Di) cercarlo, credo che comporti dei rischi*  
Looking for him, I think that it implies risks

<sup>22</sup> There are only a handful of exceptions to the obligatory presence of the prepositional complementizer. For example:

- (i) a. *Mi è bastato fare questo*  
It sufficed to me to do that  
b. *Mi piace crederlo felice*  
I like to believe him happy

What we expect is that ergative adjectives will differ from unergative adjectives in that the infinitival sentential subject of the former, but not that of the latter, will be (obligatorily) introduced by the prepositional complementizer *di*. Although not all of the adjectives that qualify as ergative according to the previous tests admit infinitival sentential subjects, those that do, conform to the expectation. As (53) shows, they require the prepositional complementizer *di*. This fact indeed suggests that their sentential subject is an internal argument at D-structure. Unergative adjectives, on the other hand, systematically exclude *di*, as expected (cf. (54)):

- (53) a. Non gli era noto \*(di) essere così famoso<sup>23</sup>  
 It wasn't known to him to be so famous  
 b. Non mi era affatto chiaro \*(di) non poterlo prendere  
 It wasn't clear at all to me that I could not take it  
 c. Non gli era del tutto evidente \*(di) non essere all'altezza del compito  
 It was not at all evident to him not to be able to face the task
- (54) a. \*Mi è impossibile (\*di) aiutarti  
 It is impossible to me to help you  
 b. \*E' pericoloso (\*di) sporgersi dal finestrino  
 It is dangerous to lean out of the window  
 c. \*E' ingiustificato (\*di) comportarsi così  
 It is unjustified to behave like that

#### 4 On the unexpected failure of certain ergativity tests

In this section, we review a number of diagnostics for (verbal) ergativity which unexpectedly fail to discriminate between ergative and unergative adjectives. We will argue that, in each case, an external factor intervenes

<sup>23</sup> There are also some adjectives which normally take a prepositionless infinitival subject which marginally allow *di*. This might suggest that they belong to both the unergative and (more marginally) the ergative class:

- (i) a. Non mi era gradito (0/?di) ricevere così tante visite  
 I was not pleased to receive so many visits  
 b. E' auspicabile/augurabile (0/?di) non dover ripetere quell'infausta esperienza  
 It is desirable not to have to repeat that unlucky experience

This conjecture is strengthened by the fact that the same adjectives also yield intermediate results under the other tests for ergativity: *?Ne sono gradite/auspicabili molte t*: *?Ne sono gradite/auspicabili le dimissioni t*.

which has the effect of neutralizing the difference between the two types of adjectives.

#### 4.1 *The absolute construction*

As originally noted in Perlmutter (1978b; also Belletti 1981), the absolute participial construction in Italian provides two further pieces of evidence to distinguish between ergative verbs (and passive past participles) and unergative verbs. The former, but not the latter, can apparently occur in two related absolute adjunct constructions, one with an overt subject (cf. (57)–(58)), and the other without an overt subject (cf. (55)–(56)):

- (55) a. Arrivata in ritardo, Maria non si scusò neppure  
 Arrived late (Having arrived late), M. did not even excuse herself  
 b. Uscita di casa, si accorse di aver dimenticato le chiavi  
 Gone out (Having gone out), she realized she had forgotten her keys
- (56) a. \*?Telefonato a casa, Maria seppe che era stata promossa  
 Phoned home (After phoning home), M. learned she had passed  
 b. \*?Parlato con Mario, andò a casa  
 Spoken with M. (After speaking . . .), he went home
- (57) a. Arrivata Maria, partimmo  
 Arrived M. (After M. arrived), we left  
 b. Uscita Anna, tutti ripresero a parlare  
 Gone out A. (After A. left), everybody started to talk again
- (58) a. \*Telefonato Gianni, tutti uscirono  
 Phoned G. (After G. phoned), everybody went out  
 b. \*Parlato il Presidente, nessuno chiese la parola  
 Spoken the President (After the P's speech), nobody asked to speak

If Hoekstra's (1984) or Haider's (1984) general analysis of past participles is adopted, both contrasts can be related to the single difference between ergative and unergative verbs: the fact that the former, but not the latter, generate their "subject" in the structural object position under VP. Hoekstra and Haider essentially identify both the active and the passive past participle as verbal forms which "suspend" or "block" the externalization of the external theta-role (if there is any). This prerogative, of

course, had previously been attributed only to the passive past participle. Under their view, there is but one past participle, the difference between the “active” and the “passive” variant being a consequence of the different choice of the auxiliary. Auxiliary *have*, but not auxiliary *be*, would have the capacity to “reactivate” or “deblock” the externalization of the suspended external theta-role.

If this is correct, it follows that in an absolute past participle construction, where no auxiliary is present, no external theta-role will be assigned; only internal ones will, if any.

Assuming that the facts of predication demand that the relevant subpart of (56) have a small clause structure as in (59), then sentences like (56) are presumably excluded on the same grounds as impersonal passive sentences like (60), namely as a consequence of the fact that Italian disallows CHAINS containing no argument (see Burzio 1986: 147, 192; von Stechow 1987; Cinque 1988: fn. 56):

(59) ([<sub>CP</sub>]<sub>IP</sub>NP [<sub>I</sub>/I [<sub>VP</sub>telefonato [<sub>PP</sub>a casa]]]) (I)

(60) [<sub>CP</sub>]<sub>IP</sub>NP è stato telefonato a casa]

It was phoned home

Sentences like (58a–b), and the like, are instead excluded by the fact that their lexical subjects fail to receive a theta-role, though, we may assume, they receive Case, after movement of the past participle to C, as suggested in Kayne (1985, 1989b).<sup>24</sup> Turning now to adjectives, we see that they too

<sup>24</sup> Following Kayne (1985, 1989a), we take the relevant part of (57a) to have the following structure (after movement of the past participle to I and C, and of the NP from [NP, VP] to [NP, IP]):

(i) [<sub>CP</sub>[<sub>C</sub>Arrivata]<sub>IP</sub>Maria [<sub>VP</sub>[<sub>ve</sub>]<sub>NP</sub>e]]]]

A further piece of evidence for past-participle-to-COMP movement comes from the following contrast:

- (ii) a. Anche se arrivata in ritardo, Maria non si scusò  
 Even if arrived late, M. did not apologize  
 b. \*Anche se arrivata Maria, tutti si rifiutarono di partire  
 Even if arrived M., everybody refused to leave

The illformedness of (ii b) can be attributed to a Case Filter violation if – crucially – the past participle can assign Case only after moving to C. In (ii b), such a possibility is unavailable as C is already filled with *se* “if.”

Kayne (1985: fn. 19) mentions the fact that forms such as (56) are for certain speakers marginally possible. Examples are (iii a, b), from Burzio (1981: 536) and Manzini (1983: 128), respectively:

- (iii) a. Parlato a Piero, Mario si senti sollevato  
 Spoken to P. (After speaking to P.), M. felt relieved

occur in these absolute adjunct constructions. We find, however, no difference between ergatives, in the (a) sentences below and unergatives, in the (b) sentences:<sup>25</sup>

- (61) a. Una volta noti, i loro nomi saranno oggetto di pettegolezzo  
Once known, their names will be targets of gossip  
b. Una volta liberi, gli ostaggi saranno riportati nel loro paese  
Once free, the hostages will be taken to their country
- (62) a. Una volta certa, la notizia verrà teletrasmessa  
Once certain, the news will be broadcast  
b. Una volta maggiorenne, potrai fare quello che vuoi  
Once of age, you will be able to do what you want
- (63) a. (Una volta) noti i nominativi dei commissari, potremo valutare la possibilità di concorrere  
(Once) known the names of the committee members, we will be in a position to consider the possibility of entering the competition  
b. Mario, telefonato a Maria, scopri ...  
M., phoned M., discovered ...

Although we find these particular cases quite marginal, we tend to accept analogous sentences with a temporal/aspectual element such as *una volta* "once":

- (iv) a. ?Una volta parlato a Piero, Maria ...  
Once spoken to P., M ...  
b. ?Mario, una volta telefonato a Maria, scopri ...  
M., once phoned M., discovered ...

This may either mean that (active) past participles are after all capable of externalizing the external theta-role (see Kayne 1985: fn. 19), temporal/aspectual factors playing no role beyond their semantic/pragmatic import, or that the added temporal/aspectual element renders INFL strong enough to "deblock" the suspended external theta-role of the past participle.

What is of interest, in any event, is that under such circumstances, even a lexical subject tends to become possible (at least with certain verbs):

- (v) a. ?Una volta finito di parlare il Presidente, tutti si alzarono in piedi  
Once stopped speaking the President, everybody stood up  
b. ?Una volta cenato anche i bambini, potremo parlare con maggior tranquillità  
Once dined the children too, we will be able to speak with more serenity

This is in fact expected, once assignment of the external theta-role becomes available.

<sup>25</sup> Note that neither *liberi* "free," nor *maggiorenne* "of age" allows *Ne*-cliticization from the inverted subject:

- (i) a. \*Ne sono liberi due (degli ostaggi)  
Of-them are free two (of the hostages)  
b. \*Ne sono maggiorenni pochi, qui  
Of-them are of age few, here



- b. (Una volta) liberi anche gli ultimi ostaggi, si potrà riprendere le trattative  
(Once) free even the last hostages, we will be able to resume the negotiations
- (64) a. Una volta certe anche le sue dimissioni, avizzeremo la nostra candidatura  
(Once) certain his resignation, we will advance our candidature
- b. Una volta maggiorenne anche sua figlia, le sue preoccupazioni diminuiranno  
Once of age his daughter too, his worries will decrease

Such a lack of difference, however, should cause no problems for our extension of the ergative/unergative distinction to adjectives. This is because adjectives are quite generally capable of externalizing their external theta-role, even in the absence of a copula.<sup>26</sup>

- (65) a. Con [te libera], sarà tutto più facile  
With you free, everything will be easier
- b. Con [Gianni ammalato], non si può partire  
With G. ill, we cannot leave

#### 4.2 *Adjectives in complement small clauses*

The asymmetry found above between ergative and unergative adjectives when extraction takes place from their inverted subjects (section 3.1) apparently disappears when the adjectives are embedded in the small clause complement of epistemic, causative/perception, or volitional verbs. Consider the following paradigms of *Ne*-cliticization (the (a) examples contain an ergative adjective; the (b) examples an unergative one):

<sup>26</sup> We take the Nominative Case of the adjective's subject in (63)–(64) to be assigned by the adjective AGR moved (through I) to C, as is the case with past participles. The argument of note 24 for such a derivation in the case of past participles extends to adjectives, as (i a–b) indicates:

- (i) a. Anche se già note da tempo, le loro intenzioni ci hanno stupito  
Even if already well-known, their intentions bewildered us
- b. \*Anche se già note le loro intenzioni, le ripeteremo  
Even if already well-known their intentions, we will repeat them

For the more limited possibility of the assignment of Accusative Case to the adjective's subject, see Belletti (1981).

- (66) a. Ne riterrò noti solo alcuni  
Of-them I will consider known only some  
b. Ne riterrò nota la dimostrazione  
Of-it I will consider known the demonstration
- (67) a. (?) Non ne ritenevo opportuna nessuna  
Of-them I considered appropriate no one  
(cf. \**Non ne è opportuna nessuna* “Of-them is appropriate no-one”)  
b. Ne ritenevo opportuna la riapertura  
Of-it I considered appropriate the opening
- (68) a. Ne ha resi noti molti  
Of-them he/she has rendered known many  
b. Ne ha resi noti i particolari  
Of-it he/she has rendered known the details
- (69) a. Ne ha resi infelici molti  
Of-them he/she has rendered unhappy many  
b. Ne ha resi infelici i sostenitori  
Of-it he/she has rendered unhappy the supporters  
(cf. \**Ne sono infelici i sostenitori* “Of it are unhappy the supporters”)

This is at first sight surprising. *Ne*-cliticization from the inverted subject should be as impossible in (67) and (69) as it was in (16)–(18) above, under the assumption that the NP is an external argument of the adjective.

There is, however, independent evidence that in such cases as (66)–(69) a reanalysis process is at work which forms a single complex predicate out of the matrix verb and the adjective: *ritenere* + *opportuno*, *rendere* + *noto*, etc.<sup>27</sup> As a consequence of reanalysis, the original (external and internal) arguments of the adjective become *internal* arguments of the complex predicate (which theta-marks and Case-marks them), since the complex predicate has already an external argument, namely that of the matrix V. This ensures that they end up being L-marked by the newly formed V + A predicate, which means that the former external argument of the adjective is not a barrier to antecedent-government (and head-government) of the trace of *ne* in the Spec of NP.<sup>28</sup>

<sup>27</sup> See Rizzi (1982c) and Chomsky (1986a). The reanalysis idea can be traced back to Chomsky (1955). See also Stowell (1991) for the suggestion that the same process of reanalysis, in English, takes place at LF only.



Burzio (1986: 74, fn. 13). Nevertheless, it is apparently the case that no adjective can occur in the construction:

- (71) a. \*Il est heureux beaucoup de monde  
           It is happy many people  
       b. \*Il a été inachevé plusieurs constructions cette année  
           It has been unfinished many buildings this year

Given the evidence for ergative adjectives presented earlier in this chapter, we shall attempt to attribute the ungrammaticality of (71) to general principles governing this construction.<sup>30</sup>

Pollock (1985, 1986) argues that in the construction exemplified in (70) the inverted subject is not in a CHAIN with *it*; rather, it is theta-marked and Case-marked *in situ* within VP. That is, ergative verbs (as well as passive past participles and *se-moyen* verbs) are capable of assigning (inherent) Case to their object.<sup>31</sup> Under this analysis, then, a direct explanation suggests itself for why (ergative) adjectives cannot occur in the construction. Adjectives in French, as opposed to verbs, are independently known not to be able to assign Case, whether structural or inherent. Thus, the “inverted” subject in (71) will simply be excluded by the Case Filter.<sup>32</sup>

#### 4.3.2 Adnominal *en*-cliticization in the “stylistic inversion” construction

A second context distinguishing ergative (as well as passive and *se-moyen*) verbs from unergative (and transitive) verbs in French is adnom-

<sup>30</sup> Burzio (1986: 226, fn. 1), while hypothesizing the non-existence of ergative adjectives, does observe that the existence of raising adjectives such as *likely* (*John is likely [to win]*) poses a problem for the idea that all adjectives are unergative. For such cases, the conclusion that the adjective has just an internal theta-role is, as noted earlier, virtually inescapable (see also Rothstein 1983: 133).

<sup>31</sup> See also Belletti (1988) for a similar suggestion. That such Case assignment is inherent rather than structural is suggested by two properties; first, it can be assigned to indefinite NPs only (Belletti 1988): \**Il est arrivé Jean* “It arrived J.,” and second, it cannot be assigned across a maximal projection: *Il a été considéré [beaucoup de personnes inaffidables]* “It was considered many people untrustworthy.” For discussion, see Cinque (1988: section 5.1).

<sup>32</sup> This implies that, in the similar Italian *ne sono noti molti*, the inverted subject is either in a CHAIN with the Case-marked preverbal subject, or is assigned (inherent) Case by the adjective. That adjectives are able to assign inherent Case in Italian is possibly shown by such absolute adjunct cases as *contento me*, *contenti tutti* “glad me, all glad,” *povero me* “poor me,” etc. (see Belletti 1981). On the overt Case-assigning properties of adjectives in various languages, see, among others, van Riemsdijk (1981), Maling (1982), and Platzack (1982).

inal *En*-cliticization from the postverbal subject in the “stylistic inversion” construction. Consider the contrast between (72) and (73) (from Pollock (1986: 218f.)):

- (72) a. Il aurait fallu qu'en<sub>i</sub> disparaisse [le chef t<sub>i</sub>]  
 It would have been necessary that disappeared the boss  
 (cf. *Il aurait fallu que disparaisse le chef de la bande*)  
 b. Quand en<sub>i</sub> a été imprimé [le premier tome t<sub>i</sub>]  
 When of-it has been printed the first volume  
 (cf. *Quand a été imprimé le premier tome de ce livre*)
- (73) a. \*J'aimerais que m'en<sub>i</sub> téléphone [l'auteur t<sub>i</sub>]  
 I would like that of-it phones me the author  
 (cf. *J'aimerais que me téléphone l'auteur de ce livre*)  
 b. \*Quelle conclusion en<sub>i</sub> tire [le deuxième chapitre t<sub>i</sub>]  
 Which conclusion of-it draws the second chapter  
 (cf. *Quelle conclusion tire le deuxième chapitre de cette thèse*)

The contrast between (72) and (73) is analogous to *Ne*-cliticization from the inverted subject position in Italian. At first thought, one would then expect that the class of adjectives should split in an analogous way, with ergative adjectives, but not unergative adjectives, being acceptable in that context. This expectation is, however, not borne out. No such bifurcation arises. The French analogues of both the ergative and unergative adjectives of Italian apparently allow *En*-cliticization out of the inverted subject in this construction:

- (74) a. Il faut qu'en<sub>i</sub> soit sûre [la victoire t<sub>i</sub>] avant qu'on applaudisse les armées  
 It must be the case that of-it the victory be sure before one applauds the soldiers  
 b. A qui en<sub>i</sub> est bien connu [l'auteur t<sub>i</sub>]  
 To whom of-it is well known the author
- (75) a. Il faut qu'en<sub>i</sub> soit dangereux [le contenu t<sub>i</sub>] pour que ce livre soit détruit  
 It must be the case that of-it be dangerous the content for this book to be destroyed  
 b. Pour qui en<sub>i</sub> est surprenante [la vente t<sub>i</sub>]  
 For whom of-it is surprising the selling

If anything, the wellformedness of both (74) and (75) would seem to indicate that all adjectives are ergative in French. This conclusion is, however, unnecessary. There is some evidence that the possibility of both (74) and (75) is not relevant to the question of the ergative or unergative status of adjectives. In French, adjectives corresponding to Italian ergative and unergative adjectives allow for what is traditionally referred to as *en-avant*:

- (76) a. *Il faut que la victoire en soit sûre*  
 It must be the case that victory [of-it be] sure  
 b. *L'auteur en est bien connu à tous*  
 The author of-it is well known to everybody
- (77) a. *Il faut que le contenu en soit très dangereux pour que ...*  
 It must be the case that the content of-it be very dangerous to  
 ...  
 b. *La vente en est surprenante pour tous*  
 The selling of-it is surprising for everybody

Given this possibility, a direct account of the lack of difference between the stylistic inversion cases (74)–(75) is available. Both (74), containing ergative adjectives, and (75), containing unergative ones, can be derived by “stylistic inversion” from the well-formed (76)–(77).<sup>33</sup>

## 5 A note on the Lexicalist Hypothesis and derivational morphology

To conclude, let us return to the problem for the Lexicalist Hypothesis mentioned at the outset: why adjectives related to ergative or passive verbs (which have only internal arguments) are not ergative themselves. Consider, for example, (78)–(81), which exemplify cases of *Ne*-cliticization from the inverted subject of adjectives related to passive verbs (78), ergative verbs (79), *si*-ergative verbs (80), and inherent reflexive verbs (81):

- (78) a. *\*Ne sembrano* [<sub>A</sub>*perdute/abbandonate/etc.*] molte *t*  
 Of-them seem lost/abandoned/etc. many  
 b. *\*Ne sembrano* [<sub>A</sub>*perdute/abbandonate/etc.*] le speranze *t*  
 Of-them seem lost/abandoned the hopes

<sup>33</sup> For two recent treatments of *En-avant*, first discussed in Ruwet (1972b), see Couquaux (1979, 1981), Pollock (1986).

- (79) a. \*Ne sembrano ormai morte/rinate molte (di speranze)  
Of them seem already dead/born again many (of hopes)  
b. \*Ne sembra ormai morta/rinata la speranza  
Of-it seems already dead/born again the hope
- (80) a. Ne sono spezzati due (di rami), purtroppo  
Of-them are broken two (of branches), unfortunately  
b. \*Ne sono spezzate le estremità (del ramo)  
Of-it are broken the ends (of the branch)
- (81) a. \*Ne sono ammalate poche (di piante)  
Of them are ill few (of plants)  
b. \*Ne è ammalata le mente  
Of-him is ill the mind

Despite appearances, there is evidence that this mismatch in subcategorization between verbs and related adjectives can be reconciled with the Lexicalist Hypothesis. First, it is the case that this hypothesis does make the right prediction with respect to pairs of morphologically related nouns and verbs. As noted in Giorgi (1986: section 5), there is some evidence that nouns morphologically related to ergative verbs are also ergative (in the sense that their *di* + NP subject is generated as the innermost argument position under N').

The evidence is derived from the possibility of a prepositional dative binding an anaphor in the inverted subject position of the N.<sup>34</sup> This possibility should be open only to nouns related to ergative verbs (if at all) since these represent the only case where the prepositional dative actually c-commands the inverted subject. With nouns related to unergative verbs, the expectation, on the other hand, is that the inverted subject under N'' should be outside the c-domain of the prepositional dative. The

<sup>34</sup> As Giorgi (1986: 181) notes, "ergative" nouns like *apparizione* "appearance" seem to behave consistently also with respect to Burzio's *ciascuno* argument (see note 15 above), contrasting with such "unergative" nouns as *telefonata* "phone call" (even though the contrast is in part obscured by the rather marked character of the phenomenon):

- (i) a. ?L'apparizione di un fantasma ciascuno agli studenti ...  
The appearance of a ghost each to the students ...  
b. \*La telefonata di un professore ciascuno agli studenti ...  
The phone call of a professor each to the students ...

See also Delfitto (1984/5), Giorgi (1987: section 5), Giorgi and Longobardi (1991), and Safir (1987: section 2.2), where further evidence is discussed which differentiates ergative (and passive) nouns from unergative nouns.

facts indeed conform to such expectations, as the contrast between (82a–b) and (83a–b) indicates (the (a) cases are from Giorgi 1986):

- (82) a. L'apparizione di se stessa<sub>i</sub> a Maria<sub>i</sub>, in sogno  
 The appearance of herself to Mary, in her dreams  
 b. L'apparizione dei propri<sub>i</sub> figli a Maria<sub>i</sub>, in sogno  
 The appearance of her own children to Mary, in her dreams
- (83) a. \*La telefonata di se stesso<sub>i</sub> a Gianni<sub>i</sub>  
 The phone call of himself to G.  
 b. \*La telefonata dei propri<sub>i</sub> figli a Gianni<sub>i</sub>  
 The phone call of his own children to G.

The Lexicalist Hypothesis of Chomsky (1970), which posits a single lexical entry for the pair of related noun and verb, with unique selectional properties, is thus directly supported; *apparire* and *apparizione* can share entry (84):

- (84) a. [<sub>V/N</sub>appar-] /<sub>(i)re</sub> (V)  
 \ /<sub>(i)zione</sub> (N)  
 b. (theme, experiencer)

What is the difference, then, between the well-behaved verb/noun case and the ill-behaved verb/adjective case? We suggest that it resides in the different way in which the two pairs are morphologically derived. For the verb/noun case it seems reasonable to assume, with Chomsky (1970), that both the verbal affix (whether infinitival or indicative or participial) and the nominal affix (*-zione*) are attached to an underived, category-neutral, stem (*appar-*) as in (84). For the verb/adjective case, on the other hand, it seems clear that the adjectival form is derived from an already morphologically derived *verbal* form, the past participle, by a rule such as (85).<sup>35</sup>

- (85) (ergative/passive) [<sub>V</sub>X-to] → A

<sup>35</sup> This is supported by the fact that “although the passive morpheme has a number of allomorphs, the verbal and adjectival past participles of any given verb always involve the same allomorph: *the food was eaten, the eaten food; the ballad was sung, a badly sung ballad*” (Levin and Rappaport 1986: 629, who attribute the observation to Lieber 1980).

That only ergative and passive past participles, but not unergative ones can undergo the V → A rule perhaps does not need to be stipulated if past participles block the assignment of the external theta-role (but see section 4). In that case, an unergative past participle turned into an adjective will have neither an external nor an [NP, A'] internal theta-role to “link” to the AP external subject position. The latter will thus fail to contain (or be in a chain with) an argument, thereby violating general requirements of chain theory (see Chomsky 1986a, and section 4 above).



In other words, the derivation of the adjective, though not that of the noun, involves a category-changing morphological operation.

Levin and Rappaport (1986), following Borer (1984a), assume that those morphological derivations which produce a change of category (and only those) necessarily affect the theta-grid of the input as well, by externalizing the internal theta-role of the base verb and by eliminating the [NP, VP] position.

If so, then the correct distinction can be drawn between the verb/noun and the verb/adjective pairs, since only adjectives, not nouns, are derived from an already fully specified category. In discussing adjectival passive formation (APF), Levin and Rappaport (1986: 646f.) argue that “the externalization of an internal argument in APF is a by-product of category conversion, not an operation stipulated by rule” (p. 658). In particular, they suggest that it follows from a general predication requirement, namely that the AP be predicated of an external argument. This, however, seems dubious, at least if there are adjectives like *noto*, *probabile*, etc., which are ergative and which may thus be predicated of a pleonastic pronominal at S-structure, much as ergative verbs can.

For this reason, following a suggestion of Luigi Rizzi’s, we will regard the change of theta-grid ensuing from the change of category to be a consequence of the internal morphological structure of the word. If the internal structure of derived adjectives is as shown in (86) and if a category can select (theta-mark) its object only under sisterhood (see Chomsky 1986b: 13), then the V loses its ability to select (theta-mark) its internal object. The latter is no longer a sister to it. Rather it is a sister to the outer A:

(86) [A[v<sub>past participle</sub>]]

Given this, the only remaining way to project that argument syntactically is via externalization, an operation which is not subject to the sisterhood condition (recall that this is rendered possible by the fact that past participles do not externalize the original external argument to begin with).

A quite general prediction follows from this analysis. Should there be other morphological processes deriving adjectives from ergative/passive *verbal* forms, they should also yield *unergative* adjectives, since the change of category would bring with it a consequent change in the theta-grid of the input, along the lines just indicated.

Indeed, this prediction appears to be confirmed by the morphological derivation of *-bile* (“-able”) adjectives in Italian. They are quite regularly

*unergative*, although they derive from passive/ergative verbs.<sup>36</sup> For example, the *Ne*-cliticization test yields the results in (87):

- (87) a. \**Ne sono confermabili/condannabili/desiderabili/etc. poche t*  
 (di notizie)  
 Of-them are conformable/condemnable/desirable few (items of news)
- b. \**Ne è giustificabile/perseguibile/truccabile/etc. la vendita t*  
 Of-it is justifiable/prosecutable/fixable the sale

This follows, as suggested, from the category-changing nature of these suffixes. The suffix *-bile* attaches only to *verbs* (to yield adjectives), not to neutralized categories. Thus, the Lexicalist Hypothesis of Chomsky (1970) can be maintained, despite superficially challenging evidence, and in fact gains support from the apparently recalcitrant case of adjectives.<sup>37</sup>

<sup>36</sup> See Horn (1980) and de Miguel (1986) for this characterization of the corresponding English *-able*, cases and the Spanish *-ble* cases, respectively. An apparent problem is presented by the ergative status of such *-bile* adjectives as *prevedibile*, *visibile* (*Ne era prevedibile la condanna* ‘‘Of-him was foreseeable the condemnation’’; *Ne sono ancor oggi visibili le conseguenze* ‘‘Of-it still today are visible the consequences’’). As the glosses indicate, however, it is not clear that such adjectives (in the relevant uses) are related to the verbs *prevedere* ‘‘foresee’’ and *vedere* ‘‘see’’ via the productive rule of *-bile* formation. If they were, we would be confronted with a real problem. But the problem disappears, if they are unproductive or lexicalized forms. That the latter is the case is suggested by one of their properties pointed out in Roeper (1987). The ‘‘-able [and *-bile*] form carries an implicit AGENT, which can appear in a *by*-phrase. The unproductive or lexicalized forms . . . do not carry such an AGENT; therefore, no *by*-phrase can appear in these sentences’’ (p. 269). In fact, apart from any consideration of meaning, when they occur in *Ne*-cliticization contexts, such adjectives appear not to be compatible with *by*-phrases (\**Da parte di qualcuno, ne era prevedibile la condanna* ‘‘By somebody was foreseeable the condemnation’’; \**Ne sono ancor oggi visibili le conseguenze da parte di tutti* ‘‘Today still of-it are visible the consequences by everybody’’).

<sup>37</sup> An apparent problem is posed by a morphological process that derives negative adjectives from other adjectives by *in*-prefixation: *in* + A → A (cf. *giusto* ‘‘just’’/*ingiusto* ‘‘unjust,’’ *fedele* ‘‘faithful’’/*infedele* ‘‘unfaithful,’’ etc.). In such cases, when the input is an ergative adjective, the output is also ergative, despite the (vacuous) change of category. Note (i)–(ii), which contain cases of *Ne*-cliticization:

- (i) a. *Ne sono incerte molte*  
 Of-them are uncertain many
- b. *Ne sono incerte le sorti*  
 Of-them is uncertain the destiny
- (ii) a. *Ne è invisibile più d’una*  
 Of-them is invisible more than one
- b. *Ne era invisibile la parte anteriore*  
 Of-it was invisible the front part

This case crucially differs from the adjectival passive and *-bile* cases in that the category of the input is identical to that of the output. This suggests that the internal A boundary may be perceived as a segment of the outer A boundary (in the sense of Chomsky 1986b), rather than as a different category altogether.

Under this interpretation, no barrier intervenes between the governor (the “inner” A) and its object.

As Richard Kayne has pointed out to me (p.c.), the wellformedness of the raising structure (iii), containing the morphologically derived A, *unlikely*, provides independent support for the idea that [negative prefix + A] → A derivations do not (necessarily) affect the theta-grid of the input:

- (iii) There is unlikely to be another war

# 8 *The pseudo-relative and ACC-ing constructions after verbs of perception\**

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## 1 Introduction

In many of the Romance languages perception verbs can take a special complement structure known as the “Pseudo-relative” for its *prima facie* resemblance to a relative clause. See (1a–d), which correspond to the ACC-*ing* English form in (2):<sup>1</sup>

- (1) a. Ho visto Mario che correva a tutta velocità (Italian)  
b. J'ai vu Mario qui courait à toute vitesse (French)
- (2) I saw Mario running at full speed

That the structures in (1) should not be identified with ordinary relative clauses is amply motivated in the literature, so I will not dwell on this point here.<sup>2</sup> Rather, I will consider the main syntactic analyses which have been proposed, suggesting that each has some merit, even though none can provide a complete analysis of the construction.

\* This chapter is a revised version of a paper presented at the Conference on “Perceptual Reports” held in Gargnano in September 1990, under the title “Pseudo-relatives as Small Clauses.” I am indebted to those audiences, and especially to A. Bonomi, P. Casalegno, G. Giusti, M.T. Guasti, G. Longobardi, A. Moro and L. Rizzi for helpful comments. The analysis of the Romance construction argued for there and developed here reaches conclusions similar to those of Declerck (1982) for the corresponding English ACC-*ing* construction, at least as far as the three-way ambiguity of the construction is concerned. See section 3 here for some comparative remarks. Gee (1977), Reuland (1983) and Raposo (1989) also argue for a two-way ambiguity of the English ACC-*ing* construction and the Portuguese “prepositional infinitive” construction, respectively, thus partially converging with the analysis proposed here.

<sup>1</sup> For other Romance varieties in which they are attested, see Guasti (1990). Rumanian lacks the pseudo-relative construction, and resorts instead to a gerund construction (like English): *Am văzut Ion fugind* “I saw Ion running away.” Other Romance varieties have the gerund construction alongside the pseudo-relative (French, Spanish, Brazilian Portuguese, etc.).

<sup>2</sup> See, among others, Schwarze (1974), Kayne (1975, 1981a), Radford (1975, 1977), Graffi (1980), Guasti (1988), and Akmajian (1977) for the corresponding English ACC-*ing* construction.

The reason is that (1a–b) (and (2), for that matter) turn out to be structurally three-ways ambiguous, in ways which bear on certain aspects of the Logical Form of the construction. It will also be seen that, this notwithstanding, the construction can be given a unitary analysis at a more abstract level. Beginning with Romance, we may, for convenience, distinguish the analyses proposed in the literature in three main families.

**1.1** The first attributes to (1) the structure [<sub>VP</sub>[<sub>V'</sub>V NP] CP] (see (3)), where NP is the direct object of the perception V, and CP another complement, much as in the case of verbs like *convincere* “convince” (see (4)). (See Kayne 1975.)

- (3) Ho [<sub>VP</sub>[<sub>V'</sub>visto [<sub>NP</sub>Gianni]] [<sub>CP</sub>che correva a tutta velocità]]  
 I saw Gianni running at full speed
- (4) Ho [<sub>VP</sub>[<sub>V'</sub>convinto [<sub>NP</sub>Gianni]] [<sub>CP</sub>che doveva andarsene]]  
 I convinced Gianni that he had better leave

Under this analysis, the two complements do not form a constituent. This, as noted in Radford (1977), runs against the evidence that the NP and the following CP are treated as a constituent under fronting. Compare (5a) with (5b), in which, as expected, the two complements cannot be fronted together:

- (5) a. MARIO CHE PIANGEVA, ho visto!  
 Mario that was weeping (focus), I saw
- b. \*GIANNI CHE DOVEVA ANDARSENE, ho convinto!  
 Gianni that he had better leave (focus), I convinced

The same evidence also rules out a variant of this analysis which takes the CP in (3) always to be an adjunct: [<sub>VP</sub>[<sub>V'</sub>V NP] (adv.) CP]. Here too, the NP and the adverbial CP do not form a constituent.<sup>3</sup>

<sup>3</sup> That the CP can optionally be adverbial (in Italian) is shown by the wellformedness of the following sentences, in which the *che*-clause cannot qualify as a pseudo-relative, either because it lacks an open position which can be predicated of the head ((i a)), or because this is in a non-subject position ((i b)):

- (i) a. Paolo la vide che stava piovendo a dirotto (Radford 1977)  
 Paolo her saw that (it) was raining heavily
- b. Paolo la vide che la stavano rincorrendo  
 Paolo her saw that they were chasing her

This implies that a sentence like (ii) will be ambiguous between a pseudo-relative reading and a purely adverbial reading, although that may not be immediately obvious:

- (ii) Ho visto Gianni [che se ne stava già andando]  
 I saw Gianni that (he) was already leaving

**1.2** A second influential analysis of pseudo-relatives is a sophisticated version of the pseudo-relative as ordinary relative analysis. (See Graffi 1980, Burzio 1981, 1986, Kayne 1981a, Taraldsen 1986a for slightly different variants of this analysis.) This analysis attributes to the pseudo-relative the structure of an ordinary relative ([<sub>NP</sub>NP CP]), except that no *Wh*-movement is involved to the SPEC of CP, but rather control of a PRO by *qui/che*, ultimately by the head NP coindexed with *qui/che* (for simplicity, we ignore here the DP hypothesis):

- (6) a. J'ai vu [<sub>NP</sub>Gianni [<sub>CP</sub>qui [<sub>IP</sub>e courait ]]]  
 b. Ho visto [<sub>NP</sub>Gianni [<sub>CP</sub>che [<sub>IP</sub>e correva ]]]  
 I saw Gianni that was running

This analysis has certain clear advantages over the previous one. First, it treats the sequence NP CP as a constituent, as required by such cases as (5a) above. Second, it reduces the ungrammaticality of (7):

The adverbial reading is the only one available if the subject of the *che* clause is lexical ((iii a)), while the pseudo-relative reading is the only one available if the NP and the CP are fronted together ((iii b)):

- (iii) a. Ho visto Gianni [che lui se ne stava già andando] (adverbial)  
 I saw Gianni that he was already leaving  
 b. GIANNI CHE SE NE STAVA GIÀ ANDANDO, ho visto (pseudo-relative)

This predicts that it will no longer be possible to front the NP and the *che*-clause together when a lexical subject is present – a correct prediction:

- (iv) \*GIANNI CHE LUI SE NE STAVA GIÀ ANDANDO, ho visto!

Note that this additional ambiguity is absent from French, where this construction is for some reason unavailable:

- (v) a. \*Je l'ai rencontrée qu'il pleuvait  
 I met her that it was raining  
 b. \*Je l'ai rencontrée qu'elle sortait du cinéma (Kayne 1984: 102)  
 I met her that she was going out of the cinema

The possibility of fronting the NP and the CP together also argues against a raising analysis which generates the NP in the subject position of the CP and then moves it to the object position of the perception verb (Schwarze 1974; Radford 1975, 1977). Additional difficulties for this analysis are the French *En-avant* facts mentioned in Burzio (1986: 318), and the impossibility of subject idiom chunks in the object position of the perception verb:

- (vi) a. \*Se vedi i conti che tornano, puoi considerarti fortunato  
 If you see the calculations square, you can call yourself lucky  
 b. \*Se vedi giustizia che viene fatta solo per pochi, non meravigliarti  
 If you see justice being done only for few people, don't be surprised

- (7) \*Je l'ai rencontrée que tu sortais du cinéma  
 (Kayne 1981)

I met her that you were going out of the cinema

to the fact that in any [<sub>NP</sub>NP CP] “structure, the [CP] must contain a position bound by the head NP” (p. 98). Cf. \**The man that Mary went to Paris was named Ashby*.<sup>4</sup> Thirdly, it reduces the island sensitivity of the pseudo-relative (cf. (8a), again from Kayne 1981a) to the Complex NP Constraint (cf. (8b)):

- (8) a. \*Quelle fille l'as-tu rencontré qui embrassait *t*?  
 Which girl have you met him that was kissing?  
 b. \*Quelle fille as-tu frappé le garçon qui avait insulté *t*?  
 Which girl have you beaten up the boy who had insulted?

Also, it avoids the problems encountered by a pseudo-relative as ordinary relative analysis. The fact that the construction is sensitive to the type of verb (*voir/rencontrer* “see/meet,” but not *connaître* “know” – cf. the possible (1b), and (9a) below vs. the impossible \**Je le connais qui est intelligent* “I know him that is intelligent”) follows if the control structure [<sub>NP</sub>NP CP] is lexically selected. Second, the fact that the construction displays a clear subject/object asymmetry (cf. (9a–b)), absent from genuine relatives, also follows from its control nature:

- (9) a. Je l'ai vu qui *t* sortait du cinéma  
 I saw him that was leaving the cinema  
 b. \*Je l'ai vu que Marie embrassait *t*  
 I saw him that Marie was kissing

Furthermore, the fact that *qui/che*/etc. do not alternate freely with relative pronouns (compare e.g. (9a) with \**Je l'ai rencontrée laquelle sortait du cinéma*), is no more surprising, at least if the CP does not involve *Wh*-movement.

Despite such clear advantages, this analysis too faces certain problems. One conceptual problem is the question why *Wh*-movement to the Spec of CP should be forbidden in the structure [<sub>NP</sub>NP CP] of pseudo-relatives. An empirical problem is the fact that the head of the pseudo-relative, but not the head of an ordinary relative, can be a trace of

<sup>4</sup> Note that the analogue of (7) in Italian is well formed (*L'ho incontrata che tu stavi uscendo dal cinema*). However, not as a pseudo-relative, but as an adverbial structure of the type discussed in the previous footnote.

*Wh*-movement in relatives – cf. (10). In this case, the contrast does not seem to follow from the control nature of [<sub>NP</sub>NP CP] in pseudo-relatives:<sup>5</sup>

- (10) a. Quello che vedi [*t* [che sta partendo]] è Gianni  
The one who you see that is leaving is Gianni  
b. \*Quello che conosci [*t* [che sta partendo]] è Gianni  
The one who you know that is leaving is Gianni  
(cf. Vedi/conosci quello che sta partendo? “Do you see/know the one who is leaving”)

A third problem is represented by the fact that the constituent formed by the NP and the CP refers to a proposition rather than to an individual, even when its head NP refers to an individual. The propositional nature of the constituent is apparent in contexts such as the (a) cases in (11)–(13) vs. the (b) cases (see Radford 1977: 155ff.):

- (11) a. Ciò che ho visto è Mario che scriveva nel sonno  
That which I have seen is M. that was writing while asleep  
b. \*Ciò che ho invitato è Mario che scriveva nel sonno  
That which I invited is M. that was writing while asleep  
(12) a. Ho visto un fatto molto curioso: Mario che scriveva nel sonno  
b. \*Ho visto un tipo molto curioso: ...  
I saw a very curious thing/\*guy: M. that was writing while asleep  
(13) a. Ho visto Mario che scriveva nel sonno, *il che* non mi pareva poi così strano  
I saw M. that was writing while asleep, which did not seem that strange after all

<sup>5</sup> Kayne (1981a: fn. 26) suggests reducing the difference between *Je le voit qui rit* “I see him that is laughing” and *\*Je le connais qui est intelligent* “I know him that is intelligent” (as well as that between *Le garçon a été vu qui courait* “The boy was seen that was running,” and *\*Le garçon a été critiqué qui courait* “The boy was criticized that was running”) to the independent property of relative clauses whereby they cannot modify an anaphor: *\*John believed himself, who I find intolerable, to be quite pleasant*. Sentences comparable to this are not so bad in Italian, however:

- (i) ?Se Gianni finirà per proporre se stesso, che pure non ha una grande esperienza, ...  
If G. ends up proposing himself, who has no great experience, ...

An alternative for the ill-formed cases above may be provided by the observation that the target of Clitic and NP-movement there is only a proper subpart (NP) of the maximal projection (DP) which should undergo the rule.



- b \*Ho visto Mario, *il che* mi ha detto di salutarti  
 I saw M., which told me to say hello to you

In each case, *Mario che scriveva nel sonno* is resumed by a pro-form (*ciò*, *un fatto molto curioso*, *il che*) which can only resume propositions, not individuals. An additional problem for the [<sub>NP</sub>NP CP] analysis of pseudo-relatives is discussed in the next section.

1.3 The final analysis to be discussed is that proposed in Guasti (1988, 1990) (also see Rizzi 1992b), which takes the pseudo-relative to be a constituent of type CP, with the initial NP in the SPEC of such CP:

- (14) a. [<sub>V'</sub>V [<sub>CP</sub>NP [<sub>IP</sub>]]]  
 b. Ho [<sub>VP</sub>visto [<sub>CP</sub>Gianni [<sub>C'</sub>che [<sub>IP</sub>correva a tutta velocità]]]]

This analysis does not encounter the problems mentioned in connection with the previous analyses, but, as such, is still insufficient to account for all types of pseudo-relatives (e.g. those following such verbs as *incontrare* "meet," *cogliere/sorprendere* "catch," etc.):<sup>6</sup>

- (15) a. Se incontri Mario che scappa, non meravigliarti  
 If you meet M. that runs away, don't be surprised  
 b. Hanno colto Mario che rubava negli spogliatoi  
 They caught M. that was stealing in the dressing-room

If the analysis makes the correct constituency predictions for the pseudo-relative following perception verbs, which are indeed propositional constituents, it does not make the right prediction for the pseudo-relative following the non-perception verbs of the *incontrare* class, in which the NP and the following tensed clause do not even form a constituent. See (16):

- (16) a. \*Quello che vorrei incontrare è Mario che corre  
 What I would like to meet is M. that is running  
 b. \*MARIO CHE FUMA, vorrei cogliere!  
 M. that is smoking, I would like to catch  
 c. \*E' Mario che corre ciò che vorrei incontrare  
 It's Mario that runs away what I would like to meet

<sup>6</sup> See Guasti (1990) for an extension of her analysis which may account for the pseudo-relative following the *incontrare* class of verbs. Nonetheless, problems remain for the "bare" CP analysis. See below for discussion.

- d. \*E' Mario che rubava negli spogliatoi che hanno colto  
 It's M. that was stealing in the dressing-room that they  
 caught

Clearly, the difference in constituency of the "NP *che* IP" sequence following a verb of perception and a verb of the *incontrare* class correlates with a selectional difference between the two classes. Only verbs of perception may select a propositional argument (CP), in addition to a referring expression (NP):

- (17) a. Ho visto/sentito che Gianni suonava  
 I saw/heard that G. was playing  
 b. Ho visto/sentito Gianni  
 I saw/heard G.
- (18) a. \*Ho incontrato/sorpreso che Gianni suonava  
 I met/caught that G. was playing  
 b. Ho incontrato/sorpreso Gianni  
 I met/caught G.

This, however, means that the analysis in (14) is insufficient for the second class of cases. What is needed is an analysis that may capture the unitary nature of the pseudo-relative at a more abstract level while deriving the observed differences between the two classes.

## 2 The small clause analysis of pseudo-relatives

One such analysis seems to be available if only we pay attention to a further difference between the two classes of verbs, one which correlates with the observed differences in their selectional properties.

Perception predicates can take a small clause *complement*. The *incontrare* class of predicates cannot. The latter can only take an *adjunct* small clause, if any:<sup>7</sup>

- (19) a. Ho visto [<sub>sc</sub>Gianni arrabbiato/in difficoltà]  
 I saw G. angry/in trouble

<sup>7</sup> For the time being, I assume, after Kayne (1985, 1989a), Hornstein and Lightfoot (1987), that "small clauses" are (at least) projections of an abstract AGR taking a lexical XP as its complement. For evidence that they can even be CPs, see the quoted works by Kayne, Mouchaweh (1984), and Cinque (1990b: fn. 25). I come back later to what "sc" in (19a-b) stands for.

- b. Ho [<sub>VP</sub> [<sub>V</sub> incontrato Gianni] [<sub>sc</sub> PRO arrabbiato/in difficoltà]]  
 I met G. angry/in trouble

The complement vs. adjunct status of the small clauses in (19a) and (19b), respectively, can be seen both from the constituency tests utilized above (cf. (20)), and from the *Wh*-extraction of the small clause predicate, in general possible from a complement, but not from an adjunct, small clause – see Chomsky (1986b: 81ff.). See (21):

- (20) a. Ciò che vedrai è Gianni arrabbiato/in difficoltà  
 What you will see is G. angry/in trouble  
 b. \*Ciò che incontrerai è Gianni arrabbiato/in difficoltà  
 What you will meet is G. angry/in trouble
- (21) a. Quanto stanco lo avete visto, Gianni?  
 How tired have you seen Gianni?  
 b. \*Quanto ubriaco lo avete sorpreso, Gianni?  
 How drunk have you caught Gianni?

Now, if we assume that a tensed CP is but another manifestation, with particular aspectual properties (for which, see Declerck 1981; Guasti 1990), of the predicate of a small clause, then we can provide a unitary analysis of the pseudo-relative which is also capable of explaining the observed differences between the perception predicates and the predicates of the *incontrare* type:

- (22) a. Ho visto [<sub>sc</sub> Gianni [<sub>CP</sub> che correva verso casa]]  
 I saw Gianni that was running home  
 b. Ho incontrato Gianni [<sub>sc</sub> PRO [<sub>CP</sub> che correva verso casa]]  
 I met Gianni that was running home

Of course, nothing prevents perception verbs from entering the adjunct structure (22b) too. This then, is the first source of structural ambiguity of (1).

Note that this analysis is consistent with the selection properties of the two classes of verb and with the constituency tests seen above. Moreover, it reduces the observed constituency difference between the two classes to an independent difference between them in the domain of small clauses. The only crucial assumption that is needed is that a tensed CP can (under

certain conditions, met in the case of pseudo-relatives) be the predicate of a small clause.<sup>8</sup>

This assumption, unusual as it may appear, is supported by at least two considerations. The first is that pseudo-relatives are not only found after perception predicates and predicates of the *incontrare* type (which indeed admit adjunct small clauses), but they are possible in all and only those contexts in which a small clause is possible (*modulo* aspectual compatibilities). (See also Raposo 1989: 283.) Examples (23)–(30) list eight different contexts in which small clauses can be found. As the (b) case of each shows, a pseudo-relative variant is indeed possible in each such context.

### 1 *Complement small clauses*

- (23) a. Non sopporto [<sub>sc</sub>Gianni e Mario [vestiti da boy scout]]<sup>9</sup>  
I can't stand G. and M. dressed as boy scouts

<sup>8</sup> Taraldsen (1986a), while assuming a complex NP structure for pseudo-relatives, as noted, suggests (p. 169) that they receive a small clause interpretation. In his analysis of the European Portuguese prepositional infinitive construction (PIC), Raposo (1989) also assumes a small clause analysis: *Eu vi* [<sub>IP</sub>*os meninos* [<sub>IP</sub>*a* [<sub>VP</sub>*lerem esse livro*]]] "I saw the boys reading this book." In the analysis developed here, we would be led to assign to the PIC the triple structure shown in (38) below, with *a* in the head position of the lower CP, to underline the similar role that *che* and *a* have in the aspectual value of the construction. Determining the actual viability of this analysis for the European Portuguese PIC is, however, beyond the scope of this article. For comparable suggestions, see Guasti (1990).

<sup>9</sup> Besides being complements to perception verbs, and "mental attitude" verbs like (*non*) *sopportare* "(not) tolerate," *detestare* "detest," *ricordare* "remember," etc., small clauses can also be found as complements to various other classes of verbs: causative (*rendere*, *fare* "make," etc.), epistemic (*considerare*, *ritenere* "consider," etc.), dicendi (*definire* "define," *dichiarare* "declare," etc.), volitional (*volere* "want," *desiderare* "desire," etc.). Differently from the case of mental attitude verbs, however, pseudo-relatives are not permitted as complements of these other classes of verbs. This should not be taken as problematic. Pseudo-relatives have a special aspectual value (often termed "progressive" – see Declerck 1981; Guasti 1990), which appears to be incompatible with the stative value characterizing the complement of the latter classes of verbs. See (i) vs. (ii):

- (i) a. Ho visto Gianni soprapensiero/in partenza/che partiva  
I saw G. lost in thought/on the move/that was leaving  
b. Non sopporto Gianni soprapensiero/in partenza/che parte  
I can't stand G. lost in thought/on the move/that is leaving  
c. Ricordo Gianni soprapensiero/in partenza/che partiva  
I remember G. lost in thought/on the move/that was leaving
- (ii) a. \*Ho reso Gianni soprapensiero/in partenza/che parte  
I rendered G. lost in thought/on the move/that is leaving  
b. \*Ritengo Gianni soprapensiero/in partenza/che parte  
I believe G. lost in thought/on the move/that is leaving  
c. \*Definirei Gianni soprapensiero/in partenza/che parte  
I would define G. lost in thought/on the move/that is leaving  
d. \*Voglio Gianni soprapensiero/in partenza/che parte  
I want G. lost in thought/on the move/that is leaving

- b. Non sopporto [<sub>sc</sub>Gianni e Mario [che fumano in casa mia]]  
I can't stand G. and M. that smoke in my house

2 *Adjunct small clauses predicated of an object* (see Chomsky 1986b: 31ff.; Roberts 1988a)

- (24) a. Mangiò la pizza [<sub>sc</sub>PRO [calda]]  
He ate the pizza hot  
b. Mangiò la pizza [<sub>sc</sub>PRO [che stava ancora fumando]]  
He ate the pizza that it was still smoking

3 *Adjunct small clauses predicated of a subject* (see Chomsky 1986b: 81ff.; Roberts 1988a)

- (25) a. Gianni lasciò la stanza [<sub>sc</sub>PRO [ubriaco]]  
G. left the room drunk  
b. Gianni lasciò la stanza [<sub>sc</sub>PRO [che era ancora sotto gli effetti dell'alcohol]]  
G. left the room that he was still under the effects of alcohol

4 *Small clauses in the "absolute" with construction* (see van Riemsdijk 1978; Ruwet 1978; McCawley 1983; Hoekstra and Beukema 1984; among others)

- (26) a. Con [<sub>sc</sub>Gianni [malato]], non possiamo partire  
With G. ill, we can't leave  
b. Con [<sub>sc</sub>Gianni [che continua a lamentarsi]], non possiamo partire  
With G. that keeps complaining, we can't leave

5 *Small clauses in locative contexts* (see Kayne 1975; Ruwet 1978)

- (27) a. Maria è là [<sub>sc</sub>PRO [arrabbiata più di prima]]  
M. is there angry more than ever  
b. Maria è là [<sub>sc</sub>PRO [che piange più di prima]]  
M. is there that cries more than ever

6 *Small clauses in existential contexts* (see Moro 1993)

- (28) a. C'è qualcuno [<sub>sc</sub>PRO [disposto ad aiutarci]]  
There is someone willing to help us

- b. C'è qualcuno [<sub>sc</sub>PRO [che sta salendo le scale]]  
 There is someone that is climbing the stairs

7 “*Root*” *small clauses in incredulity contexts* (see Akmajian 1984)

- (29) a. [<sub>sc</sub>Mario [ubriaco]]? E' impossibile!  
 M. drunk? It's impossible!  
 b. [<sub>sc</sub>Carlo [che si è offerto di aiutarci]]? Non mi sembra vero!  
 C. that offered to help us? It doesn't seem true to me!

8 *Small clauses subject of copulative verbs* (see Safir 1983)

- (30) a. [<sub>sc</sub>Gli studenti [così, alla mercé dei minatori]] è uno spettacolo  
 che mi auguro di non rivedere più  
 The students at the mercy of the miners is a sight that I hope  
 not to see again  
 b. [<sub>sc</sub>I minatori [che picchiano degli studenti inermi]] è uno  
 spettacolo che fa star male  
 The miners that beat up defenseless students is a sight that  
 makes one feel bad

A second consideration in favor of a small clause analysis of pseudo-relatives is the fact that they can be coordinated with other types of small clauses (cf. (31a–b)), and, significantly, cannot be coordinated with full CP complements (cf. (32a)), just as ordinary small clauses cannot (cf. (32b)):

- (31) a. Ho visto [Gianni depresso] e [Piero che cercava di risollevarlo]  
 I saw G. depressed and P. that was trying to cheer him up  
 b. Ho visto [Gianni in bicicletta] e [Piero che gli correva dietro]  
 I saw G. on a bike and P. that was running after him  
 (32) a. \*?Ho visto [Piero che correva] e [che Mario cercava di raggiungerlo]  
 I saw P. that was running and that M. was trying to reach him  
 b. \*?Ho visto [Gianni depresso] e [che Piero cercava di risollevarlo]  
 I saw G. depressed and that P. was trying to cheer him up

It thus seems that pseudo-relatives, both for their external distribution (which overlaps completely with the distribution of ordinary small

clauses) and their coordinability with run-of-the-mill small clauses, can reasonably be analyzed themselves as small clauses.

Before turning to the question of what is the precise internal structure of the pseudo-relative, we should consider yet another context where small clauses and pseudo-relatives freely alternate. This context was kept separate as it introduces the third possible analysis of the pseudo-relative following a perception verb:

9 *Small clauses as adverbial modifiers of NPs*

- (33) a. [<sub>NP</sub>Carlo e Paolo [<sub>sc</sub>PRO [vestiti da boy scout]]] *sono* un vero spettacolo  
 C. and P. dressed as boy scouts are a real sight  
 b. [<sub>NP</sub>Gianni e Maria [<sub>sc</sub>PRO [che ballano il tango]]] *sono* uno spettacolo da non perdere  
 G. and M. that dance the tango are a sight not to be missed
- (34) a. [<sub>NP</sub>Carlo e Paolo [<sub>sc</sub>PRO [vestiti da boy scout]]], non *li* sopporto  
 C. and P. dressed as boy scouts, them I can't stand  
 b. [<sub>NP</sub>Carlo e Paolo [<sub>sc</sub>PRO [che mi fumano in faccia]]], non *li* sopporto  
 C. and P. that smoke into my face, them I can't stand
- (35) a. Non voglio perdermi la vista di [<sub>NP</sub>Carlo [<sub>sc</sub>PRO [vestito da boy scout]]]  
 I don't want to miss the sight of C. dressed as a boy scout  
 b. La vista di [<sub>NP</sub>Carlo [<sub>sc</sub>PRO [che balla il tango]]] è da non perdere  
 The sight of C. that dances the tango is not to be missed

In the three different contexts under 9, the small clause cannot but be internal to the NP. This is shown, in (33), by the fact that, contrary to (30) above, here the verb agreement is plural, which implies that the head of the larger NP is the plural NP *Carlo e Paolo*. In (34), it is shown by the fact that they are part of the dislocated NP resumed by the plural clitic pronoun *li* "them." Finally, in (35), it is shown by the fact that (subcategorized) prepositions in Italian can only take a NP, but no clausal, complement (see Cinque 1990c: 34ff.; Kayne 1991: 668ff.).

That such small clauses are (NP-internal) adverbial modifiers rather than reduced relative clauses is indicated by their interpretation, which is not that of an apposition to the NP, but rather that of a temporal mod-

ification of the NP. So, for example, (33a) does not mean “C. and P., who are dressed as boy scouts, are a real sight,” but rather “C. and P., *when they are dressed as boy scouts*, are a real sight,” and the same holds for the other cases.

Now, as the following examples show, even perception verbs may be followed by such “complex NPs” containing a small clause adverbial:

- (36) a. [[<sub>NP</sub>Gianni e Paolo] [<sub>sc</sub>PRO [vestiti da boy scout]]], non li ho mai visti  
 G. and P. dressed as boy scouts, them I never saw  
 b. [[<sub>NP</sub>Gianni e Maria] [<sub>sc</sub>PRO [che ballano il tango]]], non li ho mai visti  
 G. and P. that dance the tango, them I never saw

This means that even abstracting from (37), which is a pure adverbial parallel to (i) of note 3 above, absent from French, a pseudo-relative complement to a perception verb is three-ways ambiguous. Specifically, it can receive one or another of the analyses shown in (38a–c):

- (37) Ho [<sub>VP</sub>visto Mario] [<sub>CP</sub>che correva a tutta velocità]<sup>10</sup>  
 I saw M. that was running at full speed  
 (38) a. *Small clause complement*  
 Ho [<sub>V'</sub>visto [<sub>sc</sub>Mario [che correva a tutta velocità]]]  
 b. *Small clause adjunct within NP*  
 Ho [<sub>V'</sub>visto [<sub>NP</sub>[<sub>NP</sub>Mario] [<sub>sc</sub>PRO [che correva a tutta velocità]]]]  
 c. *Small clause adjunct within VP*  
 Ho [<sub>VP</sub>[<sub>V'</sub>visto Mario] [<sub>sc</sub>PRO [che correva a tutta velocità]]]

<sup>10</sup> Whether this adverbial CP is dominated by VP (or a segment of VP, i.e. it is adjoined to it) depends on the results of VP constituency tests as VP-preposing. Although the judgments are not always very sharp, they seem to suggest that the adverbial CP is in fact outside the VP. See:

- (i) Vista, non l'ho, che stava piovendo a dritto  
 Seen, I haven't her that it was raining cats and dogs  
 (ii) ?\*Vista che stava piovendo a dritto, non l'ho

This is confirmed by an observation of Giusti (1991a: 735): namely, that such adverbial CPs cannot in general be focalized, which possibly suggests that they are not properly governed (cf. *\*?CHE STAVA PIOVENDO A DIROTTO, sono uscito/l'ho vista* “That it was raining cats and dogs (focus), I went out/I saw her”). Since the VP-adjoined position is a properly governed position, this suggests that the CP is higher.



We have already seen evidence to attribute the analyses (38a, b) to (1). Structure (38a) is justified by such cases as (39), discussed above, where the pseudo-relative behaves as a constituent of a propositional kind:

- (39) a. Ho visto *Mario che correva a tutta velocità*, il che mi ha sorpreso (Relativization via the propositional pro-form *il che*)  
I saw M. that was running at full speed, which surprised me  
b. C'è una cosa che non sopporto: [<sub>sc</sub>[Gianni e Paolo] [che mi fumano in faccia]] (“Equative Deletion”)  
There is one thing that I can't stand: G. and P. that smoke into my face  
c. [<sub>sc</sub>[Gianni e Paolo] [che mi fumano in faccia]], proprio non lo sopporto (dislocation of the sequence resumed by the propositional pro-form *lo*)  
G. and P. that smoke into my face, really it I can't stand

Structure (38b) is justified by such examples as (36b), just seen. What about (38c)? Is there any more direct evidence that this analysis must be open to (1) with perception predicates, besides the observation that it must be available for the pseudo-relative following the *incontrare* class of predicates, hence more generally? There is indeed some such evidence if we compare the properties of the perception predicates, the *incontrare* class of predicates, and a further class of predicates taking pseudo-relatives as complements: the *sopportare* class of (23) above.

For the *incontrare* class of predicates we have seen that the complement structure (38a) is unavailable. For this class, the VP adjunct structure (38c) is in fact the only structure available, since these predicates do not admit instantiations of the adjunct within NP structure (38b), as shown by such cases as the following:

- (40) a. \*Carlo che esce, spesso lo incontro  
C. that goes out, I often meet him  
(cf. *Spesso incontro Carlo che esce* “Often I meet C. that goes out”)  
b. \*Carlo che rubava negli spogliatoi, non l'hanno colto  
C. that was stealing in the dressing-room, him they haven't caught  
(cf. *Hanno colto Carlo che rubava negli spogliatoi* “They caught C. that was stealing in the dressing-room”)  
c. \*Carlo che beve, lo sorprendono sempre  
C. that drinks, they always catch him

(cf. *Sorprendono sempre Carlo che beve* “They always catch C. that drinks”)

Concerning the *sopportare* class of predicates, there is positive evidence that at least the analyses (38a, b) are available. See (41a–b), respectively:

- (41) a. C’è una cosa che non sopporto: [[Gianni e Mario] [che mi fumano in faccia]]  
 There is one thing that I can’t stand: G. and M. that smoke into my face  
 b. [[<sub>NP</sub>Gianni e Paolo] [<sub>sc</sub>che mi fumano in faccia]], proprio non li sopporto  
 G. and P. that smoke into my face, really them I can’t stand

On the other hand, we have no evidence that they can enter structure (38c). Now, the *sopportare* class of predicates differs from the *incontrare* class for another interesting property. The *incontrare* class, though not the *sopportare* class, admits Clitic Movement and NP-movement (in Passive contexts) of the NP head of the pseudo-relative construction. See:

- (42) a.  $Lo_i$  hanno colto  $t_i$  che rubava negli spogliatoi  
 Him they caught that was stealing in the dressing-room  
 b. Carlo<sub>i</sub> è stato colto  $t_i$  che rubava negli spogliatoi  
 C. was caught that was stealing in the dressing-room  
 (43) a. \*Non  $lo_i$  sopporto  $t_i$  che mi fuma in faccia  
 Him I can’t stand that smokes into my face  
 b. \*Lui<sub>i</sub> non è sopportato  $t_i$  (da nessuno) che fuma in quel modo  
 He is not tolerated (by anybody) that smokes that way

It thus seems plausible to attribute the possibility of Clitic Movement and NP-movement to the structure (38c) only. If these processes were possible in (38a–b) as well, then we should expect the predicates of the *sopportare* class to allow for them too. But they do not, as noted.

From this, it is tempting to conclude that Clitic or NP-movement of the NP head of the pseudo-relative is only possible in the configuration (38c), that is, when the NP is the real object of the verb. If this conclusion is correct, the fact that both Clitic and NP-movement of the pseudo-relative following perception verbs is possible is direct evidence that they can also enter structure (38c):<sup>11</sup>

<sup>11</sup> Given the existence, in Italian, of the additional option (37), the argument should, in fact, be constructed on the basis of the corresponding French facts.

- (44) a. L'ho visto che correva a tutta velocità  
 Him I saw that was running at full speed  
 b. Gianni è stato visto che correva a tutta velocità  
 G. was seen that was running at full speed

Why should Clitic and NP-movement of the NP be impossible in structures (38a, b)? In the case of (38b) the answer is obvious: for the same reason that excludes Clitic and NP-movement of the head of a relative clause (cf. \**L'ho invitato che avevamo conosciuto* "I him invited who we had met," *Ho invitato l'uomo che avevamo conosciuto* "I invited the man who we had met"). In both cases, the NP is a subconstituent of the category that should undergo the rule. What about structure (38a)? The property in question would follow if the category of what we have called a "small clause" were in fact a regular CP:

- (45) Mario è stato visto [<sub>CP</sub>[<sub>AGR</sub>P<sup>t</sup> AGR [<sub>CP</sub>che correva a tutta velocità]]]

In (45), the trace left in subject position of the CP fails to be properly head-governed, C being itself inert for proper head-government (Koopman and Sportiche 1985; Rizzi 1990). This conclusion is still compatible with the wellformedness of (46), since in the case of *Wh*-movement (but not Clitic or NP-movement) passage is possible through the Spec of CP (which turns C into a proper head-governor).<sup>12</sup>

- (46) Chi<sub>i</sub> non sopporti [<sub>CP</sub>t<sub>i</sub>C<sub>i</sub>[<sub>AGR</sub>P<sup>t</sup> AGR [<sub>CP</sub>che fuma in quel modo]]]?  
 Who can't you stand that smokes in that manner?

How, then, does the NP in (38a) get its Case, if it is not governed by the verb? I would like to suggest that, much as in the parallel English ACC-ing complements to perception verbs, Case is assigned by the verb to the CP, from where it percolates down to AGR, which then assigns it to its Spec (see Reuland 1983).

<sup>12</sup> Examples (43b) and (46) should be compared to the following ACC-ing cases in English (also see section 3 below):

- (i) \*John<sub>i</sub> was hated [<sub>CP</sub>C [<sub>AGR</sub>P<sup>t</sup><sub>i</sub> behaving like that]]  
 (ii) \*I hate [<sub>CP</sub>C [<sub>t</sub> behaving like that] [all the people I helped]]  
 (iii) Who do they hate [<sub>CP</sub>t<sub>i</sub>C<sub>i</sub> [<sub>AGR</sub>P<sup>t</sup><sub>i</sub> behaving like that]]?

Some speakers find (46) marginal or impossible.

This implies a principled difference with genuine small clause complements and complements of ECM verbs like *believe* in English, whose subjects are governed by, and receive Case from, the matrix verb directly.

Under this analysis, direct government of the subject NP from the matrix verb correlates with the possibility for the same NP to undergo Clitic and NP-movement. Compare (43a–b) with (47a–b) and (48):

- (47) a.  $LO_i$  ritengo [ $AGR_P t_i$  intelligente]  
           Him I consider intelligent  
       b.  $LUI_i$  era ritenuto [ $AGR_P t_i$  intelligente]  
           He was considered intelligent  
 (48)  $HE_i$  was believed [ $t_i$  to be intelligent]

There is indeed independent evidence that Case is not assigned by the matrix verb under direct government to the NP subject of the pseudo-relative.

We know that, when Case is assigned this way, a strict adjacency requirement is imposed on Case assignment. So, for example, no material can intervene between the Case assigner and the Case assignee (cf. (49a–b)), nor can the Case assignee be moved, within a larger phrase, away from the Case assigner (cf. (50a–b)):<sup>13</sup>

- (49) a. \*?Ritenevo in Francia [Gianni onesto]  
           I believed in France G. honest  
           (Cf. *Ritenevo in Francia [che Gianni fosse onesto]*  
           ‘‘I believed in France that G. was honest’’)  
       b. \*?I believe with some reason [him to be intelligent]  
 (50) a. \*[GIANNI ONESTO], credo che ritengano  
           G. honest, I think they believe  
       b. \*?[Him to be intelligent], I can’t believe  
           (Cf. *That he is intelligent, I can’t believe*)

The fact that pseudo-relatives behave systematically in the opposite way (and analogously to ACC-*ing* complements) supports the conclusion

<sup>13</sup> Of course, the Case assignee can move away from the Case assigner when it moves alone, as Case can still be assigned by the Case assigner to its trace, under adjacency:

- (i)  $GIANNI_i$ , ritenevo [ $t_i$  onesto]  
       G. (focus), I believed honest  
 (ii) Him, I can’t believe to be intelligent

reached earlier that their subject is not directly governed and Case-marked by the matrix verb. See (51a–b):

- (51) a. Non sopportavo in Francia [Gianni e Mario che fumavano in quel modo], il che poi dava fastidio anche ad altri  
I couldn't stand in France G. and M. that smoked that way, which bothered others too  
b. [GIANNI E MARIO CHE MI FUMANO IN FACCIA], non sopporto!  
G. and M. that smoke into my face, I can't stand

To reconcile this conclusion with the generalization concerning their distribution (non-distinct from that of small clauses), I will assume that small clauses (i.e. clauses with null inflection) can be either AGRPs or CPs (whenever the CP projection is required for independent reasons). In the case at hand, one may assume that while AP, NP and PP small clause predicates do not require the presence of Tense (hence TP), a CP predicate does (perhaps due to its “progressive” interpretation). If T in turn must match the tense features of a higher C (cf. finite T matching *that* in English), then the complete small clause must be of category CP, whence the observed impossibility of Clitic and NP-movement of its subject:<sup>14</sup>

- (52) a. Non sopporto [CP[AGRP[NP<sub>G</sub>. e M.] AGR [TP[CPche [fumano in quel modo]]]]]  
I can't stand G. and M that are smoking in that manner  
b. Ho incontrato [NP<sub>G</sub>. e M.] [CPche [AGRP uscivano]]  
I met G. and M. that were going out

Since in other analyses (Guasti 1988, 1990; Rizzi 1992b) the pseudo-relative is taken to be a “bare” CP, some motivation must be given to assume the more complex (52a-b) in place of the simpler (53a-b):

- (53) a. Non sopporto [CP<sub>G</sub>. e M. [C'che [AGRPfumano in quel modo]]]  
b. Ho incontrato G. e M. [CP<sub>PRO</sub> [C'che [AGRPuscivano]]]

First, under the “bare” CP analysis, the simple account of the impossibility of Clitic and NP-movement of the complement subject is lost, as the Spec of CP presumably counts as a position governed by the matrix V.

<sup>14</sup> In the adjunct within VP and in the adjunct within NP cases, the small clause subject is PRO. For the alternation lexical NP/PRO see below.

Second, if only categorially identical constituents can be coordinated, as seems plausible, sentences like (54a–b) below constitute a problem:<sup>15</sup>

- (54) a. Ho visto [Gianni [[<sub>AGR'/A</sub>'agitato] e [<sub>C</sub>'che fumava come un turco]]]  
 I saw G. nervous and that was smoking like a Turk  
 b. Con [Gianni [[<sub>AGR'/A</sub>'agitato] e [<sub>C</sub>'che fuma come un turco]]] ...  
 With G. nervous and that is smoking like a Turk, ...

Third, it turns out that the head of the pseudo-relative can be separated from its (*che* + IP) predicate by (a limited class of) adverbials, as in ordinary small clauses. See (55):

- (55) Con la casa ancora che fuma, non possiamo certo sistemarci qui  
 With the house that still smokes, we certainly can't be accommodated here  
 (cf. *Con Gianni ancora incerto riguardo alla partenza, ...*  
 With G. still uncertain about the departure, ...')

Having argued for the more articulate structure (52a), here repeated as (56), over the simpler (53), I will now consider a number of questions that this structure raises, in particular those listed in (57):

- (56) Non sopporto [<sub>CP</sub>[<sub>AGRP</sub>NP AGR [<sub>TP</sub>T [<sub>C</sub>P<sub>e</sub> che [<sub>AGR</sub>P<sub>e</sub> V]]]]]  
 (57) a. What kind of empty categories are in the Specs of the embedded AGRP and CP, and are they in a chain?  
 b. How does the NP in the Spec of the higher AGRP receive its theta-role?  
 c. How can a lexical NP alternate with a controlled PRO in the Spec of the higher CP?  
 d. What is its domain of binding?

<sup>15</sup> From this point of view, it is interesting that the only well-formed cases where the categorial identity requirement seems to be violated are coordinations of predicate PPs, which can be interpreted as coordinations of identical higher-level constituents (AGR' or AGRP):

- (i) a. Gianni<sub>i</sub> sembrava [<sub>AGR'</sub>[<sub>AGR'</sub>AGR [<sub>AP</sub><sub>*t*</sub><sub>i</sub>irritato]]] e [<sub>AGR'</sub>AGR [<sub>PP</sub><sub>*t*</sub><sub>i</sub> sul punto di piangere]]]  
 b. Gianni<sub>i</sub> sembrava [<sub>AGRP</sub>[<sub>AGRP</sub><sub>*t*</sub><sub>i</sub> [<sub>AGR'</sub>AGR [<sub>AP</sub><sub>*t*</sub><sub>i</sub> irritato]]]] e [<sub>AGRP</sub> <sub>*t*</sub><sub>i</sub> [<sub>AGR'</sub> AGR [<sub>PP</sub><sub>*t*</sub><sub>i</sub> sul punto di piangere]]]]  
 G. seemed irritated and on the verge of crying

- e. What does the island sensitivity of the construction follow from?
- f. Is the “direct perception” interpretation grounded on structure, and if yes how?

Beginning with (57a), the predicate CP is an open sentence predicated of the subject of the “small clause,” its index percolating from C, which acquires it via Spec–head agreement with an XP in Spec. It is neither a null operator/primary variable open sentence, nor a null operator/derivative variable (bound clitic) open sentence. Otherwise, such sentences as \**Je l’ai rencontré que Marie embrassait* or \**Je l’ai rencontré que Marie l’embrassait* should be well formed.<sup>16</sup>

To capture the fundamental subject–object asymmetry of the construction, I will assume, following Taraldsen (1986a), that the Spec of the predicate CP is an A-position, hence that movement to it creates an A-chain. From this, it follows, as Taraldsen notes, that the only movement allowed is from the subject (of AGRP). If the object (or another complement) moved to the Spec of CP, its trace, an anaphor, would be free in its binding domain, the AGRP:

- (58) a. ... [CPNP<sub>i</sub> [C'che [AGRP<sub>t<sub>i</sub></sub> V...  
 b. ... [CPNP<sub>i</sub> [C'che [AGRP NP<sub>i</sub> V t<sub>i</sub> ...

The A(argument) status of the Spec of CP can be seen to result from the generation of an abstract agreement morpheme in C alongside the complementizer (or of an agreeing form of the complementizer, which in Italian happens to be the same as the non-agreeing form: *che*). (See Rizzi 1992b; see also Rizzi 1990: section 2.5.) This is, in fact, visible in French, where C indeed takes the (agreeing) *qui* form, as seen.

Besides rendering the Spec of CP an A-position, this has the effect of making the trace in Spec of AGRP a properly bound anaphor, and a properly head-governed e.c. (by *che* + AGR), and of making CP, which inherits the index of the NP in its Spec via C, an appropriate open sentence predicated of the “subject of predication” in the Spec of the higher AGRP.<sup>17</sup>

<sup>16</sup> Perhaps the unavailability of an operator/variable configuration is due to the fact that this is neither a relative clause configuration nor a reanalysis configuration of the *easy-to-please* type, which in Romance requires an infinitival construction.

<sup>17</sup> If generation of AGR in C is lexically selected in general (see Rizzi 1990: section 2.5), here it must be selected by the particular aspectual T head which takes the small clause as its complement.

- (59) a. Vedo [<sub>CP</sub>[<sub>AGRP</sub>Maria<sub>i</sub> AGR [<sub>TP</sub>T [<sub>CP<sub>i</sub></sub>NP<sub>i</sub> [<sub>C'</sub>che-AGR;  
[<sub>AGRP</sub> t<sub>i</sub> AGR corre]]]]]]]

The nature remains to be determined of NP<sub>i</sub> in the Spec of the lower CP in (59).

We have already excluded that it is a null operator. We can likewise exclude that it is a variable, there being no plausible higher operator to which it is bound. The possibilities left are NP-trace, PRO, and pro.

Could it be NP-trace? A simple consideration makes this option dubious. The Spec of CP is governed by (finite) AGR in C (which is generally incompatible with anaphors) and is presumably assigned Nominative Case by it, which is again in contrast with the Caseless nature of NP-traces.<sup>18</sup> The same considerations (government and Case assignment) also rule out the option in which NP<sub>i</sub> is PRO. So, the only plausible candidate remains *pro*. Indeed, I assume that it is licensed and identified in its phi-features by finite AGR in C, in Italian, under ordinary Spec-head agreement. In French, it is licensed and identified by the agreeing form of the complementizer (*qui*).

Some evidence may come from an observation of Guasti's (1988: 45ff.), according to which, when the head of the construction is other than third person, the result is judged either downright ill formed or marginal (\*?Pierre me/te/nous/vous voit qui parle/parles/parlons/parlez à Jean), in striking contrast with what happens with the participial variant (*Pierre me/te/nous/vous/voit parlant à Jean*).<sup>19</sup> As she notes, the contrast can be attributed to the fact that *pro* needs to be identified in its phi-features and that *qui* has only (or has characteristically) third-person features.

The next question to consider is how the NP in the subject position of the higher AGR receives a theta-role. Observationally, it appears that such NP bears the theta-role which the predicate of the lower CP assigns externally, an agent theta-role in (60a), a theme theta-role in (60b), a goal theta-role in (60c):

- (60) a. Ciò che ho visto è Gianni che picchiava suo figlio  
What I saw was G. that was beating his son

<sup>18</sup> We have to assume that the AGR head of the lower AGRP does not govern or assign Case to its Spec in the context of AGR in C, at least optionally. The ungrammaticality of idiom chunks in the Spec of the higher AGRP, noted above, excludes the subcase in which the NP-trace is created by movement to the Spec of the higher AGRP.

<sup>19</sup> The derivation \**Je crois [pro<sub>i</sub> qui<sub>i</sub> [t<sub>i</sub> est malade]]* (instead of *Je crois qu'il est malade*) must be excluded. It is if the derivation creates a predicate (which here fails for lack of an appropriate subject of predication).



- b. Ciò che ho visto è Gianni che veniva picchiato da sua moglie  
What I saw was G. that was beaten by his wife
- c. Ciò che vorremmo vedere è Gianni che riceve il primo premio  
What we would like to see is G. that gets the first prize

The fact is problematic since we have noted that the subject NP of the higher AGRP cannot have originated in the subject position of the lower AGRP, which contains an argument (pro) raising to the Spec of the lower CP. The main reason for that was that no idiom chunk belonging to the lower CP can appear there.

This state of affairs recalls the *easy-to-please* case. There, as Chomsky (1981a: section 5.4) notes, the NP in subject position bears the theta-role assigned by the complement predicate to its object, and yet it cannot be an idiom chunk:

- (61) a. \*Good care is hard to take *t* of the orphans
- b. \*Too much is hard to make *t* of that suggestion

It thus seems plausible to try and extend Chomsky's solution for this problem to the present puzzle too.

The subject NP position of the higher AGRP is not a theta-position, so it cannot contain a lexical NP at D-structure. The external theta-role of the lower predicate is assigned to the Spec of the lower AGRP containing pro. At S-structure, a lexical NP is "base-generated" in the Spec of the higher AGRP, which is reanalyzed into a chain with the Spec of the lower CP, itself in a chain with the lower AGRP subject. The single chain which is formed thus contains one argument (the lexical NP), one Case (the one assigned to the Spec of the higher AGRP), and one theta-role (the one assigned to the Spec of the lower AGRP). Nevertheless, as the lexical NP is "base-generated" directly in the Spec of the higher AGRP at S-structure, it cannot be an idiom chunk related to the lower CP.

How can a lexical NP, as in (62a), alternate with a controlled PRO, as in (62b)?

- (62) a. Non sopporto [CP<sub>AGRP</sub>Gianni AGR [CPche ...  
I can't stand G. that...]
- b. Ho incontrato Gianni [CP<sub>AGRP</sub>PRO AGR [CPche ...  
I met G. that ...]

This is related to the mechanism of Case assignment to the Spec of the higher AGRP. As already noted above, there is reason not to take such a

position to be directly governed and Case assigned by the matrix V. Rather, it was suggested, essentially after Reuland's (1983) analysis of the corresponding ACC-*ing* construction, that Case is assigned to the higher CP, from which it percolates to AGR, which ultimately assigns it to the subject NP (under Spec-head agreement). We further assume that such AGR in Italian, differently from the *-ing* AGR of the English construction, necessarily becomes a governor and must assign its Case when it receives one. This abstract difference from English *-ing* should capture the following difference between Italian and English concerning the alternation between lexical NP and PRO:

- (63) a. Odio [Gianni [che canta per strada]]  
           I hate G. that sings in the street  
       b. \*Odio [PRO [che faccio tardi]]  
           I hate that I am late
- (64) a. I hate [him singing in the street]  
       b. I hate [PRO singing in the street]

This implies that whenever the matrix CP is found in a Case position the PRO option is excluded in Italian. When the CP is instead found in a non-Case position, such as the adjunct position of (62b), a lexical NP is disallowed and only PRO is possible.

Interestingly, there is evidence that whatever Case is assigned to the CP (and percolates to AGR) is realized as Nominative in the Spec of AGRP. Of course, (65) is well formed with Accusative Case, but given the structural ambiguity seen above we cannot really tell from (65) whether the pronominal is the object of the matrix V or the subject of a complement small clause:

- (65) Ha visto me che fumavo per strada  
       He/she saw me that was smoking in the street

However, if the former option is structurally excluded, the only Case that can be realized is indeed the Nominative. See (66)–(68):

- (66) [Io/\*me che fumo per strada] è uno spettacolo che non raccomando a nessuno  
       I/\*me that smoke in the street is a sight that I can't recommend
- (67) Ciò che lei non sopporta è io/\*me che fumo per strada  
       What she can't stand is I/\*me that smoke in the street

- (68) Se vedi Maria che scappa e io/\*me che la inseguo, non farci caso  
If you see M. that is running away and I that am chasing her,  
don't bother

Consider, now, the question of the binding domain of the NP in the Spec of the higher AGRP. From such cases as (69), it would seem that the relevant domain is the matrix clause:

- (69) Nel filmato rivide se stesso che giocava con Mario  
In the film, he saw himself that was playing with M.

But, once again, this particular context is not informative. *Se stesso* could well be the direct object of the matrix V.

If we force the postverbal NP to be in a subject position of a small clause complement of the matrix V, it turns out that no anaphor (bound from the matrix clause) can fill that position:

- (70) a. Nel filmato, Maria vide Gianni che scappava e lei/\*se stessa  
che lo rincorreva  
In the film, M. saw G. that was running away and she/herself  
that was chasing him  
b. Ciò che Gianni rivedrebbe volentieri è ?lui/\*se stesso che  
suona la batteria  
What G. would like to see again is him/himself that is playing  
the drums

This pattern is in fact expected on the assumption, motivated above in relation to Case assignment and the distribution of PRO, that the null AGR of the small clause governs its Spec if it receives Case. For under such an assumption the complete functional complex of the NP in the Spec of AGRP is the AGRP itself.<sup>20</sup>

Finally, a few words on the island character of the construction, for which we will suggest a tentative answer. Above, we noted how the bare

<sup>20</sup> Here, the Italian construction differs again from the English ACC-ing construction in a consistent way (see Reuland 1983: 118). Another area of inquiry, which we will not pursue here, concerns the LF properties of a quantified head of a pseudo-relative. What one would expect is that a narrow scope interpretation should be possible in the subject position of a complement pseudo-relative. This appears to be true (*Vedere nessuno che cede il proprio posto quando entra una vecchia dà fastidio* "To see nobody giving his seat when an old lady comes in is bothering") although the judgments tend to be not very sharp and variable across speakers. For general discussion, see Higginbotham (1983) and Reuland (1983).

CP analysis could not provide a non-stipulative account for it. A similar situation perhaps holds in the present analysis. If anything, one should expect the construction to show quasi-*wh*-island effects, thus blocking the extraction of adjuncts but not that of arguments. Both, however, appear to be blocked:

- (71) a. \**La persona con cui ho visto tua sorella che stava parlando è questa*  
 The person with whom I saw your sister that she was talking is this
- b. \**Il modo in cui ho visto tua sorella che lo stava trattando mi ha dato fastidio*  
 The way in which I saw your sister that she was treating him bothered me

This means that (71a) has at least one barrier (more), when compared with a standard *wh*-island such as (72):

- (72) (?)*La persona con cui mi chiedevo di che cosa stessi parlando è questa*  
 The person with whom I was wondering about what you were talking is this

A difference between (71a) and (72) is in the P selected by T, a CP in the former case (cf. (56)) and a VP in the latter. This has as a consequence that only in the ordinary case of (72) does T become lexical after raising of the V. If (slightly modifying the system of Cinque 1990c) we take coindexing (through either raising or lowering) between the selecting head and the head of the selected XP to be a condition to void the barrierhood of the XP, then the CP headed by *che* is a barrier, since it is selected by T, to which C does not raise nor is coindexed. Presence of a single such barrier must then be sufficient to block extraction of both arguments and adjuncts (see Cinque 1990c).

### 3 The ACC-*ing* construction

As already noted, essentially the same threefold structural ambiguity has been proposed by Declerck (1982) for the corresponding English ACC-*ing* construction. As he points out, the apparently contradictory nature of the evidence discussed in the literature can find a solution if the tacit assumption that “there is only one correct analysis of [participial

perception verb complements]" (p. 2) is abandoned. As in Romance, (73) can enter any one of the three structures shown in (74a–c), which correspond, with certain differences to which we return directly, to (38a–c) above:

- (73) I saw the moon and Venus rising over the mountain  
(74) a. I saw [CP[AGRP[NPthe moon and Venus] AGR rising over the mountain]]  
b. I saw [NP[NPthe moon and Venus] [CP[AGRP]PRO rising over the mountain]]  
c. I [V'saw [NPthe moon and Venus]] [CP[AGRP]PRO rising over the mountain]]

Evidence for structure (74b) is provided by Akmajian (1977). Akmajian observes that the Accusative NP of the ACC-*ing* construction can determine number agreement on the matrix verb, as we indeed expect if it is the head of a larger nominal constituent comprising the participial modifier:

- (75) [[The moon and Venus] rising in conjunction] *have* often been observed by the astronomers at Kitt Peak

Equally telling is the fact, also noted in Akmajian (1977), that the participial modifier can extrapose to the end of the matrix clause, thus behaving like other complements and modifiers of a head N (PP and *that* complements, relative clauses, etc.):

- (76) a. The moon rising over the mountain looks spectacular  
b. The moon looks spectacular rising over the mountain

Furthermore, the ACC-*ing* complement of perception verbs is found to occur in other typical NP positions (subject and object of P positions):<sup>21</sup>

- (77) a. [The moon rising over the mountain] was a breathtaking sight  
b. The sight of [the moon rising over the mountain] was breathtaking

What about Gee's (1977: 462f.) observation, in his comments to Akmajian's paper, that verb agreement can also be singular?

<sup>21</sup> As in the corresponding Romance case, the participial modifier of (75)–(76) is not a reduced relative clause (*pace* Barss 1985), but an adjunct-like modifier (see Declerck 1982: 7ff.).

(78) Them trying to play Brahms together *was* quite a sight

This follows, as Declerck (1982: 13) notes, if the ACC-*ing* constituent of (78) receives a different analysis: namely, that of a CP functioning as subject of the matrix predicate (whence the third-person singular agreement of the latter).

As the predicate of a subject CP cannot extrapose, it is correctly predicted that no extraposition of the participial constituent will be available with singular agreement on the matrix verb:

(79) \*Them *was* quite a sight trying to play Brahms together

Indeed, only plural agreement is compatible with extraposition, as Gee (1977: 463) notes:

(80) They *were* quite a sight trying to play Brahms together<sup>22</sup>

Further evidence that the analysis (74a) must be available to (73) is provided by such cases as (81), which were pointed out by Akmajian himself (1977: 456) and whose relevance in this connection was stressed in Declerck (1982) and Higginbotham (1983):

(81) I saw it raining

Here, weather *it* can plausibly only fill the subject position of a complement clause, not the (head position of an) object NP.<sup>23</sup>

<sup>22</sup> Note that the head of the larger nominal “stranded” by extraposition is in the Nominative, as one would expect given the context in which the NP occurs, while the pronominal subject of the subject CP in (78) is in the Accusative. See Reuland’s (1983) above-mentioned analysis of Case assignment in such clauses. Interestingly, Gee (1977: 463) observes that singular agreement on the verb is much better for him than plural agreement when the head of the construction is an [Accusative] plural pronoun.

<sup>23</sup> Example (81) also shows that the English ACC-*ing* construction differs from the Romance pseudo-relative construction in internal structure. While the latter must be a “small clause” CP structure with the subject NP base-generated *in situ*, as noted, the English ACC-*ing* construction is (can be) a plain CP structure with the subject NP filling the Spec of the AGRP headed by *-ing*. Several differences stem from this more abstract difference. Among them, the fact that the subject of the English ACC-*ing* construction can be an idiom chunk (see (i a), from Gee (1977), vs. (i b) = (vi a) of fn. 3), and the fact that extraction, possible from ACC-*ing* complement clauses, is impossible from complement pseudo-relatives (cf. (ii a), from Gee (1977), vs. (ii b)):

- (i) a. I saw the shit hitting the fan
- b. \*Se vedi i conti che tornano, puoi considerarti fortunato  
          If you see the calculations square, you can call yourself lucky
- (ii) a. What did the policeman see John crossing?
- b. \*Che strada hai visto Gianni che stava attraversando?  
          Which street have you seen G. that was crossing?

The same point is strengthened by the following sentences, from Declerck (1982: 12), where the NP is an idiom chunk related to the embedded predicate or “expletive” *there*:

- (82) a. We noticed allowances being made for the very young  
 b. I saw there being a riot

The fact that ACC-*ing* constituents can be resumed (or anticipated) by propositional pro-forms such as *it* or *what* is additional evidence for the availability of (74a). See (83a–b), from Gee (1977: 465) and Declerck (1982: 6), respectively:

- (83) a. It/\*she is quite a sight, Mary trying to play the tuba  
 b. What/\*who I saw was John kissing a girl

Example (83b) expectedly contrasts with the following (from Gee 1977: 465), since *catch* selects individuals (NPs) and not propositions (CPs):

- (84) \*What we caught was John stealing the car

This means that (85a), just like its Romance analogue, can only be analyzed as having the third structure (74c), with the NP filling the object position, followed by a control adjunct CP as shown in (85b):

- (85) a. We caught John stealing the car  
 b. We [<sub>V</sub>caught [<sub>NP</sub>John] [<sub>CP</sub>[<sub>AGR</sub>PRO AGR [<sub>VP</sub>stealing the car]]]]

By full generality, the structure with a control adjunct CP predicated of the object (namely, (74c)) should be available to perception verbs as well. Indeed, as was the case in Romance, we have positive evidence that it must. .

As the ungrammaticality of (86) and (87) shows, NP-movement of the subject of the ACC-*ing* complement to a perception verb is excluded, for familiar reasons if the complement is a full CP:<sup>24</sup>

- (86) a. \*It was seen raining  
 b. It<sub>i</sub> was seen [<sub>CP</sub>C [<sub>AGR</sub>Pro<sub>i</sub> AGR raining]]  
 (87) a. \*It was seen raining  
 b. \*There was seen being a riot

<sup>24</sup> Examples (87a–b) are noted by Reuland (1983: fn. 7), who credits them to David Pesetsky. Sentence (87a) is also noted by Declerck (1982: 13), who reports (87c) too.

- c. \*Allowances were noticed (by us) being made for the very young

Sentence (88a) is of course possible because it can have the structure (88b), precluded to (86) and (87). NP-movement of objects is unproblematic.

- (88) a. John was caught stealing the car  
b. John<sub>i</sub> was caught t<sub>i</sub> [<sub>CP</sub> [<sub>AGR<sub>P</sub></sub>PRO AGR stealing the car]]

Example (89), then, must be possible as a case of the same type – namely, of structure (74c), given that NP-movement is excluded in both (74a, b) (cf. (86) and (87)):

- (89) John was seen stealing the car

Further evidence for this analysis comes from the observation that, while extraction of an adjunct from an ACC-*ing* complement of an active perception verb is possible (see (90)), extraction becomes impossible if the perception verb is passivized (see (91)):<sup>25</sup>

- (90) a. How did you see John behaving on such an occasion?  
b. Where did you see John going?  
(91) a. \*How was John seen behaving on such an occasion?  
b. \*Where was John seen going?

This follows if NP-movement is only possible in the structure (74c), in which the participial clause is an adjunct island.

#### 4 Some remarks on direct vs. indirect perception

The conclusion that the Romance pseudo-relative and the English ACC-*ing* constructions following verbs of perception are structurally ambiguous allows us to take a new look at the structural conditions under which a direct perception interpretation is possible (or necessary). In the literature, the relevant facts are not interpreted univocally. It is sometimes claimed, for example, that the ACC-*ing* and pseudo-relative constructions differ from ordinary tensed complements of perception verbs in

<sup>25</sup> Reuland (1983: fn. 7) cites (i) as well formed. Indeed, if there is a detectable difference between it and (91b), then it must be due to the familiar NP/non-NP asymmetry under extraction (see Cinque 1990c):

(i) What was everyone seen doing?



that the subjects of the former (though not those of the latter) are necessarily directly perceived:<sup>26</sup>

- (92) a. Ho visto Gianni che dormiva  
b. I saw Gianni sleeping
- (93) a. Ho visto che Gianni dormiva  
b. I saw that Gianni was sleeping

Others have pointed out that, although possibly typical, this is not necessary. Gee (1975, 1977), for example, notes that there is no requirement that the Accusative of the ACC-ing construction be directly perceived, as long as some aspect of the event denoted by the NP and VP is. Similar remarks are made in Declerck (1982: 12ff.) and Barss (1985: 156f.). So, for example, it is possible for me to say (94a, b) even if I do not actually see John, who is behind a curtain, or in the other room. Similarly, (94c, d) are appropriate even if what I heard was just the pig, and what I smelled was just the wax, not Mary:

- (94) a. I can see John moving the little figures  
b. I saw John sawing through the wall  
c. I heard the farmer killing the pig  
d. I smelled Mary beeswaxing the floor

Similar remarks hold for the pseudo-relative construction, whose head can be a NP referring to something which cannot be directly perceived in any obvious sense:

- (95) a. Vedere le proprie idee che si impongono con facilità non è sempre una bella sensazione  
To see one's ideas that have success easily is not always a nice feeling
- b. Vide il vento che muoveva le foglie<sup>27</sup>  
He/she saw the wind that was moving the leaves

Also, as with the English ACC-ing cases (94), the following sentences are appropriate even if no direct perception of the NP head of the pseudo-relative obtains; that is, if the little brother's cries are the only thing heard in the context of (96a), and if Gianni's change of mind is merely reported in the context of (96b):

<sup>26</sup> See. Akmajian (1977: 452ff.) and Rizzi (1992b) for discussion.

<sup>27</sup> This sentence was suggested at Gargnano by Paolo Casalegno

- (96) a. Se senti Gianni che fa piangere il fratellino, chiamami  
 If you hear G. that has his little brother cry, call me  
 b. Vedere Gianni che cambia opinione così spesso non ci fa'  
 meraviglia<sup>28</sup>  
 To see G. that changes his mind so often does not surprise us

This state of affairs is expected under the threefold analysis proposed above. Both for the Romance pseudo-relative and for the English ACC-*ing* constructions, there is at least one configuration in which the subject is not even governed, or directly Case-assigned, by the verb of perception, from which it is separated by AGRP and CP (cf. (59) and (74a), respectively):

- (59) Vedo [CP[<sub>AGRP</sub>Maria AGR [TP T [CPche [<sub>AGRP</sub>corre]]]]]  
 (74) a. I saw [CP[<sub>AGRP</sub>the moon and Venus AGR rising over the  
 mountain]]

This is compatible with restricting the direct perception interpretation just to the cases where the head NP is the real object, or the head of the real object, of the verb of perception (see (38b–c), (74b–c)). In that case, nothing special would have to be said, for, real objects of verbs of perception are necessarily interpreted as directly perceived.<sup>29</sup>

Notice that the hypothesis defended above that NP-movement (under Passive) and Clitic Movement (in the Romance construction) are only possible when the target is the real object of the verb of perception (and impossible in (59) and (74a)) affords a straightforward prediction: namely that, when the NP is passivized or cliticized, the direct perception interpretation becomes obligatory even in those cases like (94)–(96), where it was not. The prediction appears to be correct, thus strengthening that hypothesis. See (97)–(101), which are the Clitic Movement and NP-movement counterparts of (94)–(96) (% marks the semantic oddity of those cases where direct perception is not available owing to the inherent nature of the passivized or cliticized object):<sup>30</sup>

- (97) a. John was seen (by us) moving the little figures (cf. (94a))

<sup>28</sup> This sentence is an adaptation of a sentence suggested by Andrea Bonomi.

<sup>29</sup> This was, in fact, Akmajian's (1977) idea, though cast in a different analysis.

<sup>30</sup> The actual viability of restricting the direct perception interpretation to real objects rather than to governed NPs (hence of dispensing with the notion of thematic sharing proposed in Rizzi (1992b)) depends on the precise analysis of such cliticization cases as (i) below, which appear to be relatively acceptable in opposition to the corresponding cases of passive (cf. (ii)):

- b. John was seen (by everybody) sawing through the wall (cf. (94b))
- c. The farmer was heard (by everybody) killing the pig (cf. (94c))
- d. Mary was smelled (by us) beeswaxing the floor (cf. (94d))
- (98) a. %Vederle che si impongono, le proprie idee, non è sempre piacevole  
To see them that have success, one's ideas is not always a nice feeling (cf. (95a))
- b. %Le sue idee sono state viste che si imponevano  
His ideas were seen that had success
- (99) a. %Il vento, lo abbiamo visto che muoveva le foglie  
The wind, we saw it that was moving the leaves (cf. (95b))
- b. %Il vento fu visto che muoveva le foglie  
The wind was seen that was moving the leaves
- (100) a. Gianni, l'ho sentito che faceva piangere il fratellino  
G., I heard him that was making his little brother cry (cf. (96a))
- b. Gianni è stato sentito (da tutti) che faceva piangere il fratellino  
G., was heard (by everybody) that was making his little brother cry
- (101) a. Vederlo che cambia opinione così spesso non ci fa' meraviglia  
To see him that changes his mind so often does not surprise us (cf. (96b))
- b. Esser visti che cambiamo opinione così spesso è brutto  
To be seen that we change our mind so often is bad

(i) Le sue idee, le ho viste imporsi con facilità

His ideas, I saw them have success easily

(ii) %Le sue idee sono state viste (da tutti) imporsi con facilità

His ideas have been seen (by everybody) have success easily

But I will not pursue this question here which touches on the analysis of infinitival complements to perception verbs.

## 9 *On leftward movement of tutto in Italian\**

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1 (Non-emphatic) object *tout* (“everything”), in French, and its equivalent in Italian, *tutto*, occupy different positions with respect to the past participle in compound tenses:

- (1) a. Il a tout compris  
b. \*Lui ha tutto capito  
c. \*Il a compris tout  
d. Lui ha capito tutto  
He has understood everything

Recently, it has been suggested (Belletti 1990: 77ff.) that this could be due not to a difference in the position of the object quantifier (which could, then, be taken to occupy the same A'-position at S-structure in the two languages), but rather to the different location of the past participle, which is known to move further to the left in Italian than in French (see Pollock 1989a: 411ff.; Belletti 1990: 78):<sup>1</sup>

\* I thank Adriana Belletti, Paola Beninca, Anna Cardinaletti, Giuliana Giusti, Richard Kayne, and Cecilia Poletto for helpful comments and criticism.

<sup>1</sup> For empirical evidence that (non-emphatic) object *tutto* occupies, at S-structure, a position to the left of its base position, see Belletti (1990), incorporating suggestions by Kayne and Rizzi, and Rizzi (1991).

Evidence that past participles move further to the left in Italian than in French is provided by their positioning with respect to adverbs such as *più/plus* (“anymore”) (see Pollock 1989a: section 6.3; Belletti 1990: 77ff.), at least under the reasonable assumption that such adverbs are, for scope reasons, generated in the same base position in the two languages, and are not moved in one but not the other language:

- (i) a. Non ho mangiato più  
b. Je n'ai plus mangé

Additional evidence to the same effect comes from the distribution of floating quantifiers (FQ). Sportiche (1988: 427) notes that in a French sentence consisting of an auxiliary, a participle, and an object, a FQ can be found between the auxiliary and the participle (ii a), but not between the participle and the object (ii b):

- (ii) a. Les enfants ont tous vu ce film  
The children have all seen this film

- (2) a. Il a [tout<sub>j</sub> [compris t<sub>j</sub>]]  
 b. Lui ha capito<sub>i</sub> [tutto<sub>j</sub> [t<sub>i</sub> t<sub>j</sub>]]

Indirect support for this analysis comes from another set of facts to be discussed here which also suggest that *tutto* in Italian moves (may move) leftward in the syntax.

2 Consider the following contrasts:

- (3) a. Gli parve tutto facile  
 To-him appeared everything easy  
 b. \*Gli parve qualcosa facile  
 To-him appeared something easy
- (4) a. Credo che sia tutto in ordine, finalmente  
 I think that is everything in order, at last  
 b. \*Credo che sia qualcosa in ordine, finalmente  
 I think that is something in order, at last

In (3)–(4), it is the grammaticality of the (a) cases that is surprising, not the ungrammaticality of the (b) cases, for it is known that in Italian (perhaps generally) no Case is available to the subject of a small clause complement to a raising verb (see Burzio 1986: section 2.4, and Belletti 1988: 27f. for an account).<sup>2</sup>

- b. \*Les enfants ont vu tous ce film  
 The children have seen all this film

Sentences corresponding to (ii b) in Italian are instead perfectly grammatical:

- (iii) I bambini hanno visto tutti questo film  
 The children have seen all this film

Once again, this can be taken not as an additional independent difference between the two languages but simply as another manifestation of the same abstract difference: the participle can move further to the left in Italian than in French, only in the former crossing over the FQ, as it does over the negative adverb in (i). For further discussion, see Cinque (1994b).

<sup>2</sup> Standard cases showing this restriction are:

- (i) a. \*Sembrano [molti studenti intelligenti]  
 Seem many students intelligent  
 b. \*Sono [molti studenti intelligenti]  
 Are many students intelligent

Belletti's account is based on the unaccusative character of raising verbs and on the assumption that unaccusative verbs assign inherent Case; hence only to DPs which are thematically related to them (see Chomsky 1986a). Since the subject of the small clause complement of the unaccusative verb is not thematically related to it, and does not receive Case from anywhere else, it is in violation of the Case Filter.

To be assigned (Nominative) Case, the small clause subject must either raise to the specifier position of the matrix Agreement (5a), or be in the “inverted subject” position of the small clause (5b), another Case assignment position in Italian.<sup>3</sup>

- (5) a. Qualcosa gli parve [*t* facile]  
 Something to-him appeared easy  
 b. Gli parve [*e* facile qualcosa]  
 To-him appeared easy something

This implies that *tutto* in (3a)/(4a) does not fill the small clause pre-predicate subject position. Otherwise, the contrast with (3b)/(4b) would remain unexplained.

The contrast directly follows, instead, if *tutto* has one more possibility than ordinary lexical DPs: namely, if it can (perhaps, must, when non-emphatic) move to an A'-position of scope already at S-structure. Note that the origin of such movement cannot be the pre-predicate subject position of the small clause (see (6a)), as the trace would not be Case-marked, just as *qualcosa* in (3b/4b) is not. The origin of the leftward movement of *tutto* can, however, be the “inverted subject” position occupied by *qualcosa* in (5b), as indicated in (6b):

- (6) a. (\*)Gli parve tutto<sub>j</sub> [*t<sub>j</sub>* facile]  
 b. Gli parve tutto<sub>j</sub> [*e* facile *t<sub>j</sub>*]

The French equivalent of (3a) is instead ungrammatical (see (7)), since the putative sources of the movement of *tout* are both ungrammatical. See (8a–b):

- (7) \*Il lui semblait tout facile  
 (8) a. \*Il lui semblait quelque chose facile  
 b. \*Il lui semblait facile quelque chose

<sup>3</sup> If (Nominative) Case assignment to the inverted subject position of the small clause in (5b) is by the (abstract) head T(ense) (see Roberts 1991 for discussion), another case is needed for the null expletive pronominal in pre-predicate position, given the ungrammaticality of (i b). The contrast between (i a) and (i b) follows if “e” in (i a) receives Nominative Case after raising to the matrix subject position.

Alternatively, the inverted subject satisfies Case requirements by being in a CHAIN with the pre-predicate null expletive, which must ultimately receive Case:

- (i) a. [*e<sub>i</sub>* sembrano [*t<sub>i</sub>* esserne arrivati molti]]  
 Seem to be arrived many  
 b. \*[[*e* esserne arrivati molti] è preoccupante]  
 To be arrived many is worrying

3 What remains to be determined is the S-structure A'-position of *tutto* in (3)–(4), and, more generally, the factor that allows *tutto* (and *tout*) to move to one such position at S-structure, in contrast to other DPs (see Kayne 1975: chapter 1).<sup>4</sup> I take up the two questions in turn.

Concerning the first, one may note that (non-emphatic) *tutto* and *tout* precede the position of non-emphatic manner adverbs like *bene*, *bien* “well,” of temporal adverbs like *subito*, *immédiatement* “immediately,” and measure adverbs like *molto*, *beaucoup* “much,” which in turn precede the verb’s complements (we abstract from the past participle’s position, which is further to the left in Italian):

- (9) a. I bambini hanno detto tutto subito alla mamma  
 b. Les enfants ont tout dit immédiatement à leur mère  
     The children have told everything immediately to their mother  
 a'. Gianni ha detto tutto bene a tutti  
 b'. Gianni a tout bien dit à tous  
     G. has said everything well to everybody  
 a". Abbiamo apprezzato tutto molto  
 b". Nous avons tout beaucoup apprécié  
     We have appreciated everything much

In this light, consider the following two sentences:

- (10) a. Gli è parso subito tutto facile  
       To-him appeared immediately everything easy  
 b. Gli è parso tutto subito facile  
       To-him appeared everything immediately easy

In (10a), but not in (10b), *subito* modifies the matrix verb (“everything immediately appeared to him easy”), which suggests that in (10a), though not in (10b), the adverb is located in front of the matrix VP. This, in turn, implies that *tutto* has not moved to the same position hosting object *tutto*

<sup>4</sup> In French, *rien* “nothing” too moves in the syntax. Clear evidence that *niente*, its equivalent in Italian, moves leftward in the syntax is, however, lacking (see Belletti 1990: 138, fn. 72). Indeed, the ordering option open to *tutto* in (3a/4a) is not shared by *niente*. See:

- (i) a. \*Non ci pare niente in ordine  
       Not to us seems nothing in order  
       “Nothing seems to us in order”  
 b. \*Non apprezza niente molto (cf. *Apprezza tutto molto*)  
       He/she does not appreciate nothing much

in the participial phrase, to the left of the VP adverb (see (9a, b)). Otherwise, (10b), in which *tutto* is to the left of the adverb, should also allow for the same reading. But (10b) only admits the reading in which the adverb modifies the adjective, suggesting that it has not left the adjectival small clause (“everything appeared to him immediately easy”).

If *subito* in (10b) is in the Spec of a functional head selecting the AP, *tutto* has presumably moved to the Spec of a higher functional phrase:<sup>5</sup>

(11) ... parso<sub>k</sub> ... t<sub>k</sub> ... [AGRP... [FPTutto<sub>i</sub> ]<sub>FPS</sub>subito ]<sub>APe</sub> facile t<sub>i</sub> ...

Consider now the second question. Why can *tout/tutto* and no other quantifier or quantified DP (except for *rien* in French – see note 4) move leftward to an A'-position?

<sup>5</sup> *Tutto* follows *loro* in the small clause (i) as it does in the full clause (ii):

- (i) a. Non so se sia loro tutto chiaro  
I do not know whether is them (dat.) everything clear  
b. \*Non so se sia tutto loro chiaro  
I do not know whether is everything them (dat.) clear
- (ii) a. Diremo loro tutto bene  
We will tell them (dat.) everything well  
b. \*Diremo tutto loro bene  
We will tell everything them (dat.) well

It is not clear what prevents *tutto* in (10) from moving “successive-cyclically” to the higher position it could fill in the participial phrase, thus making (10b) acquire the reading of (10a), in which the adverb modifies the matrix verb. Some factor appears to make leftward movement of *tutto* in Italian clause-bound, as is overtly visible from the following systematic contrasts with French:

- (iii) a. J'ai tout voulu faire  
b. \*Ho voluto tutto fare  
I have everything wanted to do
- (iv) a. ?Il faut tout que tu fasses  
b. \*Bisogna tutto che tu faccia  
It is necessary everything that you do

Parallel contrasts involve the leftward movement of *tous* and of certain “VP-initial” adverbs (Kayne 1975: chapter 1, fn.29; Kayne 1991, fn.23), suggesting the existence of a single deep-seated difference between the two languages:

- (v) a. Il a tous fallu qu'on les lise  
b. \*Ci è tutti voluto che li leggessimo  
It has all been necessary that we read them
- (vi) a. J'ai mal dû raccrocher  
b. \*Ho male dovuto riappendere  
I have had to hang up badly

This remains an open problem.



- (12) a. Lui ha apprezzato  $\left. \begin{array}{l} \text{tutto} \\ * \text{qualcosa} \\ * \text{qualcuno} \\ * \text{tutti i libri} \end{array} \right\} \text{molto}$
- b.
- c.
- d.

He appreciated everything/something/someone/all the books much

- (13) a. Il a  $\left. \begin{array}{l} \text{tout} \\ * \text{quelque chose} \\ * \text{quelqu'un} \\ * \text{tous ces livres} \end{array} \right\} \text{vu}$
- b.
- c.
- d.

He has everything/something/someone/all these books seen

As observed by Kayne (1984: chapter 4), contrasts such as (14a–b) suggest that the trace of *tout* (*tutto*), as opposed to that of the clitic, is a variable since it does not need to be locally bound:<sup>6</sup>

- (14) a. Marie a tout<sub>i</sub> voulu faire t<sub>i</sub>  
 Marie has everything wanted to do
- b. \*Marie l<sub>i</sub>'a voulu faire t<sub>i</sub>  
 Marie it has wanted to do

The A'-position occupied by *tout/tutto* at S-structure, however, must not be a position open to any (quantificational) XP. Otherwise, one would not expect the asterisks of (12)/(13). This is especially true of *qualcosa/qualcuno* in Italian, which can bind a variable from one such position: the A'-position of the "Clitic Left Dislocation" construction. See (15) and the discussion in Cinque (1990c: chapter 2):

- (15) a. Qualcosa, credo che faranno  
 Something, I think they will do
- b. Qualcuno, troverò  
 Someone, I'll find

<sup>6</sup> The fact, noted in Obenauer (1992), that *tout* does not license parasitic gaps from the L-tous position (*\*Il a tout envoyé t sans relire e* "He has everything sent without checking") is not problematic for the A' status of that position if parasitic gaps have pronominal features (see Cinque 1990c: chapter 3) incompatible with *tout* (cf. *\*Tout est tombé parce qu'il était mal attaché* "Everything fell because it was hitched up badly," from Kayne 1975: section 1.3).

We would have an answer if only *tout/tutto*, among XPs, could move to what appears to be an adverbial-like A'-position (as Kayne 1975: section 1.3, originally suggested), while retaining their ability to bind a variable (a nominal-like expression). Here, I will suggest a possible implementation of this idea, elaborating on a suggestion made in Cinque (1986).

Something that uniquely characterizes *tutto/-i/-a/-e* "all (masc. sg./masc. pl./fem. sg./fem. pl.)" is that it takes a full DP as its complement, itself being the head of a distinct QP projection ([<sub>QP</sub>*tutto* [<sub>DPil</sub> *libro*]]) "all the book"; [<sub>QP</sub>*tutti* [<sub>DPi</sub> *libri*]] "all the books," etc.). See Giusti (1993b) and Bianchi (1992) for evidence that *tutto/-i/-a/-e* is a head embedding a DP, and Shlonsky (1991) for similar conclusions concerning its analogue in Hebrew.

Both DPs and QPs act as arguments, hence as variables as well. See (16a–b):

- (16) a. [<sub>DPi</sub> *LIBRI*], ha letto [<sub>DP</sub> ]  
           The books (focus) he/she has read  
       b. [<sub>QP</sub>*TUTTI* [<sub>DPi</sub> *LIBRI*]], ha letto [<sub>QP</sub> ]  
           All the books (focus) he/she has read

In (16b), the QP qualifies as an "extended projection" of N, in the sense of Grimshaw (1991) (after receiving +N, –V features from its complement via percolation).<sup>7</sup>

If only QPs could freely occur in the adverbial-like *L-tous* position (as well as in argument position), because they alone can be categorially neutral between a nominal (i.e. +N, –V) projection and an adverbial-like projection, we would have part of the answer for (12)/(13).<sup>8</sup> First, the (b) and (c) cases would be excluded as they contain a DP, not a QP, in the *L-tous* position. The difference between (12a), on one side, and (12d) and (17) below, on the other, would also follow if in (12a) *tutto* is the head of a complementless QP, unspecified for the features ±N, ±V, while in the latter two cases the QP head, as a consequence of taking a +N, –V

<sup>7</sup> See also Abney's (1987) notion of *f-selection*

<sup>8</sup> Concerning the feature content of such a projection, we can assume for concreteness, and begging certain questions, that Q is U(nspecified) N, U(nspecified) V.

That QPs can possibly inherit categorial features from their complements (with important limitations, in Italian) is indicated by the fact that they can be "extended Ns" (*tutti i libri* "all the books"), "extended A's" (*una casa tutta sporca* "a house all dirty") and even "extended Ps" (*E' piovuto tutto dentro* "It rained all inside"). In French, though not in Italian, they can also be extended adverbs (*Il a marché tout doucement* "He walked quite slowly").

complement, of which it inherits the features within the extended projection, becomes nominal. See (18) and (19):<sup>9</sup>

- (12) a. Lui ha apprezzato tutto molto  
           He appreciated everything much  
 (12) d. \*Lui ha apprezzato tutti i libri molto  
           He appreciated all the books much  
 (17) (A proposito di quei libri) \*lui ha apprezzato tutti molto  
 (Concerning those books) he appreciated all much  
 (18) ... apprezzato [QPtutti [DPi libri]] molto  
                                   [+ N, -V] [+ N, -V]  
 (19) ... apprezzato [QPtutti [DP ] ] molto  
                                   [+ N, -V] [+ N, -V]

That *tutto* in (12a) is a bare QP (with no DP complement, and with default neuter agreement) is supported by the following observation: when *tutto* is followed by the overt neuter pro-DP *ciò* “it,” it cannot move to the *L-tous* position. Thus (12a) (see (20a)) sharply contrasts with (20b):<sup>10</sup>

- (20) a. Lui ha apprezzato [QPtutto] molto [QP ]  
       b. \*Lui ha apprezzato [QPtutto [DPciò]] molto [QP ]

The same holds for subject *tutto*. See (3a), repeated here as (21a), and (21b):

<sup>9</sup> The DP complement in (17)/(19) must presumably be a pronominal for interpretive reasons. In addition to transmitting its +N, -V features to QP (hence rendering the QP unsuitable for the *L-tous* position), this pro also fails to be properly identified. On the apparent problem posed by the wellformedness of *Lui li ha apprezzati tutti molto* (as opposed to (17)), see below.

Notice that *Lui ha apprezzato tutti molto* “He has appreciated all much” is grammatical with a (necessarily) arbitrary human interpretation. In the present context, this implies either that the Q takes no (pro) DP complement, acquiring, as a consequence of that, a default human interpretation, or that *tutti* occupies the same position as ordinary floating quantifiers with a DP (*pro*) complement identified via the default human interpretation already mentioned. For discussion, see Belletti and Rizzi (1981: fn. 9) and Cinque (1986: fn. 12; 1988: fn. 36).

<sup>10</sup> As Cardinaletti (1991: fn. 19) notes, *tutto* can be preceded by a specifier such as *quasi* “almost”:

- (i) Lui ha apprezzato quasi tutto molto  
       He appreciated almost all much

Thus, the unacceptability of (20b) cannot be imputed to heaviness factors. Example (i) also suggests that *tutto* in the *L-tous* position is not a head (Q) but a full XP (QP), as Cardinaletti observes, with its specifier optionally filled.

- (21) a. Gli parve [tutto]<sub>i</sub> facile *t<sub>i</sub>*  
 To him appeared all (everything) easy  
 b. \*Gli parve [tutto ciò]<sub>i</sub> facile *t<sub>i</sub>*  
 To him appeared all it (everything) easy

Notice that (21a) is interpreted differently from (22), which contains a “floating” instance of *tutto*:

- (22) *Ciò gli parve tutto facile*  
 It to-him appeared all easy

In (22), *tutto* can only be interpreted as “entirely,” not as “everything.” Of course, this interpretation (alongside the “everything” interpretation) is also available in (21a) given the possibility, in Italian, of moving the null counterpart of the overt neuter pronominal *ciò* to the Spec of the matrix AGRP. But this suggests that the analysis of (21a) cannot be reduced to a simple floating quantifier analysis along the lines of (22) with a null *ciò*. If that were the case, (21a) should have only the “entirely” reading, contrary to fact.

The fact that other (apparently bare) neuter quantifiers such as *molto*, *poco*, *troppo*, etc. cannot occur in the L-*tous* position (cf. (23a–b)) would follow if these obligatorily required a complement DP:

- (23) a. 
$$\text{Diede } \left\{ \begin{array}{l} \text{tutto} \\ * \text{molto} \\ * \text{poco} \\ * \text{troppo} \end{array} \right\} \text{ subito ai poveri}$$

He/she gave everything/much/little/too much immediately to the poor

- b. 
$$\text{Gli parve } \left\{ \begin{array}{l} \text{tutto} \\ * \text{molto} \\ * \text{poco} \\ * \text{troppo} \end{array} \right\} \text{ facile}$$

To-him appeared everything/much/little/too much easy

This need not be stipulated. Differently from *tutto*(*/i/a/e*), which when followed by a DP as in *Ha letto* [<sub>QP</sub>*tutti* [<sub>DPi</sub> *libri*]] “He has read all the books” transmits to it the case it receives, indefinite Qs assign partitive

case (see Belletti 1988; Cardinaletti and Giusti 1991), and this must presumably be discharged on a DP.

If Sportiche's (1988) analysis of FQs as Qs "stranded" under DP- and Clitic Movement is correct, then the wellformedness of (24a–b), which contain QPs with a DP complement in what looks like the L-*tous* position, would seem to pose a problem to the analysis just sketched since (24a–b) are, in the relevant respects, indistinguishable from (12d), repeated here as (25). In both cases, Q takes a complement DP which transmits to the Q its nominal features.

- (24) a. [<sub>DP</sub>Loro] sono stati apprezzati [<sub>QP</sub>quasi tutti[<sub>DP</sub>]] molto[<sub>QP</sub>]  
 They have been appreciated almost all much  
 b. Noi li abbiamo apprezzati [<sub>QP</sub>quasi tutti [<sub>DP</sub>]] molto [<sub>QP</sub>]  
 We them have appreciated almost all much
- (25) \*Lui ha apprezzato tutti i libri molto  
 He has appreciated all the books much

Fortunately, however, there is evidence that floating *tous* and *tutti* do not occupy the same (A'-)position of *tout* and *tutto*. As the facts suggest, floating *tous* and *tutti* (whether they relate to the subject or an object) must precede such adverbs as *complètement/completamente* "completely," while *tout* and *tutto* must follow it. See (26)–(27) and (28)–(29):

- (26) a. Il a complètement tout perdu  
 b. \*?Il a tout complètement perdu  
 He lost completely everything
- (27) a. Lui ha completamente perso tutto subito  
 b. \*Lui ha perso tutto completamente subito  
 He has lost completely everything immediately
- (28) a. Ils les ont tous complètement mal refaits  
 b. \*Ils les ont complètement tous mal refaits  
 They them have completely all badly done again
- (29) a. Li hanno capiti tutti completamente  
 b. \*?Li hanno capiti completamente tutti  
 They have understood them all completely

In view of the fact that floating *tous* and *tutti* cannot bind a variable (cf. (17)), it is plausible to interpret the position as an A-position, the Spec of an AGRsP or AGRoP, respectively. See Cinque (1994b) for further discussion.

The above evidence shows that (non-emphatic) *tutto* in Italian *can* move to an A'-position at S-structure (presumably anticipating in the syntax what must in any event happen in Logical Form, where quantifiers have to move to scope positions). Whether it *must* remains still to be determined.



In Romance (here exemplified by Italian), the only order admitted is with the AP intervening between the N and its complement(s). See (2):

- (2) a. \*l'italiana invasione dell'Albania  
 b. l'invasione italiana dell'Albania  
 c. \*l'invasione dell'Albania italiana

If thematic APs are taken to occupy the same position of canonical subjects, outside of the  $X'$  constituent made up by the head and its complement(s), their distribution is unexpected.<sup>2</sup> In particular, (2b) could not reflect the base order. It could only be an order derived either from (3a), by raising the N leftward to a higher head, if the subject in Romance is generated in [Spec, NP], or from (3b), by “heavy-NP-shifting” the complement around it, if the subject is generated to the right:<sup>3</sup>

- (3) a. [DP...[NPAP [N'N compl.]]]  
 l'ital. invas. dell'Alb.  
 S N O  
 └───┬───┘  
 b. [DP...[NP [N'N compl.] AP]]  
 l'invas. dell'Alb. ital.  
 N O S  
 └───┬───┘

As the order “(D) N AP complement” is the only order permitted, the movement must be obligatory, which is rather natural for a head-to-head movement (cf. the obligatory raising of finite V in Romance), but not, in general, for apparent reorderings of maximal projections to the right (as in Heavy-NP-Shift).

The pattern in (2), thus, favors the hypothesis of a leftward head-to-head raising of the N from a SNO source over the alternative.<sup>4</sup>

<sup>2</sup> Their position is unexpected even if they should turn out not to occupy the very same position of nominal external arguments (see section 3 below for some discussion). This is because they “break up” the constituent formed by the head and its complement(s).

<sup>3</sup> We exclude from consideration the only other possibility of obtaining (2b) from either (3a) or (3b), namely by lowering the AP into N'; an operation excluded by the ECP.

<sup>4</sup> Picallo (1991) has independently proposed that the N raises leftward to a functional head of Number in Catalan (from a category-neutral head through a nominalizing head in the case of event nominals – for which also see Ouhalla 1988: section 3.2.3.2); and that this provides an account for the NSO order of arguments in the Catalan DP (*el temor d'ell/d'en Pere als trons* “the fear of him/Peter to thunderclaps”). For Italian, too, it should in principle be possible to replicate the argument here based on thematic APs with other types of subjects (possessive APs and genitive PPs). That is indeed possible in many



This hypothesis also has the advantage of minimizing the difference between Romance and Germanic. It assigns the same D-structure to the two language groups, and the very same rule which is needed to “regularize” the unexpected word order of Romance (with reference to Theta and X-bar Theory) suffices to express the specific word order difference between the two groups.

This is not the case with the rule reordering complements to the right in the alternative of (3b). Though needed to “regularize” the word order of Romance, it does not suffice to characterize the difference between the two language groups. Another, unrelated, parameter is needed, such as the left vs. right location of the external argument.<sup>5</sup>

It is interesting to note that in the highly restrictive system proposed in Kayne (1994), alternative (3a), which we have seen to compare favorably with alternative (3b), is in fact the only possibility allowed, as base, or derived, adjunctions to the right are excluded there on general grounds.

The derivation of the NSO order that we see in (3a) from a SNO order via a rule of leftward head-to-head movement in Romance is reminiscent of the N-movement analysis proposed for various other language groups, from Semitic (Ritter 1988, 1990; Ouhalla 1988; Siloni 1990, 1991; Fassi Fehri 1993), to Scandinavian (Taraldsen 1990), to Celtic (Guilfoyle 1988; Rouveret 1991; Duffield 1991, 1992), to Bantu languages (Carstens 1991); except that in the latter languages the common N can, or must, overtly move to D (adjoining to it), while in Romance it can only move to a head intermediate between N and D. This is apparent from the fact that the N

*(l'opinione mia di voi* “the opinion my of you”, *l'odio di ognuno di loro per i propri simili* “the hatred of each of them for his fellows”), though not all cases (*\*l'invasione degli italiani dell'Albania* “The Italians’ invasion of Albania”), due to a number of intervening factors, which will not be discussed here (see Cinque 1994a). Brito (1989) also proposed movement of N to a DP-internal AGR to account for agreement and the distribution of possessives in the Portuguese DP.

<sup>5</sup> In the alternative (3b), it is not only curious that the rule reordering a complement to the right of the subject is obligatory. There is a further puzzle. When more complements are present, all of them have to heavy-NP-shift obligatorily past the subject, and the putative double application of Heavy-NP-Shift gives rise to a neutral word order only when it reproduces a DO PP sequence (cf. (i a)), while it implies a contrast just on the DO when it gives rise to a PP DO sequence (cf. (i b)):

- (i) a. la cessione italiana di Nizza alla Francia  
the cession Italian of Nice to France
- b. la cessione italiana alla Francia di Nizza  
the cession Italian to France of Nice

In the alternative (3a), the facts in (i) are instead expected. Only (i b) is derived via Heavy-NP-Shift of the DO (or its equivalent in Kayne’s [1994] system).

which raises over the subject (here the thematic AP) can be separated from D by other material (4a), and simply cannot continue its movement to D, as shown by (4b):<sup>6</sup>

- (4) a. *la sola grande invasione italiana dell'Albania*  
       the single big invasion Italian of Albania  
       b. \**l'invasione sola grande italiana dell'Albania*

### 3 Attributive APs

A variant of the above argument is provided by the distribution of attributive APs. While they necessarily precede the N in Germanic, they are found either preceding or following the N in Romance (cf. (5) and (6)):

- (5) their brutal aggression against Albania  
 (6) a. *la loro brutale aggressione all'Albania*  
       b. *la loro aggressione brutale all'Albania*

Given the ungrammaticality of the order "N compl AP" under normal intonation (cf. (7), and section 4 for a discussion of that order with an intonational break after the complement), this again suggests that the order in (6b) is derived via leftward raising of the N to a higher head

<sup>6</sup> Within the Romance languages, Rumanian possesses the extra option of (overt) adjunction of (common) Ns to D. So alongside (i a), shared with the other Romance languages, Rumanian also has the option in (i b) (see Dobrovie-Sorin 1987a; Grosu 1988; Giusti 1991b for relevant discussion):

- (i) a. *al meu portret mare*  
       the my picture big  
       b. *portretul meu mare*  
       picture-the my big

Movement of the N to D across all APs seems to parallel, in the same language, movement of the V past (most) adverbPs and the subject in [Spec, AGRsP] in non-V/2 clauses. Both Semitic and Celtic languages, as well as Rumanian, display instances of VSO order alongside SVO order (Ritter 1988: 926, and Ouhalla 1988: 189, observe that VSO languages systematically display NSO order. Chamorro [Chung 1991] is another case in point).

The Scandinavian languages, where neither the N crosses over APs, nor may the V cross over adverbPs and the subject in non-V/2 clauses, should, from this perspective, involve no movement of N to D at all, contrary to appearances. Interestingly, this is just what Giusti (1992, 1993a) argues for. Svenonius (1992) and Longobardi (forthcoming) provide further arguments to the same effect.

For evidence that proper names (and few other nouns) overtly raise up to D in Romance, but not in Germanic, see Longobardi (1994). What remains to be seen is how best to express the apparent correlation that proper names raise overtly to D only in those languages where common nouns overtly raise to a functional head intermediate between N and D.



All this suggests that the N raises *obligatorily* to a head higher than the manner AP position (just as an active past participle raises obligatorily to a head higher than the manner adverbP position in the clause – see (ii b) of note 7).

If thematic APs were in [Spec, NP], as assumed above, the sequence in (10) should be possible, but this expectation does not seem to be fulfilled. Compare (11), read with no “comma intonation”:<sup>8</sup>

- (10) ... N [<sub>XP</sub>AP<sub>manner</sub> *t* [<sub>NP</sub>AP<sub>thematic</sub> *t* YP]] ...
- (11) a. \*?l'aggressione brutale italiana all'Albania  
the attack brutal Italian to Albania  
b. \*?la reazione ostile americana alle critiche  
the reaction hostile American to criticism

This might suggest that thematic APs are not in [Spec, NP], as opposed to genitive PPs (cf. *la reazione ostile di Bush alle critiche* “Bush’s hostile reaction to criticism”), but compete with manner APs for one and the same position. Comparative evidence would seem to support this conjecture. N raises in Germanic past the base position of a DP subject (cf. (12)), but it can never cross over thematic (in fact, any) APs (which would follow if the latter were distinct from, and higher than, the former):

- (12) a. die Wut des Mannes auf sich (Haider 1992)  
the anger of J. against himself  
b. beskrivelsen til Per av sine venner (Taraldsen 1990)  
the description of P. of his (refl.) friends

<sup>8</sup> See Giorgi (1988: 309): “Adjectives which are obligatorily after the head cannot be preceded by another adjective” (our translation). One of her examples is *\*un' invasione ben progettata tedesca* “a well-designed German invasion.” Crisma (1990: 137) reports an apparently acceptable case (*l'atteggiamento ostile americano nei confronti* ...). This is good to my ears if pronounced with an intonation break after *americano*, which might indicate the presence of an altogether different structure. See the discussion below on predicative XPs in section 4. Valois (1991b: 164) claims that examples corresponding to (11) are indeed impossible also in French (*\*l'invasion brutale martienne de Jupiter*), but appears to accept, like Lamarche (1991: 224), cases with the opposite order of APs (*l'invasion martienne brutale de Jupiter*), which are impossible in both English (Valois 1991b: 165) and Italian. Perhaps the French sentence is acceptable to the extent to which a compound reading of *invasion martienne* is possible in French. As for the possible *the brutal Martian invasion of Jupiter* in English, either *brutal* occupies the subject-oriented AP position of *brutale* in the Italian *la brutale invasione marziana di Giove*, or it simply cooccurs, as a manner AP, with the thematic AP, given the absence in English of combinatorial restrictions on APs of equal degree of “absoluteness” (Sproat and Shih 1988, 1990).

c. the withdrawal of the liberals from the government

This conclusion, however, is not sure given the existence in Italian of limitations on the cooccurrence of adjectives of equal degree of “absoluteness,” comparable to those uncovered for Chinese by Sproat and Shih (1988,1990). See note 15 for a brief discussion. As Giuseppe Longobardi suggested (p.c.), the fact that DP, but not AP, subjects are crossed over by the N in Germanic could be rendered compatible with their occupying the same structural position if raising of the N past DP subjects were required to Case-mark them under government (APs being instead Case-marked under Spec-head agreement). I leave the question open.

Sequences of a subj(ect)-oriented AP followed by a manner or thematic AP are likewise impossible between the N and its complement(s) (cf. (13)), which indicates that the N cannot raise past the position of subject-oriented APs:<sup>9</sup>

- (13) a. \*l’aggressione stupida brutale/italiana all’Albania  
the aggression stupid brutal/Italian against Albania  
(cf. *la stupida aggressione brutale/italiana all’Albania*)

As the subject-oriented attributive AP preceding the N can be preceded by a sp(eaker)-oriented AP like *probabile, sicuro*, etc. “probable, sure, etc.” (but see the second paragraph of note 10), we arrive at the partial structure (14), which closely resembles the corresponding sentence structure with adverbPs in place of APs. Compare (15a) with (15b).<sup>10</sup>

<sup>9</sup> In the possible *la loro aggressione stupida all’Albania* “their aggression stupid against Albania,” *stupid* must have a manner rather than a subject-oriented reading, which appears to be true. Valois (1991b: 150) notes that *intelligent* in (ia) “is not equivalent to *intelligently* in the sentential reading” (cf. (ib)):

- (i) a. the intelligent response of the union to the government  
b. The union intelligently responded to the attack by the government

This may be due to the necessary result interpretation of the nominal in (ia). With nominals admitting an event interpretation, the relevant reading does seem to be available:

- (ii) Their intelligent withdrawal from the competition

<sup>10</sup> See Crisma (1990), Valois (1991a, b), and Szabolcsi (1989) for discussion of the parallelism between the internal structure of CPs and DPs; the former two, in particular, for (partially different) analyses of the virtual point-by-point correspondence between APs in DPs and AdverbPs in CPs.

To my ears, the cooccurrence of a speaker-oriented and a subject-oriented AP is quite marginal (unless a comma intonation separates the two, as in asyndetic coordination – cf.

- (14) ... [XPAPsp-or \_ [YPAPsubj-or \_ [ZPAPmanner/themat \_  
[NP N...]
- (15) a. la probabile goffa reazione immediata alla tua lettera  
the probable clumsy reaction immediate to your letter  
b. Probabilmente avranno goffamente reagito subito alla tua  
lettera  
They probably have clumsily reacted immediately to your  
letter

The structure must in fact be even more articulated, as other APs can precede speaker-oriented APs (see Crisma 1990; Giusti 1992, 1993b):

- (16) le sue due altre probabili goffe reazioni immediate alla tua lettera  
his two other probable clumsy reactions immediate to your letter

#### 4 Predicative APs

As we have seen, attributive APs in Romance either precede the N or occur in between it and its complement, the order “N compl AP” being impossible (cf. (7) above). This same order, however, becomes possible if

the possibility of *la sua probabile e goffa reazione* “his probable and clumsy reaction.” This might again be related to the combinatorial restrictions on APs of equal degree of “absoluteness” uncovered by Sproat and Shih (1988, 1990). See note 15, below.

Potentially problematic is the acceptability of such cases as *il rilascio probabile dei prigionieri* “the release probable of the prisoners,” with a speaker-oriented AP in the manner AP position. Indeed, the AP does not acquire a manner interpretation. However, one may note that the parallelism with the sentence remains, as the AdverbP *probabilmente* can also appear in the position otherwise open to manner adverbPs in the presence of an object (*Hanno rilasciato probabilmente i prigionieri* “They have released probably the prisoners”).

In a different context, Valois (1991a, b) and Lamarche (1991) suggest that (French) pronominal adjectives (in event nominals) are incorporated into the N. This, however, appears dubious. Pronominal adjectives can have a specifier (*les très fréquentes visites de Jean à sa mère* “the very frequent visits of Jean to his mother,” or, in Italian, *le assai poco probabili dimissioni di Carlo* “the very hardly probable resignation of Carlo”), so that one would have to admit incorporation/adjunction of a maximal projection to a head, contrary to the spirit of the structure-preserving hypothesis (see also Kayne 1994). “Liaison” facts cannot be construed as evidence for the X-zero status of the pronominal adjective either, as they are also triggered in the presence of a specifier (*les très fréquentes* ([z]) *invasions de Jupiter* – the judgment is Michal Starke’s). Lamarche (1991: 228ff.) takes the obligatory character of liaison between a pronominal adjective and a following N starting with a vowel as evidence that “pronominal adjectives are in a relation structurally distinct from Spec–head.” But this is unlikely, given the obligatory character of liaison in *très/plus* [z] *intéressant*. On the impossibility of complements to pronominal adjectives, and the irrelevance of this property for the head status of the adjective, see the discussion in section 6 below.

there is a sharp intonational break between the complement and the AP, with the AP bearing stress (17a). The intonation is less special if the AP is "heavy," that is, either coordinated (17b), or modified by a specifier (17c) or a complement (17d):

- (17) a. la loro aggressione all'Albania, BRUTALE  
 b. la loro aggressione all'Albania, improvvisa e brutale  
 c. la loro aggressione all'Albania, assai poco brutale  
 d. la loro aggressione all'Albania, brutale nei suoi effetti

This fact, however, should not be taken to suggest that APs in Romance can after all be freely generated both to the left and to the right of the N and its complement, for there is evidence that the AP cases in (17) constitute an entirely different type of modification: a *predicative* type, which is found to the right of the N and its complement(s) in Germanic too.

The position in question only allows for APs that can be predicated of a maximal projection (and can consequently also occur in postcopular position). This becomes evident if we pick adjectives that can never be used predicatively, as shown by their non-occurrence in postcopular APs (cf. (18)).<sup>11</sup> Such adjectives appear not to be able to occur in the position to the right of the N and its complement either (see (19c)), although they can occur in the attributive positions to the left of the N, or between it and its complement (see (19a–b)):<sup>12</sup>

<sup>11</sup> This class includes adjectives like *principale* "main," *scorso* "last," *prossimo* "next," *maggiore* "elder," *precedente* "former," *seguinte* "following," *stesso* "himself," etc. Others (*semplice*, *solo*, etc.) have two meanings, one of which ("mere," "only," in the specific case) admits of no predicative usage.

<sup>12</sup> The distinction between attributive (DP-internal) and predicative (postcopular) APs is a traditional one. What is suggested here is that DP-internal APs can be either attributive or predicative. Both in Germanic and Romance, attributive APs are generated to the left of the N while predicative APs are to its right (actually to the right of the N's complement): a position which I will identify here with that of a (reduced) relative clause, an AGRP containing the relevant AP in predicate position (whence the correlation noted with postcopular APs). See Bernstein (1993) for a similar suggestion. See also Cinque (1994a) for cases of predicative XPs distinct from APs. The existence of many attributive APs to which corresponds no predicative usage argues against transformationally relating the former to the latter (see Bolinger 1967).

The notion of predicative AP utilized here appears to correspond to Sproat and Shih's (1988, 1990) notion of indirect (vs. direct) modification instantiated in the Chinese DP by APs preceded by the *de* particle also used to introduce relative clauses. Indeed, as they note, *de* APs do not manifest the ordering restrictions of *de*-less APs, and can contain only adjectives which can also occur after a copula. We differ from them here in not taking what they call direct modification (which appears to correspond to our attributive modification) to necessarily involve compounding.

Attributive APs in Italian can be embedded in AGRPs only at a more formal stylistic

- (18) \*Questo motivo è principale  
This reason is main
- (19) a. Questo è il principale motivo della sua partenza  
This is the main reason of his departure  
b. Questo è il motivo principale della sua partenza  
This is the reason main of his departure  
c. \*Questo è il motivo della sua partenza, principale  
This is the reason of his departure main

A parallel situation is found in Germanic, here exemplified with English and German. While APs appear as a norm to the left of the N, they can be found to the right of the N (and its complements) when coordinated or modified.<sup>13</sup>

- (20) a. \*a man proud  
b. a man bruised and battered  
c. a steak just right  
d. a man proud of his son
- (21) a. Roeslein rot (lit.)<sup>14</sup>  
the little red rose

level, as (i a–b) show. In (i), the PP complement, and presumably the degree modifier, of the A are in some functional projection outside the AP, a marked option for attributive adjectives:

- (i) a. %l' a noi più invisa sete di potere  
b. %la sete a noi più invisa di potere  
c. la sete di potere a noi più invisa  
the thirst of power to us more unpleasant

<sup>13</sup> The examples in (20) are from Abney (1987: 327). The ungrammaticality of (20a), as opposed to the grammaticality of (17a) is perhaps related to the fact that in Italian, but not in English, stress is sufficient to render a constituent “heavy.” Cf. contrasts in Heavy-NP-Shift between the two languages such as:

- (i) a. Presenteranno a Gianni LEI/MARIA  
b. \*They will introduce to John HER/MARIA

Postnominal bare adjectives are not entirely impossible in English, though. As noted by Bolinger (1967), they become acceptable under a “stage-level” reading (if available) (cf. *Who are the people guilty?*, *The materials ready will be shipped*). In Italian, the same “stage-level” reading appears to dispense with the need for a special stress on a bare predicative adjective: *la sola aggressione all'Albania imminente* “the only aggression against Albania imminent.”

<sup>14</sup> Examples (21a and c) are from Vater (1985). German provides a particularly clear indication that the right peripheral position of APs is a predicative one. Postcopular predicative adjectives are morphologically invariant, as opposed to prenominal attributive adjectives, which bear either a weak or a strong declension (for which see, among others, Penner and Schönenberger 1992; Plank 1992; Longobardi forthcoming). The



- b. diese Woche regnerisch und stürmisch  
this week, rainy and stormy
- c. Gewehrkugeln gross wie Taubeneier  
bullets big as pigeon eggs
- d. eine Katze so gross  
a cat this big

That the right peripheral position is a predicative one in Germanic too is shown by the fact that no AP can occur there which cannot also occur in postcopular position, exactly as in Romance:

- (22) a. \*the indignity, utter and simple
- b. \*the indignity was utter (Abney 1987: 328)
- (23) a. \*die Woche letzt oder nächst  
      the week last or next
- b. \*diese Woche ist letzt  
      this week is last

## 5 Generation in [Spec, XP] vs. adjunction

Given the number of attributive APs possible in the DP (cf. (16) above), the question arises of what is the structure which they enter. A common assumption is that they are adjoined to a maximal projection (see Bernstein 1991; Carstens 1991; Picallo 1991; Valois 1991a, b; among others). According to this idea, (16) above would, for example, receive a representation like that in (24), where we leave the categorial nature of the various XPs undetermined now (the point would not change if one were to assume that one [or more] of the XPs of (24) is an independent functional projection as long as some of them are conceived of as adjunctions):

- (24) [<sub>DP</sub>Le [<sub>XP</sub>sue [<sub>XP</sub>due [<sub>XP</sub>paltre [<sub>XP</sub>probabili [<sub>XP</sub>goffe reazioni  
[<sub>XP</sub> immediate [<sub>NP</sub>t alla tua lettera]]]]]]]]]

postnominal adjectives in (21) are necessarily invariant.

Sursilvan, within Romance, also distinguishes morphologically predicative from attributive As (in the masculine singular). See Roberge (1989), Haiman and Beninca' (1992: 141ff.). Our expectation would be that masculine singular adjectives found after the N's complement(s) have the predicative form.

There are, however, both conceptual and empirical reasons to prefer the alternative of generating the APs in distinct specifier positions (even if this leads us to posit a higher number of functional projections between D and NP).

First, there exists a specific unmarked serialization of the different classes of APs. This is illustrated in (25a) for event nominals and in (25b) for object-denoting nominals.<sup>15</sup>

- (25) a. possessive > cardinal > ordinal > speaker-oriented >  
subject-oriented > manner > thematic (cf. (24))
- b. possessive > cardinal > ordinal > quality > size >  
(I) *suoi*      *due*      *altri*      *bei*      *grandi*  
                  *shape* > *color* > *nation*.  
*quadri*      *tondi*      *grigi*      *cinesi*

<sup>15</sup> These orders hold for sequences of attributive APs in which an outer AP modifies the constituent formed by the NP and the inner AP(s). Such ordering restrictions are apparently (and irrelevantly) violated whenever there is a series of asyndetically coordinated APs, or when a marked interpretation is intended. As Sproat and Shih (1990: fn. 2) note (see also Dixon 1982: 24), the sequence “*brown small dogs* (with heavy accent on *brown*) is fine on the interpretation that small dogs form a discourse-relevant class and that the speaker wishes to refer to the brown members of that class.” Both of these apparent exceptions involve special intonational contours, and are felt to be marked. For further discussion, see Sproat and Shih (1988: 477ff.; 1990: section 2.3).

Concerning (25b), Sproat and Shih (1988: 470ff.; 1990: section 4) note that with Chinese *de*-less APs certain combinatorial restrictions exist among the different classes of APs which are not found in English (where they have only indirect reflexes). In particular, while quality > color, quality > shape, size > color and size > shape combinations are possible, combinations of APs from the contiguous classes quality > size and shape > color are impossible. Elaborating on suggestions by Kamp and Higginbotham, they attribute this limitation to a restriction operative in Chinese on sequences of APs belonging to the same (or comparable) degree of “absoluteness,” where *shape/color/nationality* are high in a scale of absoluteness (their determination not depending on the speaker’s subjective judgment) and *quality/size* low. On careful examination, Italian appears to pattern with Chinese. Compare (i) and (ii a–d) with the Chinese cases discussed in Sproat and Shih (1988, 1990):

- (i) un  $\left\{ \begin{array}{l} \text{bellissimo} \\ \text{piccolo} \end{array} \right\}$  vaso  $\left\{ \begin{array}{l} \text{rosso} \\ \text{ovale} \end{array} \right\}$  di terracotta
- (ii) a. \*?un bellissimo piccolo vaso di terracotta  
b. \*un vaso bellissimo piccolo di terracotta  
c. ??un bellissimo vaso piccolo di terracotta  
d. \*un vaso rosso ovale di terracotta

As noted above, similar combinatorial restrictions appear to exist with the AP classes of event nominals in Italian (though not in English), to the effect that sequences of the contiguous classes of speaker- and subject-oriented APs, or manner and thematic APs, are quite marginal.



- (27) [<sub>DP</sub>Portretul [acesta t [frumos [t]]]]  
 Picture-the this-agr beautiful
- (28) \*[[<sub>DP</sub>Portret-ul [frumos t [acest(a) [t]]]]]
- (29) \*(Extraordinar de) frumosul [acest(a) [t portret]]  
 Very beautiful this picture

If these considerations in favor of the generation-in-Spec hypothesis are right, then we must envisage a structure as articulated as that shown in (30) (see Crisma 1990), where at least (perhaps at most) seven Spec positions are available for APs:

- (30) [<sub>DP</sub>D [<sub>XP</sub>POSS X [<sub>YP</sub>card Y [<sub>WP</sub>ord W [<sub>ZP</sub>sp-or Z [<sub>HP</sub>subj-or H  
 [<sub>NP</sub> { them }  
 { mann } N]]]]]]]]]

In the next two sections, two more arguments will be given for the hypothesis that all *attributive* APs in Romance are generated on a left branch even when they appear to the right of the N.

## 6 A recursion restriction

Indeed, if postnominal attributive APs in Romance are on a left branch, they should display whatever restrictions affect prenominal attributive APs (in both Germanic and Romance). A well-known restriction on maximal projections overtly found on a left branch is their inability to take complements to their right, as shown by (31a–b), which contrast with (32a–b), where the offending left branch phrases are “restored” to a right branch.<sup>18</sup>

only in part. Examples (i a, b) conform to the expectation, but (i c) is less clearly ungrammatical than (28) (the judgments are Carmen Dobrovie-Sorin’s, p.c.):

- (i) a. probabila brutală invazie a Bosniei  
 probable-the brutal invasion of Bosnia  
 b. probabila invazie brutală a Bosniei  
 c. ??(extraordinar de) brutală probabila invazie a Bosniei

Should (i c) be grammatical, its grammaticality could perhaps be reconciled with the ungrammaticality of (28) by taking the A’-positions of attributive APs (not including demonstrative APs) to count as “non-distinct,” hence invisible to Relativized Minimality, much as the various A-positions belonging to the same clause, in Rizzi’s recent re-elaboration of his notion of Relativized Minimality.

<sup>18</sup> The recursion restriction, originally noted by Zwart (1974), is further discussed in Emonds (1976), Williams (1982), and Longobardi (1987). As both Emonds and Longobardi note, the Specs of AGRsP, DP, and CP are exempted from it:

- (31) a. Lui non è [AP[Qptanto (\*quanto voi)] alto]  
 He isn't so as you tall  
 b. Lui è stato [VP[Advpdiversamente (\*da voi)] sistemato]  
 He has been differently from you put up
- (32) a. Lui non è [APalto [Qptanto (quanto voi)]]  
 b. Lui è stato [VPsistemato [Advpdiversamente (da voi)]]

The same restriction is clearly operative in the case of prenominal attributive APs in Italian. See (33):

- (33) [DPI suoi [APfedeli (\*alla causa)] sostenitori]  
 His faithful (to the cause) supporters

Given the analysis presented above, it should also be operative on postnominal attributive APs, at first sight, contrary to fact. Cf. (34):

- (34) I suoi sostenitori fedeli alla causa  
 His supporters faithful to the cause

However, to check this prediction we must ensure that we are dealing with structure (35a), in which the AP is on a left branch (and is attributive), rather than with structure (35b), in which the AP is predicative, and is in fact on a right branch:

- (35) a. I suoi sostenitori<sub>i</sub> [XP[<sub>i</sub>fedeli alla causa] [<sub>NP</sub><sub>*t*<sub>i</sub>]](\*)  
 b. I suoi sostenitori<sub>i</sub> [<sub>NP</sub><sub>*t*<sub>i</sub>] [<sub>i</sub>fedeli alla causa]]</sub></sub>

A simple way to ensure this is to have a complement to the N, which we have seen is able to discriminate between attributive APs (which have to precede it) and predicative APs (which have to follow it). Once we do that, we see that postnominal APs preceding the complement do show the restriction (cf. (36a)), while postnominal APs following the complement do not (cf. (36b)):<sup>19</sup>

- (i) a. The endnotes of my paper are too long  
 b. the man from Philadelphia's hat  
 c. Which appeal to the Parliament was successful?

If the positions in which APs are base-generated are A'-positions, like the positions of adverbPs, it would then seem that the restriction holds for A'-positions filled in the base (and not for A-positions, or A'-positions filled in the syntactic derivation).

<sup>19</sup> See Giorgi (1988: 304), who notes that "a complex adjective cannot appear between the nominal head and its complement" (our translation), reporting examples like:

- (i) \*quell' amico più simpatico di te di Mario  
 that friend nicer than you of Mario's

- (36) a. \*I sostenitori fedeli alla causa di Gianni sono pochi  
 The supporters faithful to the cause of G. are few  
 b. I sostenitori di Gianni fedeli alla causa sono pochi

## 7 Adjective ordering

Additional evidence for the generation of attributive APs to the left of N in Romance comes from the crosslinguistic regularities in the relative ordering of adjectives uncovered in Hetzron (1978) and Sproat and Shih (1988, 1990). What these authors note is that there is a relative ordering of the different classes of adjectives which is by and large the same across languages, apparently based on a scale of distance from the N, and that in “consistent” NA languages it is the mirror-image of that found in “consistent” AN languages. So, in AN languages, here exemplified by a subset of English and German APs, the relative ordering is with evaluating (or *quality*) APs preceding (more distant from the N than) *size* APs, in turn preceding *shape* APs, which precede *color* (and *nationality* or *provenance*) APs. See (37), from Hetzron (1978):

- |      |                 |                   |             |              |          |
|------|-----------------|-------------------|-------------|--------------|----------|
| (37) | <i>AN order</i> | <i>Evaluating</i> | <i>Size</i> | <i>Color</i> | <i>N</i> |
| a.   | English         | beautiful         | big         | red          | ball     |
| b.   | German          | schoener          | grosser     | roter        | Ball     |

Instead, in some of the languages where all APs follow the N, the relative order is the mirror-image of that in (37). See (38):<sup>20</sup>

- |      |                   |                     |              |             |
|------|-------------------|---------------------|--------------|-------------|
| (38) | <i>NA order</i>   | <i>N</i>            | <i>Color</i> | <i>Size</i> |
| a.   | Indonesian        | bola “ball”         | merah “red”  | besar “big” |
|      | <i>Evaluating</i> | tjantik “beautiful” |              |             |

<sup>20</sup> Example (38a) is from Hetzron (1978); (38b) from Sproat and Shih (1988: 484). Not all NA languages display the mirror-image ordering of adjectives; but for many of those which do not (such as the Semitic and Celtic languages) there is independent evidence that N moves to D, thus crossing over the APs generated to the left of the N in the same order found in AN languages.

The mirror-image arrangement of APs in Indonesian and Thai seen in (38) would be spurious if the APs could be analyzed as predicative (hence order-free). Sproat and Shih (1988: 484), however, observe that although possible for polymorphemic adjectives (which display what they call indirect modification), this is not true for monosyllabic adjectives, which show a rigid order, which is the mirror-image order of that found in Chinese and English. They also claim that an analogous mirror-image order is found in Mokilese. Another case is apparently that of Selepet, a language of New Guinea, reported in Dixon (1982: 26, fn. 27).

b. Thai                    ma “dog”    daam “black”    may “big”

This points to the conclusion that the different classes of APs are universally arranged on a hierarchy of relative closeness to the head N (see Sproat and Shih 1988: 486), with, for example, color APs generated in the Spec of a functional projection dominating the N more closely than the projection containing in its Spec quality APs; and that the different order manifested in (37) and (38) is a consequence of a different setting of a general head–modifier parameter.<sup>21</sup>

Particularly relevant in the present context is what emerges from Hetzron (1978) regarding ANA languages, like the Romance languages. See (39) (corresponding to his (8c)):

|      |                  |                   |             |          |              |
|------|------------------|-------------------|-------------|----------|--------------|
| (39) | <i>ANA order</i> | <i>Evaluating</i> | <i>Size</i> | <i>N</i> | <i>Color</i> |
| a.   | French    un     | joli              | gros        | ballon   | rouge        |
| b.   | Italian    una   | bella             | grande      | palla    | rossa        |
| c.   | Ladin      una   | bella             | granda      | balla    | cotchna      |
|      | a                | pretty            | big         | ball     | red          |

Although the relative distance of certain adjectives from the N (*size* and *color*) cannot at first sight be established, the unmarked relative ordering of APs among each other is exactly the same as that of AN languages rather than being a mixture of AN and NA languages.

This descriptive generalization follows directly from taking the base order (the level where such restrictions are imposed) to be exactly the same for both ANA and AN languages, with the observable ANA order derived by raising of the N past some of the lower APs.<sup>22</sup>

<sup>21</sup> In his presentation of a previous version of Kayne (1994) at the Glow Colloquium in Lisbon in 1992, Kayne observed that the mirror-image order of APs in “consistent” NA languages like Indonesian would not be the result of a different setting of a modifier–head parameter, but of the successive adjunctions of lower XPs to higher ones, from a “base-generated” structure shared with AN languages. It is significant, from this point of view, that in Mokilese, another “consistent” NA language, the determiner is the last element of the DP, suggesting the raising of its entire complement past it.

<sup>22</sup> Bernstein’s work in fact suggests that the scope of N-movement may be different in different Romance varieties, with N not moving (or moving past just nationality APs) in Walloon, and moving past all APs (except for a handful of quality adjectives) in Sardinian. See Bernstein (1991, 1993).

**8 Some apparent counterevidence**

Lamarche (1991) objects to the N-movement analysis of Romance precisely on the basis of certain adjective orderings which apparently are the mirror-image of English adjective orderings (an unexpected situation if the base order is the same and what varies is simply the raising of the N in Romance). Indeed, he claims, one would expect (40) rather than what one apparently finds, namely (41):

- |      |                            |      |      |      |
|------|----------------------------|------|------|------|
| (40) | a. English (no N-movement) | Adj2 | Adj1 | N    |
|      | b. Romance (N-movement)    | N    | Adj2 | Adj1 |
| (41) | a. English                 | Adj2 | Adj1 | N    |
|      | b. Romance                 | N    | Adj1 | Adj2 |

As instances of (41), he reports the following cases, taking them to argue against the N-movement hypothesis and in favor of an alternative in which (attributive) APs are generable to the right of N (in French):

- (42) a. un fruit orange énorme  
un poulet froid délicieux  
b. a huge orange fruit  
a delicious cold chicken
- (43) a. une personne âgée handicapée  
b. a handicapped elderly person

Such cases (and their analogues in other Romance varieties), however, do not warrant that conclusion, as they are open to a different interpretation, compatible with the N-movement hypothesis and with the generation of all attributive APs to the left of the N.

The existence of DP-internal predicative APs allows one to take Adj2, or both Adj1 and Adj2 in (41b) not to be attributive, but predicative, as such outside of the ordering restrictions holding of attributive APs (see Sproat and Shih 1988: 489). How can one choose between the two competing analyses?

There is a simple way. Given that postnominal attributive APs precede the N's complement and postnominal predicative APs follow it, the N-movement analysis predicts that in (41b) at least Adj2 has to follow the N's complement, while Adj1 may precede it or follow it depending on its nature. What is excluded under this hypothesis, but not under the alternative of free generation of APs to the right of N, is that both Adj1 and



Adj2 precede the complement, as that is the wrong relative ordering for attributive APs.

This is precisely what one finds. Consider the apparent mirror-image adjective ordering in (44a–b):

- (44) a. a beautiful red car  
 b. una macchina rossa bellissima

If the N has a PP complement, the order N Adj1 Adj2 PP is unacceptable with normal intonation (cf. (45a)), while either N Adj1 PP Adj2 (cf. (45b)) or N PP Adj1 Adj2 (cf. (45c)), or, for that matter, N PP Adj2 Adj1 (cf. (45d)) are possible.<sup>23</sup>

- (45) a. \*Una macchina rossa bellissima da corsa  
 b. Una macchina rossa da corsa(,) bellissima  
 c. Una macchina da corsa(,) rossa(,) bellissima  
 d. Una macchina da corsa(,) bellissima(,) rossa

Another source of apparent mirror-image adjective ordering is represented by Adjective–Noun compounds, given that Romance differs from Germanic in the respective order of the head and modifier within the compound (Giorgi and Longobardi 1991: 129ff.; Cinque 1993). Modifiers precede the head in Germanic but follow it in Romance (*Common Market* vs. *Mercato Comune*, *European Common Market* vs. *Mercato Comune Europeo*, etc.). Perhaps, the difference is amenable to a similar N-movement analysis (for the Romance compound) within a more abstract syntax of compounds.<sup>24</sup>

<sup>23</sup> Example (45a) becomes marginally acceptable with two intonation breaks, one after *rossa* and one after *bellissima*, typical of asyndetic coordination. Of course, the order (D) Adj2 N Adj1 PP, which corresponds to the English one, *modulo* the position of the N, is also possible (cf. (i a)), and is perhaps the most natural, contrasting with the order (D) Adj1 N Adj2 PP, which contains the two attributive APs in the wrong order, and which is totally out (cf. (i b)):

- (i) a. una bellissima macchina rossa da corsa  
     a beautiful car red for racing  
 b. \*una rossa macchina bellissima da corsa

Interestingly, Lamarche himself (1991: 222f., fn. 6) notes that the sequence *un fruit orange énorme* of (42a) “would sound more natural with *énorme* prenominally” (*un énorme fruit orange*, which has the same ordering of adjectives found in English: *a huge orange fruit*).

<sup>24</sup> For syntactic criteria distinguishing AN compounds from AN phrases, see Levi (1978). *One-* and *Ne-* pronominalization, for example, appear to apply to phrases but not to compounds.

A further source of apparent mirror-image order may be provided by asyndetic coordination. See Sproat and Shih (1990: section 2.3), where normal cases like *She loves all*

## 9 On the categorial status of prenominal adjectives

In a number of recent studies, it is suggested that prenominal adjectives in Romance (or a subclass of them) are categorially distinct from postnominal adjectives in being heads rather than maximal projections.

We have already noted that some of the evidence adduced for this position is not cogent (see note 10 on the putative evidence from “liaison” and section 6, where the recursion restriction taken in Lamarche (1991) and Valois (1991a, b) to follow from the head status of prenominal adjectives was shown to be shared by postnominal attributive adjectives, which cannot be heads, as they allow N-movement past them).

A more articulated analysis is suggested in Bernstein (1991, 1992) (and Zamparelli 1993, after her). According to this analysis, only some prenominal adjectives are heads: those (here exemplified with *mero* and *solo* in Italian) which necessarily appear prenominally, at least under a particular interpretation (cf. (46a–b)), and which have the additional properties listed in (47), apparently differentiating them from the adjectives that can appear both pre- and postnominally (and which thus cannot be heads as they allow N-movement past them):

- (46) a. \**la presenza mera* (cf. *la mera presenza*)  
           the presence mere  
       b. \**la figlia sola di G. accettò* (cf. *la sola figlia di G. . .*)  
           only G.'s daughter accepted  
           (OK = “the lonely daughter of G. . .”)
- (47) a. They cannot be used predicatively (\**la presenza era mera* “the presence was mere”)  
       b. They cannot be modified (\**l'assai mera presenza di G.* “the very mere presence of G.”)  
       c. They cannot enter elliptical nominal constructions (\**un(o) mero* “a mere one”)<sup>25</sup>

*those wonderful orange Oriental ivories* are compared with such special cases as *She loves Oriental, orange, wonderful ivories*, possible with a comma intonation typical of coordinated elements.

<sup>25</sup> The necessarily prenominal position of *mero* would follow from its head status, and so would property (47c) under Bernstein's (1992) head-raising analysis of the word-marker *-o*. Less clear is how properties (47a, b) follow from the head status of such adjectives, if they are able to project to a maximal projection.

It is, however, unclear whether even this weaker position can be maintained, as some of the adjectives that necessarily appear prenominal with common Ns (which we know raise only to an intermediate functional head) can be crossed over by proper Ns when these move to D, as is possible in Romance (see Longobardi 1994, from which the examples in (48) are drawn):

- (48) a. la sola Maria si è presentata  
 b. \*la Maria sola si è presentata  
 (marginally possible in the irrelevant reading: “lonely Mary...”)  
 c. \*Sola Maria si è presentata  
 d. Maria sola si è presentata  
 Only Maria showed up

Examples (48a–b) show that when a lexical determiner is present the proper N behaves as a common N (cf. (46b)). When no determiner is present the only acceptable order is with the N preceding the “prenominal” adjective (an indication – as Longobardi notes – that the proper N has raised to D).

The fact that movement of a proper N to D is not possible with many such “prenominal” adjectives (e.g. with *mero*) should not be taken as evidence for their head status, as movement to D of a proper N is unavailable with most adjectives, even postnominal ones (which do not block movement of common Ns). See Longobardi (1994: fn. 18) for a characterization of the class of adjectives apparently allowing movement of proper Ns past them apparently underlying this restriction.<sup>26</sup>

<sup>26</sup> The parallelism between adjectives like *mero* “mere” and *semplice* “simple” and adverbs like *meramente* and *semplicemente*, if real, weakens the hypothesis that these adjectives are heads. In French, for example, the corresponding adverbs necessarily precede past participles (*Il a (seulement) ignoré (\*seulement) mes raisons* “He has simply ignored my reasons”), but one would not conclude from that that they are heads as they can be crossed over by finite Vs, which we know move higher than past participles in French (Pollock 1989a): *Il (\*seulement) ignore (seulement) mes raisons*.

It should also be noted that the necessarily prenominal position of an adjective (with common Ns) and the properties of (47) do not always correlate. So, for example, as noted in Crisma (1990: 91ff., 154ff.), two necessarily prenominal adjectives like *numerosi* and *diversi* with the meaning “several/various” (*le numerose/diverse famiglie che accettarono* “the several families that accepted”) can be used predicatively (with the same meaning): *Le famiglie che accettarono furono numerose/diverse* “The families that accepted were several.” *Numeroso* (though not *diverso*) can even be modified (*le assai* (“very”) *numeroso famiglie che accettarono*). On the other hand, there are attributive adjectives (such as *principale* “main,” *scorso* “last,” etc.) which appear both pre- and postnominally which, nonetheless, cannot be used predicatively (cf. (18)–(19) above).

## 10 Some residual questions

A number of questions remain, for which the available evidence is not sufficiently clear to allow us to take a definite stand. Here, we simply limit ourselves to suggesting possible lines of approach.

One question relates to the trigger of N-movement in Romance and its absence in Germanic. A plausible line would consist in relating it to an independent morphological difference between Romance and Germanic words, namely the fact that number and gender features are expressed in Romance, but not in Germanic, through an ineliminable component of the morphological word: the word-marker (Harris 1991). By further assuming that, in relation to that, the corresponding functional heads of gender and number in Romance have strong features which already need to be checked in the syntax (Chomsky 1992), one would force the Romance N to move two heads higher in overt syntax.

Closely related to this, is the question of the labels of the functional projections postulated above for DPs. The fact that for event nominals they appear to correspond rather closely to those of the sentence (see Crisma 1990 for a specific proposal) does not settle the question completely, as our current understanding of the internal structure of the clause is still rather vague (see Cinque 1994b for some inadequacies of widely held current analyses). The problem is even more acute for DPs, as for object-denoting noun phrases such functional projections as TenseP, AspectP, or ModalP seem not to be entirely appropriate.<sup>27</sup> Further work is needed in this direction.

It could still be that some adjectives (perhaps, the handful of attributive adjectives in Sardinian that cannot be crossed by N when they convey an affective attitude, ordinal adjectives, etc. – see Jones 1994: section 2.1.4) are heads. For one of these (*biet* “poor” [to be pitied]), as well as for some ordinal adjectives) suggestive evidence exists in Rumanian that it may be a head (see Giusti 1991: 51f.), as it appears to block the otherwise general N-movement to D:

- (i) a. [bietul [t [băiat]]]  
       poor-the boy  
       b. \*[băiatul [biet [t]]]  
       boy-the poor

Alternatively, they could be in the Spec of head containing features that cannot be obliterated by (the trace of) the N.

<sup>27</sup> For TP, this is not clear given the existence of such adjectives as *attuale* “present,” *passato* “past,” *futuro* “future,” etc. (*l'attuale re di Spagna* “the present King of Spain” – see Crisma 1990: 148ff.), and the existence of languages with overt tense morphemes on the N (Boas 1947: 240; Hockett 1958: 238; Jespersen 1965: 282f.; Ultan 1972: 57; Lecarme 1995: fn. 2).

One last question that we mention here is the overt gender and number agreement with the N generally found on all attributive APs in Romance, even prenominal ones which fail to be in a Spec-head relation to the N, in base or derived structure, due to the N's remaining in a lower head.<sup>28</sup> Our conjecture is that such Spec-head agreement is checked, if not in overt syntax, at LF, under the not unreasonable assumption that the N raises to D at LF in those languages where it fails to do so in overt syntax.

Further questions remain. Our limited goal here was to defend the claim that in the DP domain Romance and Germanic are closer to each other than it may at first sight seem, and that N-movement leftward, across specifiers, is a significant parameter of the grammar of DPs, a conclusion in line with the restrictive system proposed in Kayne (1994).

<sup>28</sup> As originally pointed out to me by Paola Beninca', in a number of Lombard, Ladin, and Friulian varieties of northern Italy, there is no such generalized N-adjective agreement, at least in feminine plural DPs (see Elwert 1943: 113ff.). One widespread pattern, which Haiman and Beninca' (1992: 219) call "Ladin lazy agreement rule," has agreement only on postnominal attributive adjectives (*nosta* [fem. sg.] *bela* [fem. sg.] *montes* [fem. pl.] *ladines* [fem. pl.] "our beautiful Ladin mountains"), as if government by the trigger was required over and above the Spec-head relation. The situation is in fact more complex, as other varieties seem to allow only for one realization of agreement, or for one realization of the number marker of agreement, on the rightmost element, whether this is the noun or the adjective.

Brazilian Portuguese (Brito 1992: fn. 5 and references cited there), on the other hand, appears to allow for realization of number agreement only in (the Spec of) the determiner (*os homem* "The [pl.] man," *minhas filha pequena* "my [pl.] daughter [sg.] small [sg.]").

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