

***INFORMATIONAL EFFECTS***

***The interrelationships of  
narrow syntax and IS***

Daniele Portolan  
University of Siena

Advisor: Luigi Rizzi



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### Abstract

The object of investigation in the present work is the relationship between information structure and some linguistic phenomena that have been traditionally studied as part of a modularly encapsulated ‘narrow syntax’. Our fundamental aim is to show that all those explanations specifically built on a static notion of (narrow) syntax result inadequate both empirically and conceptually. Hence they should be abandoned. Such *pars destruens* will be complemented by the progressive introduction of a model of syntax which instead exhibits a structural integration with information structure, without any rigid encapsulation.

Our starting point will be the definition of ‘extraction out of a domain’. The necessity of the concepts topic and focus, hierarchically reinterpreted in a cyclic theory of the syntax and the semantics/pragmatics, shall emerge strongly. The main theoretical result which will be reached is the following generalization: the more topical is a domain, the more opaque it results. We will subsequently examine the different phenomenologies in island extraction, arriving at the conclusion that both the type of extraction and the type of extractee influence grammaticality in a predictable way. In particular, an increase in the value of topicality associated to them improves the judgements. In the next chapter, we will generalize the obtained results, extending their relevance to very different empirical domains (such as agreement and clitic doubling in Romance), starting from an analysis of floating quantifiers dating back to the first ‘70s.

Overall considered, these first chapters will lead us to the formulation of the ‘generalized null resumptive pronouns hypothesis’, which maintains that all gaps are filled by resumptive pronouns (rather than traces or copies), as testified by various empirical problems that the copy theory of movement presents. Furthermore, we will briefly develop the concept of ‘threshold of a syntactic process’, which turns out to be essential in order to account for certain microparametric variations of both a diachronic and a synchronic nature.

A more systematic theoretical redefinition of the notion ‘movement’ is the core of the next section. In fact, the working hypothesis previously formulated (in partial agreement with others in the literature) faces apparently insuperable difficulties: it can be shown that the gaps left by movement transformations possess anaphoric, rather than pronominal, properties. It will also be demonstrated that the morphological form of anaphors expresses directly the value of topicality associated to them. Thus, there is an evident correspondence between types of anaphors and topicality. This is compatible with our new alternative hypothesis that a multitude of (null or overt) anaphors is associated to the different values of topicality of the antecedents in movement chains. Finally, in this part we will also analyze the role of overt resumptive pronouns (whose genuine manifestations are considered anaphors as well) in amnestying island violations.

In the last chapter what is at stake are some restrictions on pronominalization that, though frequently noted in the literature, never received a unitary explanation. In particular, weak cross-over configurations are treated as traceable to the more general pattern of backward pronominalization (as in some of the earlier works that tried to deal with the issue). The restrictions on forward pronominalization are then taken into account, drawing a global picture which be able to explain all the phenomena at hand. Such a picture will be again largely based on informational variables. Lastly, the issue of reconstruction for the sake of binding will be explored, showing its interactions with weak and strong (primary and secondary) cross-over configurations.



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## CHAPTER 1

# INTRODUCTION

The notion of syntax that traditionally pertains to the generative field since its beginnings is *static*, which means that a certain sentence is (un)grammatical independently from the context in which it is inserted.<sup>1</sup> This is equivalent to say that a speaker can generate/evaluate sentences in the absence of any ‘external’ intervening variable. And in particular it would be true of a subset of syntactic computations, prototypically considered as part of narrow syntax. So, for example, subject-verb agreement in English (or, even more clearly given their rich Agr system, in Italian or Spanish) does not appear to depend on the informational status of the subject. However, in some other languages the computation of subject-verb agreement apparently relies on so-called ‘pragmatic’ factors. For example, in various Romance varieties focal subjects seem not to trigger it. Another exemplification might in turn be represented by those split-ergative languages that use cross-referencing or case marking to signal an accusative or ergative pattern, when the split is determined according to what again sometimes appear truly ‘pragmatic’ variables (see Dixon 1994, ch. 4). Similar facts cast serious doubts on the assumption that narrow syntax can be analyzed as static, even in the case of the morphophonological manifestations of its core computations (agreement, case).

Also because of these problems, in the present dissertation we will not share the tenet synthetically described above, which still is a commonplace in the generative tradition (though implicitly or explicitly denied in many late developments of the theory, at least when it is not strictly adherent to minimalist desiderata). Our model of syntax should then decide how much of the effective computations is sensitive to contextual variables. We can call the computations affected by contexts *dynamic*, since the laws governing them make specific reference to the sequence of the preceding sentences or, more properly, to the cognitive and extralinguistic mental representations of an (idealized) speaker. One of the aims of this work consists in showing that much more syntactic phenomena than previously retained should be assigned to such type of computations, to the point that the concept itself of narrow syntax would result suspect.

Although some of the foundations of our approach will be inevitably different from those employed in the classic generative tradition, the general objectives of this work are undoubtedly framed in those terms. In particular, our chief interest is contributing to the construction of a coherent and structured theory which be able to explain what are the primitives of language from a *psychological* point of view, the fundamental question in mainstream linguistics ever since Chomsky (1965).

One should not be mistaken regarding the proper interpretation of dynamic syntax. Contrary to appearances, we do not think that it has anything to do with the concept of communication. And even less with a purely functional conception of linguistics. Albeit the need of communication clearly influences the way we use languages, this will not be the focus of the present dissertation. We prefer to relate to the language faculty as the particular mental capacity of a human thinker, rather than a speaker (or hearer). The claim is that all the proposals that will be put forward here regard in the first place the intrinsic organization of (linguistic) *thoughts*, being them part of a communicative situation or not.

The old labels of *topic* and *focus* coming from the tradition of research about information structure (IS, the term is due to Halliday 1967) will be used throughout the work. Precise

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<sup>1</sup> A first attempt to incorporate notions such as focus or topic into (narrow) syntax was tried in the early ‘70s in generative grammar, but it did not produce the expected results and it was soon abandoned. These days, minimalism is still allergic to a dynamic view and seeks as much as possible to reduce syntax to a static module.

structural correlates of these notions have been proposed in recent years. Such formalizations do not actually confront the traditional problem of properly defining them, in the same way, say, a structural definition of subject as ‘the constituent in Spec of IP’ does not really contribute to answer the question ‘what is a subject?’. To a large extent, we are not in a position to solve the theoretical inadequacies of those approaches either, and our proposals are open to the same sort of legitimate criticism. The only way-out one could resort to in order to meet the requirements of a reader pushing hard in this respect might be this: there are simple and quite precise syntactic tests (see the next section) that permit to show the existence of asymmetries in the informational organization of sentences. The definition of the concepts of topic and focus can be operationally connected to such tests. We are perfectly aware that this is not a satisfactory solution and we are not intentioned to present it as if it were. But the correct theoretical interpretation of the results to the mentioned tests is a complex task which we will not embark on. It is nevertheless possible to employ *operational* definitions of topic and focus in order to deepen our knowledge of those concepts, whose exact theoretical status is presently still quite obscure and fuzzy. In any event, we firmly believe that no one can deny the relevance of IS to natural language (and consequently the importance of studying it), in the same way no one can today affirm to possess the definitive key to understanding what exactly it is. Our motto will be: let the tests speak! Even a purely operational definition could be a solid enough outset for uncovering interesting new generalizations and facts about language.

## 1) ON THE DEFINITION OF TOPIC AND FOCUS

As is well-known, the basic structural and informational organization of a sentence (its *default* form) obtains in out-of-the-blue contexts, which roughly correspond to the absence of any previous discourse or pragmatically salient (shared) situation/event.

- 1) Cosa è successo?  
What happened?  
Maria ha visto Luigi.  
M. has seen L.

In Italian, the default organization of a transitive sentence implies the order SVO, which is thus said to be its basic word order. Now, it is very well-known that if we change the context which introduces a sentence such as that in 1), an asymmetry emerges. Objects can answer a wh-question without changing their position, while subjects cannot (a pronoun substitutes the non-interrogated constituent in both cases, but this is by all means irrelevant).

- 2) Maria, chi pro ha visto t?  
M., who has (she) seen?  
Pro ha visto Luigi.  
(She) has seen L.
- 3) Chi t ha visto Luigi?  
Who has seen L.?  
#Maria l’ha visto.  
M. him(cl) has seen

In order to render the answer in 3) felicitous, one needs to postpone the subject, as in 4).<sup>2</sup>

- 4) Chi t ha visto Luigi?  
Who has seen L.?  
L’ha visto Maria.  
Him(cl) has seen M.

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<sup>2</sup> Similar data obtain in English as well, if one substitutes the presence of extra-accentuation for the inversion of the subject.

With the aid of this quite trivial test, we can conclude that in Italian the preverbal subject position is *topical*, while the object position and the postverbal subject position are *focal*.<sup>3</sup> No more assumptions are actually needed as to the proper meaning of the notions Topic and Focus: they can be defined operationally employing tests similar to that above.<sup>4,5</sup>

Even with methodological tools as simple as those above at our disposal, the reader will see that it is possible to deduce many generalizations about the faculty of language which are in many respects new. If they should turn out to be (an approximation of) interesting empirical and theoretical abstractions, being able to stimulate further research, then the main aim of this dissertation could be considered accomplished.

## 2) OVERVIEW

This thesis is structured in four parts. The first one is the longest (it consists of chapters 2+3) and is concerned with extraction phenomena. The second part (chapter 4) deals mainly with topics such as Clitic Doubling and Agreement in Romance. The third part, constituted by chapter 5, is the shortest. It is meant to systematize and revise the notion of A' chain in the light of our previous results and generalizations. Finally, the fourth part (chapter 6) studies pronominalization restrictions, in particular cross-over configurations.

We will start out defining the notions of *extraction* and *extraction out of a domain*. It is the second one that will be investigated in depth in chapters 2 and 3. The fundamental question permeating the first chapter of the work is: why are certain domains opaque to extraction? We will mention three different problems previously noticed in the literature that no account of extraction phenomena ever solved satisfactorily. This will prompt us to develop an hierarchical model of IS which could permit to face all those difficulties at once. The discussion is guided by the idea that IS is organized in layers, proceeding cyclically in a bottom-up way. To this effect, evidence will be discussed that bears no direct connection to extraction phenomena. A mapping principle governs the junctures between the various informational levels (*Informational Mapping Principle*). According to a series of defining properties, such layers will also be grouped into two different types: *relational* and *phasal* IS levels. With the aid of this hierarchical model of IS, we will analyze well-known and not-really-well-known data about extraction from islands, arriving at the following generalization (which owes much to Erteschik's 1973 dissertation): when a domain is not focal at the various levels of IS, it becomes opaque (*Principle of Extraction*). Even a summary examination of the empirical facts points to

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<sup>3</sup> A system structurally organized according to a bipartition focus/topic is implicitly dynamic. The evaluation of an item at the temporal state  $t$  cannot avoid to make reference to the temporal state  $t-1$ , and may (or should) be used again in the state  $t+1$ . The meaning of an informational value is always referred to the present, but such a value can be set only with reference to the past.

<sup>4</sup> We will make reference throughout to a further distinction: that between (information) focus and contrastive (or identificational) focus - see Kiss (1998) and especially chapter 3. The latter always involves some form of contrast or correction wrt a previously introduced linguistic entity or fact, as in the following:

- i) (Mario ha incontrato Gianni)  
M. has met G.  
No! Ha incontrato {PIERO}<sub>ContrFoc</sub>, (non Gianni)  
No! (He) has met P., not G.

Compare with ii), in which no contrast is (obligatorily) present.

- ii) Chi hai visto?  
Who have (you) seen?  
Ho visto {Luigi}<sub>Foc</sub>.  
(I) have seen L.

<sup>5</sup> In chapter 2 we will temporarily depart from such a stand, proposing a theoretical characterization of the notions at issue for a subpart of IS. Anyway, an exclusively operational definition will also be supplied.

the conclusion that grammaticality improves if the topicality of a domain decreases, in a way which does not seem compatible with a binary classification of topics/foci. Rather, grammaticality judgements seem continuous-like (an important issue to which we will return in later sections of this dissertation) and are influenced by what we will call *informational summation effects*.

At this stage, we will pose ourselves a new question: is any kind of focal value assignment able to keep a domain permeable to extraction? The answer will turn out to be rather complex. On the one hand, we believe that for information focus every value assignment (default and non-default ones) allows permeability to extraction. But this is so only if such informational value is directly visible to syntax, which is not the case with purely accentual strategies. On the other, the existence of qualitatively distinct focal operators must be recognized. Those kinds of focalization induce a very strong opacity, which seems to be characterized by an ‘all or nothing’ behavior, very different from what we observed before for information focus.

Such findings are directly relevant to our account of so-called weak islands. It will be shown that focal operators are present in all those environments and that the interaction of the Principle of Extraction with the focal operator produces the visible impairment in extraction possibilities known from the literature. Our treatment avoids the theoretically unwelcome division of labor between strong and weak islands (and relative families of explanations), which will be demonstrated to result suspect also from an empirical point of view. The chapter ends with a critical examination of the most successful account of weak islands to date: Relativized Minimality (in its latest version).

In chapter 3 we will examine some issues which are complementary to those tackled in the previous one. The two chapters together constitute a comprehensive account, framed in informational terms, of island phenomena and extraction restrictions, an account which will pave the way to the more theoretical systematization contained in chapters 4 and 5. The basic questions that we try to answer here are: why may certain extractions occur in environments which are barred to others? And where do similar differences come from?

We begin by comparing systematically relative and bare-wh extraction. What the data apparently tell us is that we cannot consider Italian Relative Clauses neither as the result of movement operations (whose more typical example is the displacement of bare interrogative wh-elements), nor as resumptive chains (of the type found in dislocation constructions, for instance). This is confirmed also by other phenomena, like sensitivity to Weak Crossover. The inspection of more data leads us to conclude that every type of extraction procedure leaves behind a gap endowed with a particular value of pronominality: a null resumptive pronoun (in partial agreement with precedent observations of Obenauer, Cinque and especially Postal). We will then provide a first preliminar sketch of a new framework, which we will call *the NRP hypothesis*, in which there is a direct connection between the value of topicality of an antecedent and the pronominality of the gap left behind (such a framework will be enriched and revised in the next chapters). Two variables would then be pertinent in explaining opaque domains: the *Principle of Extraction* from Chapter 2, which takes all topical domains to be islands, tempered by the employment of resumptive pronouns with an adequate *degree of pronominality*, which diminishes the freezing effect due to the first restriction. The interplay between the two factors would be responsible for the different grammaticality judgements and for the different extraction possibilities (referential arguments vs adjuncts/non-referential arguments) in island environments.

The subsequent step is an attempt to find alternative accounts for the asymmetries that Rizzi (1982) noted in extraction out of wh-islands (the *subject vs object* and the *decl/int vs int/decl* asymmetries), since in Chapter 2 we discarded (parametrized) subjacency as the correct explanation of island restrictions. In doing so, we will extend our previous observations to other A' constructions, such as parasitic gaps and then clefts and dislocation configurations. At the end of the chapter we will be ready to map in a rather systematic (though still provisional) way the ordered set of A' resumptive pronouns available in Italian. As the reader will see, the notion of copy - or trace - is at this point completely unneeded. What is more, such notion turns out to be an impediment if one wants to preserve the theoretical virtues of the generalized rule ‘move  $\alpha'$ ’ without neglecting the differences among the various A' constructions we will bring to light.

Having reached the conclusion that a movement gap is always filled by a resumptive pronoun, in chapter 4 we turn to the historical predecessors of this idea in order to compare our position with those advanced by others in the past.

We will follow up Perlmutter's analysis of floating quantifiers in French, adding new data which support our view that the value of pronominality of resumptive pronouns varies according to the value of topicality of the moved elements coindexed with them.

The next point to be addressed will have to do with Past Participle Agreement: in fact, Cinque noticed many years ago that some Italian/French differences are problematic for an analysis like Perlmutter's. Building on Kayne's (1989) proposal, we develop a framework in which Cinque's observations and other microparametric differences might receive a natural explanation, based on the notion of *threshold of a syntactic process*. We also show that Past Participle Agreement depends indirectly on informational variables, being connected to the value of pronominality pertaining to the clitics obligatorily doubling direct objects.

Since our description of Past Participle Agreement crucially makes use of the idea that (direct) objects and their gaps are always doubled by null or overt clitics, it should come as no surprise that the next sections are devoted to the study of clitic doubling. We discuss various facts suggesting that in Romance a *generalized clitic doubling* of arguments is operative, overtly manifested to a different extent in the various languages/varieties, but always present at least in a null form. The surfacing of the clitics would again depend upon informational variables, as easily recognizable taking into account an impressive series of empirical implicational hierarchies, all of the same type, whose existence would otherwise result mysterious.

Finally, in the following sections we will deal with subject-verb agreement. On the basis of our precedent remarks about Past Participle Agreement, we will try to furnish a description of the phenomenon which is compatible with a single mechanism of *Agree!*, active for both subjects and objects and mediated by the clitics doubling them. An examination of the structural configuration underlying postverbal subjects ends the chapter.

The NRP hypothesis, as it will be developed up to this point, has still to address some unavoidable problems that whatever general account of movement phenomena should take into consideration. In particular, two questions are of special importance: what is the status of resumptive pronouns wrt cyclicity effects? And what are resumptive pronouns from the point of view of the Binding Theory?

Chapter 5 specifically aims at finding an answer to these two (related) issues.

It will be shown that according to many syntactic tests resumptive elements and clitics in doubling configurations ought to be considered anaphors, and not pronouns. In this respect, a big theoretical problem arises: it is almost universally assumed that an antecedent in an A' position is not able to bind anything at all. In order to get rid of this difficulty, we will adopt and adapt a proposal by Aoun, which contemplates the existence of both A and A' anaphors. Null and overt resumptive pronouns would be instances of the latter, independently motivated, category. If so, the obligatory successive cyclic character of movement springs out of the theory as a totally expected fact. This in turn implies a) that there is no clear-cut division between movement and genuine resumption (or chopping and copying rules, employing Ross's old terminology) and b) that our speculations about the interrelationships of informational values and degrees of pronominality have to be revised, since no pronouns are actually involved in movement configurations. We will first proceed to show that a lot of empirical facts suggest indeed the correctness of point a). Then, the concept of *level of anaphoricity* is discussed and the theory of A' chains is reformulated in the light of the considerations reported here, incorporating all our previous findings into it.

The remainder of the chapter addresses a topic of great importance, namely the role of *intrusive* resumptive pronouns in overcoming island restrictions. It will be demonstrated that ordinary and intrusive resumptive elements are intrinsically different and that the latter are the output of a marked last resort strategy which substitutes a pronoun for an anaphor under certain particular conditions. This would explain the complete insensitivity to islands of this type of resumption.

In the last chapter, entirely devoted to pronominalization restrictions, we will first examine Weak Crossover (WCO) configurations. After briefly reviewing some previous explanations which we do not find satisfactory (Chomsky 1976, Reinhart 1983), an attempt is made to render

up-to-date Wasow's original insight that WCO configurations have to be accounted for in the same way as the other problematic cases of Backward Pronominalization (BP) discovered by Langacker, Ross, Postal (and others) in the late '60s. To this effect, we will analyze the restrictions on BP (and WCO) from an entirely informational perspective. As the reader will see, the proposals contained in Chapter 3 turn out to be essential for solving the most intricate difficulties implicit in accounts like that of Wasow's.

In the process of reframing the restrictions on BP in informational terms, we will also be led to a critical evaluation of Principle C of the Binding Theory. It will be shown that the configurations ruled out by Principle C are a subset of the configurations ruled out by a more general principle, which will be called the *Order of Topics Constraint* (OTC). It follows that Principle C can be dispensed with, because it is a mere duplicate.

The OTC is affected by the intervention of numerous variables, whose interaction is actually responsible of the permissible and non-permissible patterns of BP. We try to sort them out and to analyze each of them separately, underlining the interrelations with IS for every single factor. Strong Crossover (SCO) configurations will then be investigated. Quite predictably, it is our belief that they are not to be treated separately from BP either and thus a treatment is devised that could naturally explain the differences in acceptability between SCO and WCO violations.

After analyzing in great detail the restrictions on BP, we turn to the much less studied topic represented by the restrictions on Forward Pronominalization (FP). A systematic investigation of the data reveals that the factors constraining BP and FP are analogous and act in a complementary way in the two configurations. To be sure, FP is much less constrained than BP. But a careful examination of the former permits to appreciate the mirror image impact on grammaticality that the manipulation of the variables that condition BP has on FP. Such a generalization cannot be captured in all those accounts that employ c-command and similar non-informational notions to express pronominalization restrictions.

In the last sections we address the problem of Binding reconstruction and in particular its relevance to the crossover configurations studied in the previous sections of this chapter. Following Heycock (1995) and Bianchi (2004), we describe the differences between topics and foci, arriving at the conclusion that reconstruction is obligatory only for the latter (but only when the element to be reconstructed is embedded). At this point, all what is needed to understand properly secondary SCO effects should be at our disposal, and an analysis of the phenomenon concludes the chapter.

### **3) EXISTING MODELS OF DYNAMIC SYNTAX**

We will not adopt any previously proposed informational model. Our reluctance in accepting them does not mean that we believe that IS has no precise internal organization (in this connection, see chapter 2). Since systematic analysis that address the issue of which structure pertains to IS are already available, one could wonder why we prefer a more agnostic position on the matter. Some reasons are given in this section.

First of all, we would like to stress that in the present work the issue of which (presumably universal) *value assignment mechanisms* pertain to IS will not be addressed. Nor will we take a specific stand as to what invariant functional/structural correlates correspond to informational notions. These are very complex problems, whose solution necessitates of a vast cross-linguistic comparative analysis that has not been the object of our research. Various authors have already tried to address such issues, but we think that no current approach is sufficiently refined to do justice to all the aspects of the question. In particular, we believe that the cartographic framework developed in Rizzi (1997, 2004a) and related works makes use of problematic assumptions, if it is to be taken as a general model of IS. We will now have a look at some of its alleged inadequacies.

In the split-CP constellation, informational assignments are invariably connected to functional projections and to the minimalist operation 'internal merge' (the current version of 'move  $\alpha$ ' from the old P&P framework). It is precisely such basic idea, attractive in virtue of its

simplicity, that does not seem to us to work properly in understanding the global architecture of the informational component.

A first difficulty relates to the absence of left-handedness in IS, which is instead overwhelmingly evident in standard (A and A') movement. This suggests that an account in terms of movement results at least unnatural. We are certainly not saying that it is impossible to work out solutions for all the complications on the ground, but simply that they may result suspect from a methodological point of view, given general principles of parsimony. If anything, these examples demonstrate that in Italian there is an extraordinarily strong preference for having the (information) focus at the end of the sentence, as in many other languages. It is impossible to have this fact following *directly* in a cartographic framework, since movement is taken to be only to the left (but it is obviously easy to devise *indirect* solutions, in the spirit of the countless remnant movement analysis stimulated by Kayne 1994).<sup>6</sup>

- 5) Chi ha baciato Mario?  
Who has M. kissed?  
Mario ha baciato UN ROSPO.  
M. kissed a toad
- 6) Chi ha baciato un rospo?  
Who has kissed a toad?  
a) L'ha baciato MARIO.  
Him(cl) has kissed M.  
b) MARIO(,) *ha baciato un rospo*.  
M. has kissed a toad

When the focus is in a position different from the end of the sentence, deaccenting obligatorily affects all the constituents to its right (see 6)b).<sup>7</sup> This resembles what happens with dislocation, which is excluded by the above considerations and shows deaccenting/prosodic separation as well.

- 7) Chi ha baciato Mario?  
Who has M. kissed?  
Pro ha baciato UN ROSPO, Mario.  
(He) has kissed a toad, M.

One possibility is that focus is assigned as a 'residual' feature, ie topics are attracted to the left and what remains rightmost receives a focal value. This is not what Rizzi (1997, 2004a) has in mind. And such a solution is indeed highly implausible, since in Germanic the in-situ focalization strategy is a viable alternative (in English by far the most widespread, see Zubizarreta 1998) to rightmost positioning.<sup>8</sup>

- 8) Who kissed a toad?  
MARIO kissed a toad.

Furthermore certain instances of (rightward) movement related to focus seem to exist, invalidating the idea that focus be assigned as a residual feature. Consider this case of Heavy NP Shift in English, for example (from Williams 2003).

- 9) John gave to Mary all of the money in the satchel.

As is well-known, one factor that determines the possibility for a constituent to be moved to the right is its 'heaviness'. Therefore, it results very difficult to attribute the right-positioning of the

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<sup>6</sup> What such kinds of analysis tend to forget to show is why A and A' movement cannot in general avail themselves of the same possibilities, and are thus forced to reveal overtly their left-handedness.

<sup>7</sup> Deaccented elements are italicized.

<sup>8</sup> In-situ focalization in Germanic is not (necessarily) connected to deaccenting of the material to the right of the focus, of the type encountered with non-final foci in Italian.

direct object to a movement to the left of the indirect object. Such a proposal will clearly violate all the current assumptions about feature-checking and economy of derivation. At the same time, focus is certainly implicated in Heavy NP Shift, as Williams (2003) points out:

- 10) John gave to Mary all of the money in the SATCHEL.
- 11) \*John gave to MARY all of the money in the satchel.
- 12) John gave all of the money in the satchel to MARY.
- 13) John gave all of the money in the SATCHEL to Mary.

A ‘heavy’ constituent can be positioned to the right, but only if it is focalized (see also Arnold et al. 2000). These two related observations constitute substantial evidence in favor of the idea that it is the direct object that moves, for its own purposes.<sup>9</sup>

A second problem is connected to ‘what should attract what’, namely the applicability of a feature-checking mechanism to IS. As again noticed in Williams (2003), Heavy NP Shift is licensed if it puts the focus at the end of the sentence, *or* if it allows focus projection from the end of the sentence. Thus, the shifted NP is not the focus in general, but simply in the special case (for informational values, curly brackets are employed).

- 14) John gave all the money in some container to Mary. What container?  
John gave to Mary all of the money in the {satchel}<sub>Foc</sub>.
- 15) What did John do?  
John {gave to Mary all of the money in the satchel}<sub>Foc</sub>.

The problem is: when the entire shifted NP is not the focus, its movement seems causeless.<sup>10</sup>

We can generalize Williams’s considerations to other alleged instances of focus movement. So, observe what happens with postverbal subjects in Italian:

- 16) Chi ha dato il denaro a Pietro?  
Who gave the money to P.?  
L’ha dato {il primo figlio di Giovanni}<sub>Foc</sub>.  
It(cl) has given the first son of Giovanni  
‘Giovanni’s first son has given it.’
- 17) Quale figlio di Giovanni ha dato il denaro a Pietro?  
Which son of Giovanni has given the money to P.?  
L’ha dato il {primo}<sub>Foc</sub> figlio di Giovanni.  
\*Il {primo}<sub>Foc</sub> figlio di Giovanni l’ha dato.  
‘Giovanni’s first son has given it.’
- 18) Che è successo col denaro alla fine?  
What happened with the money in the end?  
Lo {diede a Pietro il primo figlio di Giovanni}<sub>Foc</sub>.  
It(cl) gave to P. the first son of Giovanni  
‘Giovanni’s first son gave it to Pietro.’

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<sup>9</sup> This is evidence against *indirect* analysis of HNPS, in the sense that was attributed to this word in the text.

<sup>10</sup> The movement to the right could maybe be motivated via ‘heaviness’ requirements, with the result filtered in a separated informational component (in order to exclude topics from the final position of the sentence). Alternatively, one can think to some form of percolation assigning a focal feature to the moved constituent. Generally speaking, the appeal of the notion ‘percolation’ for dealing with these problems is evident. But, again, this implies significant complications of the theory.

A movement analyses of focus in the case of postverbal subjects (as, for instance, in Belletti 2001 and 2004b) is not natural, if it is based solely on feature-checking mechanisms. Additional complications are again required, in the form of percolation mechanisms and the like.<sup>11</sup>

The third and certainly more serious objection regards the employment of the notion ‘movement’ itself. The big theoretical problem is that focus is not restricted by constituency considerations, that all known instances of movement respect (see Krifka 1991, Zubizarreta 1998, Tancredi 1992). We can use a very clear case involving contrastive focus, which not only violates every possible constituency test, but even the word boundaries (see also 18) above for a problematic instance of non-contrastive focus):<sup>12</sup>

19) Ti avevo detto di {RI}proporre quella cosa, non di {CONTRO}proporla in alternativa alle idee del direttore.

I told you to propose again that thing, not to make a counterproposal to the director’s ideas with it.

We do not see any compelling reason to analyze in a completely different way 19), 20) with in-situ focalization and 21)/22) involving movement of the focused object to the left.

20) Dovevi chiamare MARIO, non PIETRO.

(You) had to call M., not P.

21) MARIO dovevi chiamare, non PIETRO.

M. (you) had to call, not P.

22) È MARIO che dovevi chiamare, non PIETRO.

It is M. that (you) had to call, not P.

Even if the structural configurations associated to these sentences are different, their informational status is completely identical. Modeling syntax on it (or viceversa) is improper, because there is no reason whatsoever to prefer one pattern -the movement case- over the other.<sup>13</sup>

Though the remarks in this section do not represent counterevidence to Rizzi’s articulated split-CP system, they strongly suggest to avoid the employment of models of IS comprising a one-to-one correspondence between movement and informational values. Since we are interested in IS in a general sense, and not only in the informational assignments somewhat connected to the

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<sup>11</sup> But, in that case, one should also motivate why other movement operations would not dispose of such percolation mechanisms in the same way as focus movement.

<sup>12</sup> It should by now be evident why different graphic symbols have to be used for constituency and for informational values.

<sup>13</sup> Note that movement respects constituency when focus does not. This means that in certain cases a movement strategy cannot be used to express focalization (an absurd situation in a framework that obligatorily express IS through movement operations).

A: Mario non comprò un regalo a Maria.

M. did not buy a present to M.

B: Non è vero assolutamente!

It is absolutely not true!

i) Mario DIEDE un regalo a Maria.

M. gave a present to M.

ii) \*DIEDE Mario un regalo a Maria.

Gave M. a present to M.

Example ii) is grammatical only with intra-clausal dislocation of the subject, in which case no movement of the focus occurs:

iii) Pro DIEDE, Mario, un regalo a Maria.

(He) gave, M., a present to M.

functional projections of the left periphery, in the remainder we will not have much to say about Rizzi's proposal (unless the relationship between movement and IS be specifically at stake).

Many enigmas concerning dynamic syntax are still to be deciphered. We think that also in the absence of a theoretical 'macroparadigm' the empirical observations reported in the present work, if true, maintain all their relevance. Whatever theory of IS will turn out to be correct, it should be able to incorporate them.

As repeatedly said, this dissertation is not intended to solve the conceptual problems characterizing the notions 'topic' and 'focus'. We chose to maintain such names because the work carried out here is related in many ways to the traditional studies of IS available in the linguistic literature (of whatever orientation). But we are not committed to accept the intuitive distinctions that are often associated to those concepts in the field, of so a diverse and spurious nature to be embarrassing to the most naïve reader. In our opinion, a thorough, serious and systematic study of IS has not appeared yet. And it is thus urgently required, especially so if the generalizations to be proposed in this work are of some significance.

## CHAPTER 2

### EXTRACTION AND INFORMATION STRUCTURE

In this (and the next) chapter we will try to find a key for understanding the empirical problems connected to the notion of *extraction out of a domain*. The solutions we will propose are framed in informational terms and the main claim is that those who advanced other types of theories in the past neglected important data and considered abstract syntactic configurations and concepts which at a closer look result unnecessary. This will pave the way to a substantial simplification of grammar, given that IS is unconditionally attested and it is thus an obligatory part of the knowledge of every human language. It is certain that whenever an area of syntax may be reduced to principles or notions which are independently required, a step in the right direction has been made. From a methodological point of view, this is the first attempt to pursue and only in case of a failure new theoretical constructs may be legitimately introduced. This is why we are going to prune what appear to us superfluous assumptions and principles from our understanding of islands and extraction procedures. It is exactly a concern of this type that Minimalism has embraced as its primary objective. In such a sense, then, we are remaining completely adherent to its spirit.

In a domain X, an element  $\alpha$  is extracted when moved from its original position to another one in the same sentence to which X pertains but which is located out of it.

Pre-extraction:

S: ----- X: ( $\alpha$ ,  $\beta$ ,  $\gamma$ ) -----

Post-extraction:

S:  $\alpha$  ----- X: ( $e$ ,  $\beta$ ,  $\gamma$ ) -----

The correct characterization of 'domain' seems to depend on the verb of a clause: what is selected by it constitutes a domain in the sense which is relevant for the definition above (ie: arguments/adjuncts, both nominal and clausal, as in 1a and 1b). It is important to note that 'extraction' and 'extraction out of a domain' are not equivalent, since as is well known pied-piping an island generally means 'inactivating' it. It is also unmistakably evident that extracting an entire argument/adjunct (namely, the domain as a whole, as in 1c) does not generally give rise to any problems - at least in English or Italian.

- 1) a I saw [a man that was wearing a black T-shirt].  
b I saw [that a man put on a black T-shirt].  
c What did you see?

The first one to note a restriction on extraction procedures was presumably Chomsky (1964), who discovered the impossibility of interpretation ii) after extraction had occurred in sentence number 2) in English, as in 3) (for brevity, we will use the term *extraction* as meaning only *extraction out of a domain* throughout, unless otherwise indicated).

- 2) Mary saw the boy walking toward the railroad station.

- i) NP - V - NP - Complement Clause
- ii) NP - V - [NP - Relative Clause]

- 3) a Do you know the boy who(m) Mary saw t walking toward the railroad station?  
 b Who did Mary see t walking toward the railroad station?

Ross 1967, the pioneering work on extraction par excellence, generalized and extended Chomsky's original observation. In his dissertation he developed the concept of island, a syntactic domain impenetrable to certain operations of grammar. Ross's work is certainly a cornerstone and has been enormously influential in the last four decades of research, but no real explanation of the empirical data he discovered can be found in there. In particular, after enumerating the various kinds of syntactic environments that constitute an island, no attempt was made to subsume them under a single explanatory principle. His theoretical analysis simply restricted the power of syntactic transformations (involving variables) in certain cases which were listed separately. Unfortunately, this does not go much beyond a description. It was again Chomsky (Chomsky 1973, 103) to introduce a real explanatory principle, that he called *subjacency*. It survived until now in one form or another and it is still considered the standard account of (at least certain types of) islands. In this dissertation, we will defend the claim that subjacency is a misgeneralization and has to be abandoned since empirically inadequate and theoretically undesirable.

As noted by Ross, the concept of island is not a real primitive. Wh-elements in wh-in-situ languages (Huang 1982) and wh-in-situ in multiple wh-questions (Baker 1970) are generally insensitive to islands - with certain restrictions, which should be accounted for. Resumptive pronouns (but not all of them, see Bianchi 2004 and chapter 3) render islandhood unproblematic as well. This means that we cannot single out impenetrable domains in an absolute sense, but rather domains which are locked to certain *extraction procedures*. Islands are definable specifically according to the notion of extraction out of a domain. Our theoretical challenges will then be: why is it the case that certain domains are permeable and others present opacity to extraction? And why may certain extractions occur in environments which are barred to others? This chapter will try to answer the first question, while the next chapter is devoted to the second one.

There are various accounts in the literature for the known island restrictions, but since the present section is in no way intended as a survey we will not review them here.<sup>1</sup> What is important to notice is that none of the theories that presently receive general consideration is able to explain successfully the empirical puzzles of the three subsections which follow. These puzzles will be our starting point.

## 1) THREE RELATED UNSOLVED PROBLEMS

### 1.1) *The accentual problem*

Sentences may vary as to where accentual prominence is placed. One can appreciate that in the following examples, in which stressed clauses and focalization coincide (secondary accents omitted):<sup>2</sup>

- 4) a) Cosa è successo?  
 What happened?  
 {Pro}<sub>Top</sub> {ho detto a Gianni che Mario è arrivato tardi}<sub>Foc</sub>.  
 I said to Gianni that Mario arrived late.  
 b) Cosa hai detto a Gianni?

<sup>1</sup> The reader is referred to Szabolcsi (2002) and Szabolcsi & Den Dikken (2002) for an excellent overview.

<sup>2</sup> The parenthesis in these examples are not delimitating syntactic constituents and are clearly not intended to do so (see chapter 1 for further observations on this point). As said, we employ [ ] for constituency and {} for informational values.

- What did you say to Gianni?  
 {Pro gli ho detto}<sub>Top</sub> {che Mario è arrivato tardi}<sub>Foc</sub>.  
 I said him that Mario arrived late.
- 5) Hai informato Gianni delle inadempienze di Mario?  
 Did you inform Gianni of Mario's inadequacies?  
 Sì, {pro gli}<sub>Top</sub> {ho detto}<sub>Foc</sub> {che Mario è arrivato tardi}<sub>Top</sub>.  
 Yes, I told him that Mario arrived late.
- 6) Che ne pensi del ritardo di Mario?  
 What do you think of Mario's delay?  
 {Mi}<sub>Top</sub> {dispiace molto}<sub>Foc</sub> {che Mario sia arrivato tardi}<sub>Top</sub>.  
 I'm really sorry that Mario arrived late.
- 7) a) Che cosa ti succede?  
 What's happening to you?  
 {Mi}<sub>Top</sub> {dispiace molto che Mario sia arrivato tardi}<sub>Foc</sub>.  
 b) Che cosa ti dispiace di più?  
 What are you most sorry about?  
 {Mi dispiace molto}<sub>Top</sub> {che Mario sia arrivato tardi}<sub>Foc</sub>.  
 I'm really sorry that Mario arrived late.

Importantly, different verbs have different preferences in accentuation.<sup>3</sup> So, *dire* (tell) strongly prefers accentuation of the embedded clause (4)a and 4)b are much more common in discourse than 5)), whereas *dispiacere* (be sorry, regret) may rather frequently take a matrix accentuation, as is often the case with factive verbs (especially if they are of the strong class; see below).<sup>4</sup>

Erteschik-Shir (1973) noted a very systematic fact, that no available theory of islands in the literature, apart from her own, discusses. Extraction causes the clause from which it takes place to receive accentuation, no matter what possible differences in accentual patterns might pertain to the matrix verbs in its absence (so, *dire*/tell and *dispiacere*/be sorry always behave alike).

- 8) Chi hai detto che è arrivato?  
 Who did you say (that) has arrived?
- 9) Cosa ti dispiace che sia successo?  
 What are you sorry that has happened?
- 10) Vorrei che mi spiegassi chi hai detto che è arrivato.  
 I'd like that you explain to me who (you) said (that) has arrived.
- 11) Non ricordo cosa ti dispiace che sia successo.  
 I don't remember what are you sorry (that) had happened.

These examples are certainly unnatural when uttered with the following accentuation patterns, though not ungrammatical:

- 12) Chi hai detto che è arrivato t?  
 13) Cosa ti dispiace che sia successo t?
- 14) Vorrei che mi dicessi chi hai detto che è arrivato t.

<sup>3</sup> Such tendencies are influenced by many other variables apart from the choice of verb, such as tense, aspect, presence of adverbials or modifiers and so on. We are not taking into consideration these additional interfering factors here, because they are not crucial as to what concerns the point under discussion.

<sup>4</sup> This is not equivalent to say that *dispiacere*/be sorry has a default reading with a deaccented clausal complement (as should be evident from 7)a). But it is a matter of fact that the employment of sentences such as 6) is much more widespread in discourse than that of sentences such as 5).

15) Non ricordo più cosa ti dispiace che sia successo t.

Nobody will use them in 'normal' situations, but they are fine under a contrastive or emphatic interpretation of the accented matrix verb.<sup>5</sup>

### 1.2) *The dominance problem*

Erteschik-Shir (1973) detected also a correlation between certain interpretations of clauses/phrases and their permeability to extraction (see also Ross 1967, 449). This correlation led her to the introduction of the concept of dominance and to a new generalization:

#### *Dominance condition on extraction*

Extraction can occur only out of clauses or phrases which can be considered dominant in some context.

Erteschik proposed various tests for deciding when a clause could be considered 'semantically dominant' (among them accentuation, as in the previous subsection). The main one is the lie test, whose paternity is attributed to Ross. Here are some examples:

DP's

16) Bill saw a picture of his mother.  
Which is a lie, he didn't.  
Which is a lie, such a picture doesn't exist.

17) Bill saw the picture of his mother.  
Which is a lie, he didn't.  
\*Which is a lie, such a picture doesn't exist.

CP's

18) Bill thinks that they're certainly gonna win.  
Which is a lie, he doesn't.  
Which is a lie, they're not.

19) John rejoices that they came to the party.  
Which is a lie, he doesn't.  
\*Which is a lie, they didn't.

We can say that an entity or event which is not 'existentially presupposed' is dominant in Erteschik's terms (see also James 1972 and Jackendoff 1972, sec. 6.10). The test is quite subtle: the

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<sup>5</sup> These examples are good too when the wh-element receives an echo interpretation, without actually being strongly accented (as usual). In Italian, these three situations are all compatible with echo questions, then:

- i) CHI dici che è arrivato t?
- ii) Dici che è arrivato CHI?
- iii) Chi DICHI che è arrivato t?  
You say has arrived WHO?

Note the impossibility of the following:

- iv) \*CHI(,) DICHI che è arrivato t?
- v) \*DICHI che è arrivato CHI?

star never refers to complete impossibility, but rather to ‘strangeness’. The bad cases require a particular corrective intonation (which is an index of the presence of the existential presupposition). If the felicity conditions are not met, they can thus give rise to accommodations (in Lewis’s 1979 sense).

The noted correspondence between domains permeable to extraction and phrases/clauses without existential presupposition is empirically striking (see below). Even if there are many caveats to be taken into consideration we believe it cannot be put aside and ignored, as happened in the subsequent literature on islands.

### 1.3) Prosodic islands

Independently from Erteschik’s remarks, Ronat noticed about a decade later that deaccented material constitutes what she called ‘prosodic islands’ (Ronat 1982, 1984). Following Ladd (1980), she distinguished between deaccented material after a contrastive focus and deaccented material in non-contrastive environments (italicized elements are deaccented, capitalized ones are contrastively focalized):

20) John doesn’t READ *books* (but rather prefers to BURN them).

21) Has John read Slaughterhouse-Five?

No, John doesn’t read *books*.

In both these cases the main accent is on ‘read’, but their informational properties are different. In 21) there is no contrast, with the deaccented material perceived as related in some way to one element of the first sentence (or to the immediate context). Ronat asserts that in French a contrastive focus requires an extra-high pitch, which thus distinguishes it also acoustically from a non-contrastive accentuation.<sup>6</sup>

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<sup>6</sup> Ronat kept separated deaccentuation in non-contrastive contexts (as in 21)) and deaccentuation after a (contrastive or narrow) focus due to mere repetition or related to parentheticals.

#### *deaccentuation after a focus (mere repetition)*

i) Je crois que Paul a détesté ce livre.

I think that Paul detested that book.

Non, Paul a ADORÉ *ce livre*.

No, Paul adored that book.

ii) Que’est-ce que Pierre a mis dans sa poche?

What did Peter put in his pocket?

Pierre a mis {ton livre}<sub>Foc</sub> *dans sa poche*.

Peter put your book in his pocket.

#### *parentheticals*

iii) Marie viendra, *répondit Jean*, samedi soir.

Mary will come, answered John, on Saturday night.

(Ronat 1984, 314-315)

We believe she was completely right in drawing these distinctions, as the deaccentuation of merely repeated material and parentheticals has an independent origin, which is not strictly speaking informational. Hence, it has not to be confused with deaccentuation stemming from the topicality of the affected element. In this connection, Rizzi (2004a) presents also evidence that merely repeated material is not sensitive to RM (standard adverb preposing is instead sensitive to it, see i)) - the intervener is underlined.

i) \*Rapidamente, i tecnici hanno probabilmente risolto t il problema.

Rapidly, the technicians have probably solved the problem.

What Ronat (re)discovered is that extraction out of a deaccented domain elicits ungrammaticality, as testified by these examples in French and their Italian counterparts:<sup>7</sup>

22) (Marie devait commenter les repas de Pierre.)

\*Qu'a-t-elle dit *que Pierre a mangé t*?

23) (Maria doveva commentare i pasti di Piero.)

\*Cosa ha detto *che Piero ha mangiato t*?<sup>8</sup>

Mary was supposed to comment on Peter's meals.

What did she say that John ate?

24) (Les professeurs doivent rencontrer les pères de tous ces enfants.)

\*Le garçon dont Jean va voir *le père t*, c'est Toto.

\*Il ne sait pas de qui il va voir *le père t*.

25) (I professori devono incontrare i padri di tutti quei bambini.)

\*Il ragazzo di cui Giovanni vedrà *il padre t*, è Totò.

\*Non sa di chi vedrà *il padre t*.

The professors must meet the fathers of all these children.

The boy whose father John will see is Toto.

He doesn't know whose father he will see.

Note that deaccentuation per se cannot be blamed, since in other situations (unrelated to IS, see note 6) it does not give rise to any perceivable restrictions on extraction procedures.

(Paul avait comme ami uniquement des gens qu'il croyait capables de tuer le roi)

Paul had as friends only people whom he believed capable of killing the king.

*prosodic island*

26) \*Mais tout le monde en était *capable t*.

But everyone was capable of that.

*deaccentuation due to mere repetition* (after a contrastive focus)

27) Marie n'en est pas capable mais elle en SERA *capable t*.

Mary is not capable of it but she will BE capable of it.

## 2) A HIERARCHICAL MODEL OF INFORMATION STRUCTURE

The striking correlations observed above could easily lead us to conclude that extraction is in large part dependent upon IS. However, the notion of dominance is apparently not equivalent to that of focus.<sup>9</sup> For example, in 16) and 17) above, both 'a picture of his mother' and 'the picture of his

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ii) Tutti speravano che il primo problema si potesse risolvere rapidamente, ma *rapidamente probabilmente* non si può risolvere t.

Everybody hoped that the first problem would be solved rapidly, but rapidly, probably one cannot solve it.

<sup>7</sup> Ronat tried to explain her data suggesting that 'prosodic binding creates an abstract governing category' and thus an empty element inside deaccented material would not be properly governed according to the ECP. This seems frankly ad hoc, and it would open the not trivial question of why 'prosodic binding' creates such an abstract governing category. In the Minimalist Program the ECP has no role anymore, which further discredits the proposal.

<sup>8</sup> This example is actually analogous to 12) above.

<sup>9</sup> Erteschik's example relevant to such a distinction is the following:

mother' may be focal, being perfect answers to the question: 'what did Bill see?'. But the second carries an existential presupposition, while the first does not.<sup>10</sup>

The notion of dominance is clearly spurious, and it would be theoretically desirable to replace it with some other syntactic concept whose existence be independently motivated.

IS remains the best candidate, via the equivalence focus=dominance. But, as we have just seen, such correspondence is problematic. How can we solve the problem?

To Erteschik's dilemma a solution can be found through the introduction of the notion of *hierarchical informational levels*, which will permit us to dispense with the autonomous and theoretically unclear concept of dominance. The next subsections will be devoted to discuss such notion, and to support it with evidence independent from extraction restrictions.

## 2.1) IS and functional hierarchies

We are proposing an informational model which first of all is split into two large subdomains: a clausal and a nominal. The subdivision of IS in a nominal and a clausal level goes hand in hand with the findings about functional hierarchies, due especially to Cinque's recent works. Such a subdivision is also in complete agreement with the considerable literature about the DP/CP parallelism ever since Chomsky (1970).

We know that there exist separate universal hierarchies of functional projections, one which we can call 'nominal' (Cinque 1994, Scott 2002), and another one which has been dubbed 'clausal' (Cinque 1999), largely more studied than the first. They constitute the skeleton of respectively the DP and the IP. Hence, the empirical evidence in favor of a parallel subdivision in the IS domain is not surprising at all: syntax seems to require such a distinction in many other unrelated domains.<sup>11</sup>

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i) It is very significant that it's John who ate the porridge.

John in the embedded clause is supposedly in focus but it is the matrix clause that is dominant according to the lie test (and to accentual considerations).

<sup>10</sup> An indefinite of the form 'a certain DP' carries apparently an existential presupposition too and fails the lie test. The same can be said for indefinites having wide scope over quantifiers, modals, adverbs, etc - as in the following reading of this sentence:

i) John wants to buy a car.  
'there is a specific car John would like to buy'  
 $\exists$  'a car' > 'wants to buy'

Notice, however, that this kind of indefinites cannot be clitic left dislocated in Italian, while partitive ones perfectly can:

- ii) \*Un certo uomo, l'ho visto ieri mentre passeggiava.  
A certain man, (I) saw him(cl) yesterday when (he) was walking.
- iii) \*Una macchina, Giovanni la vuole comprare. (wide scope of *macchina/car* over the modal)  
A car, John wants it(cl) to buy.
- iv) Uno dei libri, l'ho dato alla professoressa.  
One of the books, it(cl) (I) gave to the professor.

<sup>11</sup> There seems to exist a PP functional hierarchy as well (see Cinque 1999, sec 6.5; Koopman 1997). Since this is a preliminary study and the PP hierarchy received much less attention in the literature, we will leave unsolved the issue whether this parallels or not the IS organization and its hierarchical layers.

Now, before tackling the issue of which hierarchical structure pertains to IS, concede us a brief digression about functional hierarchies. The fundamental claims in Cinque (1999) are two, and can be summarized as:

- i) a universal hierarchy of clausal functional material characterizes all human languages
- ii) adverbs are ordered in such a way as to respect the hierarchy and they are collocated in the unique specifiers of the various clausal functional projections, in a one-to-one correspondence

While the first claim is nowadays generally accepted (and its real motivations highly debated), the problems encountered by Cinque's idea of a strict structural correspondence between adverbs in Spec position and functional material in Head position are not few.

The first difficulty is purely theoretical and has to do with the enormous amount of innate structure that human minds should dispose of. According to Cinque, our built-in linguistic knowledge for a single clause would encompass syntactic trees (or their mental equivalents) of almost biblical proportions. Anyway, this is not completely implausible: it can well be that we have an intuitive and possibly inadequate idea of the 'storing limits' of our brain.

More serious objections of an empirical type have been advanced by Bobaljik (1999) and Svenonius (2002), relative to the optionality in the positioning of adverbs wrt subjects, objects, verbs, floating quantifiers (issues partly going back to Ernst's 1984 dissertation). We will not analyze in detail those problems here, but it seems that the only way out is further increasing the already huge proportions of syntactic trees and functional projections. Once we accept the existence of a vast amount of built-in structure, though, this is not inconceivable either: the functional saga may proceed indefinitely, as long as we grant the possibility of an almost free 'hard disk' in the brain (which is a questionable, but not impossible, assumption).

However, if one takes an abstract characterization of the notion of recursion such a saga has to be (potentially) infinite, for the following reasons:

- a) an adverb may modify an adjective, which in turn modifies a noun; there may be an indefinite number of nouns modifying nouns (thus, also of adjectives modifying them) in a clause; there may then be an infinite number of adverbs modifying adjectives for every clause.
- b) an adverb may modify another adverb (though not all adverbs may modify each other); in principle, such a chain of modification can proceed indefinitely (even if in practice more than one chain of modification is almost uninterpretable).

Note that the adverbial hierarchy discovered by Cinque (1999) (see also Alexiadou 1997) is repeated identically in all these recursive levels of adjectival and adverbial modification, as the reader may realize applying systematically Cinque's methodology to minimal pairs like the following:

- 28) \*una donna terribilmente probabilmente bella
- 29) una donna probabilmente terribilmente bella  
a probably terribly/\*terribly probably beautiful woman

Cinque's theory has then to assume that we have at our disposal a potentially infinite set of functional projections per clause.<sup>12</sup>

Independently from the theoretical analysis one may opt for in analyzing Cinque's hierarchies, a fact of great interest emerges systematically: there is a correspondence among informational levels and the recursive levels of functional projections, as will be outlined in the next paragraphs. Such a

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<sup>12</sup> The idea that a functional projection is present only when 'activated' by some morphophonological material may be an appealing alternative, given the facts pointed out here (see Giorgi & Pianesi 1997, and paragraphs 6.1 and 6.2 in Cinque's monograph).

parallelism, we believe, speaks in favour not only of a nominal/clausal informational subdivision, but also of a recursive and cyclic treatment of IS. Both IS and functional hierarchies thus represent what may be dubbed a ‘Chinese box paradigm’.

## 2.2) Information structure of DP’s

As already stated, we would like to propose that nominal constituents have their internal informational organization, which parallels the clausal one. We are basically suggesting a layered model of IS, permitting us to express the informational difference between (among other things) the English determiners ‘the’ and ‘a’ internally to the DP. The informational properties of the DP as a whole in the context of the clause would depend instead from what we will call the intra-CP level, which is clausal and not nominal.

To begin with, in the first independent DP layer of IS there is a direct relationship between indefiniteness/focus and definiteness/topic. These nominals receive then the following representations (x stands for the informational value at the next cyclic level of IS):

- 30) {{A big dog}<sub>Foc</sub>}<sub>x</sub>
- 31) {{The big dog}<sub>Top</sub>}<sub>x</sub>

What distinguishes definites from indefinites is their ability to (mentally) individuate a single specific referent. This property has been named in many ways (see Löbner 1987, Kadmon 1990, Roberts 2003 and references cited there). Here, we will call it ‘uniqueness effect’.<sup>13</sup>

DEFINITE	→	SPECIFIC REFERENT	→	TOPIC
INDEFINITE	→	NON SPECIFIC REFERENT	→	FOCUS

A specific referent is more topical than a non-specific one: individuation of a referent vs its non-individuation is the major trait differentiating topics and foci at the D-level. The individuation of a referent also implies a presupposition of existence (intensionally speaking), as already mentioned above.

Some morphologically indefinite nouns can be topics, even when their referents remain not completely individuated. The (partly) topical status of an indefinite is rendered possible by the availability of a specific *set* of elements out of which the referent should be chosen. This is what has been called the partitive (or, rather improperly, specific: Enç 1991) reading of indefinites. The availability of a set reduces the non-individuated status of the nominal entity and this is why it allows the constituent to be interpreted as a topic.

Increase and decrease in the individuation of referents seems to be what determines conceptually the topic/focus divide at the D-level. This can be appreciated in more theoretically neutral terms by means of certain syntactic tests, such as the possibility of dislocation in Italian (given the assumption that only constituents endowed with a topical informational value at the D-level can be dislocated).

Bare (existential) indefinites:<sup>14</sup> \*

<sup>13</sup> Indefinites are usually assumed to introduce new referents into the discourse (Heim 1982). In the literature there are cases of indefinites which have been said to be associated to a specific referent (see Fodor & Sag 1982). If true, our generalization concerning indefinites, namely that they never identify a specific referent but just a class of referents, has to recognize that an indefinite may come to possess an implication of existence, though it maintains a not (completely) individuated status.

<sup>14</sup> L. Rizzi (pc) observes that when an indefinite is part of a contrastive topic construction it may be dislocated, as in the following:

32) *Un uomo, l'ho conosciuto ieri. A man, I met him(cl) yesterday	
Bare-wh:	*
33) *Chi l'hai conosciuto ieri? Who have you met him(cl) yesterday?	
Bare quantifiers (Benincà 1988, 158):	*
34) *Nessuno, l'ho conosciuto ieri. Nobody, I met him(cl) yesterday	
Definites:	OK
35) Quell'uomo, l'ho conosciuto ieri. That man, I met him(cl) yesterday	
Partitive or modified indefinites:	OK
36) Uno di quegli uomini, l'ho conosciuto ieri. One of those men, I met him(cl) yesterday	
37) (?)Un uomo che era in quel gruppo, l'ho conosciuto ieri. A man that was in that group, I met him(cl) yesterday	
Generic indefinites: <sup>15</sup>	OK

- i) Dovevo vedere un uomo e una donna. Ieri un uomo poi l'ho visto, ma una donna no.  
I had to see a man and a woman. Yesterday, a man (I) have seen him(cl), but not a woman

Contrastiveness clearly involves reference to a previous context and contrastive indefinites should thus not be considered on a par with existential ones. Similarly, when a non-contrastive true indefinite is repeated from a previous sentence it can be (slightly marginally) dislocated, as in the following:

- ii) Ieri credevo di aver visto un uomo per la strada. Ma in realtà poi mi son reso conto che un uomo non lo potevo proprio aver visto perché era troppo buio.  
Yesterday I thought to see a man in the street. But then I realized that a man (I) couldn't see him(cl) because it was too dark

Definites and partitive/generic indefinites are immune from these strict contextual restrictions and may be used also out-of-the-blue (provided that certain pragmatic circumstances are met). See this example:

- iii) Allora, Maria, quello che devi fare è molto semplice. Gli ospiti, domani li farai sedere qui. E ricorda che i piatti sporchi li laverai subito dopo la cena.  
So, Maria, what you have to do is very simple. The guests, tomorrow (you) will seat them(cl) here. And remember that the dirty dishes you have to wash them(cl) immediately after the dinner.

<sup>15</sup> We are referring to both types of generics reported in the literature, what Gerstner & Krifka (1983) call 'D-generic' and 'I-generic' (exemplified respectively by 38) and 39)). Other terms often used are kind-referring NP's and characterizing sentences (see the introduction of Carlson & Pelletier 1995).

It is sometimes difficult to distinguish a kind-denoting indefinite from a bare indefinite. The following contrast should help the reader in drawing the correct distinctions.

- i) Un panino, lo prendo volentieri.  
A sandwich, I take it(cl) gladly  
ii) ?\*Un panino, l'ho comprato ieri.  
A sandwich, I bought it(cl) yesterday

- 38) Una patata, non l'hanno mai coltivata prima di Colombo in Europa.  
A potato, one has never cultivated it(cl) before Columbus in Europe
- 39) Un gatto, lo si deve nutrire ogni giorno.  
A cat, one has to feed him(cl) every day

Partitive quantifiers: OK  
40) Nessuno di quegli uomini, l'ho mai visto prima d'ora.  
No one of those men, I have ever met him(cl) before

D-linked wh-elements: ??/\*  
41) ?\*Quale uomo, l'hai mai visto prima d'ora?  
Which man, have you ever seen him(cl) before?

Partitive wh-elements: OK  
42) ?Quale di quegli uomini, l'hai mai visto prima d'ora?  
Which of those men, have you ever seen him(cl) before?

Whenever the dislocation of a constituent is possible, we are in one of these situations: it is a definite, it is a partitive (or modified) indefinite, it is a generic (definite or indefinite). Generics, like definites, individuate specific referents, whence they are compatible with dislocation.<sup>16</sup> Existential indefinites (in Diesing's 1992 sense) do not and they become admissible in a dislocated position only if a set is furnished out of which the referent has to be chosen.<sup>17</sup>

After having introduced this first nominal informational layer, we can proceed to show that the IS of nominal constituents is hierarchical, and parallels the recursive properties of functional hierarchies.

Consider these examples involving the focalizing adverb *solo/only*. In 44) *solo* affects the whole DP, whereas in 45 it affects a modifier of the definite DP, which in both cases is dislocated.

- 43) [La mela gialla] la regalo a Maria.  
The yellow apple I give it(cl) to Maria
- 44) \*[Solo la mela gialla] la regalo a Maria.<sup>18</sup>  
Only the yellow apple I give it(cl) to Maria
- 45) [La mela solo gialla] la regalo a Maria.  
The apple only yellow I give it(cl) to Maria

---

In i) it is made reference not to a specific entity of kind x, but rather to a specific kind of entities y. This is the essential feature distinguishing kind-referring NP's from what we called bare indefinites (a temporal location in the past generally permits to tease apart the two readings).

<sup>16</sup> There exists a clear difference between the two: (non generic) definites individuate 'real' objects, while generics individuate classes of objects.

<sup>17</sup> The reader is referred to the work of Diesing for a more detailed analysis of the different types of indefinites (Diesing 1992).

<sup>18</sup> The Italian speaker should avoid the irrelevant reading in which 'solo la mela gialla' is simply repeated from a preceding context, as in this example:

- A: Ho saputo che hanno detto il voto dell'esame solo a Mario.  
I heard that they told the grades of his exam only to Mario
- B: Sì, solo a Mario glielo hanno detto.  
Yes, only to Mario they told them(cl) to-him(cl)

This constitutes an instance of secondary occurrence focus, a distinct syntactic phenomenon (see Partee 1999). Secondary occurrence foci seem to be at least marginally possible in dislocated positions, analogously to existential indefinites (see note 14 above).

In 43), the definite determiner indicates topicality at a D-level and that is why the DP can be dislocated (for reasons we still have to clarify).<sup>19</sup> When ‘only’ is introduced in 44), ungrammaticality arises due to the informational inconsistency created by a focalization synchronous with a topicalization. But if we introduce ‘only’ inside a modifier of the noun there is no interference with the possibility of dislocating the constituent. The focalization of ‘only’ in 45) does not take place at the D-level, but rather at a subnominal one.<sup>20</sup> If it were at the D-level, dislocation would become impossible as is, for instance, for nouns introduced by indefinite determiners which get an existential interpretation. An internal, furtherly embedded IS level is thus at work.

The various possibilities in the order of adjectives wrt the noun are revealing as well, indicating different interpretations internally to the DP (see also the second part of note 19).

- 46) Un linguista intelligente
- 47) Un intelligente linguista  
An intelligent linguist
- 48) Un linguista solo intelligente
- 49) \*Un solo intelligente linguista<sup>21</sup>  
A only intelligent linguist

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<sup>19</sup> As we will see in a moment, topicality due to dislocation is defined at a distinct informational level (which is not nominal, but clausal). A mapping principle connecting the D-level to this clausal level is operative, imposing certain restrictions we will analyze in more detail later on.

Dislocation may also be used for informational purposes at a nominal level. However, being an extraction procedure, it is constrained by the usual restrictions. Examples like the following show that most of the times it is not possible to dislocate subparts of a (complex) DP:

- i) \*Intelligente, ho conosciuto la ragazza pro.  
Intelligent, I met the girl
- ii) \*Che era pazzo, ho incontrato l'uomo pro.  
That (he) was mad, I met the man
- iii) La ragazza intelligente, l'ho conosciuta.  
The intelligent girl, I met her(cl)
- iv) L'uomo che era pazzo, l'ho incontrato.  
The man that was mad, I met him(cl)

Examples of this sort suggest anyway that this is not in principle so:

- v) Di Mario, ieri ho visto le foto pro.  
Of Mario, yesterday I saw the pictures
- vi) Di quel ragazzo, non ho mai fatto un ritratto pro.  
Of that guy, I've never made a portrait

<sup>20</sup> *Solo* can never intervene at the D-level, anyway. In 44) it rather intervenes at the relevant clausal level. The reasoning does not change: 45 still demonstrates that an intra-nominal informational level is needed, which is the level at which *solo* intervenes there.

<sup>21</sup> Modification is not in principle incompatible with prenominal adjectives, as shown by this slightly marginal example:

- i) ?Uno straordinariamente intelligente linguista del MIT ha scoperto una nuova lingua in Oceania.  
An extraordinarily intelligent linguist of MIT has discovered a new language in Australia.

However, it is true that it is generally rather difficult to leave in preverbal position a modified adjective, probably because of an ‘heaviness principle’ overlapping with a truly ‘informational principle’.

As can be seen, a focalizing adverb is incompatible with the prenominal position of adjectives in Italian, suggesting that such a position, when available, has a sort of implicitly topical interpretation (see Bernstein 2001; Bosque 2001).<sup>22</sup> But it is fine when the adjective is in postnominal position.

These data confirm the above observation:

- 50) Di che dimensioni era la casa?  
How big was the house?
- 51) Era una casa grande.  
52) #Era una grande casa.  
53) ?Era una GRANDE *casa*.  
It was a big house
- 54) Com'è stata la conferenza?  
How was the conference?
- 55) È stata una conferenza interessante.  
56) #È stata un'interessante conferenza.  
57) ?È stata un'INTERESSANTE *conferenza*.  
It was an interesting conference

When they receive a focal interpretation, only strongly stressed adjectives (together with obligatory deaccentuation of the noun) are ok in pre-nominal position.<sup>23</sup>

All this suggests the following internal structure for the first layer of subnominal informational hierarchies (we will not analyze the IS of event nouns here, which is somewhat different since it also involves some argumental layers missing in non-event nouns):<sup>24</sup>

Adj - N - Adj  
TOP - N - FOC

The representation above is strikingly similar to the clausal IS organization of subjects in Italian.<sup>25</sup>

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<sup>22</sup> Questions having to do with the specific derivation of the two orders adj - N and N - adj will not be addressed. See Bernstein (1993), Cinque (1994), Scott (2002), Picallo (1991), Valois (1991), Bouchard (1998) and references cited there for discussion.

<sup>23</sup> As pointed out to us by L. Rizzi, the interpretation associated to prenominal adjectives in these examples is anyway a little weird. They seem to entail a negative expectation on part of the hearer, or to convey an additional emphatic meaning which is absent when the adjective is postnominal.

<sup>24</sup> A similar situation is characteristic also of some determiners, like demonstratives and possessive adjectives (see Bernstein 1997). Consider the following, for instance:

- i) Un suo libro. (Italian)  
ii) Un libro suo.  
One of his books
- iii) Este libro. (Spanish)  
iv) El libro este.  
This book

The informational differences in the pair of examples above should again be relevant at the intra-DP level.

<sup>25</sup> That adjectives behave in the same way as clausal subjects from an informational point of view is not particularly surprising considering certain data about event nouns which show an intimate relationship between adjectivization and subjecthood at the nominal level:

DP <sub>Subj</sub>	- V -	DP <sub>Subj</sub>
TOP	- V -	FOC

- 58) Piero è arrivato.  
 59) È arrivato Piero.  
 Piero arrived.

- 
- i) L'aggressione dell'Albania dell'Italia.  
 ii) ?L'aggressione dell'Italia dell'Albania.  
 The aggression of Italy (agent) of Albany (patient)  
 iii) L'aggressione italiana dell'Albania.  
 The Italian aggression of Albany  
 iv) \*L'aggressione albanese dell'Italia.  
 The Albanese aggression of Italy

The following sentences contrast with the last one above (we sharply disagree with the judgements of Giorgi & Longobardi 1991, who follow Kayne's 1981a intuitions about English):

- v) L'aggressione albanese (?da parte dell'Italia).  
 The Albanese aggression (by Italy).  
 vi) L'occupazione meridionale (da parte degli Alleati).  
 The Southern occupation (by the Allies)  
 vii) La distruzione romana (?da parte dei barbari).  
 The roman destruction (by the barbarians)

Giorgi & Longobardi cite some clear counterexamples to their judgements too (like *Il bombardamento londinese/the London bombing*), but then discard them as instances of what they call a 'looser R-relation' (the adjective would have the meaning *concerning London*, with no real theta-role assignment involved). According to us, a sentence such as the following may receive a reading in which *milanesi* refers to an internal theta-role of the verb (contra Giorgi & Longobardi 1991, ch 3 note 17), indicating specifically repeated invasions of the city in its totality.

- viii) Le ripetute occupazioni milanesi (?da parte degli Austriaci) avevano causato un generale sentimento di insofferenza nella popolazione della cittadina lombarda.  
 The repeated military occupations of Milan (by the Austrians) had caused rebellious feelings in the population of the lombard city

Furthermore, Giorgi & Longobardi fail in explaining why sentences of this type are clearly out, given that the adjectives should be able to receive just a *concerning x* reading and not a theta-role:

- ix) \*La distruzione romana dei barbari.  
 The roman destruction of the barbarians  
 x) \*La conquista polacca del Fuehrer.  
 The Polish conquer of the Fuehrer

Contrast these sentences with those below, containing true instances of adjectives not expressing a theta-role:

- xi) Le aggressioni albanesi dell'Italia.  
 The Albanese aggression of Italy (*albanesi*=in the Albania area)  
 xii) Le conquiste polacche del Fuehrer.  
 The Polish conquers of the Fuehrer (*polacche*=in the Poland area)

It seems to us that passivized DP's generally permit the adjectivization of a deep object of the event noun at the relevant stylistic level (slightly marginally if the by-phrase is expressed). Be as it may be, argumental adjectivization appears to be a subject-oriented operation (for reasons that are not entirely clear to us).

That such an observation is on the right track is also suggested by contrasts like these:

- 60) ??Una foto di Pietro bella<sup>26</sup>  
61) Una bella foto di Pietro.  
    A nice picture of Pietro
- 62) ??Ha telefonato a Pietro Mario.  
63) Mario ha telefonato a Pietro.  
    Mario phoned Pietro
- 64) ??Ha chiamato Pietro Mario.  
65) Mario ha chiamato Pietro.  
    Mario called Pietro

Post-verbal subjects and post-nominal adjectives are both marginal if certain argumental elements separate them from the axis of symmetry.<sup>27</sup>

There seems to exist a clear parallel between IS internal to CP's and to DP's, again a fact that replicates in the informational domain results independently obtained by many researchers (see Chomsky 1970, Szabolcsi 1987, 1989 and 1994, Abney 1987, Cinque 1994, Siloni 1997, Bernstein 2001, Ogawa 2001).

We can proceed beyond this very first nominal sublayer:

- 66) Un linguista solo {sporadicamente} capace  
    A linguist only sporadically clever

Here the focalization of 'only' operates on a modifier of a modifier (the adverb modifying the adjective, which modifies the head noun of the DP). And exactly as a DP containing a focalizing adverb at an intra-DP level can be dislocated (see 45)), an adjective modified by an adverb in turn modified by a focalizing adverb can stay in prenominal position (its heaviness may induce some marginality).

- 67) ?Un solo {ordinariamente} bel ragazzo  
    An only ordinarily good-looking guy  
68) \*Un solo {bel} ragazzo (note that 'solo' modifies 'bel', and not 'bel ragazzo')  
69) Un ragazzo solo {bello}, non così incredibilmente meraviglioso come hai detto  
    An only good-looking guy, not so extraordinarily handsome as you said

Our previous observations about the internal structure of IS at a subnominal level seem to hold in further embedded subnominal levels as well.

- 70) Un'antropologa {sorprendentemente}<sub>Top</sub> bella  
71) \*Un'antropologa bella {sorprendentemente}<sub>Foc</sub>  
72) ?Un'antropologa bella {SORPRENDENTEMENTE}<sub>Foc</sub>  
    An anthropologist surprisingly good-looking  
73) Un'antropologa bella {in modo sorprendente}<sub>Foc</sub>  
74) \*Un'antropologa {in modo sorprendente}<sub>Top</sub> bella  
    An anthropologist good-looking in a surprising way

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<sup>26</sup> See Cinque (1994, 290).

<sup>27</sup> The element has to be at the same informational level for interfering (see note 40).

Here the axis of symmetry is the adjective (instead of the noun or the verb), and the pre-adjectival position is topical, whereas the post-adjectival position is focal. There is a further complication, namely the fact that two ways of modifying an adjective exist: through an adverb or through an adverbial. Interestingly, these two forms are informationally specialized. In fact, only a very strong accentuation (much stronger than the normal stress we find at the end of the phrase)<sup>28</sup> permits to use an adverb in focal position, whereas an adverbial is completely ungrammatical in topical position. However, there exist different categories of adverbials, given the following (the adverb counterpart of *fuor d'ogni dubbio*, which is *indubbiamente*, behaves in a standard way instead).

- 75) Un'antropologa {fuor d'ogni dubbio}<sub>Top</sub> bella
- 76) Un'antropologa bella {fuor d'ogni dubbio}<sub>Foc</sub>  
An anthropologist beyond any doubt good-looking

The informational values above are confirmed by this syntactic test:

- 77) Cosa pensi dell'antropologa che hai incontrato alla festa? Quanto la trovi bella?  
What do you think of the anthropologist you met at the party. How good-looking do you find her?

Penso che sia/I think she is    70)= ?\*<sup>29</sup>; 73)= ok;              75)= \*; 76)= ok

---

<sup>28</sup> What is more, the interpretation of the adverb is necessarily marked (emphatic). Note also that pre-nominal adjectives show certain independent limitations on the availability of some informational positions:

- i) ?Un sorprendentemente bel ragazzo
- ii) \*Un bel(lo) sorprendentemente/in modo sorprendente ragazzo.
- iii) Un ragazzo sorprendentemente/\*in modo sorprendente bello.
- iv) Un ragazzo bello in modo sorprendente/SORPRENDENTEMENTE.

A surprisingly good-looking guy

<sup>29</sup> This is ok only deaccenting 'bella' and adding stress to the modifier in pre-adjectival position. Furthermore, the remarks of note 23 apply here as well.

- i) Un'antropologa FUOR D'OGNI DUBBIO *bella*.
- ii) Un'antropologa SORPRENDENTEMENTE *bella*.

Actually, also example 67) above seems to be fine just because it is of this type.

- iii) ?\*Un solo {ordinariamente} bel RAGAZZO.
- iv) ?Un solo {ORDINARIAMENTE} *bel* ragazzo.
- v) \*Mario è un ragazzo solo {ordinariamente} BELLO.
- vi) Mario è un ragazzo solo {ORDINARIAMENTE} *bello*.
- vii) Mario è un ragazzo bello solo {ordinariamente}.  
Mario is an only ordinarily good-looking guy

We do not think that the existence of examples such as i), ii), iv) or vi) undermines the parallel we are proposing, since the strategy adopted here is the same at work in:

- viii) Chi non sarebbe arrivato per tempo?  
MARIO *non sarebbe arrivato per tempo*.  
Who wouldn't arrive in time?  
Mario wouldn't arrive in time.

At this point, it should be by and large clear that a potentially infinite series of IS nominal sublevels exist, though for processual reasons they might not be employed beyond two or three layers. Given our remarks in section 2.1, this strikingly mirrors what happens with functional hierarchies in a way that cannot be so just fortuitously. If so, the parallel existence of another related dimension of IS has to be expected, and indeed this is what we find. The clausal domain has in fact its own internal informational make-up, exactly as it has its own ordered functional projections.

### 2.3) Information structure of CP's

In our hierarchical model of IS, there exists a level which we will call T-level. It is parallel to the D-level we have seen before and introduces an embedded CP as focal or topical, independently from its relation with other superior clauses in the sentence. The idea is that the presence of tense specifications determines topicality at the T-level, whereas its absence is related to focality. The reason, *mutatis mutandis*, is the same we have given earlier: a temporal location individuates a specific event out of a class of possible events of a certain type.<sup>30,31</sup> Individuation (of a nominal referent or of an event) is thus the hallmark of the concept 'topic' at a certain hierarchical level of description.

TENSED	→	SPECIFIC EVENT	→	TOPIC
UNTENSED/SUBJUNCTIVE <sup>32</sup>	→	NON SPECIFIC EVENT	→	FOCUS

Such a proposal is not neutral in theoretical terms: it evidently stems from the DP Hypothesis (Abney 1987 and subsequent works) and has much to do with a Davidsonian-like semantics. We are

In Italian, the preverbal subject position becomes focal as well with 'deaccentuation + in situ stress' (see Benincà 1988, 117).

Observe, however, that it is not possible to say that Italian has a truly focal preverbal position, because deaccentuation after it is related to mere repetition and not to topicality:

ix) Chi hai detto che ha vinto?  
Who have you said that won?

a) MARIO *ho detto che ha vinto*.

b) Ho detto che ha vinto Mario.  
I've said that Mario won

c) \*MARIO *penso che abbia fatto più punti*.

d) Penso che abbia fatto più punti Mario.  
I think that Mario scored more points.

<sup>30</sup> Note that the term 'event' is intended in a non-technical sense of the word and it thus coincides with what Bach (1986) or Parsons (1990) would call 'eventualities', rather than with their definition of 'event'.

<sup>31</sup> See Bresnan (1972), Erteschik (1973, 104) and Melvold (1991) for similar considerations on this point.

<sup>32</sup> Subjunctive mood has by and large effects comparable to the absence of tense in those languages in which there is a transparent relation between morphological mood and mood interpretation. So, Spanish would be better than Italian as an exemplification of the 'subjunctive as focal marker' at the T-level (see Terrell 1976, Lunn 1989). In the latter, in fact, presupposed facts are not incompatible with subjunctive morphology:

i) Estoy seguro de que Mario está/\*esté aquí ya. (Spanish)

ii) Sono certo che Mario è/sia già qui. (Italian)  
I'm sure that Mario is/be already here.

See also Haspelmath (1989) for a characterization of 'irrealis complements' treating infinitives and subjunctives as members of the same category.

necessarily skipping over many formal details and unresolved questions, but for reasons of space they cannot be given the right amount of consideration they deserve here. Therefore, our presentation will remain completely informal from a semantic point of view.

But there is still a related issue which we would like to touch upon briefly. It concerns a syntactic/semantic parallel that we are implicitly suggesting: that between Definiteness and Tense (see Reichenbach 1947, 268-274).<sup>33</sup> In the literature of the past few decades various ideas have been circulated that underline similarities between the temporo-aspectual system and certain types of determiners. One of the first and most important papers is Lewis (1975), which put in correspondence quantifiers and what he called ‘adverbs of quantification’ (such as *always*, *never*, *sometimes*, etc). De Swart (1993), building on Lewis’s intuitions, analyzes the difference between quantificational determiners and adverbs of quantification as specifically stemming from what the two quantify over. Determiners like *all* or *most* would quantify over the entities denoted by nouns (*predication over individuals*), whereas adverbs like *always* or *mostly* over events (*predication over time*). Note further that the correspondence determiners/adverbs is broken in English when one takes into consideration the definite article: there is no correlate of *the* in the adverbial domain. We believe this is so because the equivalent of *the* (the grammaticalized marker of definiteness) is *tense morphology*.<sup>34</sup>

We can roughly schematize the parallel we are proposing in this way:

that he arrived late: a certain specific event of kind X (token)  
to arrive late: an event of kind X, not specified (type)

the dog: a certain specific entity of kind X (token)  
a dog: an entity of kind X, not specified (type)

Szabolcsi and Zwarts (1997) have some interesting data bearing on the issue. They notice that arguments and adjuncts of non-iterable (‘one time only’) predicates denote collectives and do not receive a distributive interpretation in standard contexts.

78) Which relatives did you get this present from?  
From my aunt and (\*from) my uncle.

However, when they are inserted inside weak islands the (largely disfavoured) distributive interpretation prevails, otherwise the sentence is claimed not to be acceptable.<sup>35</sup>

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<sup>33</sup> Many questions arise in this respect. Is it Tense the functional category at stake? Or rather Finiteness? One might certainly take the option of considering the expression of finiteness in the C-system as a reduplication of information from lower functional sections of the clause (in the same way as Agr in C; see Rizzi 1997 for interesting considerations on the point). Alternatively, it can be said that it is precisely the Fin head (in the Rizzean split-CP system) what is structurally relevant to the parallel we are proposing. For instance, Holmberg & Platzack (1995) attribute to Fin the syntactico-semantic function of existential closure of the event (see also Enç 1987, Chomsky 2004). We leave this and similar issues unresolved here.

<sup>34</sup> That adverbs of quantification are often in non-complementary distribution with tense is not problematic: the same may hold for articles and quantifiers. For instance, in Italian and English (in)definiteness markers may coexist with certain quantificational determiners.

- i) *Nessun cane*  
No dog
- ii) *Tutti i cani*  
All *the* dogs

<sup>35</sup> In Italian we could not detect the effect. However, extraction out of weak islands seems to be generally less constrained than in English.

79) ??Which relatives do you regret that you got this present from t?

Since weak islands are opaque domains and extraction out of them is (partly) deficient, a less topical value at the T-level ameliorates grammaticality (as we will see in a moment). The presence of sets of events in the distributive interpretation reduces the temporal individuation of the clause, whereas a collective interpretation would force the attribution of a strongly topical value at the T-level. Besides indicating that our proposal might well be correct, this also means that it is not tense per se that has to be blamed, but rather the semantic and pragmatic interpretation associated with it. As detailed in the previous section, the same happens for definiteness. And this confirms the viability of the mentioned informational parallel.

Let us return to the examination of the other clausal IS layers. We have now to introduce a level already mentioned various times: the intra-CP level. Since it is the normally explored subdomain of IS in the literature, we will not analyze it in detail. Examples of this sort may serve the purpose of illustrating what we are referring to:

80) Who did you say ate the ice cream?  
{ENZO}<sub>Foc</sub> {ate it}<sub>Top</sub>.

81) What about Enzo?  
{Enzo}<sub>Top</sub>, {I met at the party}<sub>Foc</sub>.

82) What did Enzo do to Marie?  
{He}<sub>Top</sub> {KISSED}<sub>Foc</sub> {her}<sub>Top</sub>.

If the informational properties of an (embedded) clause in isolation depend on what we named the T-level, those of an entire embedded CP considered relationally depend from the intra-CP level of the immediately superior clause subcategorizing for it.<sup>36,37</sup> To appreciate this, consider the following cases:

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<sup>36</sup> ‘Relational’ means here that the informational properties may not be assigned independently from the other constituents of the sentence, i.e. in isolation. Whenever a value is assigned to an embedded clause, it is also assigned to the other elements pertaining to its superior clause. As will be shown later on, the D and T-levels are not relational.

<sup>37</sup> This is meant to capture certain obvious structural/informational similarities between subcategorized DP’s and CP’s. In fact, the informational properties of the entire DP considered relationally depend from the intra-CP level of the clause in which it is inserted, which may also be the subcategorizing clause of an embedded CP to which it assigns an informational value as a whole.

i) Non sopporto {di arrivare tardi agli appuntamenti} CP  
I hate arriving late at the appointments

ii) Non sopporto {Mario} NP  
I hate Mario

iii) Mi dispiace {che ieri ti ho maltrattato} CP  
I’m sorry that yesterday I mistreated you

iv) Mi dispiace {per ieri} PP  
I’m sorry for yesterday

v) Ritengo {che Mario sia idiota} CP  
I retain that Mario is an idiot

vi) Ritengo {Mario idiota} ADJECTIVAL SMALL CLAUSE  
I retain Mario an idiot

83) Anche stavolta Marco è arrivato in ritardo.  
 This time too Marco arrived late.  
 {Che Marco è arrivato tardi}<sub>Top</sub>, non me l'avevano detto.  
 That Marco arrived late, (they) didn't tell it(cl) to me.

84) Che cosa hai detto a Gianna?  
 What have you said to Gianna?  
 Le ho detto {che Marco è arrivato tardi}<sub>Foc</sub>  
 (I) told her that Marco arrived late.

We strongly refuse the usual classification of focus into wide and narrow (Jackendoff 1972 and many others afterwards). Since we believe the notion is just one and the same at the various *relational* informational levels, the name focus will be adopted throughout without further specifications.

85) Che cosa è successo?  
 What happened?  
 a) {Luigi}<sub>Top</sub> {ha detto che Marco è arrivato tardi}<sub>Foc</sub>  
 Luigi said that Marco arrived late.  
 b) {Marco}<sub>Top</sub> {è arrivato tardi}<sub>Foc</sub>  
 Marco arrived late.

When a matrix clause is used in an out-of-the-blue context (as in 85b), the sentence does not receive a global Foc value. Indeed, matrix clauses never receive a value at the T-level or at the intra-CP level of a superior clause/cycle (they are actually obligatorily tensed, never introduced by a Complementizer and not subcategorized for, which are obvious correlations). If such a matrix clause would be assigned a Foc value as a whole, it is not clear why it could not also receive a Top value. But it is impossible to dislocate a matrix clause (or to avoid the presence of tense, focalizing it at the T-level). We will thus maintain that matrix clauses do not possess neither a T-level nor an informational value assigned to the clause as a whole, which exclusively belong to subcategorized clausal complements. In other words: *the intra-CP level of the matrix clause is the peak of the informational cycle*.

Clearly, this does not mean that 85b does not have an informational characterization: it is the *default* assignment of IS values at the peak of the informational cycle (ie, the hierarchically last intra-CP level) that is associated to out-of-the-blue contexts (we will continue to use the expression 'wide focus context' to refer to situations in which a default assignment of IS values occurs, but without implying the existence of the concept of 'wide focus').<sup>38</sup> The same holds in 85a, where an embedded clause in object position receives a Foc value at the intra-CP level of the matrix clause, while the matrix subject gets a topical value by default.

Note that the intra-CP level is organized exactly as the intra-DP level, permitting internal recursion (duplicating again what we find with functional hierarchies):

Intra-DP:	Intra-CP:
a) A - N - A	DP <sub>subj</sub> - V - DP <sub>subj</sub>

---

<sup>38</sup> The theoretical possibility of an entire sentence in topic is not excluded by our considerations so far. This event is nevertheless impossible. A general constraint is needed in order to filter cases of all-topic sentences out: 'At least one element need be focal at the peak of the informational cycle (ie, at the hierarchically last intra-CP level).' Such a constraint specifically applies at the end of the derivation and not to other subcyclic levels of IS.

b) Adv - A - Adv                      Adv - V - Adv<sup>39</sup>

The first parallel was already analyzed before in section 2.2, the second one will be now briefly considered in the following.<sup>40</sup>

We illustrated the organization of the relevant nominal IS level in (67)-69). What is missing is thus a justification of the topical/focal status of certain adverbial positions at the intra-CP level, as in the following:

- 86) Un cliente è arrivato {sicuramente}<sub>Foc</sub>.  
A client has arrived surely  
87) Un cliente è {sicuramente}<sub>Top</sub> arrivato.  
A client has surely arrived

The tests that might be employed to motivate the informational assignments above are rather tricky, as previously pointed out (see 67) and its discussion, note 29 in particular): it is crucial to analyze the intonational contours associated to the possible answers in order to be able to distinguish the various readings, which in this case are particularly subtle.

- 88) Qual è la tua opinione su Mario? Sarà arrivato o no?  
What is your opinion about Mario? Should he be arrived or not?  
89) Mario è arrivato sicuramente.  
Mario is arrived surely  
90) ??Mario è sicuramente arrivato.  
Mario is surely arrived  
91) Mario è SICURAMENTE *arrivato*.  
Mario is SURELY arrived

As an answer to 88), the deviancy of 90) (in the absence of accentuation of the pre-participial adverb and deaccentuation of the past participle, as in 91)) somewhat proves that such a position is focal. This is maybe slightly clearer using adverbials, as in the following:

- 92) Pensi che Mario sia già arrivato?  
Do you believe that Mario has already arrived?  
93) Certo. Mario è arrivato senza dubbio.  
Sure. Mario has arrived undoubtedly

---

<sup>39</sup> This is a simplification, since the positions of adverbs and adverbials depend on their hierarchical status as well (Cinque 1999), and there are informational differences that go much beyond the two investigated here. Notice also that given the existence of many independent limitations on adverb modification, we cannot analyze it informationally as we did before for adjectival modification. We also observe in passing the interesting fact that whenever positional strategies (or marking by means of adpositions and particles) are not available, syntax tends to make use of intonation to disambiguate the various informational possibilities. This happens, for instance, with modified adverbs/adverbials in Italian.

<sup>40</sup> The topical/focal status of an adverb does not necessarily interfere with the informational status of the nominal arguments of the verb. This is one of the reasons to take it to be in a separate IS layer, furtherly embedded at the clausal level.

- i) È entrato improvvisamente Mario.  
ii) È entrato Mario improvvisamente.  
iii) Mario è entrato improvvisamente.  
iv) Mario è improvvisamente entrato.  
Mario has unexpectedly entered

- 94) Certo. ??Mario è senza dubbio arrivato.  
 Sure. Mario has undoubtedly arrived
- 95) Certo. Mario è SENZA DUBBIO *arrivato*.  
 Sure. Mario has UNDOUBTEDLY arrived

Finally, consider certain other adverbials that we saw before as impossible in pre-adjectival position (shown to be topical; see 74)). They are also impossible in pre-participial position:

- 96) \*Mario è in modo sorprendente arrivato.  
 Mario has in a surprising way arrived
- 97) Mario è arrivato in modo sorprendente.  
 Mario has arrived in a surprising way

The hierarchical status of the intra-CP level is also confirmed by the behaviour of operators like *only* or *even*, which can modify in isolation the various layers. This again parallels what happens in the nominal domain.

- 98) Mario è persino {partito}  
 Mario has even left
- 99) Mario è partito persino {improvvisamente}  
 Mario has left even unexpectedly

As expected, a focalized adverb loses the possibility of staying in pre-participial position.

- 100) \*Mario è persino {improvvisamente} partito.  
 Mario has even unexpectedly left

To conclude this subsection, let us compare our model of IS with a non-layered one. We think the decomposition of IS into various informational hierarchical levels results theoretically necessary considering again certain simple examples which illustrate in a transparent way why topicality/focality is not definable on a single layer. Otherwise, it would be very difficult to express the difference between sentences number 101) and 102), in which the position of the constituents appears to matter in the same way it matters in 103) and 104).

- 101) [Il veloce corridore] ha vinto la gara.  
 102) [Il corridore veloce] ha vinto la gara.  
 The fast runner won the competition
- 103) Ha vinto la gara [il corridore].  
 104) [Il corridore] ha vinto la gara.  
 The runner won the competition

On a standard description, the subjects in 101) and 102) have the same informational status. And they do actually have the same status at the intra-CP level (and also at the D-level), but differ in what we called the intra-DP level. A standard single-layer classification does not work appropriately, because we would be forced to assume a focus in a topical position, which appears to be a paradox. Only a hierarchical theory can recompose this kind of conflicts.

#### **2.4) The Informational Mapping Principle**

Given the existence of separate layers of IS, which communicate hierarchically in a cyclic bottom-up way, there should exist some procedure which maps one level onto the successive one. It is then possible that certain restrictions hold in such mapping. The examination of some of the relevant data leads us to enunciate the following:

Informational Mapping Principle (first version)

*A topical position at a certain relational level of IS accepts only constituents defined as topical at the hierarchically preceding level.*<sup>41</sup>

For the moment, we will not consider focal positions. We can thus schematize what we have just said in this way:

$\{\{\{X\}_{\text{Foc}}\}_{\text{Foc}/\text{*Top}}\}$

The empirical motivation for stipulating the operativity of such a principle is abundant. Consider first the case we saw before in 32), repeated here for convenience:

- 105) \*Un uomo, l'ho conosciuto ieri.  
A man, I met him(cl) yesterday

We have not explained yet why a constituent defined as focal at the D-level cannot be dislocated (i.e. assigned a topical value) at the subsequent IS level - the intra-CP level is the one at which dislocation takes place here. It is precisely for accounting for cases of this type that the mapping principle has to be introduced.

Note that if a focal element is furtherly embedded (namely, it is not in the preceding hierarchical level), there is no problem whatsoever. We looked at cases of this type in 45, repeated here as 106). The parenthesization refers to (going bottom-up): intra-DP level, D-level and intra-CP level.

- 106)  $\{\{\{La\ mela\ \{solo\ gialla\}_{\text{Foc}}\}_{\text{Top}}\}_{\text{Top}}\}$  la regalo a Maria.  
The only yellow apple I give it(cl) to Maria

Cases such as 106) permits also us to understand why the informational mapping principle contains reference only to 'relational levels'. Indeed, the D-level and the T-level (which are not relational) are immune from its application. We will draw certain theoretical conclusions from this and similar facts in the next section.

We will now give another exemplification of the informational mapping principle in German. It is very well-known that the final position (immediately before the verb, when it occupies the sentence final position) is focal. Cases in which two definites are present clearly reveal that IS is at issue: when 'das Geld' get scrambled over 'dem Kassierer' in 108), it obligatorily receives what we may call a topical interpretation (see Lenerz 1977, Abraham 1986, Choi 1999).

- 107) Ich habe dem Kassierer das Geld gegeben.  
108) Ich habe das Geld dem Kassierer gegeben.  
I have given the money to the cashier

One of the accepted generalizations about short distance scrambling is that an indefinite object with existential reading cannot scramble over a definite one (unless it is contrastively focalized):

- 109) Ich habe dem Mädchen einen Brief gegeben.  
110) \*Ich habe einen Brief dem Mädchen gegeben.  
I have given a letter to the girl

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<sup>41</sup> More trivially, a constraint that prevents informational inconsistency is also active, stating that a constituent defined as topical at a certain informational level may not be defined as focal at that same level (or vice-versa). We already saw and discussed similar cases (see 44)).

This would be a consequence of the Mapping Principle (the levels at stake are again the D-level and the intra-CP level).

\*{{einen Brief}<sub>Foc</sub>}<sub>Top</sub>

The same principle can be easily shown to hold for other ‘junctures’ of IS. For instance, in the mapping from inferior embedded subnominal levels to superior ones (intra-DP<sub>2</sub> level to intra-DP<sub>1</sub> level).

- 111) ?{{Un fuor d’ogni dubbio}<sub>Top</sub> intelligente}<sub>Top</sub> linguista  
 112) \*Un {intelligente {fuor d’ogni dubbio}<sub>Foc</sub>}<sub>Top</sub> linguista  
 113) Un linguista {intelligente {fuor d’ogni dubbio}<sub>Foc</sub>}<sub>Foc</sub>  
 114) Un linguista {{fuor d’ogni dubbio}<sub>Top</sub> intelligente}<sub>Foc</sub>  
 A linguist beyond any doubt intelligent

In 112) a focal constituent is in a topical position at the subsequent hierarchical level: this is why the nominal is unacceptable.

Furthermore, the same principle can be shown to be active for the clausal branch in the mapping from the T-level to the intra-CP level of the matrix clause.

- 115) Ho saputo che hai comprato una casa recentemente.  
 I heard that you bought a house recently  
 116) {{Che hai comprato una casa}<sub>Top</sub>}<sub>Top</sub>, l’ho saputo recentemente.  
 That you bought a house, I heard it(cl) recently  
 117) Ho voluto comprare una casa poco tempo fa.  
 I wanted to buy a house some time ago  
 118) \*{{Comprare una casa}<sub>Foc</sub>}<sub>Top</sub>, l’ho voluto poco tempo fa.  
 To buy a house, I wanted it(cl) some time ago

However, in certain cases it is possible to dislocate an infinitive:

- 119) Comprare una casa nuova, l’ho sempre voluto.  
 To buy a new house, I’ve always wanted it(cl)

Such cases are somewhat equivalent to the generic reading of an indefinite (ie, an event which is not ‘real’, but rather a prototype of that class of events). Still, there are instances of infinitives that can actually be dislocated without such a reading.

- 120) Di essersi sbagliato, non l’ha ammesso.  
*Di* to be wrong, he didn’t admit it(cl)  
 121) A mangiare da me stasera, non ce l’ho invitato.  
*A* to eat by me this night, I didn’t invite him to-it(cl)

Bare infinitives are systematically worse than infinitives preceded by a prepositional complementizer, such as *di* or *a*.

- 122) \*Fare i compiti, non lo/ci sapeva.  
 To do the homeworks, he didn’t know it(cl)  
 123) \*Arrivare in tempo, non lo/ci sembra.  
 To arrive on time, he doesn’t seem it(cl)

We will not enter into the details of these facts. It suffices to say that at least in certain cases a noticeable difference in the expected direction holds also in the mapping from the T-level to the intra-CP level.<sup>42</sup>

The situation we have described in this subsection is not universal. The preverbal subject position in English or Italian (by default a topical position in these languages, see chapter 1) generally admits both definite and indefinite DP's.<sup>43</sup>

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<sup>42</sup> A suggestive observation in this regard concerns a difference in the possibility of 'past infinitives': infinitives introduced by *di* generally allow them, while bare infinitives do not (the level of topicality of past infinitives might be considered in between that of an infinitive and a tensed complement):

- i) Sa fare bene i compiti.  
(He) knows to do well the home-works
- ii) Sa di fare bene i compiti.  
(He) knows *di* to do well the home-works
- iii) \*Sa aver fatto bene i compiti.  
(He) knows to have done well the home-works
- iv) Sa di aver fatto bene i compiti.  
He knows *di* to have done well the home-works

An exception is constituted by infinitives introduced by certain 'dubitative' raising verbs, which also require the employment of subjunctive mood in the embedded clause when it is tensed.

- v) Non sembra arrivare in tempo.  
(He) doesn't seem to arrive on time
- vi) Non sembra essere arrivato in tempo.  
(He) doesn't seem to be arrived on time
- vii) \*Non sembra di essere arrivato in tempo.  
(He) doesn't seem *di* to be arrived on time
- viii) Non sembra che sia/??è arrivato in tempo.  
It doesn't seem that (he) be/is arrived on time  
(cf. Sa che \*abbia/ha fatto bene i compiti.  
He knows that (he) have/has done well the home-works)

In some situations (in which raising does not take place), *sembrare* admits the co-presence of *di* (Kayne 1981c):

- ix) Siamo ancora affamati. Non sembra proprio di aver già mangiato.  
We are still hungry. It doesn't really seem *di* to have already eaten
- x) Sono ancora affamati. Non sembra proprio che abbiano/hanno già mangiato.  
They are still hungry. It doesn't really seem that they have(subj)/have(ind) already eaten

However, in cases of this type the embedded clause asserts a fact on which there are no doubts of existence. The meaning of *non sembrare di* is that what is predicated in the infinitival clause is true, but it is difficult to believe (indeed, indicative mood in a tensed embedded clause is fine as well). Again, there is a significative correspondence between the presence of *di* and a more topical interpretation of the infinitival clause.

There are thus consistent proofs which indicate that infinitives introduced by the prepositional complementizer *di* are, or may be, associated to a more topical interpretation of the event introduced in the embedded clause in comparison to bare infinitives. Therefore, the apparently anomalous behavior of some Italian infinitives wrt dislocation is expected, after all. Remember that also certain indefinites (such as partitive or modified ones) show a presupposition of existence and are fine in a dislocated position. Our discussion here is very sketchy and a more careful examination of Romance infinitives and of their informational properties is in order before drawing firm conclusions on the issue.

<sup>43</sup> There are exceptions. Individual level predicates do not tolerate existential indefinite subjects, nor do generic predicates (the star only refers to the mentioned interpretation).

- 124) [[A cat]<sub>Foc</sub>]<sub>Top</sub> killed the mouse.  
 125) [[Un gatto]<sub>Foc</sub>]<sub>Top</sub> ha ucciso il topo.  
 126) [[The cat]<sub>Top</sub>]<sub>Top</sub> killed the mouse.  
 127) [[Il gatto]<sub>Top</sub>]<sub>Top</sub> ha ucciso il topo.

We have thus to distinguish between different types of topics. We can name the elements to which an informational value is assigned in positions similar to that of the English preverbal subject ‘unrestricted (or thematized) topics’, whereas the etiquette of ‘restricted (or resumptive) topics’ will be employed for CLLD and related configurations.<sup>44</sup> The informational mapping principle only constrains the second category of topics.<sup>45</sup>

Now, what about focal positions? As is well-known, existential sentences in English do not tolerate definite postverbal arguments (Milsark 1974, 1977).<sup>46</sup> Such a restriction seems to be the converse of the much less studied incompatibility of a ‘true’ indefinite with a dislocated position which was described above.

- 128) \*There are the boys in the room.  
 129) There are some boys in the room.

Interestingly, there appear to exist two different types of foci: simplifying, we can call the first ‘unrestricted foci’ and the second ‘restricted foci’, as we did for topics.

Unrestricted focus:

- 130) I met [Sonia]<sub>Foc</sub>.  
 131) I met [a girl]<sub>Foc</sub>.

- 
- i) \*A guy is handsome.  
 ii) \*A student shaves every day.

Indefinites/bare plurals obligatorily possess a topical reading in similar sentences (see Perlmutter 1970, Carlson 1977, Diesing 1992, Condoravdi 1994). Note the interesting difference between (again, the star only refers to an existential interpretation; see Longobardi 1994, 2000).

- iii) \*Neighbors are tall.  
 iv) Neighbors of mine are tall.

If the indefinite is individuated (ie, topical at the D-level) by means of some appropriate modifier, it is fine in preverbal positions of individual-level predicates.

<sup>44</sup> Alexiadou & Anagnostopoulou (2001) propose that indefinite subjects are not equivalent to truly existential (focal) indefinites in object position. Since the preverbal subject position is topical at the intra-CP level, this is probably true. However, Alexiadou & Anagnostopoulou’s conclusion that subjects in Romance are always dislocated is not tenable (see Suñer 2002, Cardinaletti 2004 for a critical assessment).

As already shown, bare indefinites and *nessuno/nobody* cannot be dislocated in Italian, whereas they are perfectly fine in the subject position of transitive verbs without necessarily being generics or (concealed) partitives, contrary to what Alexiadou & Anagnostopoulou claim in their paper. Cf. also subjects modified by ‘only’:

- i) Solo quelle mele hanno un buon sapore.  
 Only those apples have a good flavor  
 ii) \*Solo quelle mele, le ho mangiate.  
 Only those apples, (I) have eaten them(cl)

<sup>45</sup> A discrete approach to IS is preserved here for the sake of clarity of exposition, but will be completely abandoned in subsequent developments of our informational model.

<sup>46</sup> As is well-known, existential sentences do not exhibit the definiteness effect in Italian (see chapter 6).

Restricted focus:

- 132) \*There is [[Sonia]<sub>Top</sub>]<sub>Foc</sub> in the room.  
133) There is [[a girl]<sub>Foc</sub>]<sub>Foc</sub> in the room.

As its name indicates, a restricted focus requires that the constituent to which such an informational value is assigned be focal at the preceding hierarchical level (this forcefully excludes all specific DP's from the candidates).<sup>47</sup> An unrestricted focus, on the other hand, admits whatever constituent from the preceding informational level. As already observed, this strikingly matches the behavior of topics.

We are now in a position to give a new and more appropriate formulation to the Informational Mapping Principle:

Informational Mapping Principle (revised version)

*A restricted informational position at a certain relational level of IS accepts only constituents which received an identical value at the hierarchically preceding level.*

### **2.5) The D/T levels as informational phases**

D and T instantiate levels different in many respects from the other, relational ones. To begin with, their status is not modifiable by focalizing operators (only, even, negation, etc).

- 134) \*only {the} dog

We have already seen that they are not relational, since the informational value assigned at those levels is not related to any other value assigned to clause-mate or nominal-mate elements. Also, they are not definable 'positionally' (a certain position = a certain interpretation), but rather by means of syntactic markers such as articles, auxiliaries, morphological affixes attached to verbs and nouns, etc. Those markers may be completely missing in some languages, whereas to our knowledge there is no language deprived of means of expression for the other relational IS levels - syntactic, intonational/prosodic or both of them.

Furthermore, they do not have any relationship with intonation or accentuation, since neither articles nor tense morphology (or complementizers, which indirectly reflect the temporal status of embedded sentences) may be phonologically prominent - except maybe for some marginal instances of contrastive focus.

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<sup>47</sup> See Postal (1994b, 1998) for other syntactic environments which are akin to the category 'restricted focus' (what he calls 'antipronominal contexts'). There are important differences characterizing restricted foci: some of them are incompatible with all definites, others only with 'weak pronouns', as in the example below:

- i) We could easily determine/\*tell it.

There clearly is a graduation in the topicality of a DP at the D-level, according to its lexical status and in the case of lexical DP's also to the determiners that introduce them (see Postal 1998, 35 and section 2.4.4). We can try to build the skeleton of an approximated scale:

weak pronoun / strong pronoun / demonstrative adj. + N / definite D + N / indefinite D + N

Antitopical contexts reject the left hand of this scale to a different extent, depending on the nature of their 'strength'. This implicitly means that the degree of focality (and topicality) of certain positions varies correspondingly. Such a scale should be active in antifocal contexts as well, this time from right to left. See the next two chapters for more accurate developments of these ideas.

Even more importantly, they are never subject to the restrictions stemming from the mapping principle. Indeed, they simply assign a value to an input, without taking into consideration what informational value had already been assigned to that input on the basis of the previous hierarchical (relational) levels.<sup>48</sup>

The most fundamental difference regards the fact that the value attributed by the D/T level is a *complex interpretative value*. As we have already seen, an indefinite marker can perfectly receive a topical interpretation, for example when we manipulate the availability of sets of extraction (partitives, presence of modifiers; see 36) and 37)). And the same holds for infinitive embedded clauses, that in certain contexts can be interpreted as referring to a generic event and acquire a topical reading as well (see the contrast between 118) and 119)). On the other hand, we cannot ‘rearrange’ the interpretation of a topical position in the positional/accentual relational levels examined so far. A dislocated constituent will never receive a focal interpretation at the intra-CP level, for instance.

Finally, the notions topic and focus are defined at these levels in a different way: what is crucial here is the individuation of an entity. In the relational levels a focal value may instead be assigned to a completely individuated entity, because what is relevant there is a different notion of the dichotomy focus/topic (see Gundel 1988, 1999 for a similar subdivision and criticisms of previous proposals that illegitimately mixed the two concepts).<sup>49</sup>

Our conclusion is that D and T are informational levels of a special type. And it is also their special status that impedes to conflate all the levels in one, claiming that they are simply a progressive reduction of the domain of application of the informational rules. In other words, there is a ‘qualitative’ difference when we go from an intra-DP level to a D-level, or from an intra-CP level to a T-level.

The special status of the D and T levels is related to the problem of attributing a compositional interpretation to IS. As already mentioned, in the relational levels there is a mapping procedure working in a bottom-up fashion. When we reach the D/T levels no such principle is operative and a ‘complex informational value’ is assigned to the entire constituent in isolation. The value of the D-level, for example, will express the fact that these constituents are topical although preceded by a morphological marker of indefiniteness:

- 135)        One of those dogs  
              A dog<sub>gen</sub>  
              A dog that has been able to swim for many miles

And also that this is focal although preceded by a morphological marker of definiteness:

- 136)        Il cane di nessuno  
              The dog of nobody

It is not a direct and simple relationship between choice of Determiner/Tense and the previous IS layer that establishes the informational value at the D/T level, but rather a holistic interpretation of the constituent from a semantic, pragmatic and syntactic point of view, which somewhat ‘closes’ a (sub)cycle. We take this to suggest - following a classic formulation which has its roots in Fillmore’s proposal in the first 60s<sup>50</sup> - that D and T are prominent informational cyclic points in the

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<sup>48</sup> But notice that the value assigned at the D/T levels is considered by the mapping procedure at the next relational level. Similar data are very strong proofs that the two types of informational levels are closely interconnected (see also the next note).

<sup>49</sup> Extraction and pronominalization are sensitive to *both* types of informational notions, as will be shown below and in the next chapters.

<sup>50</sup> See Fillmore (1963), Chomsky (1965, 146).

derivation. In more minimalist terms, it could be said that D and T constitute the major *informational phases* of a clause.<sup>51</sup>

Note that informational assignments from later levels can never influence those from previous ones. What all this seems to suggest is that IS is subject to a multiple spell-out procedure: *informational values would be assigned cyclically in the course of the derivation* and not at its end, with D and T as the basic ‘end of (sub)cycle’ points.<sup>52</sup>

One may nevertheless still wonder whether it is theoretically appropriate to put under the same roof concepts that appear rather different from one another (although the presence of similarities and interactions is frankly evident - see notes 48 and 49). The idea of analyzing definiteness/finiteness on the one hand and the other relational levels on the other as distinct manifestations of the internal organization of IS could thus be questioned. In this respect, a comparison with a different linguistic domain may result enlightening.

In the literature a distinction is often drawn between lexical and grammatical aspect (see, among the first modern studies, Comrie 1976, Lyons 1977).<sup>53</sup> Their basic characteristics can be summarized in this way.<sup>54</sup>

- Lexical aspect (or Aktionsart): classification of verbal predicates and sentences according to whether they entail a well-defined delimitation (events), and, if not, whether they entail any change of state (processes/states).
- Grammatical aspect: classification of verbal forms into perfective (eventualities having run their whole course) and imperfective (eventualities being parts of larger eventualities).

Note that a verbal predicate aspectually classified in a ‘lexical sense’ may receive either of the possible grammatical aspect values (and viceversa): the two classifications are independent in many respects.

- |      |          |  |
|------|----------|--|
| 137) | event:   | Maria rimproverò/rimproverava suo figlio.<br>Maria told off(perf/imperf) his son             |
| 138) | process: | Maria portò/portava suo figlio in braccio.<br>Maria brought(perf/imperf) his son in his arms |
| 139) | state:   | Maria amò/amava suo figlio.<br>Maria loved(perf/imperf) his son                              |

Consider now again the case of IS. We have just seen that two subdomains (phasal vs relational levels) are observable. They appear strictly interconnected, but at the same time their classifications are analogously independent from one another. Why this differentiation exists in natural language is still a mystery, but there is nothing more mysterious here than what we find in the aspectual field, where similar differences are almost universally treated as distinct phenomena belonging to the same area. We are thus suggesting that IS constitutes likewise a ‘macro-domain’, with two partly separated internal subdomains.

To conclude the section, this is a summary of (some of) the possible IS levels according to our proposal.<sup>55</sup>

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<sup>51</sup> We did not find any evidence in the informational domain suggesting the existence of a vP-phase.

<sup>52</sup> See Uriagereka (1999) for related ideas.

<sup>53</sup> Bache (1982) is critical with this position. However, nobody denies that the two phenomena are strictly interconnected.

<sup>54</sup> As the words themselves suggest, grammatical aspect is syntactically encoded, whereas lexical aspect is generally ‘inherent’ and determined on a word by word basis (but derivational morphology is also widely used in certain languages to mark Aktionsart distinctions, for instance in Slavic).

<sup>55</sup> Remember that relational informational levels are recursive.

Intra-DP level(s):	la mela {piccola} <sub>Foc</sub>	<i>the small apple</i>
<b>D-level:</b>	{una mela} <sub>Foc</sub>	<i>an apple</i>
Intra-CP level(s):	Ho mangiato {la mela} <sub>Foc</sub>	<i>I ate the apple</i>
<b>T-level:</b>	{mangiare la mela} <sub>Foc</sub>	<i>to eat the apple</i>

### 3) DOMINANCE, FOCUS AND EXTRACTION

At this point, we can establish a precise parallelism between Erteschik's concept of dominance and the notion of focus, for both CP's and DP's. A CP or a DP is dominant if its informational status at the relevant hierarchical level is focal.<sup>56</sup> Judging the dominance of a DP/CP only wrt the intra-CP level of the matrix clause is the error that can lead one to lose such a parallelism.

- 140) I've seen [[a dog]<sub>Foc</sub>]<sub>Foc</sub>  
 141) I've seen [[the dog]<sub>Top</sub>]<sub>Foc</sub>

We can tentatively restate the principle enunciated by Erteschik in this way:

#### *Principle of Extraction*

When a domain is not focal at the hierarchical levels of IS, it tends to become frozen impeding extraction.

This is meant to -partially- account for these well-known contrasts (different informational levels are at stake):

- 142) Who have you seen {a picture of t}?  
 143) ??Who have you seen {the pictures of t}?  
 144) \*Who have you seen {that picture of t}?
- 145) Who do you think {to visit t}?  
 146) Who do you think {that I have visited t}?
- 147) \*Who have you rejoiced {that you met t}?  
 148) ??Who do you rejoice {to meet t}?
- 149) \*Which man did they consider {the rumor that John would betray t}?  
 150) ??Which man did they consider {rumors that John would betray t}?
- 151) \*\*Whom have you seen {the man who gave money to t}?  
 152) \*Whom have you seen {a man who gave money to t}?
- 153) \*Which topic did John ask {who was talking about t}?  
 154) Which topic did John ask {whether to talk about t}?
- 155) \*Which topic did you leave {because Mary talked about t}?

<sup>56</sup> It has to be stressed that the 'lie test' is sensitive to the presence of an existential presupposition (see Chierchia & McConnell-Ginet 2000, ch. 1 sec. 3.3 and ch. 6 sec. 3.1), not directly to the informational status of a constituent. Though there seems to exist a quite strong correlation between 'presence of an existential presupposition' and 'topicality' in (at least some of) the IS levels, the two notions are by no means equivalent. The parallel we are proposing, even if it is strongly connected to her ideas, does not stick to all aspects of Erteschik's proposal.

156) Which topic did you leave {without talking about t}?

In 142)-144) extraction takes place out of DP's and it fails, or it is marginal, whenever the head of the DP is definite/specific (or anyway the individuation of the referent is forced, since morphological definiteness does not always correspond to the individuation of the referent) - see Chomsky (1973), Erteschik (1973, 1981), Fiengo & Higginbotham (1981), Bowers (1988), Diesing (1992, ch. 4).<sup>57</sup> Note that in all the examples we are extracting from a standard object position, which is focal by default in English at the intra-CP level.<sup>58</sup> The only level which is problematic here is the D-level.<sup>59</sup>

145)-146) apparently represent the same contrast as before, but in the clausal domain. The Principle of Extraction seems to be violated in example 146), since at the T-level the embedded clause should be topical being tensed. But extraction is permitted, contrary to our predictions<sup>60</sup>. Erteschik sustains

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<sup>57</sup> Extraction out of DP's is said to result impaired if a possessive is in subject position.

- i) \*Who have you seen Mary's picture of t?
- ii) \*Di chi hai visto una/la foto di Maria t?

We strongly suspect that modification by means of the specification of a possessor induces the individuation of the entire complex DP, which blocks the possibility of extraction. Note that exactly the same tends to happen with other modifiers which do not occupy the subject position inside the DP.

- iii) \*Di chi hai visto una/la foto (t) che ha fatto Giovanni (t)?  
Of whom have you seen a/the picture that Giovanni took.

Our account is also confirmed by the fact that certain possessives do not interfere with extraction possibilities or do that in a less perspicuous way (see Kuno 1987, from which examples vi) and vii) are taken). These are some types of indefinite possessives which do not clearly force a specific interpretation of the complex DP.

- iv) \*Di che attori hai visto certe foto di Maria t?  
Of which actors have you seen certain pictures of Mary?
- v) ?Di che attori hai visto certe foto famose di un qualche fotografo t?  
Of which actors have you seen certain famous pictures of some photographer?
- vi) \*A politician of this kind, I wouldn't dream of buying Mary's portrait of t.
- vii) ?A politician of this kind, I wouldn't dream of buying anybody's portrait of t.

<sup>58</sup> It is apparently possible to show that also a non-focal object position at the intra-CP level is problematic.

- i) ??Who did John give a picture of t a finishing touch?  
(from Kuno 1973)

But there are interfering factors, since the extraction of the whole promoted object in double-object constructions is also generally deficient (Jackendoff & Culicover 1971, Wexler & Culicover 1980).

- ii) ?\*Who did you give t those books?

Extraction from complex DP's in subject position is much worse than from complex DP's in object position, and this actually seems a true case in point (see below for the relevant data).

<sup>59</sup> In Italian and French, only arguments introduced by the transparent preposition *di/de* can be extracted (see Cinque 1980, Milner 1982, Zubizarreta 1979, Steriade 1980). Otherwise said, in extraction from DP's it seems that independent *thematic restrictions* are operative in those languages (Zubizarreta 1979, Godard 1992, Davies & Dubinsky 2003), not connected to IS - see also below for additional restrictions of the same type which are not amenable to the various accounts previously proposed in the literature. Such thematic restrictions are not active in extraction from CP's, for reasons still to be understood.

<sup>60</sup> Notice that certain languages distinguish tensed (indicative) complements of bridge verbs introduced by an overt complementizer from those which are complementizerless - for instance Russian, Finnish, many

that embedded sentences subcategorized for by so-called bridge (or assertive) verbs are not necessarily existentially presupposed, even when they are tensed (Erteschik 1973, 87; see also Kiparsky & Kiparsky 1971, Hooper & Thompson 1973, Hooper 1975). Then, though in sentences such as 146) a tense location is expressed, a presupposition of existence would not be introduced (provided that the embedded clause be focal at the matrix intra-CP level). This suggests either that topicality at the T-level is generally not enough to freeze a constituent, or that the presence of tense does not individuate the event with bridge verbs (maybe similarly to the fact that morphological definiteness is not always associated to the individuation of a referent).<sup>61,62</sup> According to Erteschik, the same would hold for some factive verbs which allow (some form of) extraction, such as *regret*.<sup>63</sup> We analyze factive verbs in a later section of this chapter, adopting a different perspective.

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varieties of German. When a complementizer is present, extraction becomes impossible/marginal. We speculate that the presence of an overt complementizer might be associated to an obligatory topical reading of the embedded clause at the T-level, whereas tensed clauses not introduced by it would be like an English complement to a bridge verb (the usual non-deletability of the Complementizer *that* with factives in English is a good index that such an idea may be on the right track; see Kiparsky & Kiparsky 1971, Bolinger 1972, Hegarty 1992).

<sup>61</sup> An example is what Diesing (1992) calls *pseudodemonstratives*.

<sup>62</sup> It seems to us that *tense* alone does not suffice in rendering topical (enough) a domain thus blocking extraction, at least when the other informational levels are focal. On the contrary, *definiteness* alone would be sufficiently strong to elicit ungrammaticality (but see the next note on the direct relevance of *tense* in extraction phenomena). This is however not true for many so-called *null operator constructions* (tough movement, degree clauses, infinitival relatives, purposives). Browning (1987, sec 1.2.4) points out that the mere presence of tense is generally sufficient to elicit marginality or ungrammaticality when extraction of a null operator takes place in such cases, also with bridge verbs.

Returning to the problem we started from (namely, that the presence of tense is not always able to freeze a constituent), observe that a mirror image situation in the nominal domain is represented by specific indefinites (*a certain man*, etc). In fact, in Italian they are not compatible with dislocation even if they show a presupposition of existence and they block extraction (see note 10 above and Diesing 1992).

Admittedly, the notion of 'topical domain' is rather useless without further specifications, since there seem to exist quantitative differences which are essential in predicting its syntactic manifestations. We insist here on the quantitative (rather than qualitative) aspect of the question, which is one of the reasons that will motivate some radical theoretical innovations in the remainder.

<sup>63</sup> As is universally known since (at least) the introduction of Relativized Minimality in Rizzi (1990), adjunct extraction is deficient for 'mild factive verbs' of the *regret*-type (see in particular Cinque 1990). Note, however, that in Italian considerable differences are detectable in adjunct extraction when tense is manipulated (see also Hegarty 1992, 22 for comparable data about English).

- i) Chi ti dispiace incontrare t?  
Who are you sorry to meet?
- ii) (?)Chi ti dispiace di aver incontrato t?  
Who are you sorry to have met?
- iii) ?Chi ti dispiace che hai incontrato t?  
Who are you sorry that you have met?
  
- iv) Dove ti è dispiaciuto incontrare Mario t?  
Where were you sorry to meet Mario?
- v) ?Dove ti è dispiaciuto di aver incontrato Mario t?  
Where were you sorry to have met Mario?
- vi) ??Dove ti è dispiaciuto che hai incontrato Mario t?  
Where were you sorry that you have met Mario?
  
- vii) ?Quando ti è dispiaciuto incontrare Mario t?  
When were you sorry to meet Mario?
- viii) ??Quando ti è dispiaciuto di aver incontrato Mario t?  
When were you sorry to have met Mario?

Example 147) - involving the factive verb *rejoice*, which we take as representative of the (cross-linguistically somewhat unstable) class of ‘strong factive verbs’ - differs from example 146) in one crucial aspect, according to Erteschik (see also Kiparsky & Kiparsky 1971): the presupposition of existence of the embedded clause is always forced. Indeed, we argue that here a topical interpretation is obligatorily assigned to the embedded complement clause at the T-level. The difference between mild and strong factives resembles that between definite articles and demonstratives in extraction from DP’s: both cases imply quantitative differences at the same IS level. The presence of an infinitive (as in 148)) helps, because it tends to remove topicality at the T-level.<sup>64</sup>

Sentences 149)-152) instantiate the Complex NP Constraint, for both arguments and adjuncts of the head noun. As shown by Erteschik (1973, 146), a noun modified by an argumental that-clause tends to be existentially presupposed. However, when the head noun is introduced by an indefinite determiner grammaticality judgements improve, though sentences remain generally slightly marginal in English and only some extractions are permitted - this is presumably due to the fact that we are extracting out of *modified* indefinites.<sup>65</sup> Such an ameliorating effect is largely less marked when extracting out of relative clauses (namely, adjuncts), which apparently induce a much stronger individuation on the complex DP than argumental that-clauses (Chomsky 1986, 35). In order to be

- 
- ix) \*Quando ti è dispiaciuto che hai incontrato Mario t?  
When were you sorry that you have met Mario?
  - x) ?In che modo gli dispiace viaggiare t?  
In what way does he dislike to travel?
  - xi) ?\*In che modo gli dispiace di aver viaggiato t?  
In what way does he dislike to have travelled?
  - xii) \*In che modo gli dispiace che hai viaggiato t?  
In what way does he dislike that you have travelled?

This strongly suggests that tense is as essential a variable as definiteness in accounting for extraction phenomena, though the effects of the two are quantitatively different.

<sup>64</sup> See also these cases involving quasi-strong or strong factive verbs in Italian:

- i) Cosa ti rallegrì di fare t?  
What do you rejoice to do?
- ii) Cosa ti rallegrì d’aver fatto t?  
What do you rejoice to have done?
- iii) ??Cosa ti rallegrì che hanno fatto t?  
What do you rejoice that they have done?
- iv) Chi si compiace di incontrare t?  
Who is he pleased to meet?
- v) ?Chi si compiace di aver incontrato t?  
Who is he pleased to have met?
- vi) ??Chi si compiace che hai incontrato t?  
Who is he pleased that you have met?
- vii) Chi ignori di conoscere t?  
Who do you ignore to know?
- viii) ?Chi ignori d’aver conosciuto t?  
Who do you ignore to have known?
- ix) ?\*Chi ignori che hai conosciuto t?  
Who do you ignore that you have known?

<sup>65</sup> See Ross (1967, 140), Chomsky (1977), Rothstein (1988), Pollard & Sag (1994, 206), Postal (1998, A.2).

able to ameliorate these last sentences, a strongly focal head (*someone* and the like, not simply a noun introduced by an indefinite determiner) needs be used, as in *This is a paper that we really need to find someone who understands t* - example from Chung & McCloskey (1983); see also Kuno (1976), Chomsky (1986).<sup>66</sup> Postal (1998) notes that appositive and restrictive relative clauses (RCs) differ in the possibility of being ameliorated: only the latter may come to tolerate (some) extractions, while the former are always opaque domains. Again, this distinction correlates neatly with the topicality that is associated to the complex head noun at the D-level, which is higher when appositives act as modifiers - so, note that appositives, but not restrictives, are incompatible with an indefinite head noun; mere intonational evidence is eloquent as well: appositives are invariably deaccented, while restrictives cannot be; finally, the semantics of the two constructions is also of special significance in this respect, since as is well-known while the head of an appositive is referentially independent from its modifier, restrictives participate in the individuation of the referent(s) of the head.<sup>67</sup>

153)-154) are typical instances of wh-islands, which Erteschik claims get a presupposition of existence, especially when they are tensed (Erteschik 1973, 74). It is not at all clear that it is always

<sup>66</sup> Additionally, the extractee cannot be a subject in the embedded clause - note that processual reasons interfere whenever a crossing dependency is created. The type of extraction employed is important as well (see the next chapter for more details on this).

<sup>67</sup> We speculate that the two types of RC as a whole receive also distinct informational values at the intra-DP level, assigned by the head noun to the entire embedded clause (exactly as in the case of verbs wrt their complement CP's). Exemplifying the suggested parallel:

Intra-CP:	Penso {a Gianni} (complement DP/PP) I think of Gianni
	Penso {che Gianni sia arrivato} (complement CP) I think that Gianni has arrived
	Pensavo a te {prima che Gianni mi parlasse degli ultimi avvenimenti} (clausal adjunct) I was thinking of you before Gianni spoke to me of the last events
	Pensavo a te {prima di sera} (adverbial PP adjunct) I was thinking of you before evening
Intra-DP:	Le foto {di Gianni} (complement DP/PP) Gianni's pictures
	Il fatto {che Gianni ha scattato delle foto} (complement CP) The fact that Gianni took some pictures
	Le foto {che Gianni ha scattato} (clausal adjunct) The pictures that Gianni took
	Le foto di Maria {vicino a Gianni} (PP adjunct) Mary's pictures near Gianni

In complex NP islands, topicality at the D-level and at the intra-DP level (appositive vs restrictive RC) sum up. Note also that the RCs are tensed here, thus topical at their own T-level. Indeed, in Italian the employment of an untensed relative improves ungrammaticality (but the contrast is between bad and worse).

- i) \*A chi hai trovato un libro da dare t?  
To whom have you found a book to give?
- ii) \*\*A chi hai trovato un libro che hanno dato t?  
To whom have you found a book that they have given?

This is a bit more evident considering the extraction of the head from a complex DP:

- iii) ?(?)Chi hai trovato t a cui parlare di te?  
Who have you found to whom to speak of you?
- iv) \*Chi hai trovato t a cui parli di te?  
Who have you found to whom you speak of you?

so, however (see below for more details). The employment of an infinitive at the T-level systematically improves grammaticality in English (but see Erteschik 1973, 114-116 for some qualifications in this connection).<sup>68</sup>

Finally, 155)-156) represent extraction out of adjuncts. A tensed adjunct is not surprisingly an opaque domain, being topical by default at both the intra-CP level of the matrix clause (see note 79) and at the T-level of the embedded clause. The presence of an infinitive improves considerably grammaticality, though adjunct extraction remains defective.

Doubts might be cast on the relevance of definiteness in extraction out of complex DP's (indeed, its role is rather blurred in English, especially with adjuncts). There are cases in which such a variable is much more prominent, though. For instance, Scandinavian languages permit certain types of extraction out of (restrictive) relative clauses in violation of the complex NP constraint, but in general only when the head noun is indefinite (see Erteschik 1973, 66 and 1982 on Danish; Allwood 1976 and Engdahl 1980 on Swedish). A further prerequisite is that the complex DP (and its subconstituents) should receive a focal value, otherwise extraction is deficient (see Erteschik 1973, 61 and Taraldsen 1981a).

- 157) \*Peter kender jeg manden der kan lide t. (Danish)  
 Peter know I the man who likes  
 158) Peter kender jeg en mand der kan lide t. (Danish)  
 Peter know I a man who likes

There are various other data Erteschik did not take into account in her dissertation and that are easily akin to an identical type of treatment. They also show that relational levels may be problematic in the same way as phasal levels: a topical value always disallows (or marginalizes) extraction, in whatever informational level. Moreover, the two dimensions of IS result inextricably connected and give rise to what we will name informational 'summation effects' (various instances of which we have actually already encountered).

To begin with, it is generally acknowledged that in Nom/Acc languages the subject position has a default topical interpretation at the intra-CP level in wide focus contexts.<sup>69</sup> And indeed extraction

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<sup>68</sup> Factive verbs and verbs subcategorizing an indirect question both share the possibility (necessity, in case of wh-islands) of a wh-word introducing the embedded clause (see Melvold 1991, 101):

- i) John hates who won the World Series.  
 ii) John wonders who won the World Series.

Such a possibility is not available to bridge verbs, instead (with the important qualification that some bridge verbs may also be factive verbs, being ambiguous between two readings - even in the absence of deaccentuation of the complement clause, see Kiparsky & Kiparsky 1971).

- iii) \*John supposes who will win the World Series.

We will return to the parallelism between factives and wh-islands in a subsequent section of this chapter.

<sup>69</sup> The literature on the issue is immense. A valuable source of data and classic references is Li (1976). See also Contreras (1976) and Calabrese (1982, 1992), which are papers written specifically in a generative perspective. We can easily demonstrate the claim by means of a simple contextual test:

- i) Chi ha morso tua figlia?/Who has bitten your daughter?  
 #Un cane l'ha morsa.  
 L'ha morsa un cane.  
 A dog has bitten her(cl)

out of it is defective, as has long been recognized in the literature starting from Ross (1967) (see also Erteschik 1973, 156-159).

- 159) ?\*Di quali di quei ragazzi pensi che {gli amici t} hanno contattato Pietro?  
Of which of those boys do you think that the friends have contacted P.?

The standard comparison is with an instance of extraction from object position, which in a wide focus context is instead focal by default at the intra-CP level.

- 160) Di quali di quei ragazzi pensi che Pietro ha contattato gli amici t?  
Of which of those boys do you think that P. has contacted the friends?

Extraction out of a CP subject is known to be ungrammatical as well. Infinitive subjects (which are focal at the T-level, or at least less topical than tensed ones) fare better, but grammaticality remains usually defective in any case.

- 161) Lasciare Pietro a casa da solo preoccupava Maria.  
To leave P. all alone at home worried M.  
162) ???Quale di quei ragazzi lasciare a casa t da solo preoccupava Maria?  
Which of those boys to leave all alone at home worried M.?  
163) Che Paolo lasciasse Claudio a casa da solo preoccupava Maria.  
That P. left C. all alone at home worried Mary.  
164) \*Quale di quei ragazzi che Paolo lasciasse t a casa da solo preoccupava Maria?  
Which of those boys that P. left all alone at home worried M.?  
165) Vincere contro il nemico era importante per il guerriero.  
To win against the enemy was important for the warrior  
166) ??Contro che nemico vincere t era importante per il guerriero?  
Against which enemy to win was important for the warrior?  
167) Che avesse vinto contro il nemico era importante per il guerriero.  
That he had won against the enemy was important for the warrior  
168) ?\*Contro che nemico che avesse vinto t era importante per il guerriero?  
Against which enemy that he had won was important for the warrior?

Indefinite nominal subjects seem to improve grammaticality as well. But 172) is actually out already at the D-level, extraction being impossible also from an object position when a demonstrative is in prenominal position. The available evidence is therefore quite inconclusive.

- 169) Qualche scultura di Mario è stata esposta alla Biennale.  
Some sculptures by Mario have been exhibited at the Biennale  
170) ?\*Di che artista qualche scultura t è stata esposta alla Biennale?

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ii) Chi è arrivato?/Who arrived?

#Mario è arrivato.  
È arrivato Mario.  
Mario arrived

iii) Chi ha telefonato?/Who phoned?

#Luigi ha telefonato.  
Ha telefonato Luigi.  
Luigi phoned

Preverbal (normally accentuated) subjects are incompatible with preceding questions that imply their focal reading (see also Benincà 1988 and chapter 1).

- By which artist some sculptures have been exhibited at the Biennale?
- 171) Quella scultura di Mario è stata esposta alla Biennale.  
That sculpture by Mario has been exhibited at the Biennale
- 172) \*\*Di che artista quella scultura t è stata esposta alla Biennale?  
By which artist that sculpture has been exhibited at the Biennale?

Be as it may in the case of nominal subjects, there clearly is an interplay between phasal and relational levels with clausal ones. If they receive a topical value at the T-level (they are tensed), and also a topical value at the intra-CP level (they are in subject position), extraction gives considerably bad results. If a topical value is assigned only at the intra-CP level, strong marginality arises but the sentence is not necessarily completely impossible. This mechanism of ‘summation’ seems to be the norm across all levels - see also our precedent discussion of ‘strong’ factive verbs (especially note 64) and of examples 155)/156) for other empirical illustrations of the phenomenon.

Certain asymmetries observed in Pesetsky (1984) may be taken to exemplify an analogous interplay involving not only a phasal and a relational level, but also different relational levels. Pesetsky points out that there is a subtle difference in grammaticality between subject and object extraction in some configurations. Whenever an extraction process takes place from an island, if a subject position is targeted the result is worse than when an object position is the locus of the operation. Even if the difference is subtle, it seems systematic and a variety of researchers agreed on his presence (see Browning 1987, Stowell 1986, Rizzi 1990).<sup>70</sup>

- 173) ?\*Who do you wonder whether we believe t can help us?  
174) ??Who do you wonder whether we believe we can help t?

Assume for a moment that a wh-island has to receive a topical IS value at the intra-CP level of the matrix clause in presence of extraction (see below for an explanation of this fact). The presence of tense conspires to worsen the judgements, giving rise to a classic pattern of summation of the effects. If in addition the extracted constituent is assigned a topical value inside the island domain (at the intra-CP level of the relevant embedded clause), this further impairs grammaticality. In other words, a topical constituent *inside a topical domain* is less extractable than a focal constituent.<sup>71</sup>

Comparable data have been pointed out for other islands as well. Allwood (1976) coined the term *Complex NP Subject Constraint* in order to describe comparable data in Swedish involving extraction out of Relative Clauses. Kiparsky & Kiparsky (1971) showed that in English subject extraction from certain factives is deficient, while object extraction is only slightly marginal. Rouveret (1980) made the same point about French (see also Zubizarreta 1982).

- 175) \*Who do you regret t punished the children?  
176) \*Qui regrettes-tu qui t châtie les enfants?  
177) ?Who do you regret that Mary punished t?  
178) ?Qui regrettes-tu que Marie châtie t?

The repeatedly noticed fact that an ECM subject fares better than a standard subject (and slightly worse than a standard object: Rizzi 1990, 103) sustains our analysis of the asymmetry and the existence of a complex interplay among the various informational levels.<sup>72</sup> Such a behavior is

<sup>70</sup> The same sort of judgements hold in comparable configurations in French (Rizzi 1990, 97).

<sup>71</sup> Since what is at stake in the examples above is extraction and extraction out-of-a-domain at the same time, it is important to remind the reader that the two phenomena are distinct. It is apparently only their *co-presence* which permits to detect some sensitivity to informational variables also for the former.

<sup>72</sup> See Koopman & Sportiche (1991), Chomsky (1982), Lasnik & Saito (1984) and all the references cited introducing the asymmetry.

indeed expected given the mixed informational status of ECM subjects: focal objects of the matrix clause and topical subjects of the embedded infinitive (note that in the configuration under scrutiny, both clauses are inside an island).<sup>73</sup>

- 179) ??This is the person who I forgot whether John believes t to have proved the theorem.  
 180) ?\*This is the person who I forgot whether John believes t has proved the theorem.  
 (from Rizzi 1990)

Other data which can be explained without ad hoc assumptions in the present framework regard dislocated clauses, which as is well-known are topics (at the intra-CP level of the matrix clause). Observe now what happens if we try to extract out of a right dislocated clausal constituent in Italian:

- 181) Cosa credi che abbiano venduto?  
 What do you believe that they have sold?  
 182) Lo credi, che abbiano venduto la casa?  
 Do you believe it, that they have sold the house?  
 183) \*Cosa lo credi, che abbiano venduto t?  
 What do you believe it, that they have sold?  
 184) ??Quella casa, che lo credo, che hai venduto t, ...  
 That house, that I believed it, that you have sold, ...  
 185) ?Quale di quelle case<sub>(,)</sub> lo credi, che l'abbiano venduta?  
 Which of those houses, do you believe it, that they have sold?  
 186) La casa<sub>(,)</sub> lo credo, che l'abbiano venduta.  
 The house, I believe it that they have sold.  
 187) ?Quale casa, che lo sai bene che nessuno ha voluto comprare [e], mi hai rifilato t?  
 Which house, that you know well it that nobody wanted to buy, did you palm me off?

When a subconstituent included in an already dislocated clause gets dislocated (as in 186)), the result is substantially good. The same holds for partitive-wh dislocation (example number 185)), apart from a slight marginality. But if one tries to extract that same phrase leaving a trace behind, this elicits strong ungrammaticality (example 183)). Which means that a dislocated constituent (a topic) is an island to extraction, as expected.<sup>74</sup> Obviously, no explanation in terms of bounding

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<sup>73</sup> Obviously, the two informational values are assigned in different levels (the intra-CP level of the matrix clause and the intra-CP level of the embedded clause, respectively). Informationally speaking, then, the ECM construction behaves as if the argument were at the same time an object and a subject, though in different hierarchical layers. Witness these contrasts as well (see Diesing 1992):

- i) Who did you see pictures of t on sale?  
 ii) ?Who do you believe pictures of t to be on sale?  
 iii) \*Who are pictures of t on sale?

<sup>74</sup> For some reasons, extraction out of a dislocated object is not as bad as extraction out of a dislocated embedded clause. In colloquial Italian this is at least marginally possible for referential extractees:

- i) L'ho comprata, la figurina di Baresi.  
 I've bought it, Baresi's card  
 ??Di chi l'hai comprata, la figurina t?  
 Of whom have you bought it, the card?  
 ii) Alla fine l'avevo letto, un libro di Montanelli.  
 In the end I had read it, a book by Montanelli

nodes is here available, given the perfect grammaticality of example 181).<sup>75</sup> Nor can one say that in a dislocated constituent null categories are generally banned, given the acceptability of parasitic gaps in that position (187)). Finally, note the intermediate status of relative clause extraction (184)), to which we will return in the next chapter. One more set of examples:

- 188) \*Cosa/(?)\*quale soluzione me l'avevi detto, che Mario ha scelto t?  
What/which solution did you tell it(cl) to me(cl), that M. has chose
- 189) ??Quella soluzione, che me lo avevi detto che Mario ha scelto t, ...  
That solution, that you told it(cl) to me(cl) that M. has chose, ...
- 190) ?Quale di quelle soluzioni<sub>(c)</sub> me l'avevi detto, che Mario l'ha scelta?  
Which of those solutions did you tell it(cl) to me(cl), that M. has chose it(cl)?
- 191) Quella soluzione<sub>(c)</sub> me l'avevi detto, che Mario l'ha scelta.  
That solution, you told it(cl) to me(cl) that M. has chose it(cl)

Other interesting facts concern extraposition. At stake now is primarily the D-level: extraposed constituents are less acceptable (for many speakers totally ungrammatical) when they are moved from NP's with strong determiners in Milsark's sense - see Guéron (1980), Reinhart (1987), Diesing (1992).<sup>76</sup>

- 192) A review appeared of The Joy of Cooking.
- 193) Many reviews appeared of The Joy of Cooking.
- 194) \*Every review appeared of The Joy of Cooking.
- 195) \*Most reviews appeared of The Joy of Cooking.

The few admissible instances of extraposed relatives in Italian show that the intra-CP level has also to be considered: only in object position it is possible to interpolate an adverbial between the head and the relative (see Rizzi 1984, 40). If the object gets dislocated, such a possibility is lost.

- 196) \*Molte persone, ieri, di cui ci possiamo fidare erano qui.  
Many people, yesterday, whom we can trust were here
- 197) (?)Ho conosciuto molte persone, ieri, di cui ci possiamo fidare.  
I met many people, yesterday, whom we can trust
- 198) \*Molte persone, ieri, di cui ci possiamo fidare, le ho conosciute.  
Many people, yesterday, whom we can trust, I met them(cl)

As in English, strong determiners disallow extraposition, which is additionally limited only to restrictives.

- 199) \*Ho conosciuto tutte le persone, ieri, di cui ci possiamo fidare.

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??Alla fine di chi l'avevi letto, un libro t?  
In the end by whom had you read it, a book?

<sup>75</sup> Baker (1996), noting that in the polysynthetic language Mohawk extraction out of (alleged) dislocated objects is banned, proposes a solution centered around the ECP. According to him, a dislocated object is not properly governed since (following Cinque 1990) it is in an adjunct position and only the clitic/pro connected to it is in a properly governed position. Baker/Cinque's analysis is far from being obvious: a dislocated constituent is not (or has not to be) an adjunct in a strictly thematic sense of the word. Consequently, it is not clear why true adjuncts should pattern with dislocated constituents as far as extraction is concerned. We can certainly state that dislocation impedes proper government, but this is no more than a stipulation. Furthermore, since in minimalism the ECP has been dropped this sort of accounts results now completely outdated.

<sup>76</sup> It goes without saying that strong determiners are connected to a topical interpretation of the DP at the D-level.

I met all the people, yesterday, whom we can trust

Finally, split constructions are also subject to similar informational limitations, as explicitly recognized in Meinunger (2000) for German (see also Den Besten 1985, Van Riemsdijk 1989, Diesing 1992, Müller 1995 sec. 4.2). Only non-scrambled focal direct objects (and also subjects and indirect objects) allow split configurations:

Was-für split:

- 200) Was hast du damals [t für Bücher] gelesen?  
201) ??/\*Was hast du [t für Bücher] damals gelesen?  
What kind of books did you read that time?

Split topic:

- 202) Frauen hat er schon so [einige t] unglücklich gemacht.  
203) \*Frauen hat er so [einige t] schon immer unglücklich gemacht.  
He has already made unhappy some women.

Prepositional split:

- 204) Da habe ich noch nicht [t von] gehört.  
205) \*Da habe ich [t von] noch nicht gehört.  
I haven't heard about this yet.

Scrambling obviously involves topicality at the intra-CP level, as mentioned in a previous section.<sup>77</sup> Other split constructions in French permit easily to extend our observations to the D-level. In fact, as shown in Obenauer (1992), only DP's with a non-specific reading allow the *combien* split in French (see also chapter 4). Furthermore, only indefinite direct objects/ unaccusative subjects allow partitive *en/ne* extraction in French and Italian (Kayne 1975, Belletti & Rizzi 1982, Burzio 1986).

- 206) Gianni ha visto tre ragazze/quelle tre ragazze.  
G. has seen three girls/those three girls  
207) Gianni ne ha viste tre t.  
208) \*Gianni ne ha viste quelle tre t.  
G. *ne* has seen three/\*those three

*Ne* extraction is sensitive to the intra-CP level as well, since it is possible only from postverbal subjects of unaccusative verbs, but not from preverbal ones (Belletti & Rizzi 1982). It thus shows limitations similar to those of canonical extraction from DP's (on which see our comments above). The only difference is that partitive *ne* cliticization presents stronger sensitivity to informational variables than standard extraction from DP's.<sup>78</sup>

We believe that it would be really difficult to find some way of putting together all the mentioned data leaving aside informational concepts, which frankly appear to be the only conceivable *trait d'union* among them. That it is so is also demonstrated by the total absence of counterexamples to the generalization originally due to Erteschik and revised in this chapter: to our knowledge, no

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<sup>77</sup> See Diesing (1992, sec. 2.4.4) for data pointing to the relevance of the D-level in German split configurations. Note also that split topics are fine only when the split source is indefinite (Van Riemsdijk 1989, 108), while the *was für* split is implicitly incompatible with definites for semantic reasons.

<sup>78</sup> Not all types of *ne* extraction behave in this way. In particular, genitive *ne* is generally possible when the head noun is introduced by the definite article (exactly as in the case of canonical extraction from DP's, of which genitive *ne* is just a specific instance).

i) Ne vidi le tre guglie t già da molto distante.

language whatsoever happens to present an inverted pattern of results, favoring extraction out of topics and disallowing/impairing extraction out of foci.

At this point, a summary and some general comments are in order:

- whenever a constituent is ‘individuated’ at the D/T levels, or whenever it gets a topical value in one of the relational IS levels, extraction out of it fails or results only partly possible (with the significant and plausibly motivated exception of tensed clausal complements to bridge verbs). Also, grammaticality improves if topicality decreases. Such an inverse relation is strikingly systematic.

- the object position seems so far to be the only one that permits extraction out of it (under certain conditions). This correlates with the fact that it is precisely the VP constituent that has a default focal value at the intra-CP level in nom/acc languages: both subjects and adjuncts receive in fact a default topical value in so-called wide focus contexts.<sup>79</sup>

- judgements are gradual and not dichotomic: this is particularly evident, for instance, in extraction out of DP’s (definite articles tend to be in between indefinite articles and demonstratives), or out of tensed complements of factive verbs (some of them induce a stronger individuation on the embedded CP and never tolerate extraction; others, whose embedded clauses show a weaker degree of topicality, impede only adjunct extraction; finally there are factive verbs which are somewhat in between). We thus have to recognize, with Chomsky (1965), that ‘grammaticalness is, no doubt, a matter of degree’ and particularly so for island extraction phenomena. It has also to be remembered that a vast amount of idiolectal variation characterizes judgments on islands. Finally, it is unmistakably evident that a not less impressive magnitude of cross-linguistic variability exists. Similar microvariations call for an explanation, which is not easily available in too rigid accounts (the overwhelming majority of those available in the literature does not even mention these ‘gradience effects’).

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Of it(cl) (I) saw the three pinnacles already at a distance

Predictably, such an extraction becomes odd if a possessive is present, and completely impossible with a demonstrative.

- ii) ?\*Ne vidi le sue tre guglie t già da molto distante.  
Of it(cl) (I) saw his three pinnacles already at a distance  
iii) \*Ne vidi quelle tre guglie t già da molto distante.  
Of it(cl) (I) saw those three pinnacles already at a distance

<sup>79</sup> Exactly as for subjects, the interpretation of (clausal) adjuncts in an out-of-the-blue context is topical by default (observe the presence of an existential presupposition):

- i) What happened?  
I called some friends {before Mary arrived here looking for them}<sub>Top</sub>.

- Which is not true, I did not call them.  
- \*Which is not true, she never arrived.

- ii) What happened?  
Cindy hit Claudia.

- Which is not true, she rather insulted Naomi.  
- ??Which is not true, Naomi rather hit her.

Although some of the data and comments reported above render quite apparent that the Principle of Extraction is too strong and insufficiently refined as stated, we believe that it is a step in the right direction. We will now face some of the existing difficulties and try to amend it whenever necessary or desirable.

#### 4) EXTRACTION AND DEFAULT IS

A complication seems to arise wrt the ideas put forward above and it is the fact that extraction is barred with both a preverbal and a postverbal subject in Italian transitive clauses.

- 209) Lo hanno contattato [gli amici di Giovanni]<sub>Foc</sub>.  
Giovanni's friends contacted him
- 210) \*Di chi lo hanno contattato [gli amici t]?  
Of whom did the friends contacted him?

Since a postverbal subject is focal (see Antinucci & Cinque 1977, Calabrese 1992, Pinto 1997, among many others), this is unexpected. Indeed, we concentrated our attention exclusively on extraction out of topical domains so far. But what about extraction out of focal domains? Other things being equal, is it always the case that focalization permits extraction?

A similar problem arises considering clausal adjuncts: they do not always receive a topical value at the intra-CP level of the matrix clause, when we are not in presence of an out-of-the-blue context (see 211)). This does not change the fact that they constitute islands, and especially so if tensed.

- 211) Why did you call Mario?  
I called him {because I needed his experience}<sub>Foc</sub>.

A similar situation characterizes English preverbal subjects, which can bear a focal value whenever accented.

- 212) Who came?  
{MARIO}<sub>Foc</sub> came.

Nevertheless, extraction out of subjects is always problematic in English.

At this point, it might appear that we have to reformulate the Principle of Extraction. What is apparently lacking is the incorporation into it of a concept that has often been employed in the linguistic literature of almost every period and theoretical orientation: the notion of default. The informational default of (presumably) all the languages of the world obtains in so-called wide focus contexts, namely it is a sentence that is fine as an answer to the question 'what happened?'. We can see this, for instance, from the fact that the nuclear stress rule (ie, a default accentuation pattern; see Cinque 1993) is applicable exactly in those contexts, but not - at least not always - in other informationally altered configurations.

It could be proposed that extraction is fine only when the constituent which is the target of the operation can be focal in an out-of-the-blue context (but it is not fine if such a constituent may be focal only in other contexts, as in 209), 211), 212)). However, this is rather problematic given the possibility of extraction in examples of the following sort:

- 213) A: Mario ha detto che Pietro è partito.  
M. said that P. left  
B: Davvero? E chi *ha detto* che è arrivato t?

Really? And who *has said* arrived?

The sentence pronounced by speaker B in 213) presents deaccentuation of the matrix clause, still extraction is fine out of the focal embedded clause. After putting a referential DP in the base position of *chi*, such a sentence cannot be a felicitous answer in a wide focus context, instead.

- 214) Cosa è successo?/What happened?  
#*Ha detto* che è arrivato Mario.  
(He) *has said* that M. arrived

So, we should have to assume that in order to evaluate extraction possibilities we might take into account a pre-extraction sentence which is informationally different from the real one in which extraction took place (214) without deaccentuation of the matrix clause is obviously fine in a wide focus context). This seems odd.

The data about focal subjects are further complicated by the fact that the postverbal subject of an unaccusative or passive verb allows extraction out of it in Italian (see Burzio 1986, Longobardi 1991):

- 215) Sono arrivati i figli di Giovanni.  
Giovanni's sons arrived  
216) Di chi sono arrivati i figli t?  
Of whom have the sons arrived?  
217) È stato dipinto un ritratto di Mario.  
A portrait of M. has been painted  
218) Di chi è stato dipinto un ritratto t?  
Of whom has a portrait been painted?

It is not so when we turn to unergative verbs.<sup>80</sup>

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<sup>80</sup> More correctly, the postverbal subjects of unergatives seem more sensitive to certain informational variables than those of unaccusatives. When the head noun is strongly focal at the D-level, extraction results possible (or only slightly marginal) also from subjects of unergatives.

- i) ?\*Di chi telefona sempre il fratello t?  
Of whom does the brother always phone?  
ii) (?)Di chi non telefona mai nessun parente t?  
Of whom does no parent ever phone?  
iii) ??Il ragazzo di cui ha telefonato sempre il fratello t ...  
The boy of whom the brother always phones ...  
iv) Il ragazzo di cui non ha telefonato mai nessun parente t ...  
The boy of whom no parent ever phones ...

It might then be that a thematic split induces different sensitivity to IS for the various categories of verbs, rather than existing absolute thematic restrictions on extraction from DP's. That the subjects of unergatives have a more marked sensitivity to the topicality of a domain results evident also adopting the *ne* cliticization test, which some authors have declared unreliable (with an excess of criticism, we believe - there still remains a quite clear contrast between unergatives and unaccusatives wrt partitive *ne* cliticization).

- v) Ne avrebbero telefonato *di più*, (di clienti), se avessimo fatto pubblicità alla TV. (Saccon 1992)  
Of them more would have phoned, of clients, if we had done commercials  
vi) Ne cammina *tanta*, (di gente), su quei marciapiedi. (Lonzi 1985)  
Of them much walks, of people, on those streets

- 219) Hanno telefonato le figlie di Pietro.  
Pietro's daughters phoned
- 220) ?\*Di chi hanno telefonato le figlie t?  
Of whom have the daughters phoned?
- 221) Qui ha insegnato una maestra di mio cugino.  
Here a teacher of my cousin taught.
- 222) ?\*Qui di chi ha insegnato una maestra t?  
Here of whom did a teacher teach?

Almost all unaccusatives and some unergatives (see Benincà 1988, Pinto 1997) permit two different answers to a 'what happened?' kind of question: one with a preverbal and one with a postverbal subject.<sup>81</sup> This also appears to indicate that there is no direct correlation between possibility of extraction and *default IS*.

- What happened?
- 223) Sono arrivati i figli di Giovanni.  
224) I figli di Giovanni sono arrivati.  
Giovanni's sons arrived
- 225) Hanno telefonato le figlie di Pietro.  
226) Le figlie di Pietro hanno telefonato.  
Pietro's daughters phoned

It is universally known that according to a varieties of syntactic tests, as shown in Perlmutter (1978) and Burzio (1981/1986), there is a difference between unaccusatives/passives and unergatives wrt the structural position in which the subject originates. For the first two categories of verbs, it is a postverbal object position, while for the second category (and for transitive verbs) it is a preverbal subject position. Such state of affairs correlates neatly with the possibility of extraction out of the subject for the various types of verbs. This said, we still need to motivate what is going on in examples like 210). Why does a focal constituent not permit extraction to occur out of it in similar cases?

Enlarging the sample of data, it may be easily realized that in Italian extraction out of DP's is constrained thematically: so, with ditransitive verbs it is possible to extract only from the (preferably non-extraposed) direct object.<sup>82</sup>

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- vii) (?)Non ne ha sbadigliato *neanche uno*, (di spettatore), al concerto.  
Of them not even one yawned, of spectators, at the concert
- viii) ?\*Ne dovrebbero telefonare *un paio*, (di clienti), domani.  
Of them a couple should phone, of clients, tomorrow
- ix) ?\*Ne camminano *due o tremila* ogni giorno, (di persone), su quei marciapiedi.  
Of them two or three thousands walks, of people, on those streets
- x) ?\*Ne hanno sbadigliato *una decina*, (di spettatori), all'ultimo concerto.  
Of them ten yawned, of spectators, at the concert

<sup>81</sup> There are subtle interpretative differences associated to the two patterns. It seems that when the subject is preverbal the event depicted in the sentence is somewhat expected/predictable. See Schmerling (1976), Cinque (1993), Zubizarreta (1998). Furthermore, according to Benincà (1988), Pinto (1994) and Tortora (1997, 2001) a postverbal subject implies the presence of a covert locative/temporal argument with a deictic interpretation.

<sup>82</sup> See also note 59.

- 227) \*Di chi hai dato il libro a una sorella t?  
Of whom have you given the book to a sister?
- 228) \*Di chi hai dato a una sorella t il libro?  
Of whom have you given to a sister the book
- 229) Di chi hai dato un libro t a tua sorella?  
Of whom have you given a book to your sister?
- 230) ??Di chi hai dato a tua sorella un libro t?  
Of whom have you given to your sister a book?

In the light of these additional facts, the ungrammaticality of 210) is not surprising: it may in fact be due to the non-object nature of the subject. Topical subjects (of whatever type)<sup>83</sup> and all other kinds of arguments which are not direct objects or derived from direct objects would impede extraction out of DP's. Objects (which get by default a focal value) and in-situ focal subjects *derived from object position* would allow it. The pattern of data is then explainable assuming the simultaneous presence of both an informational and a thematic restriction on extraction from DP's (but see note 80 for the possibility of a slightly different interpretation of these facts).

The overall issue is complicated by other findings which appear to suggest the relevance of active focalization strategies in licensing extraction. Some of them were inadvertently noted in Ross's dissertation, which reports contrasts such as:

- 231) \*The teacher who {that the principal would fire t}<sub>Top</sub> was expected by the reporters is a crusty old battle-ax.
- 232) The teacher who it was expected by the reporters {that the principal would fire t}<sub>Foc</sub> is a crusty old battle-ax.

Similar data motivated Ross's claim that '... while no element of subject clauses may be moved out of these clauses, by virtue of the Sentential Subject Constraint, if these clauses have been extraposed elements in them become movable' (Ross 1967, 297). Unfortunately, the examples allowing extraction due to a focalization strategy that we have reported are all substantially felicitous in a wide focus context. Whence they do not clarify the question which was raised before: is any kind of focus assignment able to license (or improve) extraction?

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<sup>83</sup> See these cases of extraction out of a preverbal subject with an unaccusative and an unergative verb (read with no pauses and flat contour until the last word of the sentence).

- i) ?\*Di quali di quelle persone le figlie t sono arrivate?  
Of which of those people have the daughters arrived?
- ii) ?\*Di quale di quei ragazzi un parente t ha telefonato?  
Of which of those boys has a relative phoned?

The Italian speaker should avoid the following irrelevant readings (which instantiate cases of dislocation and have a different intonational contour):

- iii) ?Di quali di quelle persone, le figlie pro sono arrivate?
- iv) ?Di quale di quei ragazzi, un parente pro ha telefonato?

Unfortunately, the employment of a bare-wh (which would block dislocation) is independently ruled out by a restriction on the linear order bare-wh/preverbal subject (see Rizzi 1996):

- v) \*Chi Mario ha visto t?  
Who Mario has seen

The answer toward which we are inclined is that a focal constituent is always permeable to extraction.<sup>84</sup> We prefer this formulation to the alternative one, which says that only a constituent that may receive a focal value in default IS configurations allows extraction to occur out of it. We can try to put to test both theories using transitive verbs taking two arguments, one of them (the subject) clausal. Forcing a postverbal subject CP means that the sentence is infelicitous in a wide focus context, though the subject is clearly focal. Extraction out of CP's is not thematically constrained and so, if possible, it would definitely disconfirm the idea that only default focus assignment permits extraction.

Unfortunately, in building the relevant examples we invariably end up with another problem: the subject gets a factive interpretation from the matrix verb/adjective and thus extraction is independently deficient (apparently, there are no bridge verbs taking a clausal subject). However, it should be possible to find cases of mild factive islands, which allow argument extraction but not adjunct extraction. The following sentences exemplify cases of exactly this type:<sup>85</sup>

- 233) Che tu batta quel ragazzo dimostra bravura.  
That you beat that guy shows cleverness
- 234) Dimostra bravura che tu batta quel ragazzo.  
It shows cleverness that you beat that guy
- 235) \*Quale di quei ragazzi che tu batta t dimostra bravura?  
Which of those guys that you beat shows cleverness?
- 236) ?Quale di quei ragazzi dimostra bravura che tu batta t?  
Which of those guys does it show cleverness that you beat?
- 237) Che tu canti quella canzone indispettisce Luca.  
That you sing that song irritates Luca
- 238) Indispettisce Luca che tu canti quella canzone.  
It irritates Luca that you sing that song
- 239) \*Quale di quelle canzoni che tu canti t indispettisce Luca?  
Which of those songs that you sing irritates Luca?
- 240) ?Quale di quelle canzoni indispettisce Luca che tu canti t?  
Which of those songs does it irritate Luca that you sing?
- 241) Che tu veda Piero preoccupa Maria.  
That you see Piero worries Maria
- 242) Preoccupa Maria che tu veda Piero.  
It worries Maria that you see Piero
- 243) \*Quale dei tuoi amici che tu veda t preoccupa Maria?  
Which of your friends that you see worries Maria?
- 244) ?Quale dei tuoi amici preoccupa Maria che tu veda t?  
Which of your friends does it worry Maria that you see?

The slight marginality of the test sentences tends to disappear if we cliticize the object, for reasons having presumably to do with processual effects (note that the wh-element may otherwise be temporarily associated to the matrix clause, inducing a garden path).

<sup>84</sup> At least when a language adopts a *syntactic* informational strategy, as we will see.

<sup>85</sup> Note the grammaticality of:

- i) A quale di quelle persone che tu abbia battuto Pietro ha fatto piacere t?  
For which of those persons that you have beat Pietro was a pleasure?

The sentence in i) shows that there are no particular restrictions on the order partitive wh-element/clausal subject.

- 245) Chi/quale dei tuoi amici la preoccupa che tu veda t?  
Who/which of those friends her(c) worries that you see?
- 246) Cosa/quale di quelle canzoni lo indispettisce che canti t?  
What/which of those songs him(cl) irritates that you sing?

Finally, this is just to confirm that the sentences from which extraction takes place are not fine in an out-of-the-blue context (and thus that they do not get default IS values).

- 247) Che succede?/What happens?  
#Indispettisce Luca che tu canti ‘O sole mio’.  
It irritates Luca that you sing ‘O sole mio’
- 248) #Preoccupa Maria che tu veda Pietro.  
It worries Maria that you see Pietro
- 249) #Dimostra bravura che tu batta il campione della scuola.  
It shows cleverness that you beat the champion of the school

If we are right, the recalcitrant examples in 211)/212) are thus exceptions to a general rule, which says that extraction is possible whenever a constituent is focal. But what is then the reason that blocks extraction, rendering them exceptional?

We think the relevant variable has to be found in the different strategies adopted to differentiate among IS values. One such strategy is positional/promotional. For instance, Italian distinguishes between topical and focal subjects of transitive sentences through a positional strategy. Both Italian and English also possess a promotion strategy: the passive construction. Another possibility is the accentual strategy. English often adopts it in cases in which Italian employs a positional strategy (to distinguish topical/focal subjects of transitive sentences, for instance).

A generalization emerges: the Principle of Extraction is sensitive to syntactic strategies (positional or promotional), but not to accentual ones. Furthermore, whenever two informational readings coincide and are distinguished only making use of an accentual strategy, the reading in the default configuration is relevant for deciding what happens in cases of extraction. As already stated, by default reading we mean the reading which obtains in a wide focus context.

Adding this proviso to the Principle of Extraction suffices to account for all the exceptions we can think of. Consider first 211), of which a variant is in 250):

- 250) Why did you call a plumber?  
I called a plumber {because I needed someone to fix the pipes}<sub>Foc</sub>
- 251) What happened?  
I called a plumber {because I needed someone to fix the pipes}<sub>Top</sub>

Here we assume that there are two informationally indistinguishable readings of the adjunct from a purely syntactic point of view.

In 212), repeated as 252), exactly the same happens. An accentual strategy is not syntactically visible and cannot influence the Principle of Extraction, which thus considers the default reading of the subject.

- 252) Who came?  
{MARIO}<sub>Foc</sub> came.
- 253) What happened?  
{Mario}<sub>Top</sub> came.

In these cases, IS is not able to discard the default reading in favor of the focal (marked) one and ungrammaticality arises when extraction takes place. The notion of informational default seems after all to be necessary, but it comes into play only when the PF component is at stake.

It could plausibly be claimed that it is not entirely true that IS is blind to accentual prominence and stress: in fact, we saw previously that deaccentuation induces islandhood. But we also saw that it is not deaccentuation *per se* that impairs extraction (see 27)), rather deaccentuation stemming from topicality. Thus, the deaccented constituents are *syntactically* topicalized, and the visible phonological consequences can be considered only as indirect indices of that. Deaccentuation alone, instead, never suffices to impair extraction.

## 5) EXTRACTION AND OPERATORS

There are certain types of focalization that instead of permitting extraction induce a very strong opacity. Observations reported in Kuno and Takami (1993, 1997) and Tancredi (1990) will be our starting point in this section (see also some interesting and apparently recalcitrant cases described in Benincà 1988 sec. 2.1.1.3.1, Cinque 1990 sec. 2.4 and Postal 1998, 29, which we will not address here).

Kuno and Takami noticed a restriction on extraction for a kind of focalization dependent on what we may call *scopal operators* (such as negation, *only*, *even*, Italian *mica*, etc). Their generalization states the following:

### *Ban on Out-of-Scope extraction*

An element in the scope of a given scope-bearing element  $\alpha$  that bears narrow scope relative to  $\alpha$  cannot be extracted out of  $\alpha$ 's c-command domain.

Kuno and Takami (1997) used data of this sort to demonstrate their claim:

254) He doesn't like all three of his roommates

Interpretation A: negation of *like*

(He dislikes all three of his roommates)

Interpretation B: negation of *all three of his roommates*

(He likes not all three of his roommates)

All three of his roommates, he doesn't like.

Interpretation A: OK

Interpretation B: \*

255) She didn't steal Jane's pearl necklace.

Interpretation A: negation of *steal*

(She didn't steal Jane's pearl necklace. She just borrowed it for the weekend.)

Interpretation B: negation of *Jane's pearl necklace*

(She didn't steal Jane's pearl necklace. She stole Jill's diamond ring.)

Jane's pearl necklace, she didn't steal.

Interpretation A: OK

Interpretation B: \*

- 256) A: Who didn't you invite to the party?  
B: John and Mary

Interpretation A: it was John and Mary who I did not invite.

Interpretation B: \*It was not John and Mary who I invited.

It is important not to take the (implicitly contrastive) set of the *wh*-element for the contrastive set of negation. If we ask 'What didn't you do?', the answer can certainly be 'This, instead of that' in spite of the extraction of *what*. But in this example what is contrasted are the various possible candidates from the *wh*-set ('What did you do?' 'This, instead of that'). If *what* actually were in the focus of negation, a paraphrase of the semantic of the question should be something like: 'What is that thing which it was not it that you did, but rather something else'. Instead of this interpretation, the question only means: 'What is that thing which it was it that you didn't, rather than do it'. In 256), we can see it using a concrete answer. But in many cases it is much more difficult, because the *wh*-set is in overlapping distribution with (the impossibility of) the *wh*-element in the neg-set. Thus, we cannot always employ similar sentences as a syntactic test. Let us illustrate the point further with an example. Suppose a concrete answer to the question above is 'going to the movies'. The required interpretation for this constituent if it were in the focus of negation would be: 'It was not going to the movies that I did, but rather something else'. The actual interpretation should be: 'It was going to the movies that I didn't do, rather than doing it', since *what* has been extracted. Now, consider a question/answer pair in the absence of negation.

- 257) A: What did you do?  
B: I went to the movies, instead of staying home.

A *wh*-set is implicitly present and permits to contrast the chosen element with the other potential alternatives. Thus, the fact that we can do that in presence of negation as well does not mean anything special about the focus of negation. Indeed, only when one is able to differentiate between the two sets, the impossibility of negating the extracted constituent comes to be appreciated.

Tancredi (1990) makes similar observations regarding 'only', which lead him to the

*Principle of lexical association*

An operator like 'only' must be associated with a lexical constituent in its c-command domain.

The examples Tancredi is thinking at are completely analogous to those reported by Kuno and Takami.

- 258) John only likes Mary.

Interpretation A: focalization of *likes*

(John only likes, but not loves, Mary)

Interpretation B: focalization of *Mary*

(John likes only Mary; he doesn't like others)

- 259) Mary, John only likes.

Interpretation A: OK

Interpretation B: \*

Let us now review some common tracts between operator islands and topical islands. Ambiguous sentences are associated to different accentuation patterns, according to the element focalized by the operator (see Jackendoff 1972, Aoun & Li 1993).<sup>86</sup>

- 260) She didn't STEAL Jane's pearl necklace.  
 261) She didn't steal Jane's pearl NECKLACE.

After extraction, only one accentuation pattern survives.<sup>87</sup>

- 262) Jane's pearl necklace, she didn't STEAL.

This mirrors what happens with canonical extraction out of embedded clauses, in which the accents corresponding to their topical interpretation disappear (see examples number 8)-11)).

We can also wonder whether it is possible to move a constituent *inside* the scopal domain of an operator. The answer is certainly affirmative, as both Kuno & Takami's and Tancredi's principle predict.

- 263) Giovanni crede solo {che non vale la pena di ascoltare Maria}.  
 G. only believes that Mary is not worth listening to  
 (Giovanni crede che non vale la pena di ascoltare Maria, e non anche che non è giusto scrivere a Luca)  
 (G. believes that M. is not worth listening to, and not also that it is not fair to write to L.)
- 264) Giovanni crede solo {che è Maria<sub>i</sub> che non vale la pena di ascoltare t<sub>i</sub>}.  
 G. only believes that it is M. that it is not worth listening to  
 (Giovanni crede che è Maria che non vale la pena di ascoltare, e non anche che è Luca a cui non è giusto scrivere)  
 (G. believes that it is M. that it is not worth listening to, and not also that it is L. that it is not fair to write to)
- 265) Mario sa solo {quando<sub>i</sub> è arrivato Pietro t<sub>i</sub>}.  
 M. only knows when P. arrived  
 (Mario sa quando è arrivato Pietro, ma non chi è venuto in macchina.)  
 (M. knows when P. arrived, but not who came by car)

Interestingly, the same holds in case of 'classic' islands (see Ross 1967, 128).

- 266) Mario si chiede {quando i ragazzi<sub>i</sub> che Pietro ha incontrato t<sub>i</sub> andranno finalmente a casa}.<sup>88</sup>

<sup>86</sup> There are other possibilities of accentuation, but their analysis does not alter our point. Given that, we will not take them into consideration.

<sup>87</sup> Accentuation of *Jane's pearl necklace* in 262) would amount only to a contrastive focus on it, which is independent from negation.

<sup>88</sup> Here this is actually exemplified three times in one single sentence. A subject DP modified by a Relative Clause represents in fact an instance of intra-island movement:

- i) {I ragazzi<sub>i</sub> che Pietro ha incontrato t<sub>i</sub>} andranno finalmente a casa.  
 The guys that P. met will at last go home

The same can be said for wh-movement to the embedded C in all wh-islands:

- ii) Non so {quando<sub>i</sub> i ragazzi andranno finalmente a casa t<sub>i</sub>}.

- 267) M. wonders when the guys that P. met will at last go home  
 ??I ragazzi<sub>i</sub> che Mario si chiede {quando Pietro ha incontrato t<sub>i</sub>} andranno finalmente a casa.  
 The guys that M. wonders when P. met will at last go home
- 268) I giornali hanno chiuso in tipografia {subito dopo che il premier<sub>i</sub> che avevano arrestato t<sub>i</sub> scappasse all'estero}.
- 269) \*Il premier<sub>i</sub> che i giornali hanno chiuso in tipografia {subito dopo che avevano arrestato t<sub>i</sub>} scappò all'estero.

The interrelations between operators and certain 'classic' islands are more pronounced than what could appear at first sight. In fact, it can be shown that a type of wh-islands, *whether*-clauses, boils down to a particular case of operators. Consider the following:

- 270) I don't know whether {to follow him} (or rather going home)  
 271) I don't know whether to follow {him} (or rather her)  
 272) I don't know whether {to follow} him (or rather run him over)

In presence of extraction, the moved constituent cannot be in the 'focus' of *whether*. This mirrors what happens with negation, *only*, *even*, etc

- 273) He doesn't know whether to follow all three of his roommates.

Interpretation A: focus on *follow*  
 (He will maybe follow his three roommates.)  
 Interpretation B: focus on *all three of his roommates*  
 (He will maybe follow only two of his roommates.)

- 274) It's all three of his roommates that he doesn't know whether to follow t.

Interpretation A: OK  
 Interpretation B: \*

Rizzi (1992) reports an analogy between negation and *whether*-clauses that confirms this parallel. If we force focalization of a constituent by an operator through a cleft construction (as in 277) and 279)), it is impossible to extract it further in Italian.

- 275) Credo che sia Gianni che dobbiamo contattare t.  
 I believe that it is G. that we have to get in touch with  
 276) ?Chi credi che sia t che dobbiamo contattare t?<sup>89</sup>

---

I don't know when the guys will at last go home

<sup>89</sup> Clefts are selective islands (in Postal's sense): they tend to impede bare adjunct extraction, though not so strongly as negative or wh-islands.

- i) ??Come credi che sia t che ci dovremmo comportare t?  
 How do you believe that it is that we should behave?  
 ii) ??Perchè credi che sia t che ci dobbiamo andare t?  
 Why do you believe that it is that we have to go there?

Who do you believe that it is that we have to get in touch with?

- 277) Mi domando se sia Gianni che dobbiamo contattare t.  
I wonder whether it is G. that we have to get in touch with
- 278) \*Chi ti domandi se sia t che dobbiamo contattare t?  
Who do you wonder whether it is that we have to get in touch with
- 279) Ho detto che non è Gianni che dobbiamo contattare t.  
I said that it is not G. that we have to get in touch with
- 280) \*Chi hai detto che non è t che dobbiamo contattare t?  
Who did you say that it is not that we have to get in touch with

At a closer look, it turns out that all *wh*-islands instantiate this kind of configuration. The difference between *whether*-clauses and other *wh*-islands is simply that the latter have always the fronted *wh*-element in the focus of the operator at the embedded intra-CP level (*whether* cannot bear focus, being a Complementizer). From there, it can project to other sentential material in its embedded clause.<sup>90</sup>

- 281) Mi chiedo {cosa}<sub>Foc</sub> hai deciso. (e non solo quando hai deciso)  
I wonder what you decided (and not only when you decided)
- 282) Mi chiedo {cosa hai deciso}<sub>Foc</sub>. (e non solo quando lo farai)  
I wonder what you decided (and not only when you'll do it)
- 283) \*Mi chiedo cosa {hai deciso}<sub>Foc</sub>.

Even if in 283) there is apparently a possible interpretation in which the sentence is grammatical (with the continuation 'non solo cosa hai fatto/not just what you did'), we think this is not true. The *wh*-element is always in the focus of the operator, even when we repeat it identical (this implies that the *what* in the continuation is not the same *what* as in 283)).<sup>91</sup> Such a treatment also explains why *what* cannot be further extracted from the fronted embedded position. The correct representation of 283) would rather be:

- 284) Mi chiedo {cosa hai deciso}<sub>Foc</sub> (e non solo cosa hai fatto)  
I wonder what you decided (and not only what you did)

We can again use certain syntactic tests to demonstrate the impossibility of extraction out of the domain of a scopal operator in *wh*-islands, exactly as before.

- 285) Mi chiedo chi ha seguito tutti e tre i suoi compagni di stanza.  
I wonder who followed all three of his roommates

---

Note that a presupposition of existence is indeed associated to clefted material (see Starke 2001), in contrast to in-situ focal material.

<sup>90</sup> The existence of an explicit 'alternative set' is not systematically associated to non-scopal foci (see also above).

- i) Who have you seen t?  
#I've seen Mary (not John).
- ii) What have you said t?  
#I've said that I've seen Mary (not that I've greeted John).

<sup>91</sup> Referential nouns in repetition contexts do not possess this property, which is of exclusive pertinence of indefinites interpreted as variables.

Interpretation A: Focus on *who followed*  
 (I know who spoke with them, but I don't know who followed them)  
 Interpretation B: Focus on *who followed all three of his roommates*  
 (I know who followed two of them, but not all three)

- 286) a) ?Sono tutti e tre i suoi compagni di stanza che mi chiedo chi ha seguito t.  
 It is all three of his roommates that I wonder who followed  
 b) Tutti e tre i suoi compagni di stanza, che mi chiedo davvero chi possa aver  
 seguito t, ...  
 All three of his roommates, that I really wonder who could have followed, ...

Interpretation A: OK  
 Interpretation B: \*

Now we are in a position to understand why *wh*-islands are never completely permeable domains.<sup>92</sup>  
 This is in fact the only possibility for extracting *z* (putting for a moment *whether*-islands aside, but the reasoning changes minimally):

Embedded: {*wh* (...)}<sub>Foc</sub> {*z*}

- 287) Quel libro<sub>i</sub>, che non so a chi<sub>k</sub> hai dato t<sub>i</sub> t<sub>k</sub>, ...  
 That book, that I don't know to whom you gave, ...

The informational possibilities pertaining to the embedded clause (putting back the extractee in its base-position) are thus as follows:

Non so {a chi}<sub>Foc</sub> {pro hai dato quel libro}  
*or*  
 Non so {a chi pro hai dato}<sub>Foc</sub> {quel libro}  
*but not*  
 \*Non so {a chi pro hai dato quel libro}<sub>Foc</sub>

What renders examples like 287) (weak) islands is the fact that the embedded clause may not receive a focal value at the intra-CP level of the matrix clause. In fact, the focal value assigned at that level always coincides with the focus of the interrogative operator (we are obviously assuming the presence of some implicit interrogative operator selected by the matrix verb). But then if the *whole* embedded clause is focalized in this way, extraction becomes completely impossible (see 286), interpretation B). The conclusion is that *wh*-islands never receive a focal interpretation at the matrix intra-CP level when extraction takes place, as instead easily happens in situations such as the one below.<sup>93</sup>

- 288) What do you wonder?  
 I wonder {what you did}<sub>Foc</sub>

<sup>92</sup> See the next section for an account of the adjunct/argument asymmetry.

<sup>93</sup> We saw in section 4 that IS does not distinguish a default reading from a non-default one, if there is no 'syntactic' difference between the two. Note that this is not enough to explain the failure of *wh*-islands in extraction configurations. In fact, according to us the out-of-the-blue reading of sentences such as:

i) I wonder who has arrived.

has the entire embedded in focus, which means that it is this reading that should be used in determining extraction possibilities (a similar point can be made in the case of mild factives) - see also chapter 6.

Since the extractee is never in the focus of the operator, the embedded clause may not bear a focal value as a whole. The islandhood of indirect questions is therefore unavoidable.

Now we will proceed to show that exactly the same situation holds for factive islands. Since the groundbreaking paper of Kiparsky & Kiparsky (1971), factives are classified into different categories. We are particularly interested here in so-called mental factives, which can be further decomposed into those that denote an emotional state (eg, *regret*, *rejoice*) or rather a cognitive state (eg, *realize*, *deduce*). To begin with, note that factives are certainly not incompatible with a focal reading of their complement at the matrix intra-CP level:

- 289) What do you regret?  
I regret {that I didn't attend university at Harvard}<sub>Foc</sub>

The usual test due to Kuno & Takami (1997) shows that an operator is present here as well.

- 290) Mi dispiace che tu abbia seguito tutti e tre i tuoi compagni di stanza.  
I'm sorry that you followed all three of your roommates.

Interpretation A: Focus on the whole embedded clause

(I'm sorry that you followed them)

Interpretation B: Focus on *all three of your roommates*

(I'm sorry that you followed the three of them, instead of only two)

- 291) Sono tutti e tre i tuoi compagni di stanza che mi dispiace che tu abbia seguito t.  
It's all three of your roommates that I'm sorry that you followed.  
Tutti e tre i tuoi compagni di stanza, che mi dispiace che tu abbia seguito t,...  
All three of your roommates, that I'm sorry that you followed, ...

Interpretation A: OK

Interpretation B: \*

Rizzi's test confirms these data:

- 292) Mi dispiace che sia Gianni che dobbiamo contattare t.  
I'm sorry that it is G. that we have to get in touch with  
293) \*Chi ti dispiace che sia t che dobbiamo contattare t?  
Who are you sorry that it is that we have to get in touch with?

The reason why we cannot extract out of those factives that easily allow a focal CP-complement (we called them mild factives before) is the same that was given earlier for wh-islands: the co-presence of a scopal domain impedes extraction out of a focal embedded clause. The value assigned to the embedded clause at the intra-CP level cannot be focal (its topical status might anyway vary, depending on the type of verb).<sup>94</sup>

<sup>94</sup> Notice that the absence of stress in the matrix clause does not automatically mean that the entire embedded clause is in focus (ie, the position of the accent is not a sure index that the embedded clause as a whole is focal).

- i) Ti dispiace di più che sia partito Mario, oppure Luca?  
Are you more sorry about Mario's leaving or rather Luca's?  
ii) Mi dispiace più di tutto che sia partito {MARIO}<sub>Foc</sub>  
I'm most sorry about Mario's

With the context given in i), sentence iii) clearly presents wrong informational values.

A potential problem is that in certain circumstances a factive island becomes semi-permeable even to adjunct extraction, which is the most sensitive test we dispose of for establishing if a domain is an island or not. We saw data of this type in note 63, repeated here for convenience.

- 294) Dove ti è dispiaciuto incontrare Mario t?  
Where were you sorry to meet Mario?
- 295) ??Dove ti è dispiaciuto che hai incontrato Mario t?  
Where were you sorry that you have met Mario?
- 296) ?Quando ti è dispiaciuto incontrare Mario t?  
When were you sorry to meet Mario?
- 297) \*Quando ti è dispiaciuto che hai incontrato Mario t?  
When were you sorry that you have met Mario?
- 298) ?In che modo gli dispiace viaggiare t?  
In what way does he dislike to travel?
- 299) \*In che modo gli dispiace che hai viaggiato t?  
In what way does he dislike that you have travelled?

But it is almost certainly the case that islandhood is more subtle than what has been usually retained. In fact, we still perceive a contrast between adjunct extraction from an infinitive complement to a factive verb like *to be sorry* and to a bridge verb like *think*: the second one sounds slightly more natural.

- 300) (?)Dove ti è dispiaciuto incontrare Mario t?  
Where were you sorry to meet M.?
- 301) Dove hai deciso di incontrare Mario t?  
Where did you decide to meet M.?

iii) #Mi dispiace più di tutto {che sia partito MARIO}<sub>Foc</sub>

Stress in the matrix is always avoided in extraction configurations (see section 1.1), because deaccentuation of the embedded clause causes it to receive a strongly topical value, which blocks every kind of extraction.

There are factives which are not compatible with non-accented matrix clauses, imposing the adoption of nominal complements in those situations (contrast v) with vi):

- iv) Come mai sei così contento?/Cosa ti rende così felice?  
Why are you so happy?/What renders you so happy?
- v) Mi rallegra ?#(il fatto) che tu sia arrivato PRIMO.  
It cheers me up (the fact) that you arrived first
- vi) Sono felice (del fatto) che tu sia arrivato PRIMO.  
I'm glad (of the fact) that you arrived first
- vii) Sei contento?  
Are you happy?
- viii) Sì, mi rallegra MOLTO {che tu sia arrivato primo}<sub>Top</sub>.  
Yes, it really cheers me up that you arrived first

The complements of such verbs (which we called 'strong factives') are indeed the more opaque to extraction. Factives which allow accentuation of the embedded clause are milder islands, though complete permeability is impossible for the reasons given in the text.

- 302) ?Quando ti è dispiaciuto incontrare Mario t?  
When were you sorry to meet M.?
- 303) Quando hai voluto incontrare Mario t?  
When did you want to meet M.?
- 304) ?In che modo gli dispiace viaggiare t?  
In what way does he dislike to travel?
- 305) In che modo pensi di partire t?  
In what way do you think to leave?

Therefore, an infinitive complement to a mild factive has to be considered an island, though in a particularly mild way. This is a further indication that island phenomena cannot be adequately explained unless one formulate a theory in which the existence of much more subtleties and microvariations than past proposals acknowledged be incorporated.

As observed in Hegarty (1992), there are certain factives which pattern with non-factives as to what concerns extraction possibilities.

- 306) John learned that Max went to London.  
307) John found out that Max went to London.

The embedded complements receive a factive interpretation showing a presupposition of existence, still adverbial extraction is tolerated.<sup>95</sup>

- 308) A: Why did you learn/find out that Max went to London t?  
B: To visit his sick uncle.

Since it can be shown that there are factive verbs which do not possess any intrinsic operator, these data are no surprise: in the absence of an operator, the embedded clause may receive a focal value at the intra-CP level and may thus also allow extraction to occur out of it. Topicality at the T-level is generally not enough to freeze a constituent in English, and so islandhood basically disappears.

First of all, notice that the following sentence has only one interpretation in the absence of contrastive accentuation.

- 309) Le ho detto che hai seguito tutti e tre i tuoi compagni di stanza.  
I told her that you followed all three of your roommates

In particular, the reading below can be accessed just with a contrastive focus on the capitalized word.

- 310) Le ho detto che hai seguito tutti e TRE i tuoi compagni di stanza (invece di solo due).  
I told her that you followed all three of your roommates (instead of only two)

---

<sup>95</sup> See:

i) #Mary learned that Max went to London and Sue learned that he didn't.

Compare to:

ii) Mary said that Max went to London and Sue said that he didn't.

Compare 309) with its negative counterpart, which as we saw presents both readings *without any extra-accentuation required* (different positions of the main accents are obviously involved, but this is not relevant to the point under discussion).

- 311) Le ho detto che non hai seguito tutti e tre i tuoi compagni di stanza.  
I told her that you didn't follow all three of your roommates

Interpretation A: I said that you did not followed them

Interpretation B: I said that you did not follow the three of them, but only two/one

Now, the presence of such an ambiguity of interpretation was previously connected to the existence of an invisible operator in the sentence. If we consider again the factive verbs that allow extraction, one notices that the ambiguity does not manifest itself either (unless a contrastive focus be employed).

- 312) I found out/learned that you followed all three of your roommates.

Interpretation A: Focus on the whole embedded clause

(I found out/learned that you followed them)

\*Interpretation B: Focus on *all three of your roommates*

(I found out/learned that you followed the three of them, instead of only two)

Rizzi's test again mirrors such data. *Capire* and *sapere* in Italian are similar in meaning and factivity to *find out* and *learn* in English. Observe what happens when we extract a wh-element out of a cleft:

- 313) Ho saputo/capito che è Gianni che dobbiamo contattare t.  
I found out that it is G. that we have to get in touch with  
314) ?Chi hai saputo/capito che è t che dobbiamo contattare t?  
Who did you find out that it is that we have to get in touch with?

Compare with the much stronger unacceptability of:

- 315) \*Chi sei contento che è t che dobbiamo contattare t?<sup>96</sup>  
Who are you happy that it is that we have to get in touch with?

As to simple adverbial extraction, the contrasts are even clearer.

- 316) In che modo hai saputo che si è comportato t?  
In what way did you find out that he behaved?  
317) \*In che modo sei contento che si è comportato t?  
In what way are you happy that he behaved?  
318) ?Come hai capito che l'ha risolto t?  
How did you understand that he solved it?

---

<sup>96</sup> Predictably, *essere contento* (to be glad) has an implicit operator, showing the expected ambiguity of interpretation without extra-accentuation.

i) Sono contento che hai seguito tutti e tre i tuoi compagni di stanza.  
I'm glad that you followed all three of your roommates.

A: I'm glad that you followed them.

B: I'm glad that you followed the three of them and not just two.

- 319) \*Come ti dispiace che l'ha risolto t?  
How are you sorry that he solved it?

We assume a status identical to factive islands and wh-islands for contrastive focus, which is also scope-like as can be seen in the following set of examples:

- 320) Ho fatto [IL RITRATTO DI PIETRO]<sub>Foc</sub> (e non la scultura di Maria!)  
I made Pietro's portrait (and not Mary's sculpture)
- 321) \*Questo è il ragazzo di cui ho fatto [IL RITRATTO t]<sub>Foc</sub> (e non la scultura di Maria!)  
This is the guy of whom I made the portrait (and not Mary's sculpture)
- 322) Ho fatto [IL RITRATTO]<sub>Foc</sub> di Pietro (e non una scultura!)  
I made Pietro's portrait (and not his sculpture)
- 323) Questo è il ragazzo di cui ho fatto [IL RITRATTO t]<sub>Foc</sub> (e non una scultura!)  
This is the guy of whom I made the portrait (and not a sculpture)

Empirical data sustaining this view may also be recruited employing two distinct contrastive foci, one in-situ and the other in the left periphery (see Rizzi 1997). Sentences such as 324) are certainly possible in Italian:<sup>97</sup>

- 324) ?MARIO ha comprato un libro A GIOVANNI, e non SANDRA A LUIGI!  
M. bought a book to G., and not S. to L.

But 325) is instead impossible, presumably since extraction takes place.

- 325) \*DI GIOVANNI ho fatto [IL RITRATTO t], e non DI MARIA UNA SCULTURA!<sup>98</sup>  
Of G. I made the portrait, and not of M. a sculpture
- 326) DI GIOVANNI ho fatto il ritratto, e non DI MARIA!  
Of G. I made the portrait, and not of M.
- 327) Di Giovanni ho fatto IL RITRATTO, e non UNA SCULTURA!  
Of G. I made a portrait, and not a sculpture

Notice finally that one needs an analogous representation for the operator *only* in contexts highly similar to those above:

- 328) \*Di chi hai fatto solo [il ritratto t]<sub>Foc</sub>?  
329) Di chi hai fatto solo [il ritratto]<sub>Foc</sub> t?

---

<sup>97</sup> Contra Benincà (1988) and Rizzi (1997), who employ a marked order of arguments (moving the dative to the left periphery over the subject results in ungrammaticality). Such data raise interesting issues in the Rizzean split CP model, in particular wrt the assumption that the focal position is 'sandwiched' in between two topical positions due to selectional restrictions. In fact, the following is also substantially grammatical in our idiolect:

i) (?)MARIO A GIOVANNI ha comprato un libro, e non SANDRA A LUIGI!  
M. to G. bought a book, and not S. to L.!

<sup>98</sup> This is a valid proof only assuming that contrastive operators are computed cyclically in the sentence, otherwise *di Giovanni* should be able to move on its own for focus reasons and then another contrastive operator would focalize the remnant head noun in isolation, without violating the principle of extraction. This is of course impossible given our model of IS.

Of whom have you only made the portrait?

To sum up, in this section we proposed the prospect of a theory of scopal operators, whose behaviour seems to be homogeneous. A possible, non-exhaustive categorization of the various typologies of operators is attempted in this schema:

- a) scopal operators
  - contrastive operator (contrastive focus, only, even, etc)
  - negative operator (negation)
  - emotional/cognitive operator (factives)
  - interrogative operator (questions)

- b) informational operator
  - topic/focus operator

The dichotomy we propose is motivated by many divergent behaviors qualifying scopal and informational operators, briefly summarized below.

- a) No scopal operator tolerates extraction out of the scopal domain. The informational operator tolerates extraction in certain circumstances.
- b) Scopal operators function in a binary fashion: either extraction is licit because the extractee is not in the scope of the operator, or it is not since the extractee is in the scopal domain. The informational operator impedes or allows extraction in a gradual manner.
- c) Scopal operators are intrinsically different from one another syntactically and semantically, whereas the informational operator may be conceptualized as a scale with two poles (ie, a continuum).

## 6) WEAK AND STRONG ISLANDS

There are many environments in which extraction is not homogeneously deficient: we are referring to what have been named weak islands (or selective/unlocked islands, in Postal's terminology). Such environments allow the extraction of (referential) arguments, but impede that of adjuncts and non-referential arguments (see Huang 1982, Lasnik & Saito 1984, Chomsky 1986, Koster 1987, Rizzi 1990, Cinque 1990, Lasnik & Saito 1992 and references cited there).<sup>99</sup>

### WH-ISLAND

- 330) Which problem did John ask how to phrase t?
  - 331) \*How did John ask which problem to phrase t?
- (see especially Huang 1982, Chomsky 1986, Rizzi 1990)

### NEGATIVE ISLAND

- 332) To whom didn't you speak t?
  - 333) \*How didn't you behave t?
- (see especially Williams 1974, Ross 1984, Rizzi 1990)

### FACTIVE ISLAND

- 334) Who did you realize that they hit t?
- 335) \*How did you realize that he behaved t?

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<sup>99</sup> Szabolcsi & Zwarts (1997), Cresti (1995) and some other authors do not believe referentiality to be the correct variable and rephrase the dichotomy in more semantic terms. The issue of how to import the (alleged) broader empirical coverage of their accounts into our framework remains in large part an open one.

(see especially Cattell 1978, Cinque 1990)

We do not believe in the classification into weak and strong islands according to a *typology of constructions*, for various reasons. Firstly, when a negative island is fully operative it does not appear to distinguish between arguments/adjuncts or d-linked/non-d-linked extractees, since they are both equally disallowed. A negative island cannot be systematically classified as weak, then.

- 336) \*Where doesn't he come from t?
- 337) \*Which state doesn't he come from t?<sup>100</sup>
- 338) \*Which of those states doesn't he come from t?

Furthermore, Szabolcsi (2002) observes insightfully that the same asymmetries that characterize weak islands seem to regard strong islands as well, thus rendering complicated a clear division between the two. For example, these are strong island environments (adjunct islands). Being untensed, extraction is possible. But only for referential wh-elements, exactly as in weak islands (see Obenauer 1984, Cinque 1990 for analogous considerations).<sup>101</sup>

- 339) Which politician did you go to England after meeting t?
- 340) \*How much water did you make the pasta after boiling t?  
(from Szabolcsi 2002)

As said, in 339) the (potentially) strong island is not fully operative just because it is untensed. It has been repeatedly observed that the same obtains in many weak island environments, as in this contrast between an untensed and a tensed wh-island.

- 341) \*Which topic did John ask whether Mary was talking about t?
- 342) Which topic did John ask whether to talk about t?

The usual classification of islands in weak and strong according to the type of syntactic construction (and the corresponding division of labor between theories) is therefore problematic in at least two respects: a) it fails to recognize that certain asymmetrical behaviors in weak islands may be detected in strong island environments as well c) it differentiates two distinct syntactic entities that are influenced by the very same variables (see, for instance, the relevance of tense in both cases).

We think that weak island configurations are actually completely identical to strong island ones - and vice-versa - from a qualitative point of view, though not from a quantitative one. Since an

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<sup>100</sup> This example comes from Kuno and Takami (1997), who show that its ungrammaticality derives from the violation of their *Ban on out-of-scope extraction* (in our terms, extraction out of a scopal operator). Pragmatic reasons render in fact very difficult to interpret similar sentences without extracting the wh-element from the scope of negation (at least in normal situations). See also the contrast between 36a and 36b in Rizzi (1990, ch. 3), which is akin to the same sort of explanation (reasons of space preclude full discussion).

<sup>101</sup> The DP/PP distinction proposed by Cinque (1990) as a diagnostic criterion does not seem to be always empirically correct either:

- i) Which politician did John ask whether to worry t?
- ii) \*About which politician did John ask whether to worry t?
- iii) \*How much gravy did John ask whether to cook t?
- iv) \*With how much gravy did John ask whether to cook t?  
(from Szabolcsi 2002)

See also Engdahl (1983, 2001) and Levine, Hukari & Calagno (2003) for data against the rather questionable assumption that parasitic gaps are limited to the NP category, a fact on which Cinque bases many of his theoretical considerations regarding the division between weak and strong islands.

environment usually classified as strong may come to allow extraction in certain circumstances, the criterion relevant for deciding whether a domain is an island may not be ‘constructional’. And explaining island restrictions by means of two completely different accounts results frankly counterintuitive.<sup>102</sup> It is instead a single explanation, specifically the same one that we adopted earlier, that should be able to cover both cases. And indeed it is feasible to unify all instances of islands under a common account, we believe.

The Principle of Extraction is not dichotomic, but rather varies on a continuum (the idea will become clearer in the next chapter, where detailed empirical justification will be adduced). This means that extraction possibilities, changing according to the informational value of a domain, are not a matter of binary choices. When a certain threshold is surpassed, extraction becomes marginal and then progressively worse, proportionately to the informational value of the domain out of which extraction takes place.<sup>103</sup> It is a difference in the positioning on the continuum of the informational operator what determines the dissimilarities observable in extraction among weak and strong islands. In a sense, the terms *weak* and *strong* are thus adequate, if they do not entail two separate families of explanations. Such a unification of all kinds of islands permits easily to understand why they are affected by the same variables and show identical asymmetries in licit extraction cases.

The idea that the informational operator is continuum-like permits to account nicely for the subtle microparametric variations that exist across languages (even closely related ones) as to what concerns extraction possibilities. It seems that the critical threshold of the Principle of Extraction is not always the same, both synchronically and diachronically. Rather, it tends to move up and down the continuum of the informational operator in a progressive way. So, the behavior of languages in the ‘extreme situations’ are universally predictable (the strongest opaque domains are usually respected, while the less opaque or more permeable ones almost always allow extraction). But the ‘intermediate zone’ is open to a vast amount of microvariation, which represents an insoluble riddle for too rigid accounts of island sensitivity.

Now, before examining in more detail weak islands, we turn to some problematic cases which are well-known in the literature. In fact, there are certain observations that the Principle of Extraction, as stated, cannot account for. To begin with, in English it does not seem to be possible to employ a *wh-in-situ* inside an island in multiple *wh*-questions if it is strongly focal at the D-level (non-referential or aggressively non-d-linked).

- 343) \*Who fainted when you behaved how?  
(from Reinhart 1998)
- 344) Who fainted when you behaved what way?

Note that no extraction takes place in these examples, which means that our explanation has nothing to say about them (unless we postulate invisible LF movements, which is something we would like to avoid for theoretical reasons, in the absence of any compelling evidence to the contrary - following Kayne 1998; see also Simpson 2000 for many detailed arguments against an LF-movement analysis of *wh-in-situ*).

Similar problems regard many *wh-in-situ* languages. In fact, as first noticed in Huang (1982), they usually show sensitivity to the referential/non-referential divide in both strong and weak island environments, albeit they do not employ extraction strategies (at least not overtly).

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<sup>102</sup> See Postal (1998), who takes a similar stand.

<sup>103</sup> All other kinds of operators function instead in a binary fashion, as seen above: extraction is always impossible if a constituent is in the scopal domain, otherwise it is licit.

#### FACTIVE ISLAND

- 345) Max-wa [Alice-ga dare-o tatai-ta to] kizui-ta-no?  
Max-TOP Alice-NOM who-ACC hit-PAST COMP realize-PAST-Q  
'Who did Max realize that Alice hit?'
- 346) \*Max-wa [Alice-ga Pat-o naze tatai-ta to] kizui-ta-no?  
Max-TOP Alice-NOM Pat-ACC why hit-PAST COMP realize-PAST-Q  
'Why did Max realize that Alice hit Pat?'  
(Japanese, from Oshima 2005)

#### COMPLEX NP ISLAND

- 347) Shei xie de xu zui youqu?  
Who write book most interesting  
'Books that who wrote are the most interesting?'
- 348) \*Ta weisheme xie de shu zui youqu?  
he why write book most interesting  
'Books that he wrote why are the most interesting?'  
(Chinese, from Huang 1982)

#### ADJUNCT ISLAND

- 349) Zhangsan [yinwei shei mei lai] er bu gaoxing  
Zhangsan because who not come then not happy  
'Who is x such that Zhangsan is not happy because x did not show up.'
- 350) \*Zhangsan [yinwei Lisi weishenme mei lai] er bu gaoxing.  
Zhangsan because Lisi why not come then not happy  
'What is the reason x such that Zhangsan is not happy because Lisi did not show up for x.'  
(Chinese, from Wu 1999)

In Japanese, argumental wh-elements modified by 'ittai'/on earth (Pesetsky's aggressively non d-linked wh-dependencies) behave like adjuncts, thus reasonably showing that 'referentiality' is the right variable to be considered.

#### COMPLEX NP ISLAND

- 351) \*Mary-ga [[John-ni ittai nani-o ageta] hito-ni] atta-no?  
Mary-NOM John-DAT on-earth what-ACC gave man-DAT met - Q  
'What on earth did Mary meet the man who gave t to John?'

#### ADJUNCT ISLAND

- 352) \*Mary-ga [John-ga [ittai nani-o] yomu mae-ni] dekaketa-no?  
Mary-NOM John-NOM on-earth what-ACC read before left - Q  
'What on earth did Mary leave before John read t?'

What happens in all these examples might seem connected to extraction in weak island configurations (and many authors actually followed this path). For instance, consider an English whether-clause out of which extraction is possible.

- 353) How many people do you wonder whether I should talk to?  
(from Cresti 1995)

The non presuppositional reading (or amount reading) in ii) is not available in this configuration, while it is perfectly accessible in:

- 354) How many people should I talk to?

- i) For what n: there are n-many people x, such that you think I should talk to x.  
 ii) For what n: you think it should be the case that there be n-many people that I talk to?

Many other tests strengthen these judgements, showing that every wh-element extracted out of an island-type domain obligatorily receives a topical reading at the D-level (see in particular Longobardi 1986, in the light of the interpretation given in Cinque 1990, 1.4.2). One more should suffice to confirm the point:

- 355)        What do you wonder whether to eat t?  
 356)        ??Nothing, I'm not hungry.
- 357)        What do you wanna eat t?  
 358)        Nothing, I'm not hungry.

However, the data about multiple wh-questions and wh-in-situ apparently demonstrate that extraction is not always responsible for the referential/non-referential asymmetries, unless one adopt a covert movement analysis. Consequently, we might have to distinguish between these two situations:

- *extraction restrictions*, which determine if extraction is licit or not out of certain domains, on the basis of their informational values.
- *induced topicality restrictions*, which either oblige some syntactic elements in specific environments to receive certain informational interpretations, or ban them completely in those environments. They would be independent from extraction.

Such a distinction i) leaves unexplained the fact that the two phenomena seem highly similar ii) does not yet provide a systematic explanation of the possibility of extracting referential complements out of weak islands. We will now examine these points separately, trying to show i) that the two phenomena are only apparently identical and ii) that a systematic account of the differences between referential and non-referential complements in extraction can be supplied in the present framework taking into account a new, important factor, to which we will return in detail in the next chapter.

Beginning with the first issue, remember that when extraction takes place by means of topicalization or relativization, Chinese fully respects the complex NP constraint (and other strong islands), whatever type of extractee be employed:

- 359)        \*Neige ren<sub>i</sub>, t<sub>i</sub> kanjian t<sub>j</sub> de xuesheng<sub>j</sub> lai-le.  
               that man see student come  
               ‘That man<sub>i</sub>, the student<sub>j</sub> who t<sub>i</sub> saw t<sub>j</sub> came.’
- 360)        \*Neige ren<sub>i</sub>, t<sub>j</sub> kanjian t<sub>i</sub> de xuesheng<sub>j</sub> lai-le.  
               that man see student come  
               ‘That man<sub>i</sub>, the student<sub>j</sub> who t<sub>j</sub> saw t<sub>i</sub> came.’

Such prima facie absence of parallelism suggests that covert movements are not indicated to account for the observed restrictions on argumental wh-in-situ in Chinese: on the basis of the overt movement data, we would expect extraction out of strong islands to produce an illicit configuration, for both d-linked and non-d-linked wh-elements. At the very least, it is evident that restrictions on extraction and restrictions on argumental wh-in-situ inside islands are not identical (see Huang 1982, from which the examples are taken).

French data point toward the same conclusion, in a way which is complementary to the evidence available from Chinese. In French, it is possible to extract the object from the tensed complement clause of a bridge verb.

- 361) Qu'est-ce que t'a dit qu'il a vu t?  
What have you said that he saw?

In that environment, though, a *wh-in-situ* is not admitted (disregarding echo interpretations).

- 362) \*T'a dit qu'il a vu quoi?  
You said he saw what?

*Wh-in-situ* in French are instead permitted in the following configurations:

- |      |  |                  |
|------|--|------------------|
| 363) | T'a vu qui?<br>You saw who?  | Root clauses     |
| 364) | Jean a pensé faire quoi?<br>J. thought of doing what?  | Bare Infinitives |
| 365) | Pierre ne veut pas que Marie fasse quoi?<br>P. does not want that M. do what?<br>(from Mathieu 1999) | Subjunctives     |

Indirect questions, *that*-clauses, infinitives introduced by *de* all pattern together in rendering impossible the employment of a *wh-in-situ* (Chang 1997; Bošković 1998, 2000; Mathieu 1999; Cheng and Rooryck 2000).

- 366) \*Je me demande il a fait quoi.<sup>104</sup>  
I wonder he did what
- 367) \*Jean et Pierre croient que Marie a vu qui?  
J. and P. believe that M. saw who?
- 368) \*Jean a décidé de faire quoi?  
J. decided *de* to do what?

Such data obviously remind us of what we said before about the topicality of these environments. Specifically, it appears to be the case that French disallows a *wh-in-situ* in all those contexts that show signs of a topical value in one of the IS levels.<sup>105</sup> Even the simple presence of tense (or, for that matter, a 'topical infinitive'; see note 42) impede the presence of *wh*-elements in base position - multiple *wh*-questions apart.<sup>106</sup>

<sup>104</sup> In certain non-standard varieties of French, some indirect questions may allow a *wh-in-situ*. A possibly related observation is that in (presumably) those same varieties *wh*-elements do not forcefully have a presupposition of existence, as is instead the case in standard French (see Obenauer 1994, Chang 1997, Starke 2001, Mathieu 2004).

<sup>105</sup> Iraqi Arabic and Hindi are apparently two other languages which share these restrictions with French. See Simpson (2000) and references cited there.

<sup>106</sup> As noticed by Ronat (1984, 318), even multiple *wh*-questions disallow *wh-in-situ* in French if they are inside deaccented material:

- i) \*Qui serait capable *de rencontrer qui*.  
Who would be able to meet who

This suggests a three-way split: extracted, *in-situ* single and *in-situ* multiple *wh*-elements. Each of these would be sensitive in different ways (and presumably also for at least partly different reasons) to the topicality of a domain.

The conclusion we draw from the French data is, once more, that the restrictions on wh-in-situ are independent from the restrictions on extraction, though both are related to the IS values of the targeted environments. In Chinese, wh-in-situ are less constrained than extraction procedures whereas in French an opposite situation holds. It is therefore a matter of parameterization whether a language has more (or less) restrictions on wh-in-situ than on extraction procedures.<sup>107</sup> We will not try to develop a comprehensive account of the restrictions on wh-in-situ, which would lead us too far away from the purposes of this chapter. The aim of this subsection was simply to suggest that the two families of restrictions be kept separated, which we believe is an empirically genuine fact. Suffice it to add that non-referential wh-in-situ in Chinese, as noted above, do not distinguish between weak and strong islands: if the account to be devised should be unique and cover also these cases, one would be led to a very strange conclusion. Namely, that the (cross-linguistically very stable) difference between weak and strong islands is not active for a subpart of extraction procedures. Highly stipulative as it is, such a claim is all but welcome.

The restrictions on wh-in-situ could maybe be retained of the same type of those responsible for the incompatibility of certain focal elements with certain informational environments. So, for instance, an indefinite cannot head an appositive relative clause. Obviously, the Principle of Extraction has nothing to say on the issue.

- 369) \*Un cane, che ho visto t prima, ...  
A dog, that (I) have seen before  
370) Quel cane, che ho visto t prima, ...  
That dog, that (I) have seen before

The lie test shows that there is a difference in presupposition between restrictives and appositives:

- 371) L'ho già visto, il cane che è appena arrivato.  
I've already seen him(cl), the dog that has just arrived  
??Che in realtà non è vero, era già qui.  
Which actually is not true, he was already here  
372) L'ho già visto, quel cane, che è appena arrivato.  
I've already seen him(cl), that dog, that has just arrived  
\*Che in realtà non è vero, era già qui.  
Which actually is not true, he was already here

Note that not only a focal value at the D-level interferes with the possibility of an appositive relative clause, but also one at the intra-CP level (of the matrix clause in which the head is inserted). The degraded status of the appositives with focal heads which are reported below proves it:

- 373) Il cane, che è appena arrivato, l'ho visto. dislocated object  
The dog, that has just arrived, I've seen him(cl)

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<sup>107</sup> In Bošković (1998) a different explanation of these facts is offered. According to him, covert LF feature-movement (Chomsky 1995) is more restricted by locality considerations than overt categorial movement. The data from Chinese (and similar ones) are dismissed accepting the 'unselective binding' proposal of Pesetsky (1987), which denies that LF movement takes place for d-linked wh-elements. However, Bošković does not explain why the unselective binding option is not available to certain languages (like French). Furthermore, it is not at all clear why f-movement should be more constrained than categorial movement and which general theory explains its local properties. In our framework, it would be possible to incorporate Bošković's proposal, reframing it in terms of a differential sensitivity of f-movement to the topicality of a domain (which would solve at least the last of the cited problems). This being true, the principle of extraction could become the unique theoretical tool needed for explaining the restrictions on both overt movement and wh-in-situ. But such a possibility remains certainly highly controversial.

- |      |   |                  |
|------|---|------------------|
| 374) | Il cane, che è appena arrivato, mi ha morso.<br>The dog, that has just arrived, bit me                    | subject          |
| 375) | ??Ho visto il cane, che è appena arrivato.<br>I've seen the dog, that has just arrived                    | object           |
| 376) | ??È il cane, che è appena arrivato, che mi ha morso.<br>It is the dog, that has just arrived, that bit me | clefted subject  |
| 377) | ??Mi ha morso il cane, che è appena arrivato.<br>The dog, that has just arrived, bit me                   | inverted subject |

Observe that appositives cannot modify bare wh-elements either, and they are rather unnatural also with d-linked ones.

- |      |   |
|------|---|
| 378) | *Chi, che è appena arrivato, non conosci?<br>Who, that has just arrived, don't you know?                                    |
| 379) | ??Quale di quei ragazzi, che è appena arrivato, non conosci?<br>Which of those guys, that has just arrived, don't you know? |

This sort of restrictions was already observed when we introduced the Informational Mapping Principle. To what extent the incompatibilities reported here and those reported in the previous section have something in common with the restrictions on wh-in-situ is difficult to determine. We are merely indicating a line of research, that could maybe turn out to be unproductive.

The second issue we have to address is why it is possible to extract out of certain (topical) domains, which nevertheless impose a referential interpretation on the extractees. Our solution to the puzzle is intimately related to the ideas to be developed in the next chapter (the reader is referred to it for more details and for empirical justification). The basic insight is that extraction makes always use of resumptive pronouns, whose pronominality varies from a value close to 0 for certain types of movement transformations and certain types of extractees, to a value close to 1 - which means that the resumptive pronoun is somehow equivalent to a full DP filling the gap. Extraction restrictions would obviously be sensitive to such a value of pronominality. Different types of wh-elements are associated to different resumptive pronouns: d-linked wh-dependencies, much more topical at the D-level, leave behind null elements with a higher degree of pronominality than bare and adjunct wh-elements (unless a d-linked reading is pragmatically forced). Certain environments are too opaque (ie, present a highly topical IS value) to allow extraction of any sort of wh-elements (strong islands). Other less opaque environments do not completely block extraction of wh-elements, but only provided that they are able to leave behind resumptive pronouns with a considerable enough value of pronominality (weak islands). This proviso rules out non-referential wh-dependencies.

Two variables would be pertinent, then: the *Principle of Extraction*, which is sensitive even to slight topicalizations of a domain, tempered by the employment of *resumptive pronouns* with an adequate degree of pronominality, which diminishes the freezing effect due to the first restriction. The complex interplay between the two factors would yield the variegated results known from the literature.

As will be demonstrated in the next chapter, the same sort of 'gradual asymmetries' in extraction is characteristic of different A' movements and not only of different types of extractees (Obenauer 1984, Cinque 1990, Postal 1998). This is so because the type of transformation involved influences the value of pronominality of the resumptive pronoun which is left behind. Strongest islands block (almost) every kind of extraction and extractee, weaker ones are less selective and block only a subset of the possible extractions/extractees: those that are associated to resumptive pronouns with the lowest values of pronominality. We will advance many empirical proofs that sustain these ideas in the following chapters of the present dissertation.

It is basically an acknowledged fact that the unacceptability due to islands is a sort of continuum and that extraction from certain contexts is completely impossible, whereas from others it is just slightly marginal or unproblematic, with many degrees of grammaticality in between the extremes. This fits without problems our account, since informational value assignments a) are contextual-dependent b) are easily subject to a certain amount of individual variation and especially c) are attributed on a continuous scale and are not binary. According to the Principle of Extraction, a domain is opaque if it is assigned a topical informational status. But there is no clear-cut boundary between topical/non-topical assignments of a value. Such a difference is instead gradual, explaining the analogous distribution of judgements.

## 7) RELATIVIZED MINIMALITY

The informational explanation we are proposing seeks to replace all other accounts of island phenomena previously advanced in the literature. For weak islands, one of the most influential is Relativized Minimality (RM, Rizzi 1990), which can be so defined:

‘In the configuration:

... X ... Z ... Y ...

Y cannot be related to X if Z intervenes and Z has certain characteristics in common with X. So, in order to be related to X, Y must be in a minimal configuration with X, where Minimality is relativized to the nature of the structural relation to be established’ (from Rizzi 2001a).<sup>108</sup>

We do not doubt of the relevance of such a principle in syntax. It is based on a simple, insightful intuition: similar elements interfere. This is very well-known in psychology since the first ‘60s (see Baddeley 1966, Conrad 1963, Wickelgren 1965; see also Lewis 1999 for a recent overview). Grammar, as whatever superior mental operation, needs working memory resources to be processed and it would be strange not to observe similar effects in the *linguistic* cognitive domain.<sup>109</sup>

Data of the following type, involving A’ dependencies (relative clause, tough movement, topicalization construction and question formation), illustrate the point - the intervening element is underlined (from Pesetsky 1982):

- 380) \*John, who<sub>i</sub> I wonder what game<sub>k</sub> you believe t<sub>i</sub> to play t<sub>k</sub> well.  
 381) Chess, which<sub>i</sub> I wonder who<sub>k</sub> you believe t<sub>k</sub> to play t<sub>i</sub> well.
- 382) \*What sonatas<sub>i</sub> is this violin<sub>k</sub> easy to play t<sub>i</sub> on t<sub>k</sub>?  
 383) What violin<sub>i</sub> are these sonatas<sub>k</sub> easy to play t<sub>k</sub> on t<sub>i</sub>?
- 384) \*This specialist<sub>i</sub>, Mary knows what problems<sub>k</sub> to consult t<sub>i</sub> about t<sub>k</sub>.

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<sup>108</sup> Otherwise said:

Y is in a Minimal Configuration (MC) with X iff there is no Z such that

- (i) Z is of the same structural type as X, and
- (ii) Z intervenes between X and Y

According to Rizzi, intervention could be defined hierarchically, in terms of c-command.

<sup>109</sup> The psychological literature reports cases of similarity-based interference effects in a variety of different cognitive domains involving working memory processes. See Walker & John (1984) for odors; Miles & Borthwick (1996) for tact; Logie, Zucco & Baddeley (1990) for vision; Williams, Beaver, Spencer & Rundell (1969) for kinesthetic memory; Shiffrin (1973) for phonological memory; Deutsch (1970) for tones.

- 385) This problem<sub>i</sub>, Mary knows who<sub>k</sub> to consult t<sub>k</sub> about t<sub>i</sub>.
- 386) \*Who<sub>i</sub> do you know what books<sub>k</sub> to persuade t<sub>i</sub> to read t<sub>k</sub>?
- 387) What books<sub>i</sub> do you know who<sub>k</sub> to persuade t<sub>k</sub> to read t<sub>i</sub>?

That this is a working memory effect is shown, we believe, by the fact that only when an element is assigned to its gap (ie, a mental operation of ‘chain construction’ occurs) an intervention effect arises. In the nested patterns there are no processes of gap assignment in which another free element (unassigned to its gap and thus potentially intervening) interferes: whenever a gap assignment takes place, a path free from possible competitors is available. RM effects are thus bound to the process of chain composition, which is a working memory process (see Kaplan 1973, Bach 1977, Fodor 1978).

Cases of RM effects not based on movement may involve anaphors, for instance the long-distance anaphor *sé* in Italian (see Grinder 1970, Jacobson & Neubauer 1976 for comparable data in English).<sup>110,111</sup>

- 388) ?\*Maria<sub>i</sub> pensava che Giorgio avesse parlato di sé<sub>i</sub> con Sandra.  
M. thought that G. had spoke of herself with S.
- 389) \*Andrea<sub>i</sub> sapeva che Maria copriva solo sé<sub>i</sub>.  
A. knew that M. covered only himself
- 390) Il politico<sub>i</sub> pensava che il telegiornale avesse parlato di sé<sub>i</sub>.  
The politician thought that the news had spoken of himself
- 391) Andrea<sub>i</sub> sapeva che le lenzuola coprivano solo sé<sub>i</sub>.  
A. knew that the sheets covered only himself

As pointed out by Rizzi in various works (see Rizzi 1990, 1992, 2001a, 2004a; see also Starke 2001), RM effects imply the existence of a series of parameters in order to define the notion of ‘similarity’. In the case of the long-distance anaphor *sé* an animacy feature could be one such parameter, for instance. In fact, only interveners that may antecede it interfere in the process of chain composition, and *sé* generally needs animate antecedents.<sup>112</sup>

Rizzi (1990) claims that also wh-islands, negative islands and some other similar ‘intervention effects’ represent cases of RM violations. Our analysis of many of these phenomena is different from his own, given the general explanatory lines followed in the previous sections of this chapter. And we actually believe that an RM treatment of so-called weak islands presents many problems, that will be briefly reviewed in the remainder of the present section.

- In the RM paradigm the ameliorating effects associated to tense are completely causeless and they seem not to be incorporable into the theory without paying the price of ad hoc solutions. As pointed out before, tense is one of the fundamental variables in determining the degree of grammaticality

<sup>110</sup> See Giorgi (1984) for more details on long-distance anaphors in Italian.

<sup>111</sup> Sentences involving coordinated arguments have not to be taken as proper counterexamples, considering also the exceptional behaviour of standard local anaphors in those configurations (see Lebeaux 1985). There is evidently something ‘special’ about conjoined DP’s from the point of view of binding.

i) Maria<sub>i</sub> pensava che Giorgio avesse parlato [di sé<sub>i</sub> e della sua<sub>i</sub> famiglia].  
M. thought that G. had spoken of herself and of her family

<sup>112</sup> Interestingly, the same sort of ‘feature decomposition’ is operative in similarity effects from the classic psychological literature.

when extraction takes place. For instance, consider these data about adjunct extraction out of Italian wh-islands:

- 392) Dove non sai se andare t?  
Where don't you know whether to go?
- 393) ?\*Dove non sai se sono andato t?  
Where don't you know whether I've been?
- 394) ?Quando si domanda se partire t?  
When does he wonder whether to leave?
- 395) \*Quando si domanda se è partito t?  
When does he wonder whether he left?
- 396) ??Come ti chiedi se sia il caso di agire t?  
How do you wonder whether it is(subj) the case to act?
- 397) \*Come ti chiedi se è stato il caso di agire t?  
How do you wonder whether it has been the case to act?

As is well-known, in English wh-islands the same type of contrast can be observed wrt the extraction of arguments. And reconsider here also the cases of adjunct extraction from factive islands that we saw above in 294) - 299).<sup>113</sup>

Notice further that tense does not play any role whatsoever in the RM effects reported at the beginning of this section and its absence cannot ameliorate the ungrammatical sentences.

- Factive islands do not present any visible intervener, still at least their mild variety behaves very similarly to negative and wh-islands. Rizzi (1990, 100) treats them as violations of subjacency, because 'the Spec of Comp with factive verbs is not available for an intermediate trace'. However, such a position introduces differences where similarities decidedly seem to exist. Other authors (for instance, Melvold 1991) have argued that it is an invisible factive operator to interfere with adverbial A' movement (in the light of Hegarty's data the claim should be obviously revised, but that is not too complicated given our remarks in section 5; indeed, the presence of an operator and the factivity of the embedded clause are not forcefully related). What similar proposals fail to recognize is that the presence of operators not always induces (alleged) RM effects. Consider the following:

- 398) Perché credi che abbia soltanto rimproverato il suo studente?  
Why do you believe that he has only told off his student?  
(per non demotivarlo troppo)  
(to not demotivate him in excess)
- 399) Perché credi soltanto che abbia rimproverato il suo studente?  
Why do you believe only that he has told off his student?  
(\*per non demotivarlo troppo)  
(to not demotivate him in excess)

The question in 398), but certainly not that in 399), may be answered in a way which demonstrates the extraction of the adverbial wh-element from the embedded clause, still a potentially intervening operator is present in both sentences. The difference is in its scope: while in 398) the operator takes scope over the verb (it cannot take scope over the entire embedded clause)<sup>114</sup>, in 399) it necessarily

<sup>113</sup> Hegarty (1992) points out similar data for factive and negative islands in English. He also employs subjunctive complements (which are called *tensed irrealis complements* by him), showing that they pattern with infinitives in allowing adverbial extraction. This is again without explanation in an RM framework.

<sup>114</sup> In this case, scope assignment and focus assignment (better: focus assignment at the intra-CP level of the matrix clause) are obligatorily disjoint and there is no interplay between the two. In fact, the operator

takes scope over the entire embedded clause *whenever a focal reading is assigned to it*, which is essential in order to allow (adverbial) extraction. But if that is what happens, the scopal operator bans every sort of extraction out of the embedded clause.

Though a similar reading is usually the preferred one, note that there is no obligation for the operator in (399) to take scope over the entire clause (at least in the absence of adverbial extraction).

- 400) Credo soltanto che abbia {rimproverato} il suo studente (e non che l'abbia anche punito).  
I believe only that he has told off his student (and not that he has also punished him)

However, (400) and similar scope assignments forcefully imply a non-focal reading of the embedded clause at the intra-CP level of the matrix (the alternative reading), which tends to impair movement out of it (in particular, movement of non-referential elements).

- Employing two (or more) distinct explanations for strong and weak islands (subjacency/ECP<sup>115</sup> and RM) neglects the undeniable similarities between the two phenomena - but see Starke 2001 for a tentative extension of RM also to strong islands.

The differences in grammaticality that islands exhibit in presence of extraction are better accounted for using a single explanation which be flexible enough. Moreover, the problem of island type-dependency in grammaticality judgments should presumably not receive a separate treatment from the connected problems of idiolect-dependency and language-dependency. Otherwise said, cross-linguistic, idiolectal and constructional variations appear to have something in common and they thus need also a unique explanation. An informational analysis is the best candidate to meet these requirements, whereas purely structural accounts run into apparently insuperable difficulties.

- The proposed feature decomposition in island configurations was originally centered along the dichotomy arguments/adjuncts (Huang 1982, Chomsky 1986), then reframed in more informational terms as a dichotomy between referential and non-referential elements (Aoun 1986, Kroch 1989, Comorovski 1989, Cinque 1990, Frampton 1991, Rizzi 1990 and later works). The idea is that referential elements are not subject to RM because they could be related to their traces through a mechanism different from ordinary chain formation, which is not constrained by locality considerations. A similar proposal has nevertheless a great disadvantage: it is at odds with the fact that movement is cyclic and seems to obey locality for both referential and non-referential elements, exactly in the same way (for instance, interrogative inversion in Spanish does not distinguish between d-linked and non-d-linked wh-elements and reconstruction to intermediate positions is clearly available to the former; see below and chapter 5).

Rizzi (2001a, 2001b) explores a slightly different possibility, in order to better motivate the presence of two mechanisms of A'-chain formation. Obligatory reconstruction of non-d-linked wh-elements is assumed at LF: the bare wh-operator stays in the left periphery and the rest of the DP is reconstructed in situ (see 401)). For d-linked wh-elements, at LF the entire DP stays in the left periphery licensed as a topic (see 402); note that Rizzi accepts Chomsky's copy theory of movement).

- 401) \*Quanti soldi non sai come guadagnare <quanti soldi>?  
How much money don't you know how to make?  
LF: Quanti <soldi> non sai come guadagnare <quanti> soldi

---

intervenes unambiguously at the intra-CP level of the embedded clause and therefore cannot interact with the hierarchical superior levels of IS.

<sup>115</sup> As already observed various times, the ECP has been dropped and so there is currently no (widely accepted) systematic explanation of island phenomena in Minimalism.

- 402) ?Quanti dei soldi che ti servono non sai come guadagnare <quanti dei soldi che ti servono>?  
 How much of the money that you need don't you know how to make?  
 LF: Quanti dei soldi che ti servono non sai come guadagnare <quanti dei soldi che ti servono>

RM is taken to hold at LF, and two distinct mechanisms connecting landing site(s) and in-situ position are again assumed as possible: long-distance binding and standard minimality requirements. Non-reconstructed d-linked wh-elements are allowed to enter into a long-distance binding configuration with their traces/copies at LF, avoiding RM violations.<sup>116</sup> Bare QP-dependencies of non-d-linked wh-elements, which also do not reconstruct, cannot participate to a long-distance binding relation *since they are not DP's*. Hence an RM violation arises and the sentence is ruled out.

Given the fact that Chinese non referential wh-in-situ are sensitive to wh-islands (see Huang 1982 and above), and that they have been traditionally considered RM effects of the familiar type, the theory would also presumably assume that in-situ bare-QP dependencies of non-d-linked wh-elements obligatorily move at LF in wh-in-situ languages, in order to instantiate an RM configuration. The following exemplifies with English:

LF: How much don't you know how to make <how much> money?

Summing up, various assumptions are needed to preserve an RM account of weak island configurations: a) obligatory reconstruction of the non-quantificational part for non-d-linked wh-elements b) obligatory LF-movement of the quantificational part for non-d-linked wh-elements in wh-in-situ languages (or equivalent solutions) c) absence of reconstruction for d-linked wh-elements d) existence of two mechanisms of A'-chain formation e) absence of one of them (long-distance binding) for bare quantificational dependencies f) sensitivity to strong islands of the long-distance binding relation. It is not clear how many of these assumptions are sustained by independent empirical evidence and not simply postulated.

A first, somewhat problematic aspect of Rizzi's account is the fact that A-chains do not possess two different mechanisms in the establishment of chain configurations. In fact, a long-distance binding relation may not be used to rescue cases of superraising or superpassive (we employ mixed chains, but that should be irrelevant wrt the point under discussion). It is not at all obvious why a split should exist between A and A' chains, given the fact that both are established through local steps.

- 403) \*Which of those guys t seems that it is likely t to shave himself in public?  
 404) \*Which guy t seems that it was told t that he has to leave?

In addition, as noted in Boeckx (2003, 105), the deviance of sentences such as 403) and 404) above is much stronger than an RM violation involving A' movement.

Another problem is constituted by the data we saw before involving the long-distance anaphor *sé* in Italian.<sup>117</sup> Clearly, it is not possible to say that a long-distance binding mechanism is not active there

<sup>116</sup> Notice (as recognized by Rizzi himself) that pronominal binding, which is the prototype of a non-local relation, is insensitive to strong islands, whereas long-distance binding in A'-chains is instead sensitive to them. This important difference has no explanation in an RM framework and argues once more against the idea of a long-distance binding mechanism in movement configurations (or at least against a pronominal mechanism).

<sup>117</sup> Also in English similar cases exist:

(what relation could be better named ‘long-distance binding’ than the one between a long-distance anaphor and its antecedent?). Still, ungrammaticality arises in RM configurations, as already seen.<sup>118</sup>

- 405) ?\*Maria<sub>i</sub> pensava che Giorgio avesse parlato di sé<sub>i</sub> con Sandra.  
M. thought that G. had spoke of herself with S.

Finally, note that the examples we previously considered as prototypically instantiating RM violations in A’ chains do not show any sensitivity to d-linking (in the sense of Pesetsky 1987).

- 406) \*[Who the hell]<sub>i</sub> do you know what books<sub>k</sub> to persuade t<sub>i</sub> to read t<sub>k</sub>?  
407) \*[Which one of those persons]<sub>i</sub> do you know what books<sub>k</sub> to persuade t<sub>i</sub> to read t<sub>k</sub>?

The only way out is claiming that they are *not* RM effects, otherwise the long-distance binding mechanism should be available to d-linked wh-elements and eliminate unacceptability. However, we do not understand why examples of this type should not be treated under the rubric ‘RM effects’, since they satisfy the requirements imposed by the definition reported before.

Let us now have a closer look at another of Rizzi’s assumptions: the absence of reconstruction for d-linked wh-elements. Since in the literature it is widely assumed that constituents of that type can reconstruct (see, among many others, Barss 1986), it seems a rather controversial statement. For instance, consider the following:

- 408) [Which of those pictures of himself]<sub>i</sub> has Ken<sub>i</sub> seen t?

Reconstruction may also target an intermediate position:

- 409) [Which of those pictures of himself]<sub>i</sub> does Joe<sub>i</sub> believe t that Sara has seen t?

The previous data involving the long-distance anaphor *sé* are useful in order to show not only that reconstruction can be applied to d-linked wh-elements, but also that it is precisely the presence of such a mechanism what saves the sentence from an RM violation (compare 410) to 411), where reconstruction cannot help to avoid an intervention effect).

- 410) [Quale di quelle ragazze]<sub>i</sub> Marco dice che pro ha sentito t parlare di sé<sub>i</sub>?<sup>119</sup>  
<Quale di quelle ragazze<sub>i</sub>> Marco dice che pro ha sentito quale di quelle ragazze<sub>i</sub> parlare di sé<sub>i</sub>.  
Which of those girls does M. say that he has heard speaking of herself?

- i) \*John<sub>i</sub> bought Mary’s picture of himself<sub>i</sub>.  
ii) John<sub>i</sub> bought a picture of himself<sub>i</sub>.

The analogous effect with long-distance anaphors such as Italian *sè* invalidates Chomsky’s notion of accessible SUBJECT. In fact, long-distance anaphors do not need an antecedent in a local domain. Therefore, an account couched in an RM framework seems highly preferable (see Grinder 1970 for pioneering intuitions in this sense).

<sup>118</sup> One could say that the long-distance binding mechanism in movement configurations is unambiguously pronominal and not anaphoric, and that the two kinds of long-distance relations are distinct in their sensitivity to RM. But see note 116 on the inadequacies of such an idea.

<sup>119</sup> Pro is not possible in this position, because it is a true object one:

- i) Quale di quelle ragazze<sub>i</sub> Marco dice che pro l<sub>i</sub>’ha sentita parlare di sé<sub>i</sub>? (coll. Italian)  
Which of those girls does M. say that he has heard her(cl) speaking of herself?

- 411) ?\*[Quale di quelle ragazze<sub>i</sub>] t dice che Marco ha parlato di sé<sub>i</sub>?  
<Quale di quelle ragazze<sub>i</sub>> quale di quelle ragazze<sub>i</sub> dice che Marco ha parlato di sé<sub>i</sub>?  
Which of those girls says that M. spoke of herself?

To conclude, it seems to us that from both a theoretical and an empirical point of view a treatment of weak islands in terms of RM is not desirable.



## CHAPTER 3

# NULL RESUMPTIVE PRONOUNS AND EXTRACTION

In this chapter we will face some problems related to inter-construction variability in extraction possibilities, which is one of the most neglected topics in the literature. To understand why, it should be kept in mind that since approximately 1975 linguists have always been more interested in similarities in this area. Nobody was looking for differences, because the theoretical efforts were going toward the opposite direction. However, as soon as we drop such an aprioristic predisposition, substantial differences stand out. Why are there so many divergent behaviors in extraction procedures among operations considered to be the reflex of the same rule ‘move  $\alpha$ ’ (Chomsky 1977)? This is the most important question to be answered here.

After having shown the necessity of assuming different pronominal empty elements in order to explain the above differences, we will address a prominent problem related to our informational account of islands: the asymmetries that Rizzi (1982) explained in terms of a parametrized version of the notion ‘bounding nodes’. Since we do not believe in the relevance of subjacency, we cannot accept that proposal either. Our speculations build on the original data and try to define the concepts of ‘optional derivational strategies’ and ‘compounded islands’, generalizing their application. The claims are a) that these concepts are what is responsible for Rizzi’s asymmetries and b) once more, that (parametrized) subjacency is not able to account for the empirical facts we will bring to light and should thus be abandoned.

Finally, we will extend the methodology employed in the first part of the chapter generalizing our conclusions to all A’-movement operations. We will argue that the concept of ‘trace’ (and its minimalist substitute, ‘copy’) is suspect of being superfluous and develop the prospect of a theory which presents compatibility with the data put forward here. In chapter 5 we will further revise it and provide the final form of our solution to at least some of the many questions that are on the ground.

### 1) ITALIAN RELATIVE CLAUSES AND GENERALIZED MOVE $\alpha$

Since Rizzi (1982, chapter 2) it is well-known that Italian relative clauses (RCs) do not respect the wh-island constraint. Rizzi noted in passing that wh-extraction behaves differently in that same environment, without investigating further the issue.<sup>1</sup> Cinque (1990) proposed that

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<sup>1</sup> Rizzi tried to connect the deviancy of interrogative wh-extraction from wh-islands with the substantial impossibility of multiple wh-questions in Italian. However, as pointed out in Adams (1984), Spanish fully permits multiple wh-questions but the extraction of interrogative wh-elements from wh-islands is still barred.

- i) Me pregunto quién t ha encontrado a quién.  
I wonder who met whom
- ii) \*A quién<sub>k</sub> te preguntas quién<sub>i</sub> t<sub>i</sub> ha encontrado t<sub>k</sub>?  
Whom do you wonder who met?

Note that in Spanish, RC extraction gives results comparable to those which obtain in Italian (see Torrego 1984).

- iii) Ese era el tipo por el que<sub>k</sub> no sabíamos qué rescate, había pagado la empresa t<sub>i</sub> t<sub>k</sub>.  
That was the guy for whom we do not know which ransom paid the company

Furthermore, as Rizzi himself recognizes (see his note 5), the employment of ‘heavy’ (we would now say partitive or d-linked) wh-elements improves grammaticality judgements for wh-extraction (sometimes considerably), but it is irrelevant in multiple wh-questions.

- iv) ??A chi non ti ricordi quanti soldi hai dato?

referential constituents may enter into a binding relation with their traces, avoiding a successive cyclic derivation and thus being exempted from subjacency (what he calls ‘apparent extractions’ from islands).<sup>2</sup> Since relativized elements are intuitively more referential than (non-d-linked) wh-elements, the noted asymmetry would follow straightforwardly. We believe there is a ring of truth to Cinque’s conclusion. Anyway, we will in some degree depart from his explanation of the facts, which is difficult to maintain inspecting systematically the data at issue. In particular, a dichotomic approach to extraction (namely Cinque’s distinction between pure and pronominal variables) is simplistic, as will soon become apparent.

Rizzi (1982) analyzed RCs as constructions involving movement, in the same way of wh-questions (following Chomsky 1977). In his paper it is claimed that ‘the process of relative clause formation in Italian crucially involves the movement of the relativized element’. We do not think that a similar statement is completely correct and the first section of this chapter will be devoted to pinpoint the problems implicit in such a position.

One first obvious issue is precisely that wh-elements and RCs give different results in extraction out of wh-islands. Moreover, if we use a larger sample of opaque domains it becomes evident that the discrepancy is not a strange idiosyncrasy but rather a systematic fact, which remains largely constant across extractions out of all types of islands.

#### WH-ISLAND

- 1) Il solo incarico che non sapevo a chi avrebbero affidato è poi finito proprio a te. (from Rizzi 1982)  
The only charge that you didn’t know to whom they would entrust has been entrusted exactly to you
- 2) ?\*Cosa non sapevi a chi avrebbero affidato?  
What didn’t you know to whom they would entrust?

#### SPECIFIC DP’s

- 3) Giovanni, di cui ho trovato questo libro in biblioteca, ...  
Giovanni, of whom I have found this book in the library, ...
- 4) \*Di chi hai trovato questo libro in biblioteca?  
Who have you found this book in the library?

#### SUBJECT CP’s

- 5) ?Giovanni, a cui che Susanna abbia parlato mi sorprende, ...  
Giovanni, who that Susanna spoke to surprises me, ...
- 6) \*A chi che Susanna abbia parlato ti sorprende?  
To whom that Susanna spoke surprises you?

#### SUBJECTS DP’s

- 7) ?Giovanni, sul quale certi commenti mi hanno infastidito, ...  
Giovanni, who certain comments about disturbed me(cl), ...
- 8) \*Su chi certi commenti ti hanno infastidito?

- 
- To whom don’t you remember how much money you gave?  
v) (?)A quale dei tuoi figli non ti ricordi quanti soldi hai dato?  
To which one of your sons don’t you remember how much money you gave?  
vi) \*Non mi ricordo quanti soldi ho dato a quale dei miei figli.  
I don’t remember how much money I gave to which one of my sons

We will soon return to the importance of the variable ‘topicality of the extractee at the D-level’ in extraction configurations.

<sup>2</sup> Cinque’s remarks originate from observations contained in Pesetsky (1987) and Comorovski (1989).

Whom did certain comments about disturb you(cl)?

#### PP's IN LOCATIVE INVERSION

- 9) (?)La stanza al cui centro si trovava una rana, ...  
The room, which in the middle of sat a frog, ...  
10) \*Di cosa al centro si trovava una rana?  
Of which did in the middle seat a frog?

The following islands are instead respected. But there is an evident difference in comparison to wh-extraction, since ungrammaticality is surely less prominent with RC-extraction.

#### COMPLEX NP ISLANDS

- 11) ??Questo incarico, che non sapevo la novità che avrebbero affidato a te, ... (from Rizzi 1982)  
This charge, that I didn't know the news that (they) would entrust to you, ...  
12) ??Questo incarico, che non sapevo la novità che fosse stato affidato a te, ...  
This charge, that I didn't know the news that had been entrusted to you, ...  
13) \*Cosa non sapevi la novità che fosse stato affidato a me?<sup>3</sup>  
What didn't you know the news that had been entrusted to me?  
14) \*Cosa non sapevi la novità che avrebbero affidato a me?  
What didn't you know the news that that (they) would entrust to me?
- 15) ?Tuo fratello, a cui temo la possibilità che abbiano raccontato tutto, ... (from Rizzi 1982)  
Your brother, whom I fear the possibility that they told all to, ...  
16) ?Tuo fratello, che temo la possibilità che abbia raccontato tutto ai suoi amici, ...  
Your brother, who I fear the possibility that told all to his friends, ...  
17) ???A chi temi la possibilità che abbiano raccontato tutto?  
To whom do you fear the possibility that they told all?  
18) ???Chi temi la possibilità che abbia raccontato tutto ai suoi amici?  
Who do you fear the possibility that told all to his friends?
- 19) \*\*Il libro, che ho incontrato l'uomo a cui tua sorella ha dato, ...  
The book, which I met the man to whom your sister has given, ...  
20) \*Tua sorella, che ho incontrato l'uomo a cui ha dato un libro, ...  
Your sister, who I met the man to whom has given a book, ...  
21) \*\*Cosa hai incontrato l'uomo a cui tua sorella ha dato?  
What have you met the man to whom your sister has given?  
22) \*\*Chi hai incontrato l'uomo a cui ha dato un libro?  
Who have you met the man to whom has given a book?

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<sup>3</sup> A bare wh-element cannot generally be resumed by a pro. Note that this sentence improves considerably if we use a partitive wh-element:

- i) (?)Quale di quegli incarichi<sub>(i)</sub> non sapevi la novità che pro fosse stato affidato a me?  
Which of those charges didn't you know the news that had been entrusted to me?

Object extraction remains deficient, instead.

- ii) ??Quale di quegli incarichi<sub>(i)</sub> non sapevi la novità che avrebbero affidato a me?  
Which of those charges didn't you know the news that that (they) would entrust to me?

Wh-extraction thus shows a rather substantial subject/object asymmetry in this case.

- 23) \*\*Tua sorella, che ho incontrato gli uomini che avevano assunto, ...  
Your sister<sub>i</sub>, who I met the men<sub>j</sub> that t<sub>j</sub> hired t<sub>i</sub>, ...
- 24) \*Tua sorella, che ho incontrato gli uomini che aveva assunto, ...  
Your sister<sub>i</sub>, who I met the men<sub>j</sub> that t<sub>i</sub> hired t<sub>j</sub>, ...
- 25) \*\*Chi hai incontrato gli uomini che avevano assunto?  
Who have you met the men<sub>j</sub> that t<sub>j</sub> hired t<sub>i</sub>?
- 26) \*\*Chi hai incontrato gli uomini che aveva assunto?  
Who<sub>i</sub> have you met the men<sub>j</sub> that t<sub>i</sub> hired t<sub>j</sub>?

#### ADJUNCT ISLANDS

- 27) \*Questo libro, che ho incontrato Mario prima che lui scrivesse, ...  
This book, which I met Mario before that he wrote, ...
- 28) ?\*Questo libro, che ho incontrato Mario prima che fosse stato scritto da lui, ...  
This book, which I met Mario before that was written by him, ...
- 29) \*\*Cosa hai incontrato Mario prima che lui scrivesse?  
What have you met Mario before that he wrote?
- 30) \*\*Cosa hai incontrato Mario prima che fosse stato scritto da lui?  
What have you met Mario before that was written by him?

Note the absence of significant subject/object asymmetries in the data above. The subject versions may be slightly better, but the judgements of grammaticality are never reverted. Compare these ungrammatical or marginal sentences with the corresponding dislocated constructions.<sup>4</sup> Here a crystal clear subject/object asymmetry is detectable (see also note 3):

#### COMPLEX NP ISLANDS

- 31) \*Questo incarico, non sapevo la novita che avrebbero affidato a te.  
This charge, I didn't know the news that (they) would entrust to you
- 32) Questo incarico, non sapevo la novita che pro fosse stato affidato a te.  
This charge, I didn't know the news that it has been entrusted to you
- 33) \*Tua sorella, ho incontrato gli uomini che avevano assunta.  
Your sister, who I met the men that hired
- 34) Tua sorella, ho incontrato gli uomini che pro aveva assunto.  
Your sister, I met the men that she hired

#### ADJUNCT ISLANDS

- 35) \*Questo libro, ho incontrato Mario prima che lui scrivesse.  
This book, I met Mario before that he wrote
- 36) Questo libro, ho incontrato Mario prima che pro fosse stato scritto da lui.  
This book, I met Mario before that it was written by him

As noticed in the previous chapter, another island which exhibits differences between RC formation and standard wh-movement in Italian is the 'dislocation island', as we will name it. In such a configuration RC-extraction is certainly better than wh-extraction, but still somewhat marginal.<sup>5</sup>

<sup>4</sup> Cinque (1977, 1990) showed that clitic left dislocation (CLLD) is sensitive to islands in Italian. We basically agree with his conclusions (see section 3.1 below) and the cases we will report do not generally represent instances of CLLD but rather of hanging topic constructions, which mirror the behavior of left dislocation (LD) in English and are *not* sensitive to islands (we will simply use the term 'dislocation' throughout, without further details). The reader is referred to Cinque (1977, 1983, 1990) for a more accurate discussion of the issue.

<sup>5</sup> We think that only appositive RCs are marginal. Restrictive RCs seem to us to be ungrammatical.

## DISLOCATION ISLAND

- 37) ??La soluzione, che me lo avevi detto che Mario ha scelto, ...  
The solution, that you told it to me that Mario chose, ...
- 38) \*Cosa me l'avevi detto che Mario ha scelto?  
What did you tell it to me that Mario chose?
- 39) Quella soluzione, me l'avevi detto che Mario l'ha scelta.  
That solution, you told it to me that Mario chose it

In his paper, Rizzi presents some data in favor of a subject/object asymmetry in complex NP extraction. These are the sentences he reports, certainly not as bad as those we saw before:

- 40) ?Gianni, che non ho mai realmente creduto alla voce che fosse morto, ...  
Gianni, that I have never really believed the rumour that (he) was dead, ...
- 41) ?Tuo fratello, che temo seriamente la possibilità che anche stavolta arrivi nel bel mezzo della riunione, ...  
Your brother, that I am seriously afraid of the possibility that (he) comes in the very middle of the meeting, ...

However, these judgements are methodologically incomplete and the employment of minimal pairs shows that such an asymmetry is illusory. The object extraction cases are in fact as good as their subject extraction counterparts. According to us, if there is any difference it is surely negligible.

- 42) ?Gianni, che non ho mai realmente creduto alla voce che avessero ucciso, ...  
Gianni, that I have never really believed the rumour that (they) have killed, ...
- 43) ?Tuo fratello, che temo seriamente la possibilità che anche stavolta insultino nel bel mezzo della riunione, ...  
Your brother, that I am seriously afraid of the possibility that (they) insult in the very middle of the meeting, ...

Compare those contrasts with these ones involving dislocated constituents:

- 44) Gianni, non ho mai realmente creduto alla voce che pro fosse morto.  
Gianni, I have never really believed the rumour that (he) was dead
- 45) \*Gianni, non ho mai realmente creduto alla voce che avessero ucciso.  
Gianni, I have never really believed the rumour that (they) have killed

Let's summarize our results so far: RCs are insensitive to many islands, which argues against a derivation via movement. But the islands they respect do not generally show any (significant) asymmetry between subjects and objects, whereas the constructions that can make use of a pro as null resumptive pronoun show a strong subject/object asymmetry in those same environments.

### **1.1) Relative clauses and *pro<sub>OP</sub>***

It seems that we cannot consider RCs in Italian as the result of neither movement operations, nor resumptive chains of the type found in dislocation. What are they, then?

A careful inspection of the data reveal that the islands RCs do not respect can be considered as the 'strongest' ones. It is not very difficult to show that empirically. For instance, the environments in question are tougher to ameliorate manipulating definiteness or tense. WH-islands are easily violable when the embedded clause is an infinitive. Specific DP islands (and sometimes even subject islands) permit extraction out of them when the head of the DP is not specific. But there are just very few circumstances which permit to ameliorate extraction out of Complex NP's when the modifier is an adjunct, as seen in the previous chapter. Those are actually the cases in which RC extraction largely fails in Italian. And its degree of

unacceptability seems to be proportional to the ‘strength’ of the island: so, RCs modifying a noun are the worst environment, whereas argumental ‘that’ complements to nouns are degraded but not completely out. Adjunct islands are somewhat in between the two.<sup>6</sup> This hierarchy corresponds neatly to the (im)possibility of ameliorating an island violation diminishing the topicality of the domain from which extraction takes place.

If this is true, we have in front of us a strange situation. RCs appear to be able to escape islands as constructions involving resumptive pronouns do. But not all of them. Consequently, they cannot make use of the very same (null) pronouns known to exist for dislocation configurations. The absence of a real subject/object asymmetry suggests in turn that neither movement nor standard resumption is involved. So we are stuck. The only way out is to posit another empty category, for both subjects and objects, which can be located in the base-position of the operator of the RC.<sup>7</sup> We will call this syntactic entity  $pro_{OP}$  and suppose for the moment that its pronominal value is in between a trace (which is supposedly non-pronominal at all) and an overt clitic.<sup>8</sup> Whence Italian RCs would not be derived through standard movement rules, somewhat constituting a sort of ‘weak dislocation’ or a ‘quasi-movement’ operation. This explains their selective sensitivity to islands, the absence of a substantial subject/object asymmetry when extraction is banned (assuming that  $pro_{OP}$  is obligatory for both subjects and objects), and also the partial acceptability of Weak Crossover (WCO) violations with restrictive relatives in Italian (see also Postal 1993 for similar data on French). In English, restrictive relatives induce instead substantial WCO effects (see Postal 1971, Higginbotham 1980, Safir 1984, Lasnik & Stowell 1991, Postal 1993). Indeed, we take the absence/presence of WCO (on which see chapter 6) to be a good test for deciding if in a language RCs pattern more with standard ‘movement rules’ or rather with ‘resumptive chains’.<sup>9</sup>

- |  |                |
|--|----------------|
| 46) Quel ragazzo <sub>i</sub> , sua <sub>i</sub> madre lo <sub>i</sub> ama molto.<br>That boy, his mother loves him a lot                          | DISLOCATION    |
| 47) (?)*Il ragazzo <sub>i</sub> che sua <sub>i</sub> madre ama $pro_{OPi}$ ha lasciato la scuola.<br>The boy that his mother loves left the school | RESTRICTIVE RC |
| 48) *Chi <sub>i</sub> ama sua <sub>i</sub> madre t <sub>i</sub> ?<br>Who does his mother love?   | BARE WH        |

## 1.2) Degree of pronominality and resumptive pronouns

The dichotomy  $pro_{OP}$ /trace in the domain of movement (or quasi-movement) appears to be a simplification, given the fact that in English appositive RCs are not sensitive to WCO (see Safir 1984, Kuno 1988, Lasnik & Stowell 1991). Turning to Italian, we observe that the residue of marginality detected in restrictives disappears completely in appositives.<sup>10</sup> So, even inside the

<sup>6</sup> The ameliorating effect due to the absence of tense when extracting out of adjunct islands is less solid in Italian than in English (which by the way uses gerundival constructions, unavailable in Italian). Compare i) to 27.

i) ?\*Questo libro, che ho incontrato Mario prima di scrivere t, ...  
This book, which I met Mario before to write t, ...

<sup>7</sup> It is substantially indifferent which derivation of the RC construction one assumes to be correct. If no operator is involved and a relative pronoun/full DP sits in base-position, the null element will simply substitute it when movement occurs.

<sup>8</sup> Or covert *pro*, dealing with dislocated subjects.

<sup>9</sup> Notice the ‘in between’ status of a restrictive RC gap compared to an interrogative *wh*-element gap and a clitic. It remains to be ascertained whether sensitivity to WCO and sensitivity to islands always go hand in hand, however. In fact, their behaviour could also be partly different and thus show different sensitivity to the type of construction employed. Certainly, what results identical is the ‘direction’ of the relevant variable in both cases.

<sup>10</sup> See the perfect grammatical status of:

i) Quel ragazzo<sub>i</sub>, che sua<sub>i</sub> madre ama  $pro_{OPi}$ , ha lasciato la scuola.  
That boy, that his mother loves, left the school

very same language, one has apparently to assume that there are different *degrees of pronominality* for the null resumptive pronouns (NRP) adopted in quite similar syntactic environments. What we would like to suggest is that restrictive relatives in English (but not in Italian and French) make use of NRP whose value of pronominality is very low and still close to the ‘zero’ of bare *wh*-element extraction.<sup>11</sup> Appositive RCs, on the other hand, employ NRP with a higher level of pronominality. In addition, what the emergent picture seems to sustain is the legitimacy of positing a direct correspondence between ‘pronominality of the null resumptive pronoun’ and ‘topicality of the coindexed constituent’, a fact to which we will return.<sup>12</sup>

The same point emerges in data from Trentino RCs. In Trentino the extraction site of a subject RC may be either pre or postverbal (Brandi & Cordin 1981, 1989). The position of the subject can be recognized considering the presence/absence of clitics and agreement: a preverbal subject in the 3rd person is always doubled by a clitic and triggers agreement of the past participle when auxiliary *esser/be* is employed (as in 50)). Both the doubling and the agreement disappear with postverbal subjects (see 49)).

- 49) È vegnù su i putei.  
Is come up the guys
- 50) I putei i è vegnudi su.  
The guys they(cl) is come(3pl) up  
‘The guys came.’
- 51) I putei che è vegnù su pro<sub>OP</sub> ...  
The guys that is come up  
‘The guys who came ...’
- 52) I putei, che pro<sub>OP</sub> i è vegnudi su, ...  
The guys, that they(cl) is come(3 pl) up  
‘The guys, who came, ...’

There is a correspondence between site of extraction and type of RC: the preverbal position is obligatory for appositive RCs, whereas the postverbal one is normally used for restrictive RCs. Postverbal subjects in Trentino are focal, whereas preverbal ones are topical (this means that 50) is not felicitous answering a question like: ‘Who came?’). The fact that the pronominal value of pro<sub>OP</sub> is not the same in the two cases is thus strongly suggested by the data above (where restrictive relatives pattern rather with a focal subject position than with a topical one; see Schachter 1973).

In our variety of Trentino, however, in certain circumstances restrictive RCs are fine even in conjunction with the indicators of a preverbal extraction site. The situations that allow the presence of clitic doubling and agreement generally correspond to a high value of topicality at the D-level for the head of the RC (see Doron 1982, Sells 1984 and 1987, Erteschik-Shir 1992, Sharvit 1999, Boeckx 2003, Bianchi 2004 for comparable data in other languages involving overt resumptive pronouns; Prince 1990 and Ariel 1999 present instead what apparently is a different description of the facts).

- 53) ‘Sto putel, che pro<sub>OP</sub> l’è arivà ades, ...  
This guy, that he(cl) is arrived now,
- 54) ‘Sto putel che pro<sub>OP</sub> l’è arivà ades ...

<sup>11</sup> The cross-linguistic diversity is evident in the pattern of extraction out of islands as well, since English does not tolerate the same amount of licit or marginal RC-extractions available to Italian. For example, *wh*-islands are substantially respected. Unfortunately, we do not know of any systematic investigation of the differences in extraction possibilities for the various types of syntactic constructions in English, setting aside some old unpublished work by Ross which we did not have access to.

<sup>12</sup> See also the previous chapter for independent evidence in support of a treatment that takes restrictives and appositives as connected to different values of topicality for the extracted element (and consequently different values of pronominality for the null resumptive pronoun associated to it).

This guy that he(cl) is arrived now

Demonstratives are often connected to such restrictives. Certain ‘deictic’ determiners are indeed a reliable index of the highly topical status of the head at the D-level.<sup>13</sup>

That 54) is not an appositive is shown, intonation and pauses apart, also from the following:

- 55) \*I siori, che i ariva tardi, no i li fa entrar.  
The men<sub>gen</sub>, that they-cl arrive late, not they<sub>arb</sub> them let enter
- 56) I siori che (i) ariva tardi no i li fa entrar.  
The men<sub>gen</sub> that (they-cl) arrive late not they<sub>arb</sub> them let enter  
‘The men that arrive late are not allowed to enter.’
- 57) \*En putel, che nol g’ha voia de studiar, l’è ‘n problema.  
A guy, who not-he<sub>cl</sub> has desire to study, he<sub>cl</sub> is a problem
- 58) En putel che no(l) g’ha voia de studiar l’è ‘n problema.  
A guy who not(-he<sub>cl</sub>) has desire to study he<sub>cl</sub> is a problem  
‘A guy who is not willing to learn is a problem.’

A generic DP cannot be relativized making use of an appositive construction, but it is usually compatible with a preverbal extraction site in a restrictive relative (note that the extraction site may be postverbal as well).

We assume that the gap associated to restrictive RCs with a preverbal extraction site possesses an intermediate level of pronominality, as in this diagram:<sup>14</sup>

restrictive RC, -clitic/agr < restrictive RC, +clitic/agr < appositive RC, +clitic/agr  
-top/+pron <-----> +top/-pron

Even for the very same construction one has evidence of different types of gaps associated to it, an observation which pushes us toward an extreme conclusion: the possibility exists of an infinite set of NRP with different values of pronominality on a continuum from 0 to 1, where (roughly):

- 0 = value associated to gaps left by bare (adjunct) wh-elements  
1 = value associated to (tonic) resumptive pronouns in hanging topic constructions

In such a framework, which we may call *the NRP hypothesis*, there is a connection between the value of topicality of an antecedent and the pronominality of the gap left behind. This relation is

<sup>13</sup> The difference between restrictive RCs with or without clitics/agr is subtle and highly contextual dependent. That the phenomenon exists is demonstrated by a written survey we conducted with a group of 20 native speakers originary from Val di Non, who either reported the possibility of both versions for restrictive RCs or judged them with almost random performance (≈50%).

<sup>14</sup> A similar situation obtains in Trentino for subject wh-elements in questions, as first pointed out in Suñer (1992). Partitive wh-elements, being topical at the D-level, are obviously the foremost candidates to subject clitic doubling, which is in that case sometimes even obligatory (long extraction configurations included, in apparent violation of the that-trace effect - see again the next chapter for some qualifications).

- i) Quante putele ha parlà con ti?  
How many girls have spoken to you
- ii) Quante dele putele ha(le) parlà con ti?  
How many of the girls have they(cl) spoken to you
- iii) Quala dele putele ha?\*(la) parlà con ti?  
Which one of the girls has she(cl) spoken with you  
(from Suñer 1992, 660-661)

Dobrovie-Sorin (1990) has analogous ‘Janus data’ in Romanian about direct object interrogative wh-elements, complementary to the subject ones of Trentino.

intuitively evident considering that the appearance of an overt pronoun is conditioned upon the pragmatic availability of a referent in the context of the utterance. If the contextual individuation of its referent fails, a pronoun cannot be felicitously employed and a full DP has to replace it. Assuming we are right in positing a direct relationship between *identifiability* and *topicality* at the D-level (see the previous chapter), it follows that a direct connection should hold between *topicality* at the D-level and *pronominality* as well.

Topicality at a clausal level also matters in this respect, for instance determining the felicity of the alternation overt/null pronouns in certain configurations.

59) Dopo che Mario<sub>i</sub> è arrivato a casa di Roberta, \*lui<sub>i</sub>/pro<sub>i</sub> ha risolto il problema.

After M. arrived at R.'s place, he/pro solved the problem

60) Dopo che Mario<sub>i</sub> è arrivato a casa di Roberta, ha risolto lui<sub>i</sub> il problema.

After M. arrived at R.'s place, solved he the problem

One has to imagine a pragmatic context which allows the employment of a focal tonic pronoun in order to legitimate sentences such as 60), but once that is done they turn out to be perfectly grammatical. Note that a contrastive focus with a corrective intonation is not required: in fact, there is a further reading in which *lui* is contrastive (in that case, in both 59) and 60) grammaticality obtains).

61) Dopo che Mario è arrivato a casa di Roberta, (LUI) ha risolto (LUI) il problema. (non LEI)

After M. arrived at R.'s place, (HE) solved (HE) the problem (not SHE)

Distinct pronominal forms seem thus to be dependent also on distinct values of topicality at the intra-CP level.<sup>15</sup> Generalizing, we would like to propose that topicality and pronominality are always in a direct correspondence (see chapter 5 for refinements).

In a framework à la Chomsky (1977), still currently adopted with minor modifications in the Minimalist Program, all the differences in extraction reported above are highly problematic. The framework under development here is instead decidedly more compatible with some recent proposals of Postal's (see Postal 1994b, 1998; but also Levine 2001 for a critical review of such works that might invalidate certain methodological and empirical points), going back to ideas contained in a seminal paper by Perlmutter (Perlmutter 1972), to which we will extensively return in chapter 4.<sup>16</sup>

Postal shows that some syntactic environments are not compatible with weak pronouns, as in the following contrast between the verbs *determine* and *tell*:

62) We could easily determine/\*tell it.

---

<sup>15</sup> The head of a RC receives an informational value at the intra-CP level of the RC itself, as if it were in-situ. Obviously, the value is not the same as an in-situ argument, and in our framework this is what in the first place distinguishes i) from ii), for instance.

i) {The cat} that [t chased the rat]

ii) [{The cat} chased the rat]

This is exactly the level at which the informational differences between restrictives and appositives (and, more generally, the various A' constructions) primarily hold.

The complex formed by 'head noun + RC' as a whole receives then a value at the intra-CP level of the matrix clause in which it is inserted (and such a complex noun has of course also its own informational value at the D-level).

<sup>16</sup> See also Ross's pioneering intuitions (Ross 1967, sec 4.2.4.4).

Interestingly, the gap left by certain extraction operations behave as a weak pronoun as well rendering the sentence ungrammatical, while the pre-extraction version is instead perfectly acceptable. Witness 64), involving Topicalization of a *that*-clause.

- 63) We could easily determine/tell that Mike was a spy.  
 64) That Mike was a spy, we could easily determine/\*tell t.

This is very strong evidence that (at least a subpart of) extraction procedures employ NRP instead of traces/copies (see Postal 1998 for more articulated discussion and a considerable amount of empirical evidence).

The proposal that (certain) extractions leave resumptive pronouns instead of traces is advanced in Cinque (1990) too, albeit in a more restricted fashion. We agree with all these authors about the fact that extraction procedures differ according to the ‘type of construction’ employed. We would like to extend this observation, claiming that to a certain extent the same holds inside the same type of construction. These two lines of variation are partly independent. The intra-construction variability is basically due to what we called the D-level in previous chapter. The inter-construction variability is instead due to the informational values that are associated at the intra-CP level to the extractees in the different types of extraction procedures (see below). We also believe that the available empirical evidence suggests to avoid any cataloguing of the theoretical object ‘null pronoun’ in discrete ontological systems. Rather, NRP seem to be distributed along a continuum, which is serialized in (partly) different ways in the various languages.<sup>17</sup>

## 2) OPTIONAL STRATEGIES AND STRENGTHENING EFFECTS

The aim of this section is to propose a different account for the asymmetries that Rizzi (1982) noted in RC-extraction out of *wh*-islands. We will name them the *subject vs object* and the *decl/int vs int/decl* asymmetries. They are exemplified in 65)/66) and 67)/68).

- 65) ?Questo incarico, che non so proprio chi possa avere indovinato a chi pro è stato affidato,  
 This task, that I really don’t know who might have guessed to whom has been entrusted,  
 ...  
 66) ?\*Questo incarico, che non so proprio chi possa avere indovinato a chi affiderò t, ...  
 This task, that I really don’t know who might have guessed to whom I will entrust, ...  
 67) Il mio primo libro<sub>i</sub>, che credo che tu sappia a chi<sub>j</sub> ho dedicato t<sub>i</sub> t<sub>j</sub>, ...  
 My first book, that (I) believe that you know to whom (I) dedicated, ...  
 68) ??Il mio primo libro<sub>i</sub>, che so a chi<sub>j</sub> credi che abbia dedicato t<sub>i</sub> t<sub>j</sub>, ...  
 My first book, that (I) know to whom (you) believe that (I) dedicated, ...

### 2.1) First asymmetry

We will start analyzing a construction that is apparently unrelated to RC-extraction: parasitic gaps (PGs). PGs show subject/object asymmetries in Italian when they follow the ‘real gaps’. Whence the grammaticality of subject extraction out of tensed adjuncts in otherwise marginal or unacceptable sentences like the following:

- 69) ?\*L’uomo che avevamo pensato di nominare t ministro prima che avessero condannato [e] era Previti.  
 The guy that we wanted to appoint t minister before that (they) sentenced [e] was Previti

<sup>17</sup> We will use *pro<sub>OP</sub>* as a simple indication of an abstract average value of pronominality for a gap in an RC. This obviously implies a great deal of idealization, since according to us no such thing as *pro<sub>OP</sub>* actually exists. For the moment, a ‘discrete’ approach is maintained purely for convenience.

- 70) L'uomo che avevamo pensato di nominare t ministro prima che pro venisse condannato era Previti.  
The guy that we wanted to appoint t minister before that pro were sentenced was Previti
- 71) ?\*Gianni, che abbiamo comunque deciso di invitare t anche senza che Maria potesse vedere [e] prima, ...  
Gianni, that we decided to invite t even without that Maria could see [e] before,
- 72) Gianni, che abbiamo comunque deciso di invitare t anche senza che pro potesse essere visto prima da Maria, ...  
Gianni, that we decided to invite t even without that pro could be seen before by Maria,  
...

If we supplement this observation with the findings of Kayne (1983) about the sensitivity of parasitic gaps to islands, we have many convincing arguments in favor of the idea that the nature of such gaps be identical to that of a gap of a wh-element (ie the trace/copy of a movement operation). But there is a caveat. The alleged island sensitivity of PGs is partial: certain islands do not interfere with the relation between PGs and true gaps in Italian.<sup>18</sup>

#### WH-ISLAND

- 73) Questo è l'uomo che prima che gli elettori sapessero a che processi sottoposero [e] decidettero di nominare t ministro.  
This is the guy that before that the electors knew to which processes (they) subjected decided to appoint minister
- 74) Berlusconi, che le persone che non sapevano quando avrebbero incontrato [e] fremevano di vedere t, ...  
Berlusconi, who the persons that didn't know when (they) would meet waited impatiently to see, ....

#### SPECIFIC DP ISLAND

- 75) Questo è l'uomo di cui prima che decifrassero queste carte segrete [e] si persero le tracce t.  
This is the guy of whom before that (they) deciphered these secret papers (they) lost track

---

<sup>18</sup> It is evidently so when we use RCs, but the same judgements hold for cleft and pseudocleft constructions, as in these examples:

- i) È Previti che prima che gli elettori sapessero a che processi sottoposero [e] decidettero di nominare t ministro.  
It is Previti that before that the electors knew to which processes (they) subjected [e] decided to appoint t minister
- ii) Colui che le persone che non sapevano quando avrebbero incontrato [e] fremevano di vedere t era Berlusconi.  
Who the persons that didn't know when (they) would meet [e] waited impatiently to see t was Berlusconi

They seem to hold for wh-movement too:

- iii) Quale persona prima che gli elettori sapessero a che processi sottoposero [e] decidettero di nominare t ministro?  
Which person before that the electors knew to which processes (they) subjected [e] decided to appoint t minister?
- iv) Di quale politico prima che decifrassero le carte segrete [e] si persero le tracce t?  
Of which politician before that (they) deciphered the secret papers [e] (they) lost track t?

- 76) Berlusconi, di cui le persone che conoscono certe dichiarazioni [e] preferiscono non parlare t, ...  
 Berlusconi, of whom the persons that know certain declarations prefer to not talk about,  
 ...

#### SUBJECT ISLAND

- 77) \*Questo è l'uomo di cui dopo che gli amici [e] aiutarono le sue società a riprendere fiato si persero le tracce t.  
 This is the guy of whom after that the friends helped (they) lost track  
 78) \*Berlusconi, di cui certe persone alle quali una dichiarazione [e] non è piaciuta preferiscono non parlare t, ...  
 Berlusconi, of whom certain persons by whom a declaration wasn't well received prefer not to talk about, ...

#### COMPLEX NP ISLAND

- 79) \*Questo è l'uomo che prima che incontrassimo le persone che condannarono [e] avevamo paura di insultare t in pubblico.  
 This is the guy that before that (we) met the persons that sentenced (we) feared to insult publicly.  
 80) \*Berlusconi, che i candidati che sono votati dalle persone che scelgono [e] adorano t, ...  
 Berlusconi, that the candidates that are voted by the persons that choose adore,...

#### ADJUNCT ISLAND

- 81) \*Questo è l'uomo che ancor prima che l'Ulivo mettesse radici dopo che elessero [e] avevamo pensato di nominare t ministro.  
 This is the guy that even before that Ulivo rooted after that (they) elected (they) thought to appoint minister  
 82) \*Berlusconi, a cui le persone che volevano riciclarsi dopo che tutte le televisioni appartenevano [e] si rivolsero t, ...  
 Berlusconi, to whom the persons that wanted to recycle themselves after that all the networks belonged addressed, ...

As is apparent in the data above, wh-islands and specific DP islands do not block the relationship between the PG and the true gap, whereas they do induce ungrammaticality in case of standard (bare) wh-movement (see the beginning of the chapter). Note that this resembles strikingly what happens with RCs, even if there is a difference in terms of their sensitivity to subject islands (RCs= insensitive, PGs= sensitive). What happened to be a proof in favor of a 'movement analysis' for PGs, now turns out to be strong evidence against it.

But we still have the problem of motivating the subject/object asymmetry noticed before (see 69) vs 70) and 71) vs 72)). Again, the evidence sustaining a standard movement analysis is all but cogent: when a PG is inside an island it is sensitive to, there is actually no such asymmetry.

- 83) ?\*Questo è l'uomo che ancor prima che l'Ulivo mettesse radici dopo che [e] fu eletto avevamo pensato di nominare t ministro.  
 This is the guy that even before that Ulivo rooted after that was elected (they) thought to appoint minister  
 84) ?\*Questo è l'uomo che prima che incontrassimo le persone da cui [e] fu condannato avevamo paura di insultare t in pubblico.  
 This is the guy that before that (we) met the persons by whom was sentenced (we) feared to insult publicly

The observed subject/object imbalance is related to the *optionality* of choosing a pronoun replacing a parasitic gap.<sup>19</sup> In Italian such optionality is overtly evident in case of an object (PG vs clitic), but it is not in case of a subject (which means that we can freely shift from one null entity to the other). Two possible interpretations of the data in 69)/70) and 71)/72) are compared below:

- first analysis (standard account): object extraction= movement; subject extraction= pro; always use a pronominal strategy for subjects
- second analysis: object extraction= pro<sub>PG</sub>; subject extraction= pro<sub>PG</sub>/pro; *whenever a 'pro strategy' is legitimate*, shift to it

If the second analysis is correct, the ungrammatical sentences with object PG we saw before should become perfectly acceptable putting a clitic object, a prediction which is certainly borne out:

- 85) L'uomo che avevamo pensato di nominare t ministro prima che lo avessero condannato era Previti.  
The guy that we wanted to appoint t minister before that (they) sentenced him(cl) was Previti
- 86) Gianni, che abbiamo comunque deciso di invitare t anche senza che Maria lo potesse vedere prima, ...  
Gianni, that we decided to invite t even without that Maria could see him(cl) before, ...

The cases that do not exhibit subject/object asymmetries should instead not be rescued by the employment of object clitics, testifying of the impossibility of using a 'pronominal strategy' replacing the 'parasitic gap strategy'. Again, this appears to be correct:

- 87) ?\*Questo è l'uomo che prima che incontrassimo le persone che lo condannarono avevamo paura di insultare t in pubblico.  
This is the guy that before that (we) met the persons that sentenced him (we) feared to insult publicly
- 88) ?\*Questo è l'uomo che ancor prima che l'Ulivo mettesse radici dopo che lo elessero avevamo pensato di nominare t ministro.  
This is the guy that even before that Ulivo rooted after that (they) elected him (they) thought to appoint minister

Our conclusion is: exactly as in the case of RCs, PGs are not to be assimilated to standard traces, but rather to null elements whose 'pronominal value' is roughly in between a clitic/pro in dislocation structures and a trace resulting from the application of bare (adjunct) wh-movement. This explains why they are sensitive just to the strongest islands.<sup>20</sup> In addition, PGs exhibit subject/object asymmetries only in circumstances in which there is optionality in choosing the derivational strategy to adopt. The analogous behaviour of RCs and PGs suggests a common treatment. So, if one thinks that PGs are null pronominal entities, as for instance Cinque (1990) does, the same should hold for RCs (at least in Italian). We can therefore wonder whether the similarities between the two include the existence of optionality also in RC environments. This will be our next concern.

In a PG configuration we can extract a constituent leaving a so-called 'trace' (ie, the non-parasitic gap, whose status in our framework depends on the type of extraction) inside an island, in case the construction in question is not sensitive to it.

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<sup>19</sup> See Kennedy (1997) and the insightful reply of Postal (2001) for a similar confusion between optionality and absence of PGs in VP-deletion structures in English.

<sup>20</sup> Cinque (1990, ch 3) has many other independent proofs pointing towards an identical conclusion. See also Postal (1998).

RC-extraction out of wh-island, PG in complex NP island

- 89) ?Berlusconi è un uomo che le persone che incontrano [e] spesso si chiedono quanto detesteranno t in seguito.  
Berlusconi is a man that the persons who meet often wonder how much (they) will hate afterwards

RC extraction out of specific DP, PG in complex NP island

- 90) ?Berlusconi è un uomo del quale le persone che sono stupe [e] di solito strappano quei manifesti t.  
Berlusconi is a guy of whom the persons that are fed up usually tear those posters

If we have RC extraction from an island which it is sensitive to, sentences become completely ungrammatical:

RC extraction out of complex NP island, PG in complex NP island

- 91) \*Berlusconi, che le persone che incontrano [e] di solito si formano la convinzione che detestano t, ...  
Berlusconi, that the persons who meet often get the conviction that (they) hate, ...

Observe now what happens with RC subject extraction in the same syntactic environment:

- 92) ?Berlusconi, che le persone che incontrano [e] di solito si formano la convinzione che t sia detestabile, ...  
Berlusconi, that the persons who meet often get the conviction that is odious, ...

Since we did not observe a real asymmetry in the preceding data involving a single RC gap in a complex NP island, one does not predict here any difference either.<sup>21</sup> This is not borne out, contrary to our expectations. The sentence is decidedly better than the preceding one, even if still a bit complex to process. What is going on now?

The simpler explanation available is that we have a pro, instead of a pro<sub>OP</sub>, in subject position. But this leads inevitably to another question: why do we have here a pro instead of a pro<sub>OP</sub>? What are the conditions responsible for this 'shift' in the derivation?

We can replicate the same contrast in other circumstances too, in order to demonstrate its systematic nature.

RC extraction out of complex NP island, PG in adjunct island

Object extraction:

- 93) \*Questo è il libro che prima ancora che finissi [e] contattai gli amici che non conoscevano t per dirgli di leggerlo.  
This is the book that before that (I) finished (I) got in touch with the friends that didn't know in order to tell them to read it
- 94) \*Il libro, che dopo che ho letto [e] ho incontrato l'uomo a cui tua sorella ha dato t, ...  
The book, that after that (I) read (I) met the man to whom your sister gave, ...

---

<sup>21</sup> We repeat the test here, with the same sentences used in the parasitic gap construction:

- i) ??Berlusconi, che molte persone si sono formate la convinzione che t sia detestabile, ...  
Berlusconi, that many people came to the conviction that (he) is odious, ...
- ii) ??Berlusconi, che molte persone si sono formate la convinzione che detestano t, ...  
Berlusconi, that many people came to the conviction that (they) hate, ...

Subject extraction:

- 95) ?Questo è il libro che prima ancora che finissi [e] contattai gli amici a cui pro non era noto per dirgli di leggerlo.  
This is the book that before that (I) finished (I) got in touch with the friends to whom was not known in order to tell them to read it
- 96) ?Tua sorella, che dopo che ho visto [e] ho incontrato l'uomo a cui pro ha dato un libro,  
...  
Your sister, that after that (I) saw (I) met the man to whom (pro=she) gave a book, ...

Substantial absence of asymmetry with simple RC extraction from complex NP:

- 97) \*Questo libro, che contattai le persone che non conoscevano t, ...  
This book, that (I) got in touch with the persons that didn't know, ...
- 98) ?\*Questo libro, che contattai le persone a cui t non era noto, ...  
This book, that (I) got in touch with the persons to whom was not known,
- 99) \*\*Il libro, che ho incontrato l'uomo a cui tua sorella ha dato t, ...  
The book, which I met the man to whom your sister has given t, ...
- 100) \*Tua sorella, che ho incontrato l'uomo a cui t ha dato un libro, ...  
Your sister, who I met the man to whom t has given a book, ...

What may be relevant is the presence of another gap in the sentence. The replacement of  $pro_{OP}$  seems to be possible only if extraction takes place in conjunction with it.<sup>22</sup>

An object clitic rescues all the bad cases examined, showing that a 'shift of strategy' occurred for the subject gaps seen before.

- 101) ?Berlusconi, che le persone che incontrano [e] di solito si formano la convinzione che lo detestano t, ...  
Berlusconi, that the persons who meet usually get the conviction that (they) him(cl) hate, ...
- 102) ?Questo è il libro che prima ancora che finissi [e] contattai gli amici che non lo conoscevano per dirgli di leggerlo.  
This is the book that before that (I) finished (I) got in touch with the friends that didn't it(cl) know in order to tell them to read it

This is exactly what happens in Rizzi's examples exhibiting a subject/object asymmetry (from Rizzi 1982, 57):

- 103) ?Questo incarico, che non so proprio chi possa avere indovinato a chi pro è stato affidato, ...  
This task, that I really don't know who might have guessed to whom has been entrusted, ...

The correlative object extraction is much worse, rendering evident the failure of  $pro_{OP}$ .

- 104) \*Questo incarico, che non so proprio chi possa avere indovinato a chi affiderò t,  
...  
This task, that I really don't know who might have guessed to whom I will entrust, ...

---

<sup>22</sup> We are not at all sure about the relevance of the variable 'presence of another gap in the sentence' in activating optionality for RC-gaps in general. What seems to matter is also the overall complexity of sentences, particularly in terms of length (number of elements to be processed) - see Prince (1990) and Erteschik-Shir (1992). Be as it may be, the existence of *optional* RC-gaps is the relevant empirical point in order to demonstrate that the 'subject vs object asymmetry' does not entail that RCs involve standard movement, which would be in total contradiction of our precedent observations.

Rizzi's examples share many characteristics with PG cases: they involve double extraction and the employment of a clitic renders also quasi-grammatical the object versions.

- 105) ?Questo incarico, che non so proprio chi possa avere indovinato a chi lo affiderò, ...  
This task, that I really don't know who might have guessed to whom I will entrust it(cl), ...

We saw earlier that there are certain contexts in which a pronominal strategy and a PG strategy alternate freely. When a PG strategy fails, a subject (but not an object) has the possibility of shifting automatically to a pronominal one. In other contexts that do not allow optionality such shift is illegitimate. There seem to exist situations in which a  $pro_{OP}$  strategy and a pro strategy are both possible in RC-extraction as well (this last point was already observed by Rizzi himself in his paper – he named RCs using a pro strategy ‘substandard’).<sup>23</sup> But those situations are not the rule: they constitute a specific *domain of optionality* in RC formation.

The questions we did not answer are: why are there optional PGs and optional RC-gaps? And why are they sometimes obligatory and do not alternate with their ‘more pronominal’ counterparts (as observed by Engdahl as soon as 1983 for PGs)<sup>24</sup>? We do not have a systematic answer, which would require an extensive analysis of the problem, but notice again the crucial absence of (substantial) ameliorating effects in standard Italian when we insert a clitic in all the cases of simple RC-extraction that did not show subject/object asymmetries before:<sup>25</sup>

- 106) ??Questo incarico, che non sapevo la novità che lo avrebbero affidato a te, ...  
This charge, that I didn't know the news that (they) would entrust it(cl) to you,  
...  
107) ??Tuo fratello, a cui temo la possibilità che gli abbiano raccontato tutto,...  
Your brother, who I fear the possibility that (they) to-him(cl) told all, ...

<sup>23</sup> Many languages have more than one relativization strategy at their disposal. For instance, Hebrew or Irish (see, among others, Ross 1967, Chomsky 1977, Borer 1984, Sells 1984, Safir 1986a, McCloskey 1990, Prince 1990, Demirdache 1991, Shlonsky 1992 and Suñer 1998). Standard Italian does not seem to us to pattern with them, since it employs RPs only as a last-resort remedy (often, in situations of excessive processing load). Some varieties of colloquial Italian, instead, seem to show true resumption strategies in RC formation.

<sup>24</sup> Here are some of Engdahl's examples:

- i) Which boy did Mary's talking to [e]/\*him bother t most? OBLIGATORY PG  
ii) Which articles did John file t without reading [e]/them? OPTIONAL PG

<sup>25</sup> L. Rizzi (pc) judges certain examples as better than the corresponding  $pro_{OP}$  versions, but in my variety of Italian the improvement is minimal (a fact somewhat related to Cinque's 1977 observations about CLLD, though according to us the origin of the problem is not island sensitivity here but rather the absence of a domain of optionality for the strategy to be adopted in standard Italian; see also section 3.1 below for analogous considerations wrt CLLD). Some of these extractions, and in particular those in the marginal sentences, are anyway quite common in everyday speech, which makes use rather freely of overt resumptive clitics. Colloquial Italian thus presents a much wider domain of optionality, also without showing island sensitivity. Since shifts of register are invisible for subjects, this could explain the persistence of a slight preference for subject extraction in many of the contrasts seen so far. That ‘obligatory  $pro_{OP}$ ’ is real and that a specific and delimited ‘domain of optionality’ exists can be further shown with this very simple example, holding in whatever register of the language:

- i) Il ragazzo che ho visto t...  
ii) \*Il ragazzo che l'ho visto... (Cinque 1988)  
The boy that (I) have seen t/\*him ...

For speakers that get Rizzi's judgements, the subject extraction cases should also be much better than the correspondent object versions (without clitics). This is presumably strongly dependent upon dialectal/idiolectal variation. A theory predicting a general improvement cannot account for all the data, whereas a theory postulating a domain of optionality can (explaining the idiolectal/dialectal variation by means of the notion of ‘extension’ of such a domain, maybe in conjunction with shifts of registers).

- 108) \*Il libro, che ho incontrato l'uomo a cui tua sorella l'ha dato t, ...  
The book, which I met the man to whom your sister has given t, ...
- 109) ???Tua sorella, che ho incontrato gli uomini che l'hanno assunta t, ...  
Your sister, who I met the men that hired t, ...
- 110) ?\*Questo libro, che ho incontrato Mario prima che l'avesse finito t, ...  
This book, which I met Mario before (he) finished t, ...

Summing up: the presence of a subject/object asymmetry in RC-extraction from double wh-islands was considered a proof in favor of the movement nature of such an extraction in Italian. But the cases involving PGs in conjunction with RCs examined here permitted us to use different contexts of extraction. The results indicate that the noted asymmetry is contingent upon the possibility of optionality in RC formation and substantially disappears with simple RC extraction, where such optionality does not seem to exist in a standard register of the language. Therefore, we connected the appearance of a genuine *pro* in subject position to a shift of strategy in the derivation, pointing out the relevance of certain syntactic contexts in determining 'optionality' vs 'obligatoriness' of these derivational strategies. The proofs that support the standard movement nature of RCs in Italian seem, once again, to vanish when carefully reconsidered.

## 2.2) *Subjacency and extraction from DP's*

Other data taken as mandatory for a standard movement analysis of RCs and for the relevance of subjacency as a condition on extraction via traces regarded 'any movement out of a wh clause (...) if the relative pronoun is extracted from an NP, under the assumption that in Italian NP is a bounding category' (Rizzi 1982, 58). The following contrasts would support the claim:

- 111) Gianni, di cui so che una foto t è apparsa recentemente sul Gazzettino, ...  
Gianni, of whom I know that a picture appeared recently on Gazzettino, ...
- 112) \*Gianni, di cui non so su che giornale una foto t sia apparsa recentemente, ...  
Gianni, of whom I do not know on which newspaper a picture appeared recently, ...
- 113) Questo autore, di cui so che il primo libro t è stato pubblicato recentemente, ...  
This author, by whom I know that the first book has been published recently, ...
- 114) \*Questo autore, di cui non so quando il primo libro t sia stato pubblicato, ...  
This author, by whom I do not know when the first book has been published, ...

There is an intervening variable that obscures their relevance, though. Its status is evident in examples of this sort (from Cardinaletti 2001, Rizzi 1996, 80):

- 115) \*Chi Gianni ha invitato?  
Who has G. invited?
- 116) ??Tutti si domandano che cosa il direttore ha detto.  
Everyone wonders what the director has said

A subject DP linearly following a wh element elicits ungrammaticality, both in matrix and embedded indirect questions. The explanation of such empirical fact is still missing and many tentative accounts (all apparently far from being optimal) have been proposed in the literature. Anyway, if we neutralize this intervening variable postposing the subject (or leaving it in situ, more properly), extraction out of DP becomes perfectly acceptable. This confirms our previous data about the absence of sensitivity to this island for RCs in Italian:

- 117) Gianni, di cui non so su che giornale sia apparsa recentemente una foto t,  
Gianni, of whom I do not know on which newspaper appeared recently a picture, ...
- 118) Questo autore, di cui non so quando sia stato pubblicato il primo libro t,  
This author, by whom I do not know when has been published the first book, ...

The alleged asymmetry is thus illusory, once we control for other syntactic interferences. It is noteworthy that the data above go completely against the predictions of the subjacency approach, further disconfirming its adequacy. Dropping the assumption that in Italian DP is a bounding node could not solve the problem: it would leave us without an explanation for the impossibility of extraction out of complex NP islands. In other words, the idea that Italian RCs involve standard movement and that (parametrized) subjacency constraints them produces contradictory results.

### 2.3) *Second asymmetry*

We did not explain yet the ungrammaticality of examples like the one below (which represents RC-extraction out of two wh-islands), given our idea that RCs are not an instance of standard movement rules and that we take for granted their insensitivity to wh-islands.

- 119)        ?\*Francesca, che non immagino quanta gente sappia dove hanno mandato t<sub>i</sub>, ...  
               (from Rizzi 1982: 54)  
               Francesca, that I don't imagine how many people know where (they) have sent,  
               ...

In addition, we have to motivate why there is a difference in extraction between the order decl-clause/wh-island vs wh-island/decl-clause, as in the following sentences (again from Rizzi 1982, with grammaticality judgements slightly changed):

- 120)        Il mio primo libro<sub>i</sub>, che credo che tu sappia a chi<sub>j</sub> ho dedicato t<sub>i</sub> t<sub>j</sub>, ...  
               My first book, that (I) believe that you know to whom (I) dedicated, ...  
 121)        ??Il mio primo libro<sub>i</sub>, che so a chi<sub>j</sub> credi che abbia dedicato t<sub>i</sub> t<sub>j</sub>, ...  
               My first book, that (I) know to whom (you) believe that (I) dedicated, ...

One important thing to note is that the decl-int/int-decl asymmetry seems to hold in other languages as well. Grimshaw (1986) observed the same sort of pattern in English.

Extraction out of one wh-island without declarative clauses:

- 122)        Which book<sub>i</sub> did the students forget who<sub>j</sub> wrote t<sub>j</sub> t<sub>i</sub>?

Extraction out of one wh-island with order decl-clause/int-clause:

- 123)        Which book<sub>i</sub> did the TAs tell the students that they shouldn't forget who<sub>j</sub> wrote t<sub>j</sub> t<sub>i</sub>?

Extraction out of one wh-island with order int-clause/decl-clause:

- 124)        \*Which book<sub>i</sub> did the students forget who<sub>j</sub> t<sub>j</sub> told them that Dorothy Sayers wrote t<sub>i</sub>?

Extraction out of two wh-islands:

- 125)        \*Which book<sub>i</sub> did the students forget who<sub>j</sub> t<sub>j</sub> told them who<sub>k</sub> t<sub>k</sub> wrote t<sub>i</sub>?

This is a serious problem for Rizzi's original explanation, because since in English extraction out of a wh-island is generally not allowed, and precisely because of subjacency of the 'English' type, we cannot attribute to that same variable the asymmetry in question. Why should we adopt two different explanations in English and Italian for the very same asymmetry? But if such an asymmetry turns out to be independent from the subjacency parameter, what can account for it? Note that there are some important differences wrt Rizzi's data. First of all, here we are supposedly dealing with an instance of movement, since wh-extraction is its more prototypical exemplification. Secondly, in all the examples the wh-element of the indirect question is extracted from subject position. Last but not least, the chains show a nested pattern. Other kinds of patterns/sites of extraction are more or less problematic in English, but this is not the case with RCs in Italian, which tolerate crossing dependencies and object extraction sites. The same

restrictions active in English holds for Italian wh-elements, instead. There is, again, something different between the two types of extraction.

Here we replicate Grimshaw's data in Italian:

Extraction out of one wh-island without declarative clauses:

126)        Quale libro hanno dimenticato chi ha scritto?

Extraction out of one wh-island with order decl-clause/int-clause:

127)        ??Quale libro hanno detto agli studenti che non dovrebbero dimenticare chi ha scritto?

Extraction out of one wh-island with order int-clause/decl-clause:

128)        ?\*Quale libro hanno dimenticato chi gli ha detto che Pirandello ha scritto?

Extraction out of two wh-islands:

129)        \*Quale libro hanno dimenticato chi ha detto chi ha scritto?

Whatever explains these contrasts, it should be able to deal with RCs as well, which we demonstrated above to be derived through the employment of NRP. Consequently, a condition on 'true movement' chains cannot be the right explanation.<sup>26</sup> But a general ban is not the right explanation either, given these grammatical instances of dislocation:

Dislocation out of two wh-islands:

130)        Berlusconi, mi chiedo davvero chi non abbia ancora capito cosa lo spinge a candidarsi.  
Berlusconi, I really wonder who does not understand yet what pushes him to candidate

Dislocation out of one wh-island with order int-clause/decl-clause:

131)        Berlusconi, non sanno chi ha detto che lo voterà.  
Berlusconi, (they) don't know who told that (she) will vote him

Dislocation out of one wh-island with order decl-clause/int-clause:

132)        Berlusconi, mi hanno detto che non sanno chi lo voterà.  
Berlusconi, (they) told me that (they) don't know who will vote him

No degradation is perceivable here (as already shown also by the data on subject extraction with two wh-islands).

A first useful observation for better understanding what is going on is this: there is a sort of gradualness in degradation when we compose a wh-island with other clauses.

- 133)        Il tuo primo libro, che so a chi dedicherai t, ...  
Your first book, that (I) know to whom (you) will dedicate, ...
- 134)        ??Il tuo primo libro, che so a chi pensi che dedicherai t, ...  
Your first book, that (I) know to whom (you) think (you) will dedicate, ...
- 135)        ?\*Il tuo primo libro, che immagino chi non sappia a chi dedicherai t, ...  
Your first book, that (I) imagine who does not know to whom (you) will dedicate, ...

The idea we would like to propose is that islands are not compositional. No theory can make sense of the data we will present below with a simple combinatorial mechanism. Again, subadjacency seems to be (at least partially) combinatorial and thus inadequate in this respect.

---

<sup>26</sup> Of course, we do not believe that wh-extraction is intrinsically different from RC-extraction, but since the NRP hypothesis has not been conclusively proved yet we do not assume it as implicit for the moment.

The paradigm we are exploring here is what we will call ‘strengthening effects’. It can be exemplified reporting again one of Rizzi’s example.

- 136)       ?\*Francesca, che non immagino quanta gente sappia dove hanno mandato t, ...  
 Francesca, that I don’t imagine how many people know where (they) have sent,  
 ...

Note the well-known grammaticality of:

- 137)       Francesca, che molta gente sa dove hanno mandato t, ...  
 Francesca, that many people know where (they) have sent, ...

One wh-island is of no offense to RC-extraction, but two of them constitute a problem. Using the words of Gestalt psychologists, we can say that the sum of the parts considered in isolation does not equal the totality those parts constitute together. Or, in a more syntactic but still intuitive vein, the second wh-island strengthens the first in such a way that the two of them have enough ‘power’ to block the chain between  $pro_{OP}$  and the relative pronoun (or between a trace/copy and its antecedent, for that matter).

If the explanation of island sensitivity offered in chapter 2 is correct, the variable whose ‘power’ blocks extraction is topicality. Two wh-islands sum up forming a ‘compounded island’, whose topicality would surpass the threshold that renders RC-extraction illegitimate.

Assuming such an idea is on the right track, we might wonder: what happens with all the other possible combinations of islands? Rizzi observed that even a tensed complement to a bridge verb (which is not in itself an island) interferes with the possibility of RC-extraction when it is inserted *inside* a wh-island, ie when it combines with it constituting a totality. So another question is: what happens when a non-island is embedded in an island?

The opaque domains that we will use as ‘grafts’ here are those that RCs do not (normally) respect, which means wh-islands, subject islands and specific DP islands. As representative of non-islands we will simply employ tensed complements to bridge verbs, supposing that all the other more elaborated imaginable interveners of this sort have at least the same effects on grammaticality.

### COMPOUNDED ISLANDS

#### WH-ISLAND

##### Double wh-island

- 138)       ?\*Francesca, che non immagino quanta gente sappia dove hanno mandato t, ...  
 Francesca, who (I) don’t imagine how many people know where (they) have sent, ...

##### Wh-island + subject island<sup>27</sup>

- 139)       ???Francesca, su cui che ti domandi chi faccia commenti t non aiuta nessuno, ...  
 Francesca, about whom that you wonder who makes comments does not help anybody, ...

---

<sup>27</sup> Extraction from a CP subject is out too, as in:

i) ?\*Francesca, alla quale non sapere quando Susanna abbia parlato t mi infastidisce, ...  
 Francesca, to whom not to know when Susanna spoke t annoys me, ...

### Wh-island + specific DP

- 140) ??Giovanni, di cui non so quale di quei libri t hai comprato, ...  
Giovanni, of whom I don't know which of those books I bought, ...

### Wh-island + declarative clause

- 141) ??Francesca, che non so dove dicono che hanno mandato t, ...  
Francesca, who (I) don't know where (they) say that (they) sent, ...

### SPECIFIC DP

#### Double specific DP<sup>28</sup>

- 142) Giovanni, di cui ho incontrato il figlio della nipote, ...  
Giovanni, of whom I have met the son of the nephew, ...

#### Specific DP + subject island<sup>29</sup>

- 143) ??Giovanni, di cui quel libro t non ha entusiasmato nessuno, ...  
Giovanni, of whom that book did not thrill anybody, ...

#### Specific DP + wh-island<sup>30</sup>

- 144) Giovanni, di cui ho incontrato il figlio di non ricordo che nipote t, ...  
Giovanni, of whom (I) met the son of (I) don't remember which nephew,

#### Specific DP + declarative clause

- 145) Giovanni, di cui ho incontrato il figlio che hanno detto essere della nipote t, ...  
Giovanni, of whom (I) met the son that has been said to be of the nephew, ...

### SUBJECT ISLAND

#### Double subject island

- 146) ?\*Giovanni, su cui aver visto che i vostri commenti t non sono stati risparmiati  
mi ha infastidito, ...  
Giovanni, about whom having heard that your comments haven't been kept to  
yourselves disturbed me, ...

---

<sup>28</sup> It is actually not necessary to use a definite in the first DP, since wh-extraction is generally blocked even in the case of an indefinite when we have two levels of embedding (presumably, the first modifier topicalizes the indefinite). Cf.

- i) Giovanni, di cui ho incontrato un figlio della nipote  $pro_{OP}$ , ...  
Giovanni, of whom I have met a son of the nephew, ...  
ii) ?\*Di chi hai incontrato un figlio della nipote t?  
Of whom have you met a son of the nephew?

<sup>29</sup> It is impossible to determine if the fact of being in subject position 'precedes' the specific DP/wh-island or vice-versa. We will use the same kind of examples for both situations, though we are aware of the inconsistency implicit in this choice.

<sup>30</sup> The only way to have a wh-island (or a declarative clause) embedded in a specific DP is to use a double DP embedding. The specificity of the first DP does not count in establishing the islandhood of the construction in this case (see note 28). We are not sure that this example is a correct instantiation of such a composition, though.

Subject island + wh-island

- 147)        ?\*Giovanni, a cui che si chiedano chi abbia parlato t mi sorprende, ...  
              Giovanni, to whom that (they) wonder who spoke surprises me, ...

Subject island + specific DP

- 148)        ?Giovanni, su cui quei commenti t mi hanno infastidito, ...  
              Giovanni, about whom those comments disturbed me, ...

Subject island + declarative clause

- 149)        ??Giovanni, a cui che dicano che Susanna abbia parlato t mi sorprende, ...  
              Giovanni, to whom that (they) say that Susanna spoke surprises me, ...

The composition of the islands we examined gives variable results, ranging from total acceptability to ungrammaticality.<sup>31</sup> It is difficult to have real minimal pairs, because the examples are rather complex to construct. Anyway, the mechanism at work appears to be threshold-like: whenever the combination of two islands reaches a certain critical ‘strength’, ungrammaticality arises. In particular, combinations of two wh-islands, two subject islands or a wh-island and a subject island produce the worse effects. The specific DP island seems the weaker in the group, since it can be doubled and its composition with other islands does not diminish drastically the grammaticality of the sentences. The composition with a tensed declarative clause is susceptible of being noticed with wh-islands and subject islands. But the employment of an infinitive declarative clause improves considerably grammaticality judgements, as expected:

- 150)        Giovanni, a cui che ci dicano di non parlare t mi sorprende, ...  
              Giovanni, to whom that (they) say to us not to speak t surprises me, ...

---

<sup>31</sup> This is not unknown in the literature (see Szabolcsi 2002, sec 3.4.1), though a systematic treatment of compounded islands has always been missing. For example, Cinque (1990) shows that it is not possible to extract out of two consecutive untensed adjunct islands in English and that the ameliorating effect due to absence of tense vanishes. On the other hand, Postal (1998) has cases of licit extraction out of an untensed adjunct island compounded with a complex NP island headed by an indefinite DP. In this case, the ameliorating effects of indefiniteness and absence of tense still permit (selective, of course) extraction out of the compounded island. Deane (1988) discusses extraction across more than one (indefinite) NP node in English, which is apparently possible (but see note 28 about Italian). Subject islands compounded with a variety of other islands are mentioned in Postal (1998). Longobardi (1991) considers a subject island plus a wh-island in presence of RC extraction in Italian, noting that sentences are much better when the subject is postverbal (and thus only a wh-island violation persists). He also shows that the marginality of RC extraction from an infinitive CP subject shifts to ungrammaticality when a factive verb is employed (factive island plus subject island).

Postal (1998) discusses quite extensively the topic from a theoretical point of view, arriving at a tentative classification of selective islands in *rigid* and *flexible* according to the (im)possibility of extraction after compounding. Needless to say, the data in this section are rather troublesome for such a dichotomic approach. Furthermore, the idea that islands might be flexible appears to us problematic. Postal apparently believes that compounding factive islands does not give rise to summation effects of any sort. But the following Italian contrasts are not compatible with such a claim:

- i) ??Chi ti dispiace che sia sicuro che abbiano licenziato t?  
    Who are you sorry that I’m sure that (they) fired?  
ii) (?)Chi credi che sia sicuro che abbiano licenziato t?  
    Who do you believe that I’m sure that (they) fired?  
iii) Chi ti dispiace che abbiano licenziato t?  
    Who are you sorry that (they) fired?  
iv) (?)Chi sei sicuro che abbiano licenziato t?  
    Who are you sure that (they) fired?

- 151) Francesca, che non so dove dicono di voler inviare t, ...  
 Francesca, who (I) don't know where (they) say to want (to) send, ...

These data are not manageable in a 'subjacency paradigm', which is not designed for gradual sensitivity to islands and for their additive behavior. To conclude this section, we think that Rizzi's asymmetry between the order decl-int vs int-decl can be explained away by assuming that in the first case the declarative clause does not form a totality with the island, because the boundary from which the 'compounded island' starts is the first clause that can actually be an opaque domain. Instead, when we are inside an effective island, even a slight increase in topicality may be fatal and induce a drastic worsening.<sup>32</sup>

### 3) A MAPPING OF NULL RESUMPTIVE PRONOUNS IN ITALIAN

This section is devoted to the analysis of some other constructions we do not focus on so far because peripheral to the issues under discussion. Notwithstanding, the methodology employed for establishing the existence of various null pronominal entities opens other fields of research that deserve to be explored. The most intriguing one is the possibility of mapping quite systematically the syntactic constructions making use of resumptive pronouns, trying to understand what (average) degree of pronominality corresponds to them in Italian. We will briefly and tentatively pursue this task here, arriving at the conclusion that the notion of trace/copy is completely unneeded and that in order to preserve the theoretical virtues of the unified rule 'move  $\alpha$ ' it has to be abandoned.

#### 3.1) Clitic left dislocation

Cinque (1977) proposes that in Italian we have to differentiate between Clitic Left (or Right) Dislocation (CLLD) and Hanging Topic (HT) construction. Indistinguishable in many respects when dealing with DP's, we can appreciate their divergent behaviour through the employment of PP's. According to Cinque, one of the differences is that while HTs are insensitive to islands, CLLD is instead constrained by them.

This story is somewhat a simplified version, though essentially correct in its main lines. Firstly, we have to distinguish between colloquial and written/formal Italian. In the former, a PP with a resumptive clitic is usually fine even if it is inside an island (at least in our variety).<sup>33</sup>

Colloquial Italian:

- 152) A Giorgio, ieri ho conosciuto la ragazza che gli ha scritto quelle insolenze.

<sup>32</sup> Note that the declarative clause is tensed and thus topical at the intra-CP level of its matrix. This is normally not enough to block extraction if no other variables intervene (see the previous chapter), but it suffices in marked circumstances to elicit marginality or ungrammaticality, in contrast to infinitives. There is one aspect which is problematic in our account, namely how to define in an absolute sense what is an island (or, in other words, where the computation of a compounded island should start). It seems that that-complements to bridge verbs have not to be considered islands at all, still in certain cases (such as null operator constructions) they turn out to be islands. We are not able to find a more convincing explanation for the facts exposed in this section and thus will leave these problems open for future research.

<sup>33</sup> There are idiolectal variations in this respect. Certain speakers remain closer to the rules of written Italian, others depart considerably from them and accept almost every sort of extraction. However, there are some examples that we are confident nobody will consider completely acceptable, like the following:

- i) ??A quella vecchia<sub>i</sub>, non ho più frequentato le persone che mi conoscono da quando Giuseppe gli<sub>i</sub>ele ha presentate.  
 To that old woman, (I) have not met with the persons that know me since Giuseppe introduced them to her

Certain opaque domains (for instance, compounding of the strongest ones) seem to support the idea that CLLD in colloquial Italian is also sensitive to islands, though much less than CLLD in standard Italian.

- 153) To Giorgio, yesterday I met the girl who wrote those insolent words to him(cl)  
 Di quel libro, mi son seduto in poltrona e ne ho letta una metà, ieri.  
 Of that book, I sat in the armchair and read half of it(cl) yesterday  
 (examples from Cinque 1977, grammaticality judgements ours)

Secondly, CLLD involving PP's is in general incompatible with overt resumptive clitics in formal/written Italian, independently from the presence of island configurations.

Written Italian:

- 154) \*Alla vecchia signora, non le mancava la figlia in vacanza.  
 The old woman, the daughter on vacation was not missed by-her(cl)  
 155) Alla vecchia signora, non mancava la figlia in vacanza.  
 The old woman, the daughter on vacation was not missed (by)  
 156) \*Su mio padre, non ci avresti dovuto dire nulla.  
 On my father, you shouldn't have said anything on him(cl)  
 157) Su mio padre, non avresti dovuto dire nulla.  
 On my father, you shouldn't have said anything

It is really important to tease different registers apart, because the acceptability of the sentences may vary considerably *for the same speaker*. Almost every Italian kid has difficulties with these examples, when it is time to learn written Italian.

- 158) A me, non mi va di andare a scuola.  
 To me, not by me(cl) is liked of going to school  
 'I don't like going to school.'  
 159) A lui, non gli piacciono i compiti.  
 To him, not by him(cl) are liked the home-works  
 'He doesn't like home-works.'

On the contrary, colloquial Italian abounds in this type of constructions, which are considered errors at school or an inaccurate way of speaking in formal contexts.<sup>34</sup>

Partitive 'ne' and locative 'ci' are two exceptional cases: they are generally tolerated in whatever register.<sup>35,36</sup>

<sup>34</sup> The pressure to introduce overt clitics with CLLDed PP's which comes from everyday speech has also created a grey area for the written contexts, where in certain cases a clitic may be employed without being stylistically very marked.

<sup>35</sup> The clitic *ne* is exceptional wrt agreement facts as well, since it can be followed by the past participle in its default masculine singular form (*ci* cannot be tested since it never stands for direct objects). In our variety this is also possible when the floating quantifier *molti/many* (indicating gender and number of the object) is left in-situ, contra Lepschy & Lepschy (1977).

i) ?Ne ho mangiato parecchia di torta.

ii) Ne ho mangiata parecchia di torta.

*Ne* (I) have eaten(-/+agr) a lot of cake

iii) ?Non ne ho riconosciuto molti.

iv) Non ne ho riconosciuti molti.

Not *ne* (I) have recognized(-/+agr) many

v) \*L'ho mangiato (tutta), la torta.

It(cl, fem) (I) have eaten(-agr) (all), the cake

vi) \*Li ho riconosciuto (tutti).

Them(cl) (I) have recognized(-agr) (all)

## Colloquial/written Italian

- 160) Di pizzette, ne ho mangiate fino a scoppiare.  
Of small pizzas, (I) have eaten of them(cl) until I was exploding<sup>37</sup>
- 161) Di mio marito, ne avevo abbastanza.  
Of my husband, (I) had enough of him(cl)<sup>38</sup>
- 162) A casa, ci andammo dopo.  
To home, (we) went there(cl) later

When used in colloquial Italian, they are not sensitive to islands (though not completely so in the case of locative *ci*):

## Colloquial Italian

- 163) Di pizzette, non conoscevo l'uomo che ne aveva mangiate fino a scoppiare.  
Of small pizzas, I didn't know the man that ate of them(cl) until he exploded
- 164) Di mio marito, sono sicura che le persone che ne dubitano sono molte.  
About my husband, I'm sure that the persons that have doubts about him(cl) are many
- 165) ?A teatro, l'uomo che ci è andato avrebbe dovuto fare piuttosto un'altra strada.  
To the theatre, the man that went there(cl) should have rather chosen another direction

Sentences 163)-165) result 'marked' in a written register, and surely inelegant.

This established, we return to Cinque's arguments regarding island sensitivity. We agree with him that in CLLD (in written Italian) the *null resumptive pronoun* is sensitive to islands, whereas in HT constructions the overt clitic is not.<sup>39</sup> But, here as well, this is just part of the story. CLLD is sensitive only to certain islands, exactly as RCs and PGs.<sup>40</sup>

The fact that CLLD is not sensitive to islands in the same way interrogative wh-movement is presents perfect compatibility with the findings of Cinque (1990), all apparently against a 'movement analysis' for this construction.<sup>41</sup> The last observations have always been in evident

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In French, *en* does not trigger past participle agreement (though for some speakers it is optionally present, as in Italian). The two languages follow the same pattern, as evident in this chart:

	acc. clitics	partitive clitic
French agr	optional	absent/optional
Italian agr	obligatory	optional

The clitics *ne/en* and *ci/y* are also exceptional in not licensing floating quantifiers, contrary to the behaviour of direct object clitics in standard Italian and both direct and indirect object clitics in standard French (see the next chapter). Furthermore, Tellier (1991) argues that the partitive clitic *en* (marginally) licenses PGs in French, whereas DP clitics do not (a similar difference seems to us to hold in Italian). Finally, only *en* and *y* may sometimes occur separated from the verb in French (Kayne 1991). All these facts suggest that a distinct treatment be given to two partly separated classes of clitics in Romance.

<sup>36</sup> But one has to consider the fact that dislocation (HT and CLLD) is typical of the oral language and much less used in written expression. This sometimes renders our distinctions very subtle.

<sup>37</sup> With the meaning: until my stomach was completely full.

<sup>38</sup> With the meaning: I couldn't stand him anymore.

<sup>39</sup> Nor is the overt clitic in CLLD in colloquial Italian, but see note 33.

<sup>40</sup> Given the equation (+)topicality = (+)pronominality, this is expected. CLLD constituents have a high value of topicality and they are thus associated with a resumptive pronoun possessing a high degree of pronominality.

<sup>41</sup> In the framework under development in the present dissertation, treating CLLD and CLRD in a completely different way from the other types of extraction appears clearly unmotivated. In particular, the

contradiction of the empirical data contained in Cinque (1977) and no clear explanation was available for such a discrepancy.<sup>42,43</sup>

#### WH-ISLAND

- 166) Su quel problema, non sapevo a chi avrebbero detto di scrivere  $pro_{CLLD}$ .  
On that problem, I didn't know to whom (they) would say to write

#### SPECIFIC DP

- 167) Di Giovanni, ho trovato questo libro  $pro_{CLLD}$  in biblioteca.  
Of Giovanni, I found this book in the library

#### SUBJECT CP AND DP

- 168) A Giovanni, che Susanna abbia parlato  $pro_{CLLD}$  mi sorprende.  
To Giovanni, that Susanna spoke surprises me
- 169) Su Giovanni, i vostri commenti  $pro_{CLLD}$  mi hanno infastidito.  
About Giovanni, your comments disturbed me(cl)

#### COMPLEX NP ISLANDS

- 170) ??A questo incarico, non sapevo la novità che avresti preso parte  $pro_{CLLD}$ .  
To this task, I didn't know the news that you would participate
- 171) \*Su questo libro, ho incontrato l'uomo a cui tua sorella ha dato informazioni  $pro_{CLLD}$ .  
About this book, (I) have met the man to whom your sister has given informations

#### ADJUNCT ISLAND

- 172) ?\*Di questo libro, ho incontrato Mario prima che lui sparlasse  $pro_{CLLD}$ .  
About this book, I met Mario before that he spoke badly

If we compare the grammaticality judgements for RCs and CLLD in those islands they are sensitive to (which are the same in our limited sample), the latter construction gives better results, thus indicating that  $pro_{CLLD}$  has a higher level of pronominality than  $pro_{OP}$ .<sup>44</sup>

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dichotomy 'base-generation vs movement' is empirically inadequate and does not represent exhaustively the alternatives on the ground. Thus, Cinque's proofs in favour of a non-movement analysis do not translate obligatorily in a base-generation approach. The more natural option is treating all the existing displacement operations in the same way (presumably, with the exception of Hanging Topics), given their continuum-like properties.

<sup>42</sup> Cinque (1990) analyzes certain problems for a subjacency-type account in multiple CLLDed sentences, but does not mention the different behaviour of CLLD in the various island configurations.

<sup>43</sup> It remains to be clarified what are the differences between HTs and CLLD in colloquial Italian, a task we leave for future research.

<sup>44</sup> Clitic Right Dislocation (CLRD) does not seem to be sensitive to islands.

- i) Non sapevo la novità che avresti preso parte  $pro_{CLLD}$ , a questo incarico.  
I didn't know the news that you would participate, to this task.
- ii) Ho incontrato Mario prima che lui sparlasse  $pro_{CLLD}$ , di questo libro.  
I met Mario before that he spoke badly, about this book.
- iii) Ho incontrato l'uomo a cui tua sorella ha dato informazioni  $pro_{CLLD}$ , su questo libro.  
I met the man to whom your sister has given some information, about this book.

- 173) ??A questo incarico, non sapevo la novità che avresti preso parte  $pro_{CLLD}$ .  
 174) ???Questo incarico, che non sapevo la novità che avrebbero affidato  $pro_{OP}$  a te,  
 ...  
 175) ?\*Di questo libro, ho incontrato Mario prima che lui parlasse  $pro_{CLLD}$ .  
 176) \*Questo libro, che ho incontrato Mario prima che lui scrivesse  $pro_{OP}$ , ...  
 177) \*Su questo libro, ho incontrato l'uomo a cui tua sorella ha dato informazioni  
 $pro_{CLLD}$ .  
 178) \*\*Il libro, che ho incontrato l'uomo a cui tua sorella ha dato  $pro_{OP}$ , ...

### 3.2) Clefts

Another syntactic construction seemingly involving null resumptive pronouns is clefting.<sup>45</sup>

#### WH-ISLAND

- 179) È questo incarico che non sapevo a chi avrebbero affidato  $pro_{Cleft}$ .  
 It is this charge that I didn't know to whom they would entrust

#### SPECIFIC DP

- 180) ?È di Biagi che ho trovato questo libro  $pro_{Cleft}$  in biblioteca.  
 It is of Biagi that I found this book in the library

#### SUBJECT DP AND CP

- 181) ?\*È a Giovanni che il fatto che Susanna abbia parlato  $pro_{Cleft}$  mi sorprende.  
 It is to Giovanni that the fact that Susanna spoke surprises me  
 182) ??È su Giovanni che i vostri commenti  $pro_{Cleft}$  mi hanno infastidito.  
 It is about Giovanni that your comments disturbed me(cl)

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But those above are irrelevant examples, because there is actually no extraction out of a domain in the sentences. As a matter of fact, they are parallel to these instances of intra-domain and intra-sentential CLLD:

- iv) Non sapevo la novità che, a questo incarico, avresti preso parte  $pro_{CLLD}$ .  
 v) Ho incontrato Mario prima che, di questo libro, lui parlasse  $pro_{CLLD}$ .  
 vi) Ho incontrato l'uomo a cui, su questo libro, tua sorella ha dato informazioni  $pro_{CLLD}$ .

When we force extraction out of a domain in CLRD cases, sensitivity to islands appears as expected.

- vii) \*[Ho incontrato l'uomo [che conosceva la vicina  $pro_{CLRD}$  [a cui tua sorella ha dato informazioni utili]]], di Mario.  
 I met the man that knew the neighbour to whom your sister has given some useful information, of M.

Observe also the contrast between these two intra-sentential dislocations:

- viii) \*[Ho incontrato l'uomo [che conosceva la vicina  $pro_{CLRD}$  [a cui, di Mario, tua sorella ha dato informazioni utili]]].  
 ix) [Ho incontrato l'uomo [che, di Mario, conosceva la vicina  $pro_{CLLD}$  [a cui tua sorella ha dato informazioni utili]]].

<sup>45</sup> Postal (1998) makes a similar claim about English clefts, using a different methodology which we find convincing. There is a crucial difference in comparison to our Italian data, though: in English, restrictive relatives seem to be lower than clefts in the scale of topicality (see below). If so, English clefts should also be slightly less sensitive than RCs to islands, whereas in Italian an opposite state of affairs holds.

## COMPLEX NP ISLANDS

- 183) ?\*È questo incarico che non sapevo la novità che avrebbero affidato pro<sub>Cleft</sub> a te.  
It is this charge that I didn't know the news that (they) would entrust to you
- 184) \*\*È quel libro che ho incontrato l'uomo a cui tua sorella ha dato pro<sub>Cleft</sub>.  
It is that book that I met the man to whom your sister has given

## ADJUNCT ISLAND

- 185) \*È questo libro che ho incontrato Mario prima che lui scrivesse pro<sub>Cleft</sub>.  
It is this book that I met Mario before that he wrote

### 3.3) *Extraction, move $\alpha$ and resumptive pronouns*

The grammaticality judgements examined above and in the previous sections lead us to propose in a tentative way the following (partial) ordered set of null resumptive pronouns in Italian, on the basis of their pronominality (from the lowest to the highest average value):

pro<sub>wh</sub>    pro<sub>Cleft</sub>    pro<sub>PG</sub>    pro<sub>OP(rest)</sub>    pro<sub>OP(app)</sub>    pro<sub>CLLD</sub>

Note that a) sensitivity to WCO configurations diminishes going left-to-right b) the naturalness (or the possibility itself) in the licensing of PGs increases going right-to-left and especially c) sensitivity to island constraints decreases going left-to-right.

It is now quite generally accepted that extraction from weak/selective islands is possible only if it depends on NRP (Postal 1998, 43; Cinque 1990). This can be shown in a variety of ways. For instance, the following contrast from Frampton (1991) is quite telling:

- 186) How many bags do you wonder whether I think t are on the table?  
187) \*How many bags do you wonder whether I think there are t on the table?

Note that no restriction is active in the absence of a weak island.

- 188) How many bags are there t on the table?

According to Postal (1998) similar data prove that antipronominal contexts (like existential sentences in English) are incompatible with extraction from selective islands, which then forcefully involve the presence of a (weak) pronoun in the extraction site, and a similar stand is taken by Cinque (1990). We totally agree with this conclusion.

It is precisely the presence of NRP what permits to overcome the islandhood of certain domains, as Postal (correctly, we believe) stresses. In the NRP hypothesis this statement has just to be slightly amended: it is the presence of NRP *with a sufficient value of pronominality* what permits to overcome the islandhood of certain domains.<sup>46</sup> The more topical a domain, the more pronominal a 'gap' is required to be in order to allow the occurrence of extraction out of such a domain.

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<sup>46</sup> The difference between 187) and 188) is attributable to the difference in the pronominality of the NRP employed in the two sentences. In fact, the presence of a weak island forces an extra-individuation on the (otherwise non-movable) extractee, which gets a higher value of topicality and therefore imposes a higher value of pronominality also on its associated gap. This would be what renders incompatible a weak island and an existential sentence in English.

This suffices to explain the subtle contrasts in extraction possibilities noted in this section and to formulate an explanation as to what motivates the existence of an ordered set of null pronominal gaps. In the various syntactic constructions, the moved element receives different informational values at the intra-CP level (see the next chapter for other relevant proofs), and it would thus leave behind NRP with different degrees of pronominality.<sup>47</sup> This is why island sensitivity varies according to the type of extraction, in addition to the type of island targeted by movement.<sup>48</sup> In both cases, the variables responsible for this behavior would not be discrete, but rather continuous. They would be amenable, respectively, to the pronominality of NRP left behind by the different extraction procedures and to the different degree of topicality of the various domains out of which extraction takes place.

Our characterization of movement phenomena does not reject the unifying intent which is behind the rule 'Move  $\alpha$ '. It rather strives to preserve its original theoretical appeal, rendering Move  $\alpha$  sensitive to informational variables. We cannot relegate the existent differences among the various syntactic constructions to some peripheral and obscure sphere of grammar. We believe that such differences are part of core syntax and that what they reveal is as essential as the notion itself of movement.

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<sup>47</sup> Such speculations solve a previously (to our knowledge) unmentioned problem: what is the informational value of a moved constituent? If a preverbal subject is topical by default and an object focal, what about a relativized or clefted argument? Supposedly, every (lexical) element in a sentence receives an informational value, but it is clear that such a value cannot be the same, say, for an in-situ object and a relativized or a dislocated one. A similar argument is also adequate to demonstrate the absolute impossibility of a dichotomic approach to IS, making use of just two categories (topic vs focus).

<sup>48</sup> It varies of course also depending on the type of extractee, as shown in the previous chapter in section 6, and in section 1.2 above.



## CHAPTER 4

### PREMISES AND CONSEQUENCES OF THE NRP ANALYSIS AGREEMENT AND CLITIC DOUBLING IN ROMANCE

In a paper dating back to the early 70s, Perlmutter analyzes French RCs as constructions involving copying rules (in Ross's sense) leaving behind null resumptive pronouns - hereafter NRP, called by him 'shadow pronouns' (Perlmutter 1972). His theoretical considerations are parallel in many respects to those we advanced in Chapter 3. This is by no means an obvious point, since we used a completely different methodology in order to assess the non-standard movement nature of RCs (as well as of other extraction procedures) in Italian.

Perlmutter's paper is the first step toward a view on movement which we retain to be the correct one: there is considerable and convergent empirical evidence in favor of the idea that languages employ a vast array of NRP in ( $X_i \dots t_i$ ) configurations.

#### 1) FRENCH

The data originally put forward in Perlmutter (1972) were rather convincing, though apparently not enough to persuade the entire linguistic community of the non-viability of a derivation employing standard movement rules for French RCs. Perlmutter pointed out the suggestive correspondence in the possibility of having floating quantifiers which holds for RCs and clitic constructions, as in the following:<sup>1</sup>

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<sup>1</sup> Kayne (1969, 55 and 1975, 105) reports these contrasts, which are obviously incompatible with Perlmutter's data in 4) and 5).

- i) Je leur parle à tous  
I to-them(cl) speak to all  
Leur as-tu souri à toutes?  
To-them(cl) have you smiled to all ?
- ii) \*Mes amis, à qui je parle à tous, ...  
My friends, to whom I speak to all, ...  
\*Ces enfants, à qui Marie souriait à tous, ...  
These kids, to whom Marie smiled to all, ...

Perlmutter (1972, note 3) says that only for some speakers of French ii) is ungrammatical, whereas for Kayne (1975, chapter 2 note 48) ii) is grammatical just for few speakers. If Kayne were right, Perlmutter's explanation would need to be revisioned (but see Kayne 1975, ch. 2 page 154 note 101; Jaeggli 1982, 29).

Kayne (1969, 18; 1975, 152) notices that iii) is instead a grammatical sentence for more speakers (Perlmutter partly agrees with him, since he says that the speakers rejecting ii) accept at least iii)):

- iii) Mes amis, à qui j'ai tous donné des livres, ...  
My friends, to whom I have all given some books

In note 8 of chapter 1 of Kayne's dissertation one also reads that many speakers reject the clitic counterpart of iii), thus again breaking the correspondence RCs/clitics.

- iv) \*?Je leur parlerai tous.  
I will to-them(cl) speak all
- v) Je leur parlerai à tous.  
I will to-them(cl) speak to all

However, in Kayne (1975, 154) we find examples apparently analogous to iv) judged as grammatical:

- vi) ?Elle leur offrira tous des bonbons.  
She will to-them(cl) offer all some candy

- 1) J'ai parlé à toutes ces femmes.  
I've spoken to all these women
- 2) Je leur ai parlé à toutes.
- 3) Je leur ai à toutes parlé.  
I to-them(cl) have (to all) spoken (to all)
- 4) ces femmes, à qui j'ai parlé à toutes ...
- 5) ces femmes, à qui j'ai à toutes parlé ...  
these women, to whom I have (to all) spoken (to all)
  
- 6) J'ai parlé avec toutes ces femmes.  
I've spoken with all these women
- 7) \*J'ai parlé avec elles (avec) toutes.
- 8) \*J'ai (avec) toutes parlé avec elles.  
I've (with all) spoken with them (with all)
- 9) \*ces femmes, avec qui j'ai parlé (avec) toutes ...
- 10) \*ces femmes, avec qui j'ai (avec) toutes parlé ...  
These women, with whom I have (with all) spoken (with all)
  
- 11) Je suis fier de toutes ces femmes.  
I'm proud of all these women
- 12) \*J'en suis fier (de) toutes.
- 13) \*J'en suis (de) toutes fier.  
I of-them(cl) am (of all) proud (of all)
- 14) \*ces femmes, de qui je suis fier (de) toutes ...
- 15) \*ces femmes, de qui je suis (de) toutes fier ...  
These women, of whom I am (of all) proud (of all)
  
- 16) J'ai pensé à toutes ces femmes.  
I've thought about all these women
- 17) \*J'y ai pensé à toutes.
- 18) \*J'y ai à toutes pensé.  
I about-them(cl) have (about all) thought (about all)
- 19) \*ces femmes, à qui j'ai pensé à toutes ...
- 20) \*ces femmes, à qui j'ai à toutes pensé ...  
These women, about whom I have (about all) thought (about all)

Quantifiers cannot float off an object DP that is not cliticized in French (as originally shown in Kayne 1969).

- 21) \*J'ai parlé à ces femmes à toutes.
- 22) \*J'ai à toutes parlé à ces femmes.  
I've (to all) spoken to these women (to all)

A similar fact explains why the Prepositional Phrases that do not have a clitic form (such as 'avec DP') may never license floating *tous/toutes*. The restriction results mysterious under a stranding account taking the floating quantifier as a 'marker' of a movement position an

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Essentially, the view that in French floating quantifiers deriving from an indirect object are somewhat less acceptable in relative clauses than in clitic constructions appears to be a shared one. The differences among the various linguists emerge as soon as a concrete quantification of this difference is provided. We will return to the issue later, analyzing Italian data of a similar sort.

Perlmutter is not particularly worried by the existence of individual variations in French and discards the problem saying that '*speakers who find ii) ungrammatical and iii) grammatical need only remember the deletion rule (of the preposition à) ... in order to convert the dialect described here into their own.*' Unfortunately, this statement does not furnish any insight about why such a rule should exist, which still is an unresolved question.

argument has passed through (Sportiche 1988, and many others ever since). Such an idea, even if correct, needs be complemented with something else in order to work correctly in cases such as 9) or 10).

It is evident that the distribution of floating quantifiers in RCs mirrors what happens with cliticized arguments, which quite plausibly leads to think that the null element left by the relativized constituent is also invisibly cliticized, whenever it is possible to do so with the full DP it replaces.<sup>2</sup> Since a trace cannot be cliticized, but a NRP certainly can, the impossibility of employing traces in French RCs would follow straightforwardly.<sup>3</sup>

ces femmes<sub>i</sub>, à qui<sub>i</sub> j' pro<sub>OP(cl)</sub><sub>i</sub> ai parlé à toutes pro<sub>OP</sub><sub>i</sub> ...  
 DP<sub>i</sub> - RelPron - subj - [cl<sub>i</sub>] - V - pro<sub>OP</sub><sub>i</sub>

Data of this sort are further support in favor of Perlmutter's hypothesis regarding the cliticization of the gap in the RC (Perlmutter 1972, 87):

- 23) J'ai laissé Paul leur écrire des lettres à tous.
  - 24) Je leur ai laissé écrire des lettres à tous par Paul.
  - 25) \*J'ai à tous laissé Paul leur écrire des lettres.
  - 26) Je leur ai à tous laissé écrire des lettres par Paul.
- I let Paul write letters to them all

- 27) ces enfants, à qui j'ai laissé Paul écrire des lettres à tous, ...
  - 28) ces enfants, à qui j'ai laissé écrire des lettres à tous par Paul, ...
  - 29) \*ces enfants, à qui j'ai à tous laissé Paul écrire des lettres, ...
  - 30) ces enfants, à qui j'ai à tous laissé écrire des lettres par Paul, ...
- These children, to all of whom I let Paul write letters

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<sup>2</sup> In order to explain the differences in extraction from islands between RCs and interrogative wh-elements (existing with the highest probability also in French; see chapter 3), we obligatorily have to assume that the NRP are *doubled* by clitics and do not simply move to a clitic position. This was also Perlmutter's original idea. What would happen is a sort of obligatory *null clitic doubling* of NRP. Furthermore, we need a mechanism for restricting the cliticization procedure only to those situations in which it is allowed for full DP's. It could be something along these lines: a null copy of the moved constituent is left behind, with pronouns replacing the DP's thereby contained.

ces femmes, avec qui j'ai parlé [avec pro<sub>OP</sub>] ...

The presence of the preposition would block the doubling through some local mechanism (we will see very soon why the standard copy theory of movement cannot instead work in this case). Another possibility is that whenever a transformation affects NRP, reconstruction obligatorily applies (or, alternatively, the doubling procedure is anterior to the movement operation). This would permit us to use a simplified representation of the previous sentence:

ces femmes, avec qui j'ai parlé pro<sub>OP</sub> ...

Here NRP cliticization is impossible because 'avec ces femmes' reconstructed in base position blocks it. As will become apparent later, neither of these proposals is actually needed in our framework, since we do not bind clitic doubling to extraction configurations.

<sup>3</sup> Perlmutter generalized his claim asserting that all kinds of extraction leave NRP and that 'chopping rules' do not exist at all. Postal (1998) disagrees with him on this specific point. We think that Perlmutter's and Postal's positions are not completely incompatible if one accepts our proposal that the *levels of pronominality* of NRP vary. Thus, when such a value is more or less close to zero the correspondent NRP are 'trace-like', patterning in the A<sub>2</sub> and A<sub>1</sub> extraction categories of Postal's classification. In this way, we avoid to posit distinct types of null elements in grammar (thus following Perlmutter), recognizing at the same time the importance of the differences existing in the behavior of NRP with distant values of pronominality, which Postal correctly emphasizes.

## 2) ITALIAN

The same reasoning carries over to Italian RCs. As expected, there is a direct relationship between clitics and object floating quantifiers: the latter depend on the presence of the former.<sup>4</sup>

- 31) Ho visto loro.  
(I) have seen them
- 32) ?\*Ho visto loro tutti.  
(I) have seen them all
- 33) \*Ho potuto tutti vedere loro.  
(I) have could all see them
  
- 34) Li ho visti.  
Them(cl) (I) have seen
- 35) Li ho visti tutti.  
Them(cl) (I) have seen all
- 36) (?)Li ho potuti tutti vedere.  
Them(cl) (I) have could all see

When taking into account object RCs, one notes that they behave like cliticized objects, again a predictable fact.

- 37) I ragazzi, che ho potuto vedere tutti, ...  
The guys, that (I) have could see all, ...
- 38) ??I ragazzi, che ho potuto tutti vedere, ...  
The guys, that (I) have could all see, ...

Sentence number 38) results marginal, which might cast some doubts about the conclusion that Italian is completely parallel to French. However, this contrast helps us in understanding what is going on and it actually constitutes even stronger evidence supporting Perlmutter's hypothesis.

- 39) Ho potuto vederli tutti.  
(I) have could see them(cl) all
- 40) ??Ho potuto tutti vederli.  
(I) have could all see them(cl)
- 41) \*Ho potuto tutti vedere loro.  
(I) have could all see them

It seems that for some reason the clitic deriving from the RC gap may not climb up the modal verb, since the grammaticality judgment for the RC is identical to what we find in a non-climbing configuration. Note the much stronger deviance of a tonic pronoun in the absence of cliticization, which renders implausible the alternative explanation that RCs are derived without cliticization of the gap.

Perlmutter's paradigm involving different kinds of clitics (such as *ne/en* and *ci/y*) is replicated here.

- 42) Ho sentito parlare tutti questi uomini.  
(I) have heard speak all these men

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<sup>4</sup> For data (and analysis) regarding the differences in the positions available to floating quantifiers in Italian and French see Sportiche (1988), Belletti (1990), Cinque (1992, 1999). In this chapter we will be dealing only with Q Float in A' chains. Note that though the homogeneity of A and A' floating quantifiers is sometimes considered implicit, it is not obviously so. For instance, standard English lacks entirely A' floating quantifiers. And this contrast in Belfast English is also telling (from McCloskey 2000):

- i) Who was arrested all in Duke Street?
- ii) \*They were arrested all last night.

- 43) Li ho sentiti parlare tutti.  
Them(cl) (I) have heard speak all
- 44) Questi uomini, che ho sentito parlare tutti, ...<sup>5</sup>  
These men, that (I) have heard speak all, ...
- 45) Sono fiero di tutte queste donne.  
(I) am proud of all these women
- 46) \*Ne sono fiero di tutte. (cf. Sono fiero di tutte)  
Of-them(cl) (I) am proud of all (cf. I am proud of all)
- 47) \*Queste donne, di cui sono fiero di tutte, ...  
These women, of whom (I) am proud of all, ...
- 48) Sono andato in tutti questi posti.  
(I) have been in these places
- 49) ?\*Ci sono andato in tutti. (cf. Sono andato in tutti)  
In-them(cl) (I) have been in all (cf. I have been in all)
- 50) ?\*Questi posti, in cui sono andato in tutti, ...  
These places, in which I have been in all, ...

RCs and clitic constructions in standard (written) Italian differ instead from the French ones in presence of quantifiers floating off an indirect object.<sup>6</sup>

- 51) Je leur ai parlé.  
52) Gli ho parlato.  
(I) to-them(cl) have spoken
- 53) Je leur ai à toutes parlé.  
I to-them(cl) have to all spoken
- 54) Gli ho (\*a tutte) parlato (\*a tutte).  
(I) to-them(cl) have (to all) spoken (to all)
- 55) Ces femmes, à qui j'ai à toutes parlé, ...  
These women, to whom I have to all spoken, ...
- 56) \*Quelle donne, a cui ho parlato a tutte, ...  
These women, to whom (I) have spoken to all, ...

In Italian, an indirect 3rd person plural object may also be represented by the weak pronoun *loro*, which has a peculiar position in the sentence which is different from that targeted by clitics (see Rizzi 1982 ch. 1, Cardinaletti 1991, Cardinaletti & Starke 1999 for details about the pronominal status and the position of the dative pronoun *loro*).<sup>7,8</sup>

<sup>5</sup> Perlmutter does not employ restrictive RCs in his French sample, saying that they are not allowed in distribution with floating quantifiers. Italian, though only marginally, permits them in restrictive RCs (see also below).

i) ??I ragazzi che non ho potuto incontrare tutti ...  
The boys that (I) could not meet all ...

<sup>6</sup> In colloquial Italian this is not true, since both the clitic construction and the RC - with 'che' substituting 'a cui' and the clitic 'gli' added - are possible (see Cardinaletti (1991, 150), Cinque (1981, note 6), Rizzi (1982, ch. 2 notes 6 and 30), Cinque (1988, sec 2)). The constant parallel behavior of clitics and RC extraction fully confirms Perlmutter's predictions.

<sup>7</sup> This construction is generally not used in oral registers. For various speakers the same construction with 3rd person singular pronouns (*lei/lui*) is ungrammatical, and it is always substituted by sentences employing the dative clitics *le/gli*. According to us, it may be considered marginal and stylistically very marked:

i) ?Diede lei da mangiare.  
(he/she) gave her to eat

- 57) Ho dato un regalo a loro.  
 (I) have given a present to them
- 58) Ho dato *loro* un regalo.  
 (I) have given them a present

Interestingly, floating quantifiers are better in sentences containing *loro*, with the proviso that they have to receive stress (see Cardinaletti 1991, 150).<sup>9</sup>

- 59) ??Ho parlato loro dei problemi di Mario a TUTTI.  
 (I) have spoken them of Mario's problems to all
- 60) ??Ho parlato loro a TUTTI, dei problemi di Mario.  
 (I) have spoken them to all, of Mario's problems
- 61) \*Ho parlato a loro dei problemi di Mario a TUTTI/tutti.  
 (I) have spoken to them of Mario's problems to all
- 62) \*Ho parlato a loro a TUTTI/tutti, dei problemi di Mario.  
 (I) have spoken to them to all, of Mario's problems

The relativization of an indirect object in Italian gives two possible outputs as well, though 63) is certainly more natural than 64), which is almost absent in informal Italian.

- 63) Le ragazze a cui ho dato un regalo ...  
 The girls to whom (I) have given a present ...
- 64) Le ragazze cui ho dato un regalo ...  
 The girls whom (I) have given a present

We can speculate that 64) is derived from 58) (in both the preposition is absent, and they are used in the same type of register).<sup>10,11</sup>

- 
- ii) ?Comprai lui un regalo.  
 (I) bought him a present

On the contrary, we find completely unacceptable cases involving 1st and 2nd person pronouns, singular or plural.

- iii) \*Comprò te da mangiare.  
 (he/she) bought you to eat
- iv) \*Diede noi da bere.  
 (he/she) gave us to drink

All speakers accept the 3rd person plural pronoun *loro* in this configuration, at the relevant stylistic level.

<sup>8</sup> Note that the position in between auxiliary and past participle is also available to *loro* (Rizzi 1982; Cardinaletti 1991, note 13), strengthening the formal character of the register. Non-stressed floating quantifiers are better than stressed ones in this case:

- i) Ho loro dato un regalo.  
 (I) have them given a present
- ii) ?Ho loro parlato a tutti dei problemi di Mario.  
 (I) have them spoken to all of Mario's problems
- iii) ??Ho loro parlato dei problemi di Mario A TUTTI.  
 (I) have them spoken of Mario's problems to all

As shown by Cardinaletti, floating quantifiers and *loro* share certain structural slots. In 59) and 60) we can maintain that the floating quantifiers remain in base-position (see Cardinaletti 1991, notes 20/21), while in i) and ii) the further movement of *loro* frees a structural position that may thus be used.

<sup>9</sup> What exactly determines this is not clear to us.

<sup>10</sup> This derivation is compatible only with an analysis of RCs in Italian that makes use of resumptive pronouns and not of full DP's or their copies (ie, a raising/promotion analysis - Schachter 1973, Vergnaud 1974, Kayne 1994, Bianchi 1999 - should be excluded), in the light of data such as:

- 
- i) \*Ho dato le ragazze un regalo.  
(I) have given the girls a book
  - ii) Ho dato loro un regalo.  
(I) have given them a book

The analysis that seems more plausible to us postulates a resumptive pronoun in base position, in the particular configuration typical of *loro*. That *loro* has to be in its characteristic position when relativization applies is suggested by the absence of prepositions modifying the relative pronoun. This presupposes that relativization may apply from a quasi-clitic position. There is independent evidence to this effect: the difference between colloquial and standard Italian seems to depend from where relativization takes place (clitic position vs base position), as suggested by the presence/absence of preposition and (overt) clitic:

Colloquial Italian (very informal register)

- iii) I ragazzi che gli ho parlato ...  
The boys that to-them(cl) (I) have spoken ...
- iv) \*I ragazzi che ho parlato ...  
The boys that (I) have spoken

Standard Italian

- v) I ragazzi a cui ho parlato ...  
The boys to whom (I) have spoken ...
- vi) \*I ragazzi a cui gli ho parlato ...  
The boys to whom (I) to-them(cl) have spoken ...

I ragazzi  $OP_i/*_k$  che [*gli*]<sub>y</sub><sub>i</sub> ho parlato [*pro*]<sub>y</sub><sub>k</sub> (coll Italian)  
I ragazzi a *cui*<sub>i/\*k</sub> [*cl*]<sub>y</sub><sub>i</sub> ho parlato [*pro*]<sub>y</sub><sub>k</sub> (standard Italian)

From a processual point a view a derivation from clitic position is easier since it minimizes chain length (see De Vincenzi 1991). This may explain its wide (and deprecated) use in the colloquial register, to the detriment of the more complex derivation from base position.

<sup>11</sup> A natural question to ask is what happens in cases of singular 3rd person pronouns.

- i) Quella ragazza, cui ho dato un regalo, ...  
That girl, whom (I) have given a present, ...

There are two possibilities. The first is to derive this kind of sentences in exactly the same way as before, when the head was plural. Namely, employing an underlying null weak pronoun from which relativization takes place:

Quella ragazza, cui [ho dato  $pro_{OP}$  un regalo], ...

A potential problem for this analysis is that 3rd person singular pronouns are at best marginal in this configuration (see note 7). Similar mismatches between in-situ and ex-situ positions are not peculiar to the relative construction under examination, though. And we believe that, if anything, they constitute in the first place evidence against a copy theory of movement.

- ii) Gianni riteneva \*Mario/?\*lui essere una brava persona.  
G. considered M./him to be a good person
- iii) L'uomo che Gianni riteneva t essere una brava persona ...  
The man that G. considered to be a good person ...  
(from Rizzi 1982, ch. 3; see also Kayne 1980, 1981c about French and English)

Another possible complication exists for this analysis: Cardinaletti (1991, note 4) observes that there are cases in which *cui* cannot be connected to the position of *loro*, and which should therefore be derived in an alternative way.

- iv) Pensò ai suoi amici tutto il giorno.  
(he/she) thought at his friends all day
- v) \*Pensò loro tutto il giorno.  
(he/she) thought them all day

65) Le ragazze cui ho dato  $pro_{OP}$  un regalo ...

Such an analysis seems to be supported by the following data regarding again relativization in presence of floating quantifiers.

- 66) \*Quelle ragazze, a cui ho dato un regalo a tutte, ...  
Those girls, to whom (I) have given a present to all, ...
- 67) ??Quelle ragazze, cui ho dato un regalo a tutte, ...  
Those girls, whom (I) have given a present to all, ...
- 68) \*Ho dato a loro un regalo a tutte.  
(I) have given to them a present to all
- 69) ??Ho dato loro un regalo a tutte.  
(I) have given them a present to all

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vi) \*Gli pensò tutto il giorno.  
to-them(cl) thought all day

vii) Ci pensò tutto il giorno.  
At-them(cl) (he/she) thought all day

viii) Gli amici cui [ $pro_{OP}$  pensò tutto il giorno] ...  
The friends whom (he/she) thought all day ...

A second available option is to exploit the possibility of a null dative clitic analogous to *le/gli*:

Quella ragazza, cui [ $pro_{OP}$  ho dato un regalo], ...

The contrasts in the examples below appear to disfavour this second hypothesis (remember the fact that 1st and 2nd person pronouns are not tolerated in the position of *loro*; see again note 7).

ix) Anche voi, a cui non è mai stato insegnato nulla, avete raggiunto un'ottima posizione.  
Even you, to whom it has not been taught anything, have reached a very remarkable position

x) ??Anche voi, cui non è mai stato insegnato nulla, avete raggiunto un'ottima posizione.  
Even you, whom it has not been taught anything, have reached a very remarkable position

xi) Non ti parlo tanto di me, a cui non viene alcun vantaggio da questa operazione, ma piuttosto di lui.  
(I) am not speaking of me, to whom no advantage comes from this operation, but rather of him.

xii) ??Non ti parlo tanto di me, cui non viene alcun vantaggio da questa operazione, ma piuttosto di lui.  
(I) am not speaking of me, whom no advantage comes from this operation, but rather of him.

Dative clitics are instead available for first and second persons.

xiii) Non vi è mai stato insegnato nulla.  
to-you(cl) it has not been taught anything

xiv) Non mi viene alcun vantaggio da questa operazione.  
to-me(cl) no advantage comes from this operation

Furthermore, those clitic positions are felicitously employed by another relativization strategy (see note 10).

xv) Anche voi, che non vi è mai stato insegnato nulla, ... (coll. Italian)  
Even you, that to-you(cl) it has not been taught anything, ...

Consider also the particular stylistic level of i), which is certainly not the same of xvi):

xvi) Le ho dato un regalo.  
To-her(cl) (I) have given a present

Since the evidence is partly contradictory, we will commit ourselves only to the claim that sentences such as 64) are derived from a source similar to 58) (apart from the overt/null pronoun distinction), leaving unresolved the residual questions.

- 70) \*Quei ragazzi, a cui ho parlato dei problemi di Mario a tutti, ...  
Those boys, to whom (I) have spoken of Mario's problems to all, ...
- 71) ??Quei ragazzi, cui ho parlato dei problemi di Mario a tutti, ...  
Those boys, whom (I) have spoken of Mario's problems to all, ...
- 72) \*Ho parlato a loro dei problemi di Mario a tutti.  
(I) have spoken to them of Mario's problems to all
- 73) ??Ho parlato loro dei problemi di Mario a tutti.  
(I) have spoken them of Mario's problems to all

The employment of a source which involves the weak pronoun *loro* improves the grammaticality judgments for the RCs containing floating quantifiers.

This is significant from the point of view of Perlmutter's methodology (clitic doubling of the RC gap is presumably involved here as well, though there is no independent evidence to this effect). But the above data are particularly interesting because they demonstrate in another way that a trace/copy account of RCs is not viable: in fact, only a pronoun coindexed with the head of the RC may stay in the in-situ position in (67) and (71) (see note 10).<sup>12</sup>

### 3) FLOATING Qs AND THE CLITIC 'VALUE OF PRONOMINALITY'

The copy theory of movement introduced in the minimalist framework may be shaped in such a way as to allow the cliticization of an unpronounced DP copy, resolving some of the problems posed by trace accounts. Perlmutter's data alone would not be decisive, then, in deciding whether NRP are essential to the theory of grammar or not. However, notice that an amended version of the copy theory of movement would still be inadequate, failing to recognize these contrasts regarding the availability of floating quantifiers for different kinds of extraction in standard and colloquial Italian (see Bianchi 1999, II.3.5 and V.2.2 for related observations, limited to relativization data):<sup>13</sup>

- 74) Ho potuto incontrare tutti questi ragazzi senza fretta.  
(I) have could meet all these guys with no rush
- 75) Questi ragazzi, li ho potuti tutti incontrare senza fretta.  
These guys, them(cl) (I) have could all meet with no rush

<sup>12</sup> Another possibility is that *loro* doubles a null argument in base-position, whence *cui* relatives would be compatible with a promotion analysis. This is at odds with the following facts, though:

- i) \*Ha dato loro il regalo ai bambini.  
(he/she) has given them the present to the kids
- ii) ??Gli diede loro uno schiaffo.  
to-them(cl) (he/she) gave them a slap  
(from Cardinaletti 1991, 137-138)

<sup>13</sup> Perlmutter (1972) states that questioned constituents are not compatible with universal floating quantifiers, but we believe that this is not entirely true. Employing a partitive wh-element one can construct a quasi-grammatical example.

- i) ?Quali degli studenti hanno compilato tutti il formulario?  
Which kids have eaten all(pl) the soup?  
Quelli della facoltà di Agraria.  
Those from the agrarian faculty.

Partitive wh-elements may marginally legitimate floating Qs in Italian (object ones as well), which further sustains our informational analysis of the facts. Note however the particular semantic of the question, which asks in which group of elements *x* all of its members did what is predicated by the VP, implicitly contrasting such group with others in which not all (or noone) of their members did. The groups need be salient in the pragmatic situation in order to legitimate a similar question. Only with this reading, which implies the strongly topical status of the wh-element, the sentence can be grammatical.

- 76) (?)Questi ragazzi, che ho potuto tutti incontrare senza fretta, ...  
These guys, that (I) have could all meet with no rush, ...
- 77) ??I ragazzi che ho potuto tutti incontrare senza fretta ...  
The guys that (I) have could all meet with no rush ...
- 78) ???Sono questi ragazzi che ho potuto tutti incontrare senza fretta.  
It is these guys that (I) have could all meet with no rush
- 79) \*Quali ragazzi hai potuto tutti incontrare senza fretta?  
Which guys have (you) could all meet with no rush?
- 80) Questi ragazzi, li ho tutti potuti incontrare senza fretta.
- 81) (?)(?)Questi ragazzi, che ho tutti potuto incontrare senza fretta, ...
- 82) ??(?)I ragazzi che ho tutti potuto incontrare senza fretta ...
- 83) ??\*Sono questi ragazzi che ho tutti potuto incontrare senza fretta ...
- 84) \*\*Quali ragazzi hai tutti potuto incontrare senza fretta?
- 85) Volevo dare a tutti questi ragazzi un bel regalo.  
(I) wanted to give to all these guys a fancy present
- 86) A questi ragazzi, gli volevo dare a tutti un bel regalo.  
To these guys, to-them(cl) (I) wanted to give to all a fancy present
- 87) ?Questi ragazzi, che gli volevo dare a tutti un bel regalo, ...  
These guys, that to-them(cl) (I) wanted to give to all a fancy present, ...
- 88) ??I ragazzi che gli volevo dare a tutti un bel regalo ...  
The guys that to-them(cl) (I) wanted to give to all a fancy present ...
- 89) ???Sono questi ragazzi che gli volevo dare a tutti un bel regalo.  
It is these guys that to-them(cl) (I) wanted to give to all a fancy present
- 90) \*A quali ragazzi gli volevi dare a tutti un bel regalo?  
To which guys to-them(cl) did (you) want to give to all a fancy present?
- 91) ?A questi ragazzi, gli volevo a tutti dare un bel regalo.
- 92) ??Questi ragazzi, che gli volevo a tutti dare un bel regalo, ...
- 93) ???Ai ragazzi che gli volevo a tutti dare un bel regalo ...
- 94) \*Sono questi ragazzi che gli volevo a tutti dare un bel regalo.
- 95) \*\*A quali ragazzi gli volevi a tutti dare un bel regalo?

From a minimalist point of view, in all the examples above what is left behind should be a full unpronounced copy of the DP (with maybe the exception of CLLD, often analyzed as ‘base-generation plus coindexation’), which might be cliticized and should thus permit floating quantifiers without any difference in grammaticality. That is not true: the contrasts are sometimes subtle, but certainly real. Again, the concept of ‘degree of pronominality’ turns out to be essential. Since full DP copies do not possess a pronominal status, it is not possible to state a version of the theory in which they behave as if they were pronouns. If we embrace the proposed NRP hypothesis, the differences in the licensing of floating quantifiers would derive from the value of pronominality of the clitic, which depends on the pronominality of the NRP left by extraction - in turn depending on the value of topicality of the extractee. Indeed, we know from the previous two chapters that the value of pronominality of NRP is connected to the type of extraction and extractee. Therefore, the syntactic constructions employed above differ systematically in exactly the same way as extraction procedures out of island configurations. An increase in the value of pronominality of a null clitic would then be in a direct relationship with the possibility of a floating quantifier in the sentence.<sup>14</sup> This fact, in conjunction with the other

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<sup>14</sup> The contrasts hold only for moved (unstressed) floating quantifiers. Assuming, following Cardinaletti (1991), that stressed floating quantifiers in post-participial position are in-situ, we have to exclude them from the stated generalization. Indeed, we do not detect significant differences among the various conditions in such a case.

collected proofs supporting the view that the RC gap be pronominal (see above and the previous chapter), induces us to definitely abandon the idea that movement leaves null copies behind.

#### 4) SOME CONTRADICTORY DATA ABOUT PP AGREEMENT

Cinque (1975) criticizes Perlmutter's account because it would be falsified by agreement data in extraction configurations. Indeed, certain contrasts between Italian<sup>15</sup> and (written) French are detectable, which the maintained analogy clitics/extraction does not seem to be able to explain.

Relative clauses:

- 96) les pommes que j'ai mangées/\*mangé ...
- 97) le mele che ho \*mangiate/mangiato ...  
the apples that I have eaten(+/-agr)

D-linked wh-elements:

- 98) Quelles pommes as-tu mangées/\*mangé?
- 99) Che mele hai \*mangiate/mangiato?  
which apples have you eaten(+/-agr)

Contrastive focus:

- 100) LES POMMES, j'ai mangées/\*mangé.
- 101) LE MELE, ho \*mangiate/mangiato.  
THE APPLES I have eaten(+/-agr)

Overt cliticization:

- 102) Je les ai mangées/\*mangé.
- 103) Le ho mangiate/\*mangiato.  
I them(cl) have eaten(+/-agr)

Absence of extraction/cliticization:

- 104) J'ai mangé/\*mangées des pommes.
- 105) Ho mangiato/\*mangiate delle mele.  
I have eaten(+/-agr) apples

The point is: do these contrasts entail that Perlmutter's analysis is necessarily wrong? Our answer is negative. First of all, note that recognizing the problems posed by Cinque's observations does not imply that a 'trace account' becomes viable for French and Italian relatives (unless an alternative explanation be provided for the parallelism clitics/RCs). More interestingly, the contradictory data reported above will result entirely understandable after developing a proper account of certain (micro)parametric variations in Romance, a task which will be the focus of the next sections.<sup>16</sup> Crucially, the model we will propose is available neither

- 
- i) Questi ragazzi, li ho potuti incontrare TUTTI.
  - ii) Questi ragazzi, che ho potuto incontrare TUTTI, ...
  - iii) (?) I ragazzi che ho potuto incontrare TUTTI ...
  - iv) (?) Sono questi ragazzi che ho potuto incontrare TUTTI ...
  - v) ?Quali ragazzi hai potuto incontrare TUTTI?

<sup>15</sup> Certain (cultivated) speakers may find acceptable agreeing past participles in written Italian even in the absence of overt clitics. We think this is just an influence due to literary models that employ earlier versions of the language. We are abstracting away from this particular archaic register, which may be accounted for in the same way the data from Old Italian are (see below).

<sup>16</sup> As will soon become apparent, the notion of (micro)parameter used here is different from the usual, dichotomic one. We do not think that a very restricted set of qualitatively different alternatives is offered by UG, but rather that different thresholds of sensitivity are available wrt certain triggering variables (the latter supposedly remain constant across languages). This is a more restrictive theory: in the best possible

in a framework à la Chomsky (1977) nor in the more recent copy theory of movement (Chomsky 1995 and subsequent works), because of an implicit incompatibility with some of the theoretical tenets characterizing their fundamentals.

## 5) A REFORMULATION OF KAYNE'S ANALYSIS

Kayne (1989a) pointed out that an account of Past Participle (PP) Agreement which does not employ a trigger in a local relation with the verbal form is problematic. According to Kayne, the agreement of the auxiliary with the subject and of the PP with the object are partly different, because in the latter case there is no direct relationship between the PP and either the clitic or the wh-phrase.<sup>17</sup> Rather, 'the PP Agreement ... must be mediated by an empty category that intervenes between the clitic or wh-phrase<sup>18</sup> and the PP'. The reason why this should be so is evident in the case of wh-phrases: the relation between the agreed PP and the trigger could otherwise be non-local, contrary to what we know on this type of phenomena from the realm of finite verb agreement.<sup>19</sup> However, it is not so evident in the case of clitics, an issue to be taken up shortly.

Kayne's proposal can be represented as follows, where the first [e] from the left is the trigger of agreement on the PP:<sup>20</sup>

106) Paul les a repeintes.  
P. them(cl) has repainted

Paul les<sub>i</sub> a [e]<sub>i</sub> repeintes [e]<sub>i</sub>.

107) Je me demande combien de tables Paul a repeintes.  
I wonder how many tables P. has repainted

Je me demande [combien de tables]<sub>i</sub> Paul a [e]<sub>i</sub> repeintes [e]<sub>i</sub>.

In this section, we will introduce an account of PP Agreement in Romance in the spirit of Kayne (1989a), which at the same time presents compatibility with Perlmutter's observations. It should also be able to explain in a natural way Cinque's contrasts, and we will capitalize on our previous proposals for fulfilling the task.

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world, there would be only quantitative microparametric differences, and no qualitative ones. In addition, it seems more indicated to explain diachronic phenomena. Such an idea can also deal with the massive empirical problem of non-binary synchronic variation, which is the norm across languages (at least closely related ones).

<sup>17</sup> Our modification of Kayne's proposal will lead to a unified treatment of subject and object agreement in this respect, a result which can be considered preferable from a theoretical point of view.

<sup>18</sup> 'Wh-phrase' is intended (by Kayne) to cover both relativization and wh-movement.

<sup>19</sup> Kayne cites as evidence in this sense the fact that 'the finite verb will agree with its own subject, but not with the subject of the next highest verb up'. Note that the same holds for the agreement of Past Participles in presence of more than one of them (in two distinct clauses), when movement takes place:

i) les voitures que Jean a dit(\*es) que Pierre avait repeintes t  
the cars that J. said that P. had repainted

<sup>20</sup> The debate originated from Kayne's paper concentrated especially on the idea thereby contained that Agr projections exist for object positions (as they supposedly exist for subject ones) and that PP agreement is triggered under government (later reframed in cartographic terms as 'triggered by an element filling at some stage the Spec of Agr'). These points are not implicated in our discussion of PP agreement and we will not take any position wrt them. See in particular Belletti (2000) for cartographic developments of Kayne's ideas. Converting in those terms the proposals advanced here is certainly an attainable task.

One problem for Kayne's line of reasoning (which he himself recognizes) is that 'the postulation of an extra empty category leads to the question of why that position could not be filled by a lexical NP' (Kayne 1989a, 87):

- 108) \*Paul a ces tables reprint(es).  
P. has these tables repainted

If we drop the idea that such extra category exists, the problem disappears. But how can we solve the locality issue mentioned before? The easiest possible solution is to assume that a (null or overt) clitic is the trigger of PP Agreement.<sup>21</sup> In extraction configurations, the NRP left by direct objects would always be obligatorily doubled by a null clitic, then.

Paul les<sub>i</sub> a repeintes [e]<sub>i</sub>.  
Je me demande [combien de tables]<sub>i</sub> Paul [e<sub>ci</sub>]<sub>i</sub> a repeintes [e]<sub>i</sub>.

This is equivalent to Perlmutter's proposal and poses identical problems to trace accounts of RC (and interrogative wh-element) extraction.<sup>22</sup> Notice that the idea has been independently derived on the sole basis of PP Agreement data. The convergence is striking: we think it cannot be just a coincidence.<sup>23</sup>

There are some other pieces of evidence that further sustain our modification of Kayne's analysis.<sup>24</sup> In clitic climbing configurations, one can lose the local relation between a clitic and a PP. If that relation is actually responsible for the agreement pattern, this should have syntactic consequences. The contrasts below show that it is so: if the clitic climbs up, agreement may become optional (with the right amount of intervening material between the clitic and the

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<sup>21</sup> A clitic position cannot be filled by a full lexical NP in (modern) French, whence the ungrammaticality of 108).

<sup>22</sup> The copy theory of movement might obviate these problems, because the cliticization of an unpronounced DP copy could be assumed as theoretically possible. But we have already pointed out many other flaws in the latter framework, which render it also implausible.

<sup>23</sup> Perlmutter (1972, 88) found another independent empirical phenomenon which sustains his hypothesis originally about French appositive RCs (that we extended here to PP agreement for whatever kind of extraction): inflected infinitives in Portuguese. The data about Portuguese cover restrictive relatives and wh-extraction as well, confirming the viability of our analysis of PP agreement in Romance.

i) \*Vi os cavalos correr.  
ii) Vi os cavalos correrem.  
(I) saw the horses run (-/+ agr)

iii) Vi-os correr.  
iv) \*Vi-os correrem.  
(I) saw-them(cl) run

v) Os cavalos que vi correr.  
vi) \*Os cavalos que vi correrem.  
The horses that (I) saw run

vii) Que cavalos você viu correr?  
viii) \*Que cavalos você viu correrem?  
What horses did you see run?

See also Basri & Finer (1987) for very interesting data about Selayarese which support strongly the NRP hypothesis and which go in the direction of a common treatment for all kinds of extraction.

<sup>24</sup> Such a modification is actually envisaged by Kayne himself as a possibility, which he calls 'the widest possible interpretation'.

participle), at least for some speakers.<sup>25</sup> When the clitic stays down, absence of agreement is always perceived as totally anomalous.<sup>26,27</sup>

- 109) Li devo assolutamente aver sconfitti prima di sera.  
(I) them(cl) must absolutely have defeated(+Agr) before night.
- 110) ?Li devo assolutamente aver sconfitto prima di sera.  
(I) them(cl) must absolutely have defeated(-Agr) before night.
- 111) Devo assolutamente averli sconfitti prima di sera.  
(I) must absolutely have-them(cl) defeated(+Agr) before night.
- 112) \*Devo assolutamente averli sconfitto prima di sera.  
(I) must absolutely have-them(cl) defeated(-Agr) before night.

Other convincing data in favor of a treatment à la Perlmutter are to be found in a contrast regarding literary Italian reported again by Kayne in his paper (Kayne 1989a, 96).

- 113) Paolo ha potute vedere le ragazze.  
Paolo has been able(+Agr) to see the girls
- 114) \*Paolo ha potute vederle.  
Paolo has been able(+Agr) to see-them(cl)

In the particular archaic register in which sentences like these may be used, the second one is ungrammatical because the clitic follows the PP and cannot trigger agreement on it. In the first

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<sup>25</sup> Contra Kayne (2001, 175-176).

<sup>26</sup> Notice that in the case of wh-phrases the contrast does not arise, since they can be indefinitely distant from the agreeing PP. This is strong evidence in favor of a differential treatment for overt clitics/wh-phrases, which are analyzed as analogous by Kayne. Our proposal correctly distinguishes them, since the overt clitic is equated with the null clitic left by the wh-phrase, instead of having an identical null element depending in the same way on the overt clitic/wh-phrase.

<sup>27</sup> See also these other examples, showing a similar contrast:

- i) Vorrei tanto averli assaggiati/\*assaggiato prima.  
I'd really like to have them(cl) tasted(+/- agr) before
- ii) Li vorrei tanto aver ?assaggiato/assaggiati prima.  
Them(cl) I'd really like to have tasted(-/+ agr) before

Gender agreement tends to become optional as well in comparable configurations, whereas gender and number agreement at the same time seems to us 'steadier'.

- iii) ?La devo assolutamente aver sconfitto prima di sera.  
Her(cl) I must absolutely have defeated before night
- iv) ??Le devo assolutamente aver sconfitto prima di sera.  
Them(cl) I must absolutely have defeated before night

An even stronger contrast revealing the degradation of obligatory agreement can be observed using an infinitive introduced by the prepositional complementizer *di* (the reader is referred to Kayne 2001 and note 88 for additional evidence in this sense concerning 1st and 2nd person clitics).

- v) Le ho finite di criticare già da tempo
- vi) \*Le ho finito di criticare già da tempo  
Them(cl) I have finished(+/- agr) to criticize already a long time ago
- vii) ??Le potresti aver finite di criticare già da tempo
- viii) Le potresti aver finito di criticare già da tempo  
Them(cl) you could have finished(+/- agr) to criticize already a long time ago

Notice that there is significant idiolectal variation: for some speakers there is no difference between climbing and non-climbing configurations and agreement is always obligatory (at least in cases such as ii), while examples like that in viii) are generally accepted by all speakers).

sentence we may instead assume that a null clitic in pre-auxiliary position doubles the postverbal DP and triggers agreement on the PP.

## 6) GENERALIZED OBJECT CLITIC DOUBLING

If we are right, Old Italian should have had null clitic doubling for either NRP and DP's sitting in their base-position, given its generalized PP Agreement pattern (from Rohlf's 1969; see also Egerland 1996).<sup>28</sup>

- 115) Come Dioneo ebbe la sua novella finita  
As Dioneo had his novel finished(+agr)
- 116) Aveva la luna, essendo nel mezzo del cielo, perduti i raggi suoi  
The moon had, being in the middle of the sky, lost(+agr) his rays  
(Boccaccio, Decameron)

Now we can understand why an extraction procedure like relativization is connected to the clitic doubling the (pronominal) gap left behind in Romance, an insight Perlmutter arrived at but that he was not able to explain. In fact, it is not extraction per se that mysteriously elicits clitic doubling, but rather a general property of the language which *always* requires it. Whence relativization or question formation are not special cases of induced doubling, they merely represent the norm.

As an alternative, we have to recognize the possibility that contemporary Italian and French lost a *generalized (null) clitic doubling*, given their absence of agreement with in-situ objects.<sup>29</sup> However, this is not enough to explain why there is no agreement with extracted constituents in Italian (remember that Perlmutter's paradigm led us to postulate the presence of null clitics in extraction configurations in contemporary Italian). More plausibly, then, it may be that a generalized clitic doubling is still active but since the value of pronominality of the null clitic associated to in-situ objects is very low, Italian and French Past Participles are no more sensitive to it (we will return later to the point). This is a concrete possibility, since the default interpretation of postverbal objects in a transitive sentence is focal and thus they cannot be doubled by clitics with a considerable value of pronominality (assuming a direct correspondence: level of topicality → clitic value of pronominality, as we did before).

Putting for the moment our theoretical speculations aside, we have to admit that the inspection of the available empirical evidence does not permit to choose indisputably between the two options on the ground. Anyway, it suggests that the second one is superior. In fact, the first hypothesis predicts a drastic change in agreement possibilities, coinciding with the loss of clitic doubling for in-situ objects. So, if the disappearance of agreement is instead shown to be progressive, we have an argument against it. As detailed in Loporcaro (1998), the various Romance varieties exhibit unquestionable signs of a progressive relaxation of agreement. The situation, from a synchronic point of view, is this: either a language has agreement with every

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<sup>28</sup> A similar behavior characterizes Old French (see Moignet 1988, 205). In both languages, however, there are certain inconsistencies and dialectal variations that render almost impossible to establish a firm rule.

<sup>29</sup> We obviously do not share the view that the presence of an overt (and, even less, null) clitic has compulsorily particular semantic/pragmatic consequences on the interpretation of the non-extracted object, at least in those languages in which PP agreement is always obligatory (see Belletti 2000, sec 3.3). There may certainly exist a correlation in this sense, though, in the languages in which it is optional (as in Salentino, see Kayne 1989a, sec 5).

A prediction arises: if a language has obligatory PP agreement with postverbal objects, it should possess agreement with *wh*-phrases and clitics as well. But when a language has optional PP agreement with postverbal objects, it may well be the case that agreement with *wh*-phrases is absent because their null clitics fail to satisfy the relevant informational requirements (actually, Old Italian until mid 14th century and many dialects in the northern part of Southern Italy show the first pattern, while Salentino or Friulano are examples of the second one).

extraction/objects, or only with clitics<sup>30</sup>, or it has no agreement at all. A much smaller number of languages (among them formal French) has agreement with every kind of extraction, but not with postverbal objects.<sup>31</sup> The attested patterns are summarized in the chart below (from Loporcaro 1998, minimally changed):

postverbal objects	extractions (apart from clitics)	clitics
+	+	+
-	+	+
-	-	+
-	-	-

Diachronic facts are even more telling: as shown by Lucchesi (1962) and Egerland (1996), for a certain period Old Italian had a systematic preference for agreement in presence of RC extraction over agreement with postverbal objects, before losing both of them (archaic registers apart).

## 7) AN EXPLANATION OF THE ITALIAN/FRENCH DIFFERENCES

If our way of looking at the data is on the right track, a straightforward explanation of the differences in PP Agreement between (modern) Italian and (modern written) French is now at our disposal. Kayne (1989a) accounted for those differences assuming that the mechanisms triggering PP Agreement were slightly different for clitics and *wh*-phrases, with the latter (but not the former) requiring adjunction to IP of the postulated empty category. Kayne stated that ‘adjunction of NP to the IP complement of the auxiliary is not automatically available, even to a language that otherwise uses the ... structure that underlies clitic agreement’. This explanation seems purely descriptive and quite ad hoc. We will propose a different solution, having as its starting point an important observation that Kayne reports on page 94 of his paper: ‘*what is the best of our knowledge notably lacking ... is a language having the wh-case of object agreement, but not the clitic case.*’

In analogy to what was proposed for island phenomena and floating quantifiers before, the idea we wish to explore has to do with the different values of pronominality that we think pertain to NRP. Languages may have different *thresholds of sensitivity* for certain syntactic phenomena, a fact which is particularly evident if one cares for diachronic changes and synchronic microparametric variation.<sup>32</sup> PP Agreement with auxiliary *avere/avoir* (to have) is a clear illustration of the point: the Italian threshold came to be higher than the (standard) French one - though the trend toward its increase is the same in both languages.<sup>33</sup>

<sup>30</sup> In Italian PP agreement is compulsory for 3rd person clitics, but only optional for 1st and 2nd person ones. See below for more details.

<sup>31</sup> There are apparently no dialects having a consolidated system showing agreement with clitics/RC extraction but not with *wh*-extraction, or with contrastively focalized objects but not with relative pronouns. This is proposed in Smith (1991), but the available data do not seem to corroborate such an hypothesis (see Loporcaro 1998). The trend in the various languages is indeed oriented towards the extremes: generalized presence or absence of agreement (and an interesting issue is why it is so). Overt clitics constitute the only substantial exception to these tendencies, being a third point of equilibrium in many agreement systems. Smith is not completely wrong, though: it is possible to find signs of more fine-grained distinctions in certain particular contexts, as we will see.

<sup>32</sup> This is a further source of cross-linguistic variability, which sums up with the fact that languages employ extraction in syntactic constructions superficially similar but actually differing in the pronominality of the gaps left behind. The following exemplifies the point:

- English vs Italian restrictive RCs	→	different values for the NRP left behind
- Italian vs French PP agr	→	different triggering NRP values

<sup>33</sup> In colloquial French the agreement of the PP is optional, even with clitics. Furthermore, most of the times it is impossible to hear it for phonological reasons. The conservative influences from the formal grammar taught in schools have almost surely delayed the natural trend leading to a complete loss of PP

If this is true, we should be able to observe a direct correlation between ‘manipulation of the degree of pronominality of NRP’ and ‘presence of agreement on the PP’. Furthermore, such a correlation should go in the same direction for all languages. We believe this is empirically motivated and will now proceed to demonstrate our claims in both Italian and French.<sup>34</sup>

## 8) AGR WITHOUT CLITICS IN PARTITIVE DIRECT OBJECTS IN ITALIAN

It is possible for an extracted wh-phrase to (marginally) elicit PP Agreement in colloquial Italian, given certain specific syntactic/pragmatic circumstances - judgements among speakers may vary, but the presence of a contrast between 117)/121) and 119)/123) is generally recognized.

- 117)        ?(?)Quali hai comprate, di scarpe?  
 118)        Quali hai comprato, di scarpe?  
             Which have you bought(+/- agr), of shoes?  
 119)        \*Quali scarpe hai comprate?  
 120)        Quali scarpe hai comprato?  
             Which shoes have you bought(+/- agr)?
- 121)        ?(?)Quali hai visti, di film?  
 122)        Quali hai visto, di film?  
             Which have you seen(+/- agr), of movies?  
 123)        \*Quali film hai visti?  
 124)        Quali film hai visto?  
             Which movies have you seen(+/- agr)?

Quali (pro<sub>wh</sub>)<sub>cl</sub> hai comprate pro<sub>wh</sub>, di scarpe?

In colloquial Italian partitive wh-elements can be dislocated, which testifies of their considerable value of topicality at the D-level (due to the presence of an individuated set of possible referents).

- 125)        Quali di quelle scarpe, alla fine le hai comprate?  
             Which of those shoes, in the end you them(cl) have bought(+agr)  
 126)        Quali di quei film li hai visti al cinema?  
             Which of those movies (you) them(cl) have seen(+agr) in the movie theater

In Italian split wh-constructions the ‘restriction’ of the wh-element, if present, is obligatorily dislocated (to the right or to the left), which means that the degree of topicality of the wh-constituent as a whole is high (presumably, as high as in 125) and 126) above).<sup>35</sup> Nevertheless, no overt clitic is there and thus we would not expect agreement if it were dependent upon its overt presence. But under our hypothesis the null clitic doubling the NRP in base-position possesses a very high value of pronominality (mirroring the high value of topicality of the wh-phrase), which is presumably enough to reach the threshold necessary in the colloquial register of Italian to trigger agreement on the PP (marginality would derive from being the NRP value of pronominality very close to the threshold).

It is interesting to observe that other types of determiners do not permit the agreement we have just seen (quasi) operative in conjunction with *quali* (which), even when we dislocate the ‘restriction’.

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agreement in this language. Those influences, which are of a sociolinguistic type, are presumably responsible for the present, spurious situation.

<sup>34</sup> If this correlation holds true the copy theory of movement cannot again be correct.

<sup>35</sup> Split wh-constructions are rather common in oral registers of the language, but fairly absent in written contexts. Our discussion is thus limited to colloquial Italian.

- 127) \*Che tipi hai comprati, di scarpe?  
Which types have (you) bought(+agr), of shoes
- 128) \*Che tipi hai visti, di film?  
Which types have (you) seen(+agr), of movies

*Che tipi di* (which kinds of) does not permit PP Agreement since the dislocation of the ‘restriction’ does not tend to force a specific interpretation of the wh-element as a whole here, with the consequence that the null clitic deriving from the NRP left behind does not reach a sufficiently high value of pronominality.<sup>36</sup> The contrast between *che tipi di* and *quali* represents then a typical case of specific vs non-specific reading. In addition, the following seems to hold (even if the judgments are very subtle and contextual-dependent):

- 129) A: Quali hai visto, di film?  
Which have you seen(-agr), of movies?  
B: Roma città aperta e I Vitelloni.  
Roma città aperta and Vitelloni  
I neorealisti italiani  
The Italian neorealists
- 130) A: Quali hai visti, di film?  
Which have you seen(+agr), of movies?  
B: Roma città aperta e I Vitelloni.  
Roma città aperta and Vitelloni  
??I neorealisti italiani.  
The Italian neorealists

If the whole complex wh-element gets dislocated the things change and agreement surfaces again.

- 131) Che tipi di film, li hai visti?  
Which types of movies, them(cl) have you seen?

It is again the implicit presence/absence of a set that determines this. The sentence above is grammatical only if there is a certain set of ‘types of movies’ which the speakers already talked about. This pragmatic entailment is absent in the reading immediately available for 128). However, given a suitable preceding context, even that sentence comes to be marginal with PP Agreement.

- 132) A: Sono indeciso tra un iraniano esistenzialista, un francese nouvelle vague, un italiano neorealista e un russo dell’avanguardia.  
I’m undecided among an Iranian existentialist, a French nouvelle vague, an Italian neorealist and a russian of the Avant-garde  
B: ?(?)Di questi, che tipi ti hanno raccomandati?  
Of these, which types have they recommended(+agr) to you?

Summing up, the presence of a set and the dislocation of the restriction marginally allows PP Agreement in split wh-constructions in (colloquial) Italian, even if an overt clitic is absent. This is due to the high topicality of the wh-phrase, which in turn determines the high topicality of the NRP left behind, and of the null clitic doubling it.

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<sup>36</sup> The dislocation of the restriction is possible only if the speakers have previously talked about movies/shoes (or watching movies/buying shoes), but without implying that they talked about types of movies/shoes as well.

## 9) EXTRACTION WITHOUT AGR IN FRENCH

Reciprocal facts obtain with the split wh-constructions studied in French by Obenauer, whose status is very different from the Italian split configurations.

- 133)            Combien as-tu consulté de livres?<sup>37</sup> (from Obenauer 1984)  
                  How many have you consulted of books

Obenauer (1992, 1994; see also Déprez 1998) observed that in the non-split wh-construction on the specific reading agreement is optional. On the non-specific reading (which asks about the number of errors and not about certain specific errors) PP Agreement is instead always excluded.<sup>38</sup>

Specific reading:

- 134)            Dis-moi combien de fautes tu as fait/faites.

Non-specific reading:

- 135)            Dis-moi combien de fautes tu as fait/\*faites.

Tell me how many errors you have done(-/+ agr)

The split construction obligatorily receives a non-specific reading and therefore agreement never shows up.

- 136)            Combien as-tu fait/\*faites de fautes?  
                  How many have you done(-/+ agr) of errors

Even in French, the null clitic connected to extraction procedures has sometimes a value of pronominality which is too low to elicit PP Agreement.<sup>39</sup> These are the cases that Obenauer names ‘non-specific’, thus with a low value of topicality for both the NRP and the null clitic deriving from it. Agreement is instead (optionally) triggered if the null clitic surpasses a certain threshold of pronominality, as when a specific reading of the wh-dependency obtains.

Kayne’s generalization concerning the subset relation characterizing object clitic PP Agreement and object wh-element PP Agreement (ie, the languages having the second are a subset of the languages having the first) is now captured without any ad hoc stipulation. Standard overt clitics possess more pronominality than null clitics deriving from relativization or wh-movement. If a language has some process of PP Agreement with objects, it will certainly depend on the clitics with the highest value of pronominality in the first place, and possibly on the others if the threshold of the process is low enough. The opposite is not contemplated in our framework, for intrinsic reasons concerning the direction of the triggering relation.

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<sup>37</sup> An Italian literal translation of this sentence is ungrammatical, since it surely requires an overt clitic. Its insertion, however, changes the informational value of the restriction (which gets obligatorily dislocated).

- i) \**Quanti hai consultato/i di libri?*  
    How many have you consulted(-/+agr) of books?  
ii) *Quanti ne hai ?consultato/consultati, di libri?*  
    How many of-them(cl) have you consulted(-/+agr), of books?

<sup>38</sup> Obenauer shows this adding to the wh-phrase certain modifiers incompatible with the specific interpretation:

- i) *Jusqu’à combien de fautes ont-ils fait(\*es), vos élèves?*  
    Up to how many mistakes have they made(+Agr), your students?

<sup>39</sup> We are dealing here with  $pro_{WH}$ , that has been treated in previous chapter as the less topical NRP in the proposed ordered set of null elements according to the type of extraction employed (but notice that this is so only if the extractee is not d-linked).

## 10) SUBJECTS AND THE GENERALIZED CLITIC DOUBLING HYPOTHESIS

We could ask ourselves whether the situation that we described for the (extracted or non-extracted) objects of a verb holds also for subjects. Or, in other words, if subjects present a generalized null clitic doubling too. This is a bit more difficult to test, but there are certain empirical indications which again suggest that such a possibility is real.

Subject floating quantifiers in Romance do not appear to depend on the presence of an overt clitic, as is acknowledged at least since Kayne (1969, 1975). In Italian, however, a postverbal subject does not license floating quantifiers, exactly as happens with non-overtly cliticized objects (Baltin 1978 actually describes a similar situation for several languages).<sup>40,41</sup>

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<sup>40</sup> In a stranding approach it would be assumed that a postverbal subject does not license floating quantifiers because the DP never lands in a high position in the (functional) structure of the clause and thus there are no available slots for Q. Such an hypothesis encounters difficulties if we are right in postulating an obligatory doubling of subjects: the presence of the clitic should activate the positions normally targeted by floating quantifiers (as happens in the case of object clitics, see i)). Even if our general idea turned out to be incorrect, those languages that obligatorily present an *overt* doubling of postverbal subjects provide counterexamples. Consider for instance sentence ii) below, in which the presence of a preverbal subject clitic (see note 67 and Brandi & Cordin 1981) is not enough to legitimate a floating quantifier. One is then forced to stipulate intrinsic differences between subject and object floating Qs, a particularly problematic aspect of Sportiche's analysis (see De Cat 2000, sec. 2.2.1.1 for further related problems of the same type). An account depending exclusively on movement positions is also not suited for dealing with the differences in grammaticality reported in (74)-95), and with the clitic-dependency of Quantifier Float noted by Perlmutter. Finally, the fact that floating quantifiers are admitted only in positions in which adverb placement is possible (Kayne 1975, Sag 1978) does not seem to us to be justified in a particularly insightful way in a stranding approach - the idea that the base-position of the subject is adjacent to adverbial positions appears stipulative (anyway, this point is left unclarified also in our account).

- i) I l'ha magnadi tuti i putei. (Trentino)  
They(cl) them(cl) have eaten(+agr) all the boys  
'The boys have eaten all of them'  
ii) \*I l'ha tuti magnà i putei. (Trentino)  
They(cl) it(cl) have all eaten the boys.  
'All the boys have eaten it'  
(cf. I putei i l'ha tuti magnà)

Another possibility is that postverbal subjects do not legitimate floating quantifiers because of the anaphoric status of Q (Kayne 1981b, Belletti 1982, Jaeggli 1982), which would therefore miss an antecedent in the correct configuration. But Kayne (1981b) has also various convincing proofs *against* the equivalence floating quantifiers = anaphors. In Sportiche (1988), the anaphoric relation is supposed to be between [Q e] and the moved NP. Such an assumption would be able to explain without further complications the facts noted in Kayne (1981b), for example the following pattern of grammaticality (involving A-chains, but similar data obtain in A'-chains as well).

- iii) I ragazzi sono tutti sembrati stanchi. (Italian)  
the boys are all seemed tired  
'All the boys have seemed tired.'  
iv) \*È tutti sembrato che i ragazzi fossero stanchi. (Italian)  
(it) is all seemed that the boys were tired  
'It seemed that all the boys were tired.'

However, postverbal subjects could bind (local) anaphors that precede them in Italian, voiding of content both proposals as to what determines the unavailability of floating quantifiers in such configurations.

- v) Si<sub>i</sub> è lavata Maria<sub>i</sub>.  
Herself(cl) is washed Mary  
vi) ?Ha lavato se stessa<sub>i</sub> Maria<sub>i</sub>.  
Has washed herself Mary  
'Mary washed herself.'

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In our framework, what can be again proposed to deal with Kayne's and Belletti's data is that a floating quantifier be disallowed when there is no clitic legitimating it in the clause in which it is contained (as in iv) above), without making reference to any anaphoric relation between Q and the antecedent (see Shlonsky 1991 for suggestive evidence from Hebrew). The clause-boundedness of floating quantifiers would then result from the clause-boundedness of clitics in Romance. There are anyway certain well-known recalcitrant examples (see Kayne 1975 and 1978, Pollock 1978):

- vii) Il faut tous qu'ils partent. (French)  
It is necessary all that they leave(sub)

We leave open the proper treatment of cases such as vii), which are nevertheless quite exceptional and only limited to some speakers of French in the Romance area (certain apparently similar examples from Salentino are discussed in Terzi 1996, but Cinque 2002b, note 10 shows that they are subject to different restrictions). It is maybe possible that similar instances of L-tous should receive a separate treatment (see Bonneau & Zushi 1994, Déprez 1997 and Cinque 2002b for such a claim). Other cases of L-tous in French obtain with some infinitive clausal complements. Interestingly, they are generally restricted to restructuring verbs, a fact which seems once more to suggest that there is an intrinsic relationship between floating quantifiers and clitics (see Taraldsen 1981b, Bonneau & Zushi 1994, Haik 1985, De Cat 2000, Nicolis 2001). Although there is certainly a strong correlation between clitic climbing and quantifier climbing, Cinque (2002b) provides data showing that there are instances of L-tous with French infinitives whose analogues disallow clitic climbing in Italian. If we drop the rather questionable assumption that the correct definition of 'restructuring verb' depends on Italian clitic climbing (a process which might well make use of a subset of the restructuring verbs) one can find a way of reconciling the contradictory evidence, which also involves the non-coextensiveness of clitic climbing and auxiliary switch/long NP-movement (Burzio 1986, Kayne 1989b) and even quantifier and adverb climbing (Cinque 2002b, note 22). Our speculations on the presence of an additional null clitic (see note 74 below) when restructuring takes place in non-climbing languages (and possibly also in a limited number of non-climbing configurations in climbing languages such as Italian) could be instrumental to the possibility of finding a solution to these problems compatible with the ideas presented here.

<sup>41</sup> Bošković (2004) sustains that Q-Float is thematically constrained: Qs would not be allowed to float in theta positions (see also Déprez 1989). This is meant to account for English data of the following type:

- i) \*The students arrived all.  
ii) \*The students were arrested all.  
iii) \*Mary hates the students all.

His account seems not to be generalizable, given the perfect grammaticality of sentences such as these in Italian (in French similar examples vary from slight marginality to unacceptability; see Sportiche 1988). Otherwise, one should have to assume that the clause-final *tutti* does not sit in base-position and is rather adjoined to the right in a non-thematic slot.

- iv) I ragazzi hanno telefonato tutti.  
The guys have phoned all  
v) Gli attentatori furono arrestati tutti.  
The terrorists were arrested all  
vi) Le comparse sono finalmente arrivate tutte.  
The extras have at last arrived all.

Other data from Bobaljik (1995) suggest that Bošković might be right about English (though see example iv) in note 42), but also confirm that in Romance the situation is different. Bobaljik observes that *all* floated by a subject can either precede or follow high, sentential adverbs but it must precede low, manner adverbs.

- vii) The students all completely understood.  
viii) \*The students completely all understood.  
ix) The students obviously all understood.  
x) The students all obviously understood.

Bošković asserts that the same holds in Spanish.

- xi) \*Los estudiantes entenderán completamente todos (ese problema).  
The students will understand completely all (that problem)

Unergatives:

- 137) Tutti i ragazzi hanno telefonato a Maria.  
138) Hanno telefonato tutti i ragazzi a Maria.  
All the boys have phoned to Maria
- 139) I ragazzi hanno tutti telefonato a Maria.  
140) I ragazzi hanno telefonato tutti a Maria.  
141) ?I ragazzi hanno telefonato a Maria TUTTI.
- 142) \*Tutti hanno telefonato i ragazzi a Maria.  
143) \*Hanno tutti telefonato i ragazzi a Maria.  
144) \*Hanno telefonato i ragazzi tutti a Maria.  
145) \*Hanno telefonato i ragazzi a Maria TUTTI.

Unaccusatives:

- 146) Tutti i bambini sono arrivati a casa.  
147) Sono arrivati a casa tutti i bambini.  
All the boys are arrived at home
- 148) I bambini sono tutti arrivati a casa.  
149) I bambini sono arrivati tutti a casa.  
150) I bambini sono arrivati a casa TUTTI.
- 151) \*Tutti sono arrivati a casa i bambini.  
152) \*Sono tutti arrivati a casa i bambini.  
153) \*Sono arrivati tutti a casa i bambini.  
154) \*Sono arrivati a casa i bambini TUTTI.

Transitives:

- 155) Tutte le commesse hanno venduto lo stesso vestito.  
156) ?Hanno venduto lo stesso vestito tutte le commesse.  
(L'hanno venduto tutte le commesse)  
All the shop assistants have sold the same suit
- 157) Le commesse hanno tutte venduto lo stesso vestito.  
158) Le commesse hanno venduto tutte lo stesso vestito.  
159) ?Le commesse hanno venduto lo stesso vestito TUTTE.
- 160) \*Tutte hanno venduto lo stesso vestito le commesse.  
161) \*Hanno tutte venduto lo stesso vestito le commesse.  
162) \*Hanno venduto tutte lo stesso vestito le commesse.  
163) \*Hanno venduto lo stesso vestito le commesse TUTTE.

We could unify all instances of floating quantifiers in Romance supposing that a null clitic doubles the subject in preverbal position, mirroring what happens (overtly or covertly) for

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We do not find particularly degraded analogous examples in Italian: sentences of this sort abound in the oral register (while they can be maybe considered slightly unnatural in written contexts).

- xii) Sono sicuro che gli studenti capiranno pienamente/perfettamente/facilmente tutti (quel problema).  
I'm sure that the students will understand fully/perfectly/easily all (that problem)

Building on Bošković's ideas, it could alternatively be proposed that a constraint barring floating quantifiers is active in Romance when the arguments they float off (rather than the quantifiers) stay in thematic positions. This could explain in an alternative way the impossibility of Q Float with postverbal subjects, which are usually taken to be in-situ (however, such a constraint could not account for 74)-95)).

objects.<sup>42</sup> The null clitic which supposedly doubles the subject when it is in postverbal position would have too a low pronominal value to license a floating quantifier, as happens for in-situ objects.<sup>43</sup> Such an analysis is supported by the well-known fact that postverbal subjects in Italian are focal, whereas preverbal ones are topical (see among many others Antinucci & Cinque 1977, Calabrese 1986, Pinto 1997).

If this is true, we may expect that an ‘overt version’ of the Italian null clitics in subject position appear in some Romance varieties. And as is well-known languages exhibiting them actually exist: many Northern Italian dialects have overt clitics doubling subjects (see Brandi & Cordin 1981, 1989; Safir 1985; Bouchard 1984; Rizzi 1986b). As predictable, the availability of subject floating quantifiers is related to the presence of those clitics. We use data from Trentino to illustrate the point:<sup>44</sup>

- 164) Tuti i putei i ha telefonà a la Bepina.  
All the boys they(cl) have phoned to the B.
- 165) Ha telefonà tuti i putei a la Bepina.  
Have phoned all the boys to the B.
- 166) I putei i ha tuti telefonà a la Bepina.  
167) I putei i ha telefonà tuti a la Bepina.  
168) ?I putei i ha telefonà a la Bepina TUTI.
- 169) \*Ha tuti telefonà i putei a la Bepina.  
170) \*Ha telefonà i putei tuti a la Bepina.  
171) \*Ha telefonà i putei a la Bepina tuti/TUTI.

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<sup>42</sup> The clitic-dependency of floating quantifiers in Romance, which we find strongly supported by the data, is problematic as an account of English or German Q-Float. Are we to assume that Germanic languages possess null clitics, even if their syntactic manifestations never surface overtly in the majority of them? This would certainly be quite a stipulative theoretical move (though certain data from Dutch and Flemish dialects are suggestive of such a possibility, if one replaces clitics with weak pronouns). Nevertheless, there are certain well-known differences concerning floating quantifiers in Romance and English (see note 41). So, in the latter - and also in Hebrew - no Q-Float in presence of A' movement is tolerated (Belfast English being a significant exception to such a generalization). On the other hand, it seems that in English the possibility of floating Qs is connected to the presence of (weak?) pronouns as well, at least in certain circumstances. See the following contrast, noticed in Postal (1974):

- i) Sam saw all \*(of) them.  
ii) Sam saw all (of) the students.  
iii) \*Sam saw the students all.  
iv) Sam saw them all.

We do not know to what extent the Q-Float phenomenon is homogeneous across languages and should thus receive a common and universal explanation. It might well be that (at least partly) different variables affect it in the various languages of the world, giving rise to family-specific restrictions. Note 4, which puts forward the possibility of the existence of splits in the phenomenon of Q-Float inside the very same language, is also relevant in this connection.

<sup>43</sup> For evidence in favor of the idea that the licensing of Quantifier Float depends on the value of pronominality of a clitic, see examples 74-95) and their discussion. We are not able to deliver a convincing explanation of why only a clitic with a certain value of pronominality is able to license floating quantifiers. Actually, it has to be recognized that such a relationship may in principle be indirect (in which case the conditions licensing certain particular clitics in Romance would be (nearly) identical to those licensing floating quantifiers). Even if this turned out to be true, the conclusions reached here would remain unaltered: the presence of a floating quantifier implies (directly or indirectly) the presence of a clitic with a certain minimal degree of pronominality.

<sup>44</sup> The prediction is more elaborated: null subject clitics may also license floating quantifiers (as always happens in Italian or Spanish), but they need possess a sufficient value of pronominality. We return immediately below to the point.

Certain null pro-forms are also able to license subject floating quantifiers, paralleling what happens with object clitics. As observed in Brandi & Cordin (1981, 1989), restrictive relative clauses in Trentino do not exhibit clitic doubling of the extracted subject (appositives do, but see chapter 3 for refinements). In both cases floating quantifiers are possible (only marginally, with restrictives).

- 172) (?)I putei, che i ha telefonà tuti a la Bepina, ...  
The boys that (they) they(cl) have phoned all to the B., ...
- 173) ??I putei ch'ha telefonà tuti a la Bepina ...  
The boys that (they) have phoned all to the B. ...

Last but not least, observe the following contrasts among the various A' constructions when extracting the subject in Italian, which are very similar to those we observed before for objects (a shift to a pro strategy would not be possible here: supposedly, there is no domain of optionality; see chapter 3).<sup>45</sup>

- 174) Quei ragazzi, credo che pro abbiano telefonato tutti a casa.  
Those boys, (I) believe (that) have phoned all home
- 175) (?)Quei ragazzi, che credo che pro<sub>OP(app)</sub> abbiano telefonato tutti a casa, ...  
Those boys, that (I) believe (that) have phoned all home, ...
- 176) ??I ragazzi che credo che pro<sub>OP(rest)</sub> abbiano telefonato tutti a casa ...  
The boys that (I) believe (that) have phoned all home ...
- 177) ??Sono quei ragazzi che credo che pro<sub>Clleft</sub> abbiano telefonato tutti a casa.  
It is those boys that (I) believe (that) have phoned all home
- 178) ??\*Quali ragazzi credi che pro<sub>wh</sub> abbiano telefonato tutti a casa?  
Which boys do you believe (that) have phoned all home?

A unified treatment of subject and object A' floating quantifiers seems thus to be supported by the data, apart from considerations of a purely theoretical nature.<sup>46</sup>

## 11) THRESHOLD PHENOMENA: AN EXTENSION OF THE PP ANALYSIS

Suppose our description of the facts is correct, ie Romance languages present a generalized clitic doubling of subjects and (direct) objects. The question that immediately comes to mind is: why do these languages not show the doublers in every circumstances? Or, to reframe it in slightly different terms: why do null clitics exist?

Being able to answer such a question would mean that our understanding of syntax is much more advanced than what it actually is. Since we are not in a position to find a satisfactory response, the aim of the next sections is not really explanatory, but rather more descriptive. We will try to illustrate what, in our opinion, determines the 'wild variations' exhibited by Romance languages and dialects in phenomena such as clitic doubling and subject-verb agreement (in addition to Past Participle Agreement, which was already dealt with above). Finally, we will exploit the generalized clitic doubling hypothesis to account for certain properties of inversion structures.

The heart of our proposal is again the notion of threshold. To the best of our knowledge, such a mechanism has never been employed in generative syntax before, but it has a wide and ubiquitous use in psychology and neurophysiology. We completely adhere to what has been one of the most revolutionary intuitions of Chomsky's in the beginnings of generative grammar: that language belongs in psychology, and ultimately in biology. Many linguists often forget that the terra firma which we are all starting from rests on this basic pillar.

<sup>45</sup> We always employ a preverbal extraction site, but this is so only in order to improve readability. The various A' constructions should show instead different extraction sites.

<sup>46</sup> See Kayne's important remarks in this respect (Kayne 1975, 44).



In the present framework the answer is easy: French is a pro-drop language with obligatory doubling of *pro*, exactly like Italian. The only difference is that clitics are overt in French and covert in Italian when *pro* is in subject position (see Napoli 1981 for enlightening remarks on the issue; see also Safir 1985). *Pro* would be legitimated in different ways in the two languages: by overt agreement in Italian and by the overt surfacing of clitics in French - but we will not enter into technical implementations here.

Such an idea obviously entails that French and Trentino subject clitics are not spurious from a syntactic point of view (in accordance with Safir 1982/1985 and 1986b, Roberge 1990, Sportiche 1998), a proposal which has instead been hinted at many times in the literature (see Kayne 1983;<sup>49</sup> Brandi & Cordin 1981, 1989; Rizzi 1986b, 1987). Rizzi (1986b), in particular, attributes two divergent structural representations to French and Northern Italian dialects clitics. The most convincing proof in support of such a distinction is the following, well-known contrast from Brandi & Cordin (1981, 1989):<sup>50</sup>

- |      |                                  |
|------|----------------------------------|
| 181) | Elle chante et dance (French)    |
| 182) | La canta e *(la) bala (Trentino) |

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<sup>49</sup> According to Kayne, French preverbal subject clitics are only *phonological* clitics, whereas postverbal ones would be *syntactic* clitics (together with object clitics in whatever position). But the fact that enclisis causes a closer relationship than proclisis between clitic and verb is not limited to subject clitics in French. An analogous difference is detectable in Italian or French for object clitics, which are supposedly of a 'syntactic' type (see Benincà & Cinque 1993). The enclisis/proclisis contrast seems thus irrelevant in deciding whether a clitic is such phonologically or syntactically.

- i) Lo leggo e rileggo spesso.  
(I) it(cl) read and re-read often
- ii) \*Per leggere e rileggerlo.  
To read and re-read it(cl)
- iii) \*Per leggerlo e rileggere.  
To read it(cl) and re-read
- iv) \*Leggi e rileggilo!  
Read and re-read it(cl)
- v) \*Leggilo e rileggi!  
Read it(cl) and re-read

Another problem for the classification of French subject clitics as phonological comes from animacy restrictions, as remarked in Cardinaletti (1999, sec. 4.2).

- vi) ?\*Ce livre-là, elle ne lit plus que lui. (78a in Kayne 1975, ch. 2)  
That book, she does not read anything but it
- vii) Il n'est pas mal, ton bouquin. (79a in Kayne 1975, ch. 2)  
It is not bad, your book

Weak pronouns admit both +human and -human referents (see vii)), whereas strong pronouns are restricted to +human ones (see vi)). Thus, a reduction analysis (sustaining that the weak forms are derived from the strong ones in the phonological component) is hardly possible to be maintained.

<sup>50</sup> Another (subtler) difference presumably related to the same variable is:

- i) Ils les voient. (French, from Kayne 1983)
- ii) ?Qui ça, ils?
- iii) ?\*Qui ça, les?
- iv) I li vede. (Trentino)
- v) ?\*Chi po, i?
- vi) \*Chi po, li?

They see them  
Who that, they?  
Who that, them?

- 183) La canta e \*(la) balla (Fiorentino)  
She sings and (she) dances

As noted by Kayne (Kayne 1972, 1975), only certain clitics permit sentential conjunction in French. The impersonal clitic *on* produces deviant results in a similar configuration.

- 184) \*On mange de la viande et boit du bon vin  
One eats meat and drinks good wine

The possibility of conjunction reappears, however, in sentences whose tense is the *passé composé*.

- 185) On a mangé de la viande et bu du bon vin  
One has eaten meat and drunk good wine

Rizzi (1986b) sustains that this represents a different type of conjunction, namely VP conjunction.<sup>51</sup> He also adds convincingly that ‘there appears to be no independent reason to differentiate between the structural position of *il* and *on*’. His account of the facts tries to derive the distinct behavior of *il* and *on* on the basis of this contrast (from Kayne 1972):

- 186) Il dit que je l’ai insulté (French)  
He says that I insulted him  
187) \*On dit que je l’ai insulté (French)  
One says that I insulted him

Only clitics like *il* could be the antecedent of a pronoun, and Rizzi thus affirms it is reasonable to expect that this constraint ‘will also block coreference between *on* and the zero pronominal in the conjoined structure’ (at the sentential level).<sup>52</sup> No such constraint would be operative for VP conjunction, since there are no pronominal forms involved there.

Cl<sub>Subj</sub> [[V...] et [V...]]

In short: Trentino would disallow the possibility of sentential conjunction for intrinsic structural reasons having to do with the nature of its clitics, whereas French *on* for a pronominalization constraint.<sup>53</sup>

There are several problems that a similar analysis encounters. The first difficulty, as Benincà (1986) points out, is that the proposal is dubious from a diachronic point of view, since in earlier stages of both Milanese and Friulano the repetition of the subject clitic in coordination contexts could apparently be avoided.

In Rizzi’s hypothesis, a crucial assumption blocks the VP conjunction interpretation of sentences like 181)-183): the coordinate structure constraint.

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<sup>51</sup> The structural representations of the two conjunction-types would be (from Rizzi 1986b, slightly modified):

sentential conjunction: [[Cl<sub>Subj</sub> VP] et [e VP]]  
VP-conjunction: Cl<sub>Subj</sub> [[t V...] et [t V...]]

<sup>52</sup> But see Sportiche (1998), who points out the grammaticality of:

i) On<sub>i</sub> a dit que Jean nous<sub>i</sub> a insulté.  
We said that John insulted us.

<sup>53</sup> ‘The observed difference between French and the Italian dialects follows from the assumption that French subject clitics are NP’s, while the subject clitics in the dialects are the spell-out of agreement, a minor category which does not allow a zero form under coordination.’ (from Rizzi 1986b)

\*Elle [[t chante] et [t dance]]

\*La [[t canta] e [t bala]]

But there are also serious motivations for being skeptical of this argument. In fact, across-the-board extraction is perfectly fine out of coordinated sentences (Ross 1967).

188) Il ragazzo che [[vedi t] e [senti t]] ... (Italian)

The boy that you see and hear

189) \*Il ragazzo che [[vedi t] e [senti Pietro]] ...

The boy that you see and hear P.

Rizzi (pc) suggests that what blocks a VP conjunction interpretation of 181)-183) is rather that an host is missing to which the clitic could attach. Be as it may, other drawbacks vitiate such an explanation. According to us, a proper understanding of the data above can be reached only taking into account related facts from the realm of object clitics. But once that is done, the water becomes a lot muddier. Consider in particular these contrasts between Italian and Trentino:<sup>54</sup>

190) L'ho raccolto e buttato via. (Italian)

191) ??L'ho tot su e petà via. (Trentino)

(cf. L'ho tot su e l'ho petà via.)

It(cl) I have picked up and trashed

192) L'ho mangiato, ma sputato perché non mi piaceva. (Italian)

193) ?\*L'ho magnà, ma spudà fora perché nol me piaseva. (Trentino)

(cf. L'ho magnà, ma l'ho spudà fora perché nol me piaseva.)

It(cl) I have eaten, but spat out because I didn't like it

194) L'ho scritta e il giorno dopo spedita. (Italian)

195) ?\*L'ho scritta zo e el di dopo mandada. (Trentino)

(cf. L'ho scritta zo e el di dopo l'ho mandada.)

It(cl) I have written down and the day after sent

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<sup>54</sup> The bad cases are in only in certain circumstances. For example, if coordination involves iterative interpretation:

i) L'ho tirà su e molà zo venti volte una dre l'altra.

It(cl) I've lifted and dropped 20 times consecutively

ii) L'ho vist e rivist.

It(cl) I've seen and seen again

Or in particular constructions involving some form of parallelism:

iii) L'ho prima magnà e po spudà fora.

It(cl) I've first eaten and then spat out

iv) L'avevo scritta zo en di prima e mandada en di dopo de la scadenza.

It(cl) I've written down a day before and sent a day after the dead-line

Interestingly, a partly similar situation can be observed with subject clitics in iterative contexts:

v) ?I beve e beve e beve... a la fin per forza che i è embriaghi.

They(cl) drink and drink and drink... obviously, they end up being drunk

We do not find any substantial improvement adding parallelism requirements, instead:

vi) Prima i magna e po \*(i) beve, se no i vol nar col mus zo en tel piat.

First they(cl) eat and then drink, if they do not want to fall with their face onto the plate

vii) I magna prima e ??(i) beve dopo, se no i vol nar col mus zo en tel piat.

They(cl) eat first and drink then, if they do not want to fall with their face onto the plate

Observe that both languages disallow coordination for what Rizzi calls sentential conjunction.<sup>55</sup>

- 196) ?\*Lo raccolse e buttò nel cestino. (Italian)  
It(cl) he/she picked up and trashed
- 197) \*El lo tirerà su e peterà via. (Trentino)  
It(cl) he/she will pick up and will trash
- 198) \*La scrivo ora e spedisco domani. (Italian)
- 199) \*La scrivo zo ades e mando doman. (Trentino)  
It(cl) I write down now and send tomorrow

Consider now indirect objects. There are some additional variables that need be taken into account here. One is the presence of a concomitant direct object in one (or more) of the conjoined sentences. Let us begin with Italian:

- 200) Gli parlano e telefonano spesso.  
Him(cl) they speak and phone often
- 201) Gli hanno parlato di persona e telefonato.  
Him(cl) they have spoken personally and phoned
- 202) \*Le mando un libro o compro un mazzo di fiori?<sup>56</sup>  
Her(cl) do I send a book or buy a bunch of flowers?
- 203) Le hai mandato un libro o comprato un mazzo di fiori?  
Her(cl) have you sent a book or bought a bunch of flowers?
- 204) \*Gli dico di tornare o chiedo di stare?  
Him(cl) do I say to come back or ask to stay?
- 205) Gli hai detto di tornare o chiesto di stare?  
Him(cl) have you said to come back or asked to stay?
- 206) \*Le do un anello e chiedo di sposarmi.  
Her(cl) I give a ring and ask to marry me
- 207) ?Le ho dato un anello e chiesto di sposarmi.

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<sup>55</sup> Note that for certain expressions in written contexts this is not true:

- i) Lo ricordo e saluto con affetto.  
Him(cl) I remember and greet with affection
- ii) Lo disapprovo e condanno senza appello.  
It(cl) I disapprove and condemn with no hesitations

The same can be said of iterative contexts and more generally of coordinated verbs that could be presumably reanalyzed as a single complex verbal form in present-day Italian and French - see Kayne (1975), Benincà & Cinque (1993).

- iii) Lo vedo e rivedo di continuo.  
Him(cl) I see and see again continuously
- iv) Jean le lit et relit sans cesse.  
J. it(cl) reads and reads again incessantly

<sup>56</sup> Sentences of this type have two interpretations. The non-relevant one takes a VP as formed by verb + direct object + unspecified indirect object, as in:

- i) Pensi che sia il caso che compri dei fiori?  
Do you think it is appropriate that I buy some flowers?

With such a reading of the second conjunct, the sentence is grammatical. The two interpretations are anyway distinguishable and may be easily teased apart.

- Her(cl) I have given a ring and asked to marry me
- 208) \*Le invio un regalo o parlo?  
Her(cl) do I send a present or speak?
- 209) Le hai inviato un regalo o parlato?  
Her(cl) have you sent a present or spoken?
- 210) \*Le parlo del più e del meno o chiedo di sposarmi?  
Her(cl) do I speak of this and that or ask to marry me?
- 211) ?Le hai parlato del più e del meno o chiesto di sposarti?  
Her(cl) have you spoken of this and that or asked to marry you?

If the two conjoined sentences contain verbs that do not take a direct object/clausal complement, the result is good. But if one of them (or both) do not satisfy this condition, grammaticality obtains only with the *passato prossimo* tense.

In our variety of Trentino the things are again (partially) different. It is actually very difficult to understand the behavior of the two languages when they are compared, especially if one considers the ‘conjunction test’ as indicative of structural and positional discrepancies among clitics.

- 212) ?\*I ghe parla e telefona de spes.  
Him(cl) they speak and phone often
- 213) I g’ha parlà de persona e telefonà.  
Him(cl) they have spoken personally and phoned
- 214) \*Ghe mando en libro o cromo en maz de fiori?  
Her(cl) do I send a book or buy a bunch of flowers?
- 215) G’has mandà en libro o crompà en maz de fiori?  
Her(cl) have you sent a book or bought a bunch of flowers?
- 216) \*Ghe digo de tornar o domando de star?  
Him(cl) do I say to come back or ask to stay?
- 217) ??G’has dit de tornar o domandà de star?  
Him(cl) have you said to come back or asked to stay?
- 218) \*\*Ghe don n’anel e domando de sposarme.  
Her(cl) I give a ring and ask to marry me
- 219) \*G’ho dat n’anel e domandà de sposarme.  
Her(cl) I have given a ring and asked to marry me
- 220) \*Ghe mando en regal o parlo?  
Her(cl) do I send a present or speak?
- 221) ??G’has mandà en regal o parlà?  
Her(cl) have you sent a present or spoken?
- 222) \*Ghe parlo de qualcos o domando de sposarme?  
Her(cl) do I speak of this and that or ask to marry me?
- 223) ??G’has parlà de qualcos o domandà de sposarte?  
Her(cl) have you spoken of this and that or asked to marry you?

Why all these contrasts? Though we do not precisely know where they come from, it appears to us that for theoretical and empirical reasons the discrepancies we enumerated cannot be considered the hallmark of structural distinctions among clitics, ie French and Northern Italian dialects subject pronouns should not be classified as spurious on the basis of similar data (unless one wants to commit oneself to the claim that there are as many structurally distinct clitics as contrasts). This means that the minimal pairs below should not be considered revelatory of

intrinsic differences among the languages involved wrt the possibility of pro-drop. Obviously, some specific and unidentified variable(s) influence(s) the possibility of coordinating the clitics, and affect(s) in selective manners the various arguments in the various languages. But that is not sufficient to draw conclusions on their structural properties in relation to the pro-drop parameter, we believe.

- 224) Il mange et boit (French)  
 225) \*El magna e beve (Trentino)<sup>57</sup>  
 He(cl) eats and drinks
- 226) L'ho scritta e il giorno dopo spedita. (Italian)  
 227) \*L'ho scritta zo e el di dopo mandada. (Trentino)
- 228) Gli parlano e telefonano spesso. (Italian)  
 229) ?\*I ghe parla e telefona de spes. (Trentino)
- 230) ?Le ho dato un anello e chiesto di sposarmi. (Italian)  
 231) \*G'ho dat n'anel e domandà de sposarme. (Trentino)
- 232) Il mange et boit (French)  
 233) \*Jean le présente a Pierre et envoie a Paris (French)  
 J. it(cl) presents to P. and sends to Paris  
 234) \*On mange de la viande et boit du bon vin (French)

Basing their speculations on the data from Brandi & Cordin (1981, 1989) and Rizzi (1986b), Cardinaletti & Starke (1999) have recently proposed a different view. According to them, French subject clitics are weak pronouns. The empirical evidence discussed in the previous paragraphs should be enough to render skeptical the reader: the mentioned coordination data are not reliable as a structural/ontological indicator. We can demonstrate the point once more showing that Cardinaletti & Starke's analysis unavoidably leads to paradoxical conclusions.

If in virtue of their properties in coordination contexts French subject clitics were really weak pronouns, it is legitimate to expect that similar data be consistent across all forms of weak pronouns. And such an expectation is certainly borne out in the case of Italian *egli*.

- 235) Egli canta e balla.  
 He(weak pr.) sings and dances

Now, dative *loro* is a weak pronoun as well according to Cardinaletti & Starke's classification, but it clearly does not pass the coordination test (even with the *passato prossimo* tense).

- 236) \*Parla loro e chiedi di venire a cena.  
 Speak them(weak pr.) and ask to come for dinner  
 237) \*Ho parlato loro e chiesto di venire a cena.  
 I have spoken them(weak pr.) and asked to come for dinner

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<sup>57</sup> Note the grammaticality of:

- i) L'ha magnà e bevù.  
 He/she(cl) has eaten and drunk

And the strong ungrammaticality of:

- ii) \*Magnelo e beve?  
 Eats-he(cl) and drinks?  
 iii) \*Magna e bevelo?  
 Eats and drinks-he(cl)

Note, however, that the possibility of coordination reemerges in certain contexts that have already been encountered before and that are able to improve grammaticality also in the case of French object clitics (data from Cardinaletti 1991).

- 238) Parlo e parlerò loro con tutta franchezza. (Cardinaletti's 47a)  
I speak and will speak them(weak pr.) frankly
- 239) Non ha fatto altro che parlare e riparlare loro per tutto l'inverno, ma non è riuscito a convincerli. (Cardinaletti's 47d)  
He hasn't done anything else than speaking and speaking them(weak pr.) again the whole winter, but he has not been able to convince them

Again, totally unexpected contrasts arise if we employ the coordination data as an index of typological distinctions. Claiming that *loro* is not a weak pronoun is no way out: there are many independent proofs to such an effect, as detailed in Cardinaletti (1991) and Cardinaletti & Starke (1999). So, *loro* cannot be a resumptive element in CLLD constructions,

- 240) ?\*A quegli studenti, il professore non ha dato loro l'autorizzazione.  
To those students, the professor has not given them(weak pr.) the authorization

it can never double a DP,

- 241) \*Ha dato loro il regalo ai bambini.  
He/she has given them(weak pr.) the present to the kids

and certain adverbs may separate *loro* from the verb.<sup>58</sup>

- 242) Il professore non diede mai loro l'autorizzazione.  
The professor has given never them(weak pr.) the authorization

Very interestingly, all the proofs reported above do not hold in the case of French atonic subject pro-forms, which rather pattern in the clitic category. Our predictable conclusion, then, is that they are precisely what they appear to be, namely clitics.<sup>59</sup>

Let's return for a moment to our description of French as a pro-drop language with obligatory overt clitic doubling of pro. We may wonder why certain differences between Trentino and (standard) French are detectable in this respect.

- 243) \*pro magna. (Trentino)  
244) \*pro mange. (French)
- 245) pro el magna. (Trentino)  
246) pro il mange. (French)

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<sup>58</sup> Observe also the grammaticality of:

- i) Egli spesso mangia formaggio.  
He(weak pr.) often eats cheese

<sup>59</sup> French subject clitics are perfect as resumptive elements in CLLD constructions and they can double DP's in certain varieties of popular and Canadian French (Zribi-Hertz 1994 sustains that in *français avancé* the coordination test fails, possibly invalidating the relevance of the doubling data cited; anyway, complex inversion configurations can perfectly make the same point without being affected by such remarks - see the next note). Finally, consider the following contrast, from Kayne (1975):

- i) \*Il, souvent, mange du fromage.  
ii) Jean, souvent, mange du fromage.  
He(cl)/Jean, often, eats cheese

- 247) El Mario el magna. (Trentino)  
 248) \*Jean il mange. (French)
- 249) \*El Mario magna. (Trentino)  
 250) Jean mange. (French)

Trentino obligatorily doubles full DP's, while French does not. That standard French in certain circumstances requires clitic doubling of subjects, though, is beyond any doubt evident.<sup>60</sup>

- 251) \*Moi mange.  
 252) Moi, je mange.<sup>61</sup>

Furthermore, at least a variety of French allows also clitic doubling of full DP's. It has been studied in detail by Roberge (see Roberge 1986, 1990).

- 253) La fille elle va chanter.<sup>62</sup> (Québec French)  
 The girl she(cl) is going to sing

There is a 'definiteness requirement' on the DP in similar doubling configurations. Notice that this is not true of Trentino subject clitic doubling (but see note 65).

- 254) \*Une fille elle va chanter. (Québec French)  
 255) Na putela la canterà. (Trentino)  
 A girl she(cl) is going to sing

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<sup>60</sup> In (standard) French the clitics which double DP's also surface in Complex Inversion constructions (see among others Kayne 1972 and 1983, Rizzi & Roberts 1989, Sportiche 1998):

- i) Marie mange-t-elle souvent?  
 M. eats she(cl) often ?

Similar data led Kayne to propose that 'all NP's in French will be introduced in the base along with a subject clitic' (Kayne 1972, 90), which is entirely compatible with our analysis. Kayne (1972) is actually the first ancestor of the generalized doubling hypothesis, as Perlmutter (1972) is of the NRP hypothesis. There are many reasons to believe that the overt doubling in Complex Inversion constructions depends on the same causes as those eliciting it in declaratives. Roberge (1986) points out that subject doubling is unaffected by Complex Inversion in the Canadian variety that generally permits doubling of DP's.

- ii) Marie elle mange-tu souvent?  
 M. she(cl) eats you(cl) often?

The invariable clitic *tu* is employed for all persons (see Morin 1979), while subject doubling is the same here as in declaratives. The fact that the subject clitics doubling DP's surface in certain specific circumstances in standard French is an additional proof that such a doubling is always present latently in a null form when no phonological manifestations occur. However, an analysis of the exact triggering conditions relative to the presence of the overt clitic in Complex Inversion is beyond the aim of this chapter. It is worth noting that the behavior of French seems in accord with Renzi & Vanelli's generalization regarding the surfacing of subject clitic pronouns in Northern Italian dialects (Renzi & Vanelli 1983, 139), which states that in interrogative environments at least the same pronouns of declarative environments show up. In other words, in Romance interrogatives it is relatively frequent to observe the appearance of (subject) clitics which would otherwise remain covert, a state of affairs that is certainly not peculiar to French.

<sup>61</sup> The sentence is ambiguous between a Clitic Left Dislocation and a doubling paradigm. See Kayne (2001, 167).

<sup>62</sup> Roberge affirms that this has to be distinguished from dislocation cases, though it is difficult to find clear-cut syntactic tests for doing so. Nevertheless, it is quite evident that if in certain pragmatic circumstances (say, an out-of-the-blue context) standard French does not employ dislocation but Quebec French has clitic doubling, that is a proof of the type we are looking for. Presumably, the intuitions of naïve speakers when comparing their dialect to the standard variety reflect exactly judgments of this sort.

Taking into account just four Romance languages (or dialects/varieties), we end up with the following:

Subject clitic doubling:

	pro <sub>subj</sub>	full DP 'specific'	'non-specific'
Italian	-	-	-
Standard French	+	-	-
Québec French	+	+	-
Trentino	+	+	+

The reader may easily realize that this is exactly the same kind of chart we built before for describing PP Agreement facts.<sup>63</sup> And, again as before, topicality (here, at the D-level) is the relevant variable apparently conditioning the overt doubling configuration.

Assuming the validity of the *generalized clitic doubling* hypothesis, we speculate that Trentino came to possess a lower threshold for *Surface!* than Italian.<sup>64</sup> The different French varieties

<sup>63</sup> Poletto (2000, sec 6.2.1) arrives at substantially identical conclusions on the basis of an extensive survey of Northern Italian dialects.

<sup>64</sup> Whether the presence of an overt clitic is an unquestionable index of a certain structural position (as in Brandi & Cordin 1981, 1989 or in Rizzi 1986b), is now not so sure. All gaps left by extraction are doubled by a clitic and its overt appearance is not necessarily connected to a certain structural position, but rather to the value of pronominality of the clitic itself (which is in turn connected to the informational status of the various structural positions and to the topicality of the arguments at the D-level). The correlation 'presence of clitic'/'preverbal position' is valid in general, but it is only indirect. As such, it could even result wrong in certain, particular cases. One of them is signalled in Brandi & Cordin (1981, 64):

- i) Che ha-la magnà la Maria?
- ii) \*Che ha magnà la Maria?  
What has(-it(cl)) eaten the Mary?

As correctly pointed out in Suñer (1992, 655), the subject here is not (necessarily) dislocated - the sentence is fine in an out-of-the-blue context. And not focal either. It rather seems to us that *la Maria* has the same status it would have as a preverbal subject in a declarative clause, inversion being caused merely by the presence of an interrogative wh-element (see Kuno 1972a, 287 for comparable data from Japanese).

The only *indirect* correlation between presence of clitic doubling and site of extraction might save Rizzi's insight regarding the (apparent) free violation of the that-trace effect in languages that dispose of a postverbal subject position. Data of this sort, which are to be found also in our variety of Trentino, would otherwise be highly problematic:

- iii) Quante dele putele te pensi che le abia parlà col maestro? (Trentino, variety of Trento)  
How many of the girls do you think that they(cl) had(subj) spoken with the teacher?  
(from Suñer 1992, 661)

The following Italian contrasts, however, are not amenable to the same sort of treatment and remain thus unexplained under the assumption that Italian is sensitive to the that-trace effect. In fact, they involve locative (or expletive) *ci*, whose appearance is presumably not connected to the informational value of the postverbal subject.

- iii) Che cosa hai detto che c'era t nella busta?
- iv) ??Che cosa hai detto che t era nella busta? (see Burzio 1986, 128)  
What have you said that (there) was in the envelope?
- v) ??Quale di quelle lettere hai detto che c'era t nella busta?
- vi) Quale di quelle lettere hai detto che t era nella busta?  
Which of those letters have you said that (there) was in the envelope?

present instead a threshold in between the Italian and the Trentino one. There should exist languages whose threshold is even lower than Trentino's, given that it does not generally double postverbal (focal) subjects (see Brandi & Cordin 1981, 1989).<sup>65</sup> Our conclusion is that the evidence in favor of the necessity of the variable 'topicality' in doubling configurations is quite overwhelming.<sup>66</sup>

- 256)       Canterà na putela.  
257)       ??La canterà na putela.<sup>67</sup>  
              (She(cl)) will sing a girl

A final remark. Provided that what we said up to now is correct, a straightforward prediction arises: if a Romance variety has subject clitic doubling, it cannot skip intermediate steps on the scale of topicality. For example, a language having overt doubling procedures for focal but not topical subjects -or similar situations- is not a logical possibility if our account of the facts is on the right track.<sup>68</sup> And, indeed, we do not know of any language or dialect violating this generalization.

To save Rizzi's proposal, one could assume that the partitive *wh*-element is forcefully dislocated in *vi*) and resumed by a *pro*. But this would not work in the case of merely *d*-linked *wh*-elements, which cannot be easily dislocated (cf. sentence number 41) in chapter 2).

- vii) ?Che lettera hai detto che c'era t nella busta?  
viii) Che lettera hai detto che t era nella busta?  
       Which letter have you said that (there) was in the envelope?

<sup>65</sup> A more accurate description reveals a non-monolithic behavior. In our variety post-verbal subjects are preferably without doubling, yet its presence is not ungrammatical. In particular, some contexts easily permit doubling of postverbal subjects, as in the following negative questions:

- i) No dovevelo arivar el Mario?  
   Not had he(cl) to arrive the M.  
   'Shouldn't M. arrive?'  
ii) No avevelo telefonà el?  
   Not had he(cl) phoned him?  
   'Hadn't he phoned?'

Such type of sentences seems to imply a presupposition of existence of the whole questioned event. And it certainly comes at no surprise that such presupposition might also influence the overt doubling of the subject.

In addition, notice that preverbal subjects are not always forcefully doubled. In fact, with certain highly non-specific constituents the clitic results only optionally present (cf. also note 14 in ch. 3). See:

- iii) Enzun (l')è nà a torlo  
      Nobody (he(cl)) is gone to fetch him

<sup>66</sup> Both phasal and non-phasal IS levels are at stake here. This is an additional reason for treating them in a unified way (see chapter 2, in particular section 2.5).

<sup>67</sup> Brandi & Cordin report a configuration in which postverbal (focal) subjects need be doubled compulsorily by an agreeing clitic in Trentino, which we take to be a reliable index of the fact that the clitic is always present, though most of the times phonologically silent. The conditions responsible for its appearance are connected to the simultaneous presence of an object clitic (the effect seems to be the reversal of what Roberts 1993 named 'OCL for SCL' in Valdôtain, where the presence of an object clitic causes the subject clitic to disappear; it is not clear why these 'interference effects' in the surfacing of clitics exist, anyway). See:

- i) La lo canterà na putela.  
   she(cl) it(cl) will sing a girl  
   'A girl will sing it.'

<sup>68</sup> This is identical to Kayne's generalization wrt PP Agreement.

### 13) OBJECT DOUBLING

What happens in Romance when an overt direct object clitic (but no full DP) is present?

- 258) Tu l'as mangé. (French)  
259) L'has magnà. (Trentino)  
260) L'hai mangiato. (Italian)  
It(cl) you have eaten

In analogy to our assumptions about subject clitic doubling we may adopt the view that a pro in base position is doubled by the object clitic, which is either base-generated in some projection of the Infl domain (see Strozer 1976; Rivas 1977; Jaeggli 1982; Borer 1984; Burzio 1986; Roberge 1990; Sportiche 1995, 1998, 1999; Manzini & Savoia 2004) or moved from argumental position (see Kayne 1975 and in particular the subsequent refinements of that account, such as Rouveret & Vergnaud 1980; Quicoli 1980; Kayne 1989b, 1991, 1994; Uriagereka 1995; Torrego 1995, 1998; Belletti 1999 and 2003; Cecchetto 2000).

- 261) Tu l<sub>i</sub>'as mangé pro<sub>i</sub>. (French)

The conditions responsible for the possibility of a null object pronoun would be the reciprocal of the conditions responsible for the overt appearance of its clitic doubling in French, Trentino and Italian (as happens also for French null subjects and subject clitics).<sup>69</sup> Whence superficially either there is a clitic or a full DP. But at a deeper level, both positions would always be filled (see Emonds 1999). This appears to allow for the greatest amount of systematicity and homogeneity in the description of various closely related languages in the Romance area (particularly if one adopts our idea that certain syntactic operations are sensitive to informational variables with threshold-like mechanisms).<sup>70</sup>

There are additional empirical data indicating that such an idea is correct. In particular, many microparametric variations are detectable which would be difficult to account for in a non-ad hoc way without assuming a generalized clitic doubling of objects and a threshold-like mechanism, exactly as in the case of subject doubling.

First of all, consider this instance of object clitic doubling in River Plate Spanish<sup>71</sup> (see Jaeggli 1982, 1986; also Strozer 1976 and Rivas 1977).<sup>72</sup>

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<sup>69</sup> We can reframe such an assertion in this way: whenever the topicality of the null clitic surpasses a certain threshold, it is given morphophonological visibility. The critical value in Italian is reached only by clitics doubling null and dislocated objects, which are the most topical ones.

<sup>70</sup> The mental representation of a sentence containing a null subject and an object clitic in Italian, Spanish, Portuguese, etc. is thus decidedly more complex than what could appear at first sight, if we are right:

- i) L'ho mangiato. (Italian)  
(I) it(cl) have eaten

Pro<sub>i</sub> cl<sub>i</sub> l<sub>k</sub>'ho mangiato pro<sub>k</sub>.

<sup>71</sup> This variety of Spanish is spoken in South America in the area that comprises Argentina, Paraguay, Uruguay and part of Chile.

<sup>72</sup> Some words on so-called Kayne's generalization are in order. First of all, it does not appear entirely correct: there are a bunch of counterexamples in the literature, such as inanimate objects doubled in the absence of any marking in certain South American varieties of Spanish - Suñer (1988, 399), or clitic doubling in Old Spanish - Rivero (1991, 207). Outside Romance, Slavic languages and Greek seem other problematic cases (while we do not consider CLLDed direct objects in Romance as a proper falsification). Nevertheless, Kayne's observation that clitic doubling and introduction of an object by means of a marker *correlate* is certainly correct (in Romance, at least). This holds also -and especially, we would like to say- in the realm of indirect objects. For example, colloquial Italian makes wide use of clitic doubling for indirect objects (but not for direct ones), which are introduced by the prepositional marker *a* - standard

- 262) Lo vimos a Guille. (River Plate Spanish)  
Him(cl) we saw G.

Such a sentence is impossible in standard Spanish.

- 263) \*Lo vimos a Guille. (Spanish)

Jaeggli pointed out some restrictions on the possibility of (optional, but preferred) doubling for direct objects in River Plate Spanish. One of them is that the doublee needs be specific (exactly as the doubled subjects of Quebec French and of some regional varieties spoken in France).

- 264) \*La vimos a una chica. (River Plate Spanish)  
Her(cl) we saw a girl

Indirect objects in Spanish (in whatever variety) are instead insensitive to the specificity of the doublee.<sup>73</sup>

- 265) No le regalaron libros a ningún chico. (Spanish)  
They him(cl) didn't give as a present books to no boy

Suñer (1988, 396) notices that modified indefinites are fine in direct object doubling configurations in Porteño Spanish, while Schmitt (1998, 270 note 32) says that it is not so for Cordoba Spanish (both of them spoken in Argentina). Suñer (1989) also reports that in a variety of Spanish from Ecuador even specific bare indefinites may be doubled.

- 266) Le oían a una niña. (Quiteño Spanish)  
Her(cl) they heard a little girl

There seem to exist very fine-grained distinctions in the possibility of overt direct object doubling for the various varieties of South American Spanish. This is entirely compatible with our proposal and suggests once more its correctness.<sup>74</sup>

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Italian has the marker but not the doubling. What should explain such a correlation is presently not well understood. Speculations have been advanced in the past on the necessity of supplying the DP with an independent case, because that assigned through the verb would be absorbed by the clitic. But such a general hypothesis is, as noted, empirically problematic in some cases. Furthermore, it does not explain the presence of a marker in the absence of any doubling, which is not an unfrequent situation.

<sup>73</sup> Not completely insensitive. As noted in Suñer (1988), 'unqualified bare nouns' impede the doubling:

- i) (\*Les) donaré todos mis bienes a museos.  
I will donate all my possessions to museums.

<sup>74</sup> Interesting data from certain varieties of South American Spanish (see Uriagereka 1995) and certain Northern Italian dialects in the lower part of Piemonte (see Benincà 1986) suggest that in clitic climbing there might always be two clitics doubling a pro.

- i) Los vamos a verlos. (Chile Spanish)  
Them(cl) we will see them(cl)

One would then accept the possibility of clitic tripling (in climbing configurations and, at least for the Piedmontese varieties at stake, also in presence of auxiliaries). The prediction is that sentences such as this should be possible in Chile Spanish:

- ii) Los vamos a verlos a ellos.  
Them(cl) we will see them(cl) them

Italian and French would require overt clitic doubling of direct objects only with dislocation/ $pro_{obj}$ . Indeed, these are the most topical values available to an object.<sup>75</sup>

- 267) Gianni, \*(l)'ho visto.  
 268) \*(L)'ho visto  
 (G.), Him(cl) (I) have seen

It is very difficult to find cases of *overt* generalized clitic doubling for direct objects in Romance. But it comes as no surprise: almost the same happens for subjects when one takes into account also the postverbal (focal) position. Since direct objects have a default focal interpretation, such a situation is expected and confirms to the general dependency of doubling on IS variables.<sup>76</sup>

The behavior of indirect objects appears stranger: they tolerate overt generalized clitic doubling in many languages. Consider for instance the evolution of Italian. Written/standard Italian does not allow the doubling, even in CLLD contexts:

- 269) (\*Le) ho detto di venire a Maria. (written Italian)  
 Her(cl) (I) have told to come to M.  
 270) A Maria, (?\*le) dissi di venire. (written Italian)  
 To M., her(cl) (I) have told to come

Colloquial Italian completely overcame such restrictions and tends to employ the doubling for both dislocated and (in some varieties, at least) non-dislocated indirect objects.<sup>77</sup>

- 271) Le ho detto di venire a Maria. (colloquial Italian)

Therefore, in Italian and standard Spanish the lower clitic would always be null when restructuring applies, but still present. Conversely, we may assume that French and most Northern Italian dialects (which generally lack clitic climbing) have a null clitic on the higher verb in restructuring configurations.<sup>75</sup> The existence of  $pro_{obj}$  is also confirmed by data of this type (from Rizzi 1986a):

- i) La buona musica riconcilia  $pro$  con se stessi.  
 Good music reconciles with oneself  
 ii) Un dottore serio visita  $pro$  nudi.  
 A serious doctor visits nude(pl)

The null objects may receive only an Arb interpretation. In Italian there is no impersonal 3rd person object clitic (counterpart to the impersonal 3rd person subject clitic *si*, on which see Cinque 1988b, D'Alessandro 2004), and because of such a morphological gap in the clitic paradigm  $pro_{obj}$  cannot be doubled. As shown by Rizzi through a battery of syntactic tests, a null object has to be in base-position in the Italian sentences above.

Note that more colloquial impersonal constructions employ the 2nd person singular clitic and present obligatory clitic doubling of  $pro_{obj}$  in those same examples:

- iii) La buona musica \*(ti) riconcilia  $pro$  con te stesso.  
 Good music reconciles you(cl) with yourself  
 iv) Un dottore serio \*(ti) visita  $pro$  nudo.  
 A serious doctor visits you(cl) nude(sg)

<sup>76</sup> More or less the same insight characterizes Suñer's (1992) extension of her Matching Hypothesis (see Suñer 1988) to the subject clitics of Northern Italian dialects.

<sup>77</sup> Cinque (1990, ch. 2 note 4) asserts that such doubling is legitimate only in presence of another clitic:

- i) Gliel'ho detta a suo fratello<sub>i</sub>.  
 Him(cl)it(cl) (I) have told to his brother

But many varieties of colloquial Italian (especially those from Southern Italy) are more permissive, and accept the doubling also in presence of full DP's or in the absence of any other object. French apparently allows only the doubling of tonic pronouns (see Kayne 1994, 80 and note 21 in ch. 7).

272) A Maria, le ho detto/dissi di venire. (colloquial Italian)

No definiteness effects are noticeable (as in all Spanish varieties we are aware of).

273) Le ho detto di venire a un'amica. (colloquial Italian)  
Her(cl) (I) have told to come to a friend

In Trentino, the doubling of indirect objects is present as well and obligatory (Cordin 1993).

274) No \*(g')ho dat gñent a enzun. (Trentino)  
(I) her(cl) have given nothing to anybody

We may establish a hierarchy in the possibility of *overt* generalized clitic doubling wrt the various arguments of a verb (from the most reluctant to the most prone one):

direct objects - subjects - indirect objects

The situation partly resembles what happens with *quale/which* relativization in Italian and French (see Kayne 1976; Cinque 1978, 1981, 1988):<sup>78</sup>

- 275) \*Il ragazzo il quale Maria conosce t ... (direct object relativized)  
The guy whom M. knows
- 276) ??/\*Il ragazzo il quale t ama Maria ... (subject relativized)  
The guy who loves M.
- 277) Il ragazzo al quale Maria ha dato un regalo t ... (indirect object relativized)  
The guy to whom M. gave a present

Similar judgments hold for *quale* in pied piping configurations:

- 278) ?\*Il ragazzo il fratello del quale Maria conosce t ...  
The guy the brother of which M. knows  
(cf. Il ragazzo del quale Maria conosce il fratello t)  
The guy of whom M. knows the brother
- 279) ??Il ragazzo il fratello del quale t ama Maria ...  
The guy the brother of which loves M.
- 280) (?)Il ragazzo al fratello del quale Maria ha dato un regalo t ...  
The guy to the brother of which M. gave a present

The difference between subjects and objects in relative clauses with *quale* suggests that relativization is sensitive to the value of topicality of the clitics doubling them (which in turn depends, as is now well-known, on both the type of extraction and the type of extractee).<sup>79</sup> Subjects are more topical than objects, and the relativized element gets a higher value of topicality in appositives than in restrictives.<sup>80</sup>

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<sup>78</sup> Appositive relative clauses behave differently. We will get back to the issue shortly.

<sup>79</sup> Note that *quale* presents an independent restriction (not shared by *cui*) which limits its use only to third persons. See Cinque (1988, 448).

<sup>80</sup> These data regarding the presence of the Definiteness Effect in English relatives show quite convincingly the point:

- i) ??The men who there were in the room were eating guavas.  
ii) \*The men, all of whom there were in the back room, ate guavas.  
(from Safir 1982)

Consider in addition the restriction on the specificity of the head (in our terms: its topical value). Restrictives cannot modify a proper name or a personal pronoun (and in general all *identified definites*), whereas appositives perfectly can (see also chapter 2 and 3).

281)	*Il ragazzo il quale Maria conosce t ... The guy who Maria knows ...	RESTRICTIVE, OBJECT
282)	??/*Il ragazzo il quale t ama Maria ... The guy who loves Maria ...	RESTRICTIVE, SUBJECT
283)	??Mario, il quale Maria conosce t, ... Mario, whom Mary knows, ...	APPOSITIVE, OBJECT
284)	Mario, il quale t ama Maria, ... Mario, who loves Mary, ...	APPOSITIVE, SUBJECT

In certain registers, the distinctions in grammaticality become more subtle. A bureaucratic (archaic) style making use of subjunctive mood renders sentences similar to 282) fully grammatical (Cinque 1981, 1988). We speculate that such a conservative register reflects older stages of Italian, in which *quale* was less sensitive to the pronominality of the clitic (the threshold of the process being higher). This is confirmed by the observation that object restrictive relatives are still worse than subject ones also in such a bureaucratic style (Cinque 1981, sec 1.5, example 30a vs 30b).

A possibility to be explored is that indirect objects do not present an obligatory generalized clitic doubling in Romance and thus they have to be set apart from subjects and direct objects. The empirical motivation in support of a similar claim would also be found in the previous (standard) Italian data that pointed out the impossibility of floating quantifiers with cliticized indirect objects: asymmetrical behaviors are expected if the mechanism governing the doubling of indirect objects is different. In particular, their (null or overt) doubling would be limited (to some languages and/or constructions) and not generalized.

Such an analysis may be extended to the relativization data above, under the assumption that subjects and direct objects are obligatorily relativized from clitic position, whereas the other complements of the verb from base-position (or either from base-position or clitic position, whenever there exists one, shifting to the first strategy when the second fails). Put another words, the arguments that present obligatory generalized clitic doubling (and only them) would force relativization from clitic position when *quale* is adopted. This is consistent with the following facts:

285)	il ragazzo al quale hai parlato ... the guy to whom you spoke
286)	il ragazzo sul quale hai fatto pettegolezzi ... the guy about whom you gossiped
287)	il ragazzo col quale hai parlato ... the guy with whom you spoke
288)	il ragazzo dal quale ti sei separata ... the guy from whom you parted

Another possibility is that relativization with *quale* (proceeding or not from clitic position), is sensitive in some way to the value of pronominality of the clitics doubling *whatever* complement (still hypothesizing that indirect objects are not obligatorily doubled in Italian and thus insensitive to the clitic value of pronominality in its absence).<sup>81</sup> At first sight, this is supported by data on the clitics *ne* and *ci* pronominalizing partitives and locatives in standard Italian:

289)	*Il formaggio del quale ne hai assaggiato un pezzo ... The cheese of which of-it(cl) you tasted a piece
290)	??Questo formaggio, del quale non ne hai assaggiato che un pezzo, ... This cheese, of which of-it(cl) you tasted just a piece,
291)	Il formaggio del quale hai assaggiato un pezzo ... The cheese of which you tasted a piece

<sup>81</sup> Both options would be at odds with data from French (see examples 2-5).

- 292) Questo formaggio, del quale non hai assaggiato che un pezzo, ...  
This cheese, of which you tasted just a piece,
- 293) \*La casa nella quale non ci sei mai venuto prima d'ora ...  
The house in which in-it(cl) you have not yet come until now
- 294) ??Questa casa, nella quale non ci sei mai venuto prima d'ora, ...  
This house, in which in-it(cl) you have not yet come until now,
- 295) La casa nella quale non sei mai venuto prima d'ora ...  
The house in which you have not yet come until now
- 296) Questa casa, nella quale non sei mai venuto prima d'ora, ...  
This house, in which you have not yet come until now,

A more careful analysis reveals that it is rather the other way around: overt *ne* and *ci* are sensitive to the value of topicality of the arguments they double. Observe that such a doubling is completely natural (or even almost obligatory) in certain contexts implying a higher value of topicality for the doublee,

- 297) Di quel formaggio, ?\*(ne) ho mangiato un pezzo.  
Of that cheese, I of-it(cl) have eaten a piece
- 298) In quella casa, non (ci) sono mai stato.  
In that house, I in-it(cl) have never been

and again strongly dispreferred in others, where the doublee is focal.

- 299) Di cosa (\*ne) hai mangiato un pezzo?  
Of what (of-it(cl)) have you eaten a piece?  
(but cf. Di quale di quei formaggi (?ne) hai mangiato un pezzo?)  
Of which of those cheeses (of-it(cl)) have you eaten a piece?
- 300) Dove non (\*ci) sei mai stato?  
Where (there(cl)) haven't you ever been?  
(but cf. In quale di quelle case non (?ci) sei mai stato?)  
In which of those houses (there(cl)) haven't you ever been?

The pattern is similar to what one finds with direct objects and subjects cross-linguistically in Romance and it leads us to think that in Italian there is also a generalized clitic doubling of partitives and locatives. The surfacing of the clitics would be subject, as usual, to a threshold-like mechanism (with the threshold of *ne* lower than that of *ci*, see 297) vs 298)). The problems in 289)-290) and 293)-294) are hence connected to the surfacing possibility of the null clitic and not to relativization per se. If this is true, the data appear not to support the idea that *quale* is generally sensitive to the value of pronominality of the clitics (obligatorily) doubling complements (see 291) and 295), in addition to 277)/285)). It seems that only prepositionless complements are relevant to such a (possible) generalization (in a way that reminds us of a restriction on *che* relativization in standard Italian; see Cinque 1981, based on Kayne 1976, and Suñer 1988, 337). This is also consistent with our previous data about indirect objects, without assuming that they are *not* obligatorily doubled in Italian. Our tentative conclusion, then, is that *only prepositionless doubled complements have to be relativized from clitic position when quale is adopted* (therefore becoming sensitive to the clitic value of pronominality), though why it should be so is not at all obvious.

The doubled complements introduced by prepositions are different in various respects from those that are prepositionless. Relativization, surfacing of the doublers, licensing of floating quantifiers: these are some of the domains in which such a dichotomy (often, but not compulsorily) becomes evident. Still, we argue that in spite of the complications we reported indirect objects, partitives and locatives participate to the generalized clitic doubling paradigm typical of Romance languages, in addition to subjects and direct objects.<sup>82</sup>

<sup>82</sup> Romance languages are not peculiar in this regard: certain of their traits are detectable in so-called polysynthetic languages. Baker (1996, 18), adopting and refining Jelinek's *pronominal argument*

#### 14) THRESHOLD SPLITTING

Consider now these instances of object clitic doubling in French and Trentino, and their ungrammatical (standard) Italian counterpart:<sup>83</sup>

- 301) Jean me connaît moi. (French, see Kayne 2001)  
302) \*Jean connaît moi.
- 303) El Zani el me conose mi. (Trentino, see Cordin 1993)  
304) \*El Zani el conose mi.
- 305) \*Gianni mi conosce me.<sup>84</sup> (Italian)  
306) Gianni conosce me.

John (me(cl)) knows me

It suffices to employ the third person, instead of the first or the second one, to observe a different pattern of results:

- 307) Jean la connaît elle. (French, see Kayne 2001)  
308) \*Jean connaît elle.
- 309) \*El Zani el la conose ela. (Trentino, see Cordin 1993)  
310) El Zani el conose ela.
- 311) \*Gianni la conosce lei. (Italian)  
312) Gianni conosce lei.

John (her(cl)) knows her

The thresholds for overt object clitic doubling of French, Italian and Trentino become different as soon as we take into account pronouns. We can schematize the data as follows:

French:  
object DP's= no overt doubling  
object pronouns= doubling  
null objects= doubling

---

approach to non-configurationality (Jelinek 1984, but see Austin & Bresnan 1996), distinguishes between two types of polysynthetic languages: those that have noun incorporation and those that do not. In these last ones 'arguments must be agreed with, but incorporated roots are not permitted' (a remark which is obviously true of Romance varieties as well). He calls them 'non-configurational head-marking languages'. According to Baker, in both types of polysynthetic languages DP arguments are always doubled by null pronominals (pro), which are distinct from the agreement morphology on the verb (if there is any).

The overt realization of agreement and/or clitics (and/or case) often permits non-configurationality, though we argue that this does not imply that configurational languages cannot be of a head-marking type. Romance varieties seem to be a case in point: if it is true that they employ systematically null clitic doubling, their 'structural genius' (as Baker, citing Sapir, intuitively defines the notion of macroparameter) does not 'lie elsewhere'. This casts serious doubts on Baker's idea that overt DP's are always clitic left dislocated in Mohawk, an hypothesis which seems anyway difficult to sustain independently from our considerations so far. In fact, Baker pretends to use the structural properties of CLLD in Romance without considering its informational properties, a path which seems a priori flawed. Actually, the very notion of macroparameter is called into question: if both Jelinek/Baker's analysis and ours are correct, a Mohawk or Warlpiri sentence and an Italian or French sentence do not seem as different as previously thought from a syntactic point of view (see La Fauci 1997).

<sup>83</sup> Standard Spanish is like French in this respect.

<sup>84</sup> Sentences of this type are possible only in strongly colloquial Italian.

Trentino:

object DP's= no overt doubling  
object 3rd person pronouns= no overt doubling  
object 1st and 2nd person pronouns= doubling  
null objects= doubling

Italian:

object DP's= no overt doubling  
object pronouns= no overt doubling  
null objects= doubling

Italian systematically masks clitic doubling for all kinds of overt objects, but French and Trentino reveal it in presence of (some) pronominal forms. An explanation which maintained that the doubling is limited only to the visible cases would suffer of certain complications: the cross-linguistic and inter-linguistic variability is huge, and such an account should assume systematically syntactic differences that appear after all unmotivated. On the contrary, the idea of a generalized clitic doubling unifies all Romance languages and their considerable amount of synchronic (and diachronic) microvariation. This is simply a restatement of our general view on doubling, but now we should ask ourselves: is it the case that a single threshold is operative wrt object doubling, for every one of the languages cited? Namely, do we have to assume that 1st and 2nd person pronouns are inherently more topical than 3rd person pronouns, and that is why we observe data like the Trentino ones?

The answer may seem to be affirmative.<sup>85</sup> But a more careful examination of the facts reveals that the situation is different. To illustrate the point let us introduce some other data about PP Agreement in Italian and about subject clitic doubling in Trentino:

313) PP Agr (Italian)<sup>86</sup>

Mi hanno vista/visto	Me(cl) have seen(+agr/-agr)
Ti hanno vista/visto	You(cl) have seen(+agr/-agr)
La hanno vista/*visto	Her(cl) have seen(+agr/-agr)
Ci hanno viste/visto (*visti)	Us(cl) have seen(+agr/-agr)
Vi hanno viste/visto (*visti)	You(cl) have seen(+agr/-agr)
Le hanno viste/*visto (*visti)	Them(cl) have seen(+agr/-agr)

314) Subject clitic doubling (Trentino)

Mi magno	I eat
Ti magnes <sup>87</sup>	You eat
El *(el) magna	He he(cl) eats
Noialtri magnan	We eat
Voialtri magna	You eat
Lori *(i) magna	They they(cl) eat

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<sup>85</sup> The hearer and the speaker (the first two persons) are implicitly part of the communicative situations in which languages are used, and so more readily topical than 3rd persons. This is widely recognized in the functionalist literature, where the statement is part of the Animacy Hierarchy (see Nichols 2001 and references cited there).

<sup>86</sup> In all persons, we always assume a feminine referent for the clitic.

<sup>87</sup> Note incidentally that our variety of Trentino violates Renzi & Vanelli's generalization 1) (Renzi & Vanelli 1983). Such a generalization states that if a language has at least an obligatory subject pronoun, it is in the second person that it will be found. Poletto (2000) shows that 'number clitics' often violate such a generalization, which is instead always respected by the class of subject pro-forms she calls 'person clitics'.

The process of PP Agreement is sensitive to the topicality of the clitic that triggers it and the same can be said of the surfacing of subject clitics, which are sensitive to the value of topicality of the arguments they double. We arguably demonstrated both of these claims before.

Now, if we are right about that, the data above are problematic under the assumption that a single threshold exists for all persons. In fact, more topical pronouns would trigger optionally a process of PP Agreement, which is obligatorily triggered by less topical ones (violating Kayne's generalization).<sup>88</sup> 1st and 2nd person pronouns impede also subject clitic doubling in our variety of Trentino, which is instead compulsory for 3rd person pronouns.

Either the picture we presented is completely wrong, or rather one is in front of a *threshold splitting* paradigm. We believe this second alternative to be the correct one. The idea is that the various persons should not be treated as members of the same group, otherwise paradoxical situations arise. This is also confirmed by diachronic data. Uriagereka (1995) briefly summarizes the question: 'whereas 1st and 2nd person clitics existed as pronouns in Latin, 3rd person clitics are a vernacular creation springing from demonstratives'.<sup>89</sup> It is thus not surprising that 1st/2nd and 3rd persons often possess different thresholds for the syntactic processes that depend on triggering variables.

The phenomenon of threshold splitting is widely attested in any case. We will just cite a couple of other examples (not related to pronouns) in order to show its spreading.

In Cordoba Spanish (Schmitt 1998) there is optional doubling of all (definite) direct objects.

- 315) Toqué la sonata.  
 316) La toqué a la sonata. (Cordoba Spanish)  
 (It(cl)) (I) played the sonata

In River Plate Spanish the distinction animates vs inanimates is instead effective, and only the former allow clitic doubling of direct objects (Jaeggli 1982).

- 317) \*La toqué (a) la sonata. (River Plate Spanish)

Animacy is thus a variable that may count as well in determining threshold splits.

Manzini & Savoia (1999) affirm that certain Ladin dialects of the Dolomitic area of Italy are characterized by conditions intermediate between those of typical Northern Italian dialects and those of French wrt the doubling of subjects. The dialect of Colfosco (Val Badia) is, they say, like a Northern Italian dialect in the 1st and 2nd person singular (cooccurrence clitics-strong pronouns), and like French in the 3rd, impeding the cooccurrence clitic-full DP but requiring obligatorily the clitic in pro-drop contexts (there is a single form which works both as a clitic and as a tonic pronoun and it is never doubled). This is actually not true, since French has obligatory clitic doubling of tonic pronouns for all 3 persons and our variety of Trentino (taken as representative of Northern Italian dialects, which anyway exhibit varied patterns) does not double the 1st and 2nd persons.<sup>90</sup> What is interesting is the fact that Colfosco Ladin presents a quite rare threshold splitting phenomenon, conditioned this time by number: in the 1st and 2nd

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<sup>88</sup> As observed in Kayne (2001, 176), PP agreement passes from optional to marginal/ungrammatical in clitic climbing configurations for 1st and 2nd persons (when the prepositional complementizer *di* intervenes):

i) Vi ho ??finiti/finito di criticare  
 You(cl) (I) finished(+agr/-agr) to criticize

3rd persons are not insensitive to clitic climbing, but it is more difficult to influence agreement possibilities there (maybe because agreement is obligatory for 3<sup>rd</sup> persons, and not merely optional, in non-climbing environments; see 109-112 and note 27).

<sup>89</sup> See Wanner (1987) for details.

<sup>90</sup> The Ladin variety of Colfosco is thus less similar to Northern Italian dialects than French from this point of view.

person *plural* no subject clitic ever surfaces (this is in addition to a more ‘standard’ person split).

Clitic doubling of (pronominal) subjects in Colfosco Ladin:

	singular	plural
1st	doubling	<i>no doubling</i>
2nd	doubling	<i>no doubling</i>
3rd	no doubling	no doubling

Many languages possess grammatical splits exhibiting differential thresholds for the same operations of grammar, conditioned by some ‘splitting variable’ (person, number, gender, animacy, etc). Such a fact should be taken into account in order to avoid hasty conclusions about the syntactic procedures under consideration. This is clearly not limited to clitic doubling and agreement in Romance: case assignment in many ergative languages is also subject to similar splits (see Dixon 1994), which are then detected independently from the position one can assume wrt the phenomena described in this chapter.

## 15) OVERT CLITICS AND PRONOMINALITY

All those cases in which a doubling is always obligatory are accounted for postulating a very low threshold for the *Surface!* procedure. But this implies that *an overt clitic may have different values of pronominality* (exactly as a null clitic), which is something particularly evident when thresholds come to be very low. In this connection, notice that obligatory clitic doubling and generalized PP Agreement are two faces of the same coin: they represent a syntactic process which is (or has become) apparently insensitive to the topicality/value of pronominality of the element that triggers it, simply because the threshold of the process is too modest to reveal what it depends on. Only diachronic and microparametric analyses may reveal the true nature of the process in those situations.

## 16) SURFACE! AND AGREE!

Clitics often work as agreement markers. For example, Trentino (contrary to Italian) does not possess number agreement on the verb for the 3rd persons, which are the only persons obligatorily doubled by a clitic (and it is precisely clitic doubling that permits to distinguish them, signalling number and also gender of the subject):

- 318) El Mario *l'*ha magnà i canederli.  
the M. he(cl) has eaten the canederli
- 319) La Maria *la/l'*ha magnà i canederli.  
The M. she(cl) has eaten the canederli
- 320) El Mario e el Bepi *i* ha magnà i canederli.  
The M. and the B. they(cl, ms) have eaten the canederli
- 321) La Maria e la Bepina *le* ha magnà i canederli.  
The M. and the B. they(cl, fm) have eaten the canederli

If our analysis is correct, the same can be said of French subject clitics, which permit to recover the  $\Phi$  pheatures of the verb in the absence of (overt) agreement processes and thus may legitimate pro (in Chomsky’s 1981 sense).<sup>91</sup>

Notwithstanding, we refuse the idea of conflating Agree! and Surface! under a common procedure, for both of them are required at the same time in many circumstances.

<sup>91</sup> We can maintain that whenever a language does not dispose of neither overt clitics nor agreement, it truly becomes a non-pro-drop language (Brazilian Portuguese seems to be a case in point in the Romance family).

CLLD in Italian:

- 322) I ragazzi, **li** ho visti.  
The guys, (I) them(cl) have seen(+agr)

Subjects of unaccusatives in Trentino:

- 323) **I** è arivadi ades.  
They(cl) is arrived(+agr) now

Therefore, we will continue to consider them two separate operations of syntax.

## 17) SUBJECT-VERB AGREEMENT

Data from many Romance varieties support the view that the agreement between the subject and the verb is also based on the mechanisms described in this chapter. In particular, focal postverbal subjects tend very often to neutralize its presence. This happens, for instance, in Genovese (see Browne and Vattuone 1975), Fiorentino (Brandi & Cordin 1981, 1989), Modenese (Safir 1985), Piedmontese (Burzio 1986) or French (Kayne & Pollock 1978).<sup>92</sup> In all the cited cases an expletive clitic sits in preverbal position and no agreement shows up on the verb.

In Trentino the picture is partly different, since there is no expletive clitic in inversion contexts:<sup>93</sup>

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<sup>92</sup> It is very encouraging to observe that there are Romance varieties which distinguish between definite and indefinite postverbal subjects (replicating the continuum-like pattern of data that we encountered analyzing argument doubling and PP agreement). So, in some Northwestern Catalan dialects, only definites trigger agreement on the verb (see Rigau 1991).

- i) Ha/\*Han vingut més turistes.  
Has/have come more tourists  
ii) \*Ha/Han vingut els turistes.  
Has/have come the tourists  
'More/the tourists have come.'

<sup>93</sup> Brandi & Cordin (1981) report one instance of clitic expletive in Trentino, which surfaces only in particular contexts involving the verb *eser*/be, as in:

- i) L'è meio che nen.  
it(cl) is better that (we) go  
'We better go.'  
ii) L'è sta ela che la m'ha domandà de dirghelo.  
It(cl) is been her that she(cl) me(cl,dat) has asked to tell him(cl) that(cl)  
'It was her that asked me to tell him about that.'

However, this is not true for all persons (note also the obligatory presence of gender agreement on the participle).

- iii) (\*L')eres sta/stada ti?  
it(cl) were been(m/f) you  
'Was it you?'  
iv) (\*L')ero sta/stada mi.  
it(cl) was been(m/f) I  
'It was me.'

In addition, in sentences such as ii) above *l'* may be ambiguous between a true expletive and a clitic doubling the postverbal subject. Witness the (dispreferred) possibility of:

- v) L'è stada ela.  
She(cl) is been(f) her

- 324) Ven i putei.  
 325) \*El ven i putei  
 (It) come the guys

Subject-verb agreement does not generally show up either.

- 326) È vegnù le putele.  
 327) ?\*Le è vegnude le putele.  
 (They(cl)) is come the girls

A similar situation characterizes Brazilian Portuguese, which has a limited possibility of inverting the subject (it is basically admitted only with unaccusative verbs) but does not employ any overt expletive.<sup>94</sup>

- 328) Chegou os livros que eu ped  
 arrived the books that I asked  
 (from Belletti 2003)

As Belletti puts it, citing Figueredo (1996), ‘the much preferred option here has not phi-feature verbal agreement’ (see also Kato 2000).

An analysis of the absence of agreement in configurations of this type is necessarily connected with an analysis of inversion. Our aim consists in trying to cover the generality of the data, reaching at the same time the maximum degree of homogeneity in the description of the various Romance languages and varieties.

There are two theoretical desiderata that we retain to be in the foreground:

- a) arriving at a coherent explanation of the structural configuration that underlies the inversion of the subject in Romance
- b) understanding the nature of the subject-verb agreement process, comparing it to the object-PP Agreement process and possibly unifying the two mechanisms

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‘It has been her.’

Maybe an expletive surfaces also in the (quasi-argumental) subject positions of weather verbs, albeit it is difficult to decide whether *el* is a clitic which doubles *pro* or a true expletive in such a case.

- vi) El diluvia.  
 It rains

The occasional surfacing of expletives in Trentino (see i) and ii), maybe also vi)) suggests that languages which do not (generally) display overtly these elements possess them in their morpho-phonological inventory in a null form.

<sup>94</sup> Since Brazilian Portuguese is not a pro-drop language, postulating a direct correlation between the pro-drop parameter and the availability of null expletives cannot be correct. Consider in addition the fact that Fiorentino, Modenese and Genovese are universally treated as pro-drop languages, but employ overt expletives in inversion structures: the alleged generalization is problematic in both directions. Similar remarks are in order for another related generalization: it has been often taken for granted in the past that the possibility of ‘free’ inversion inexorably stems from rich inflection and from the pro-drop parameter (Chomsky 1981, Jaeggli 1982, Rizzi 1986b). But such a statement is not correct, as underlined in Safir (1982/1985, 1986b). European Portuguese is a pro-drop language with rich inflection but has very limited possibilities of (non-contrastive) inversion, which are comparable to *there/il* sentences in English and French (Perlmutter 1976, Chao 1980, Zubizarreta 1982). Still, it is quite apparent that there exists a substantial correlation between richness of inflection and availability of so-called ‘free inversion’ or null expletives, for reasons still to be clarified properly.

As to the first point, we substantially follow Rizzi (1982) in his insight that a (null or overt) expletive is always in preverbal position in inversion contexts (see also Burzio 1986). Such an option permits to subsume the largest number of data under a single configuration, being compatible with the EPP (or analogous requirement that every sentence have a subject in a particular structural position).<sup>95</sup>

- 329) *Expl* sono arrivate tre ragazze. (Italian)  
*Expl* è arivà tre putele. (Trentino)  
*Gl'*è venuto tre ragazze. (Fiorentino)  
*Il* est arrivé trois femmes. (French)  
*Expl* is/are arrived three girls

Turning to the second point, we depart from the classic explanation which postulated a) coindexation of the null expletive with the subject and b) a special device that transmits (abstract) Case to the postverbal subject. There is no need of similar stipulations assuming that a clitic doubles obligatorily every subject in Romance languages.<sup>96</sup>

Agreement between the verb and the subject could be mediated by the (null or overt) clitic too: this is a way of unifying in a single mechanism all types of agreement in Romance. A result which is theoretically more than welcome (trigger and verb are italicized).

- 330) *Expl* *cl<sub>i</sub>* sono arrivate tre ragazze<sub>i</sub>. (Italian)

A preverbal subject would elicit the agreement of the verb by means of identical modalities.

- 331) Tre ragazze<sub>i</sub> *cl<sub>i</sub>* sono arrivate. (Italian)

The idea that subject clitics trigger agreement permits also to understand why Agr is sensitive to the informational status of the subject, since the value of topicality of those clitics depend exactly on it. The divergences in subject-verb agreement between, say, Italian and French would stem from the different thresholds possessed by the two languages for this particular kind of *Agree!*.

## 18) MORE ON POSTVERBAL SUBJECTS

We will conclude this chapter reviewing an account of inversion recently suggested in the literature which bears some resemblances to ours. Belletti (2003, 12) advances a proposal partly similar to what has been said above, though she adopts a pronominal pro (and not a clitic+expletive) in the subject position of inversion structures. Furthermore, in note 24 of her paper she states ‘I assume that sentences with a preverbal subject ... do not involve a doubling analysis’, which is obviously not compatible with our view. In note 33, after noticing the ungrammaticality of ‘\**Lui verrà Gianni*’<sup>97</sup> (‘He will come Gianni’), Belletti proposes a

<sup>95</sup> More recent works, following the seminal considerations contained in Benincà (1988), underline the relevance of other variables in permitting postverbal subjects in out-of-the-blue contexts. In particular, the (overt or covert) presence of a loco-temporal argument would be instrumental to the possibility of interpreting felicitously sentences with postverbal subjects in such unmarked situations (see Saccon 1992, Pinto 1997, Tortora 1997 and 2001).

<sup>96</sup> Abstract case (or whatever feature needs be assigned to a subject in preverbal position, if any) would be simply transmitted to the clitic coindexed with the postverbal DP, without any rightward copying procedure. Many technical implementations are possible here. See Safir (1985) for a formalization (though he does not assume generalized clitic doubling of arguments in Romance, as we do, and some adaptations are therefore unavoidable).

<sup>97</sup> This constitutes an (illicit) example of an Italian construction that Belletti names SPD (strong pronoun doubling), in which a preverbal full DP (or, rather marginally, tonic pronoun) is doubled by a tonic pronoun in postverbal position showing some sort of contrastive flavour:

i) Gianni<sub>i</sub> verrà lui<sub>i</sub> (piuttosto di far venire Maria al posto suo).

constraint to rule out sentences of that sort. The constraint she arrived at is (note that ideas of this sort are explored in a detailed way in chapter 6):

- 332) Topic (or topic-like) cannot be “less informative” than Focus, if they are related. (Belletti’s 38)

Belletti then adds: ‘As we have proposed that subject inversion structures are doubling structures involving a personal small “pro” moved to the preverbal subject position, the proviso must be added to the discourse constraint in (38) that it only refers to “overt” constituents’. But such a constraint certainly applies to (covert) pro too (witness 334); see also chapter 6 for more detailed empirical evidence), whence Belletti’s analysis of inversion structures (see 333)), not respecting the cited informational principle, would apparently result difficult to maintain. A postverbal subject is focal, whereas a preverbal subject pro is always associated to strong topicality in Italian. The two informational requirements seem to be intrinsically incompatible.

- 333) Pro<sub>i</sub> sono arrivati i ragazzi<sub>i</sub>.  
Pro are arrived the boys
- 334) \*Pro<sub>i</sub> sono arrivati ed i ragazzi<sub>i</sub> hanno mangiato.  
Pro are arrived and the boys have eaten

Note, however, that clitics violate exactly the same constraint when they double postverbal subjects.<sup>98</sup> On the other hand, they tend to respect it in non-doubling configurations:

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Gianni will come he (rather than obliging Maria to come in his place).

We are not sure this is really an instance of doubling, though. It might well be that the subject is dislocated and instead of a preverbal pro a postverbal tonic pronoun acts as resumptive element (we do not consider resumptive elements in CLLD as proper instances of doubling).

- ii) Gianni<sub>i</sub>, pro<sub>i</sub> verrà.  
iii) Gianni<sub>i</sub>, expl verrà lui<sub>i</sub>.

Data of the following type sustain such an alternative analysis:

- iv) \*Nessuno verrà lui.  
Nobody will come he
- v) \*Tutti verranno loro.  
All will come they

Bare quantifiers, which are incompatible with dislocation, are also incompatible with SPD constructions. Note instead the relative well-formedness of vi) and vii), which then appear true instantiations of doubling by means of a strong pronoun (see Ronat 1979, Burzio 1986):

- vi) ?Nessuno voleva PRO<sub>i</sub> esser mandato lui<sub>i</sub> a convincere Maria.  
Nobody wanted to be sent him to convince M.
- vii) ?Tutti avrebbero voluto PRO<sub>i</sub> andare loro<sub>i</sub> da Maria.  
All wanted to go them to M.
- vii) \*Nessuno<sub>i</sub> fu mandato lui<sub>i</sub> a convincere Maria.  
Nobody was sent him to M.
- viii) \*Tutti<sub>i</sub> sono andati loro<sub>i</sub> da Maria.  
All went them to M.

And, even more telling:

- ix) Non voleva proprio nessuno<sub>i</sub> PRO<sub>i</sub> esser mandato lui<sub>i</sub> a convincere Maria.  
Didn’t wanted really nobody to be sent him to convince M.
- x) Avrebbero voluto tutti<sub>i</sub> PRO<sub>i</sub> andare loro<sub>i</sub> da Maria.  
Would have wanted all to go them to M.

Note also that vi), vii), ix) and x) all freely violate Belletti’s constraint on Topics.

- 335)       ?\*L<sub>i</sub>'ho visto ed ho chiamato Gianni<sub>i</sub>.  
 (I) him(cl) have seen and I called G.

*Pronouns in doubling configurations have then to be exempted from the informational restriction above* (see chapter 5 for a more careful appraisal of the relevant distinctions and an extensive discussion of clitic doubling). The same cannot be said of non-doubling pronouns, which seem to respect it. Since Belletti's account makes use of a pro in a doubling configuration, the informational principle she mentions should actually not be operative (precisely as she assumes). But it should also not be operative in SPD constructions, which does not appear to be the case at all. Therefore, adopting Belletti's analysis of the facts results in a cul-de-sac.

We do not consider the SPD construction studied by Belletti a true instance of doubling (see note 97), and so no inconsistency arises in relation to its sensitivity to the informational restriction on Topics (in whose validity we believe, though our interpretation of Belletti's data originally motivating it is different - see in particular section 7 in chapter 6).

Furthermore, considerations of a theoretical type point to a different explanation of the inversion configuration. Speculations having to do with the overall simplicity of the theory favor approaches that in addition to accounting for a single phenomenon are also able to state other generalizations (or present compatibility with them). Since we encountered independent evidence suggesting the conclusion that a generalized clitic doubling is operative in Romance, we wish to combine this hypothesis with a possible explanation of so-called 'free inversion'. It is thus natural for us to reject all those proposals which cannot be connected to the other empirical findings of the present chapter.

Finally, there are abundant empirical indices documenting that the overt presence of expletives is systematically coupled with postverbal subjects (see the previous section). If pro sat in preverbal position in inversion configurations, a completely different account should be offered for the same phenomenon in the languages that make recourse to similar overt expletives, otherwise in every such situation there would be two subjects per clause, which seems totally impossible. But a dichotomic approach to inversion is clearly undesirable as well. We thus conclude that Belletti's analysis is not to be preferred to ours.

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<sup>98</sup> Whatever explains the grammaticality of sentence i) below (see Brandi & Cordin 1981, appendix I and note 67 for a description of this kind of sentences, in which there is obligatory doubling of postverbal subjects), should thus be able to account for the structural description that we claimed has to be assigned to inverted subjects (see ii)).

- i) I<sub>i</sub> l'ha magnà su [i fioi del Flavio]<sub>i</sub>.  
 They(cl) it(cl) have eaten up Flavio's sons  
 ii) Expl [cl]<sub>i</sub> sono arrivati [i ragazzi]<sub>i</sub>.  
 Are arrived the guys

## CHAPTER 5

### A' CHAINS

#### 1) ON THE ANAPHORIC NATURE OF RESUMPTIVE PRONOUNS

In earlier stages of the generative framework it has been affirmed that A' traces are variables and that they are subject to Principle C of the Binding Theory (see Freidin & Lasnik 1981, Chomsky 1981).<sup>1</sup> The main piece of evidence came from Strong Crossover (SCO) effects, as in the following:<sup>2</sup>

- 1) \*He<sub>i</sub> thinks John<sub>i</sub> likes Bill.
- 2) \*Who<sub>i</sub> does he<sub>i</sub> think t<sub>i</sub> likes Bill?

According to Chomsky (1982), the variable in 2) functions in the same manner as *John* in 1). But assuming obligatory reconstruction of *who*, one is obviously not committed to accept Chomsky's old statement and the sentence may be ruled out by means of direct coindexation between the reconstructed expression and the pronoun (see Chomsky 1995; a similar account seems nevertheless inadequate: see Postal 2002 for details). Other options are certainly possible - see in particular chapter 6 for an alternative view on SCO violations. The point we wish to make here is that as far as we can tell there are no compelling reasons forcing one to accept the idea that variables are R-expressions.<sup>3</sup> Indeed, such a stand has later been abandoned in favor of

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<sup>1</sup> In contrast to A traces which would instead be anaphors. In a still earlier stage, variables were considered anaphors as well.

<sup>2</sup> Another fact taken to be relevant is the alleged absence of cyclicity effects in certain configurations, for instance Italian RC extraction from *wh*-islands. A one-step-movement would preclude local binding and thus if A' traces were anaphors ungrammaticality should arise. However, it is all but proved that a subset of extraction operations may proceed in a non-cyclic way (see below). And the behavior of many Slavic languages demonstrates that there could exist more than a single Spec-CP position per clause (Rudin 1988), neutralizing one of the main arguments in support of such a view. Furthermore, reconstruction data show clearly that an intermediate landing site has to be active in the Italian configuration at issue:

- i) [Quelle foto di se stesso]<sub>k</sub>, che Mario<sub>i</sub> si domanda sempre t<sub>k</sub> in che circostanze Giulia abbia potuto vedere t<sub>k</sub>, ...  
Those pictures of himself, that M. always wonders under what circumstances G. could see, ...

<sup>3</sup> In fact, it is possible to individuate many proofs indicating the opposite. Some of them were recognized in the notes of Chomsky (1981). For instance, Weak Crossover effects appear to distinguish between names and traces. Equally problematic are the following cases of Strong Crossover with embedded antecedents (from Chomsky 1981, chapter 2 note 79; see also Higginbotham (1983) and Barss (1986) for further related problems):

- i) Which picture of the woman John<sub>i</sub> married did he<sub>i</sub> like t?
- ii) Which people who John<sub>i</sub> liked did he<sub>i</sub> meet t?
- iii) \*He<sub>i</sub> liked a picture of the woman John<sub>i</sub> married.
- iv) \*He<sub>i</sub> met people who John<sub>i</sub> liked.

In addition, Lasnik (1985) notes that Strong Crossover effects are detectable also in A-chains, a fact which is totally unexpected if Principle C is what should account for them assuming that the status of the two types of empty categories is different.

- v) \*John<sub>i</sub> is believed he<sub>i</sub> likes t<sub>i</sub>.

the view that the very concept of ‘trace’ is a misunderstanding and should be replaced by the more appropriate one of ‘copy’ (Chomsky 1995 and much subsequent work). It has already been mentioned various times that we disagree with such a move, though our understanding of movement phenomena is also different from what has been proposed during the ‘trace interregnum’.

In the present dissertation we repeatedly advanced the claim, in at least partial accordance with certain other proposals in the literature, that A’ movement leaves behind *null or overt pronouns* with various values of pronominality. The basic aim of this chapter is to assess if such an idea is sound, especially from the point of view of cyclicity effects and binding.

Our starting point will be the following: it is remarkably clear that in extraction configurations Dougherty’s ‘anaporn relations’ (Dougherty 1969) are not relevant to what have often been called ‘base-generated pronouns’.<sup>4</sup> Nor are they when clitic doubling obtains.

Presence of anaporn relation:

- 3) Giovanni<sub>i</sub> pensava che non lo<sub>k/i</sub> avessero assunto. (Italian)  
 John thought that pro not him(cl) had(subj) hired  
 ‘John thought they did not hire him.’

Absence of anaporn relation:

- 4) Giovanni<sub>i</sub>, non lo<sub>\*k/i</sub> conosco. (Italian, CLLD)  
 John, (I) do not know him(cl)  
 5) Daglie<sub>i</sub>lo a lui<sub>\*k/i</sub>. (colloquial Italian, clitic doubling)  
 Give him(cl)it(cl) to him

Additionally, in the case of clitic doubling disjoint reference effects are also undoubtedly suspended.

Presence of disjoint reference (object clitic):

- 6) El Bepi<sub>k</sub> l’ha dit che el Mario<sub>i</sub> nol lo<sub>\*i/k/v</sub> soporta. (Trentino)

Absence of disjoint reference (subject clitic doubling):

- 7) El Bepi<sub>k</sub> l’ha dit che el Mario<sub>i</sub> nol<sub>i/\*k/\*v</sub> lo soporta. (Trentino)

B. said that M. not-he(cl) him(cl) stands

‘B. said that M. does not stand him.’

More: a pronominal doubler may not be coreferent with a non-local antecedent and has instead to be locally bound, as is evident in 7). The widely documented presence of cyclicity effects forces us to draw the conclusion that (at least null) resumptive pronouns are always locally bound too. And this seems obviously identical to what happens in presence of standard anaphors.

Important issues arise in such a respect: from the very beginning of the GB framework it has been assumed that an antecedent in an A’ position is not able to bind anything at all, and A’ traces were rather said to be locally bound in the sense of the bounding (and not binding) theory. Examples of this sort nourish the tenet.

- 8) \*Which men<sub>i</sub> did each other<sub>i</sub>’s sisters see t?  
 9) \*Which man<sub>i</sub> does himself<sub>i</sub> like t?

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Last but not least, Postal (1971, 2002) and Kuno (1987) observe that reflexives and (less straightforwardly) pronouns are insensitive to Strong Crossover configurations, though they supposedly leave behind traces in all respects identical to those left by names.

<sup>4</sup> Namely, the empirical generalization according to which pronouns which can be understood anaphorically may also be understood non-anaphorically.

(from Aoun 1986)

However, Aoun (1981, 1985, 1986) proposes the existence of two kinds of anaphoric relations: one which holds between an anaphor and an antecedent in an A' position and another which holds between an anaphor and an antecedent in an A position. The two examples above, instantiating the latter kind of relation, would not demonstrate anything about the former. The only conclusion that can be drawn on the basis of such data is that A-anaphors (ie, anaphors which need an antecedent in an A position) may not be bound from A' positions, ie something which is trivially expected on the basis of the definition itself of A-anaphor.

Aoun states that four types of anaphoric configurations are conceivable, depending on the respective positions of anaphor and antecedent:

<i>Antecedent</i>	<i>Anaphor</i>
a) A	A
b) A	A'
c) A'	A
d) A'	A'

He suggests that 'a variable coindexed with a wh-element will be an instance of c), and an intermediate trace in Comp coindexed with a wh-element will be an instance of d)' (Aoun 1986). Configurations a) and b) are instead already familiar from the classic Binding Theory (note that Aoun maintains that clitics occupy A' positions, which gives configuration b)).

The proofs reported by Aoun in support of a similar view are maybe not overwhelming, but nevertheless interesting and worth mentioning. To begin with, in certain languages it is possible to find signs of a homogeneous behavior for NP-traces and wh-traces (and PRO<sup>5</sup>). In Chamorro, an inflection marker which replaces the ergative agreement in the realis mood occurs in raising, wh-dependencies (questions, relatives, focalization) and infinitives alike, but crucially it is banned when the subject is left in situ or it is a pro. Aoun concludes that such an inflection marker correlates with the presence of non-overt anaphors, a generalization which is missed in frameworks denying anaphoric status to wh-traces.

Another set of facts taken to be evidence in favour of Aoun's view regards the Italian reciprocal 'l'un l'altro' (see Belletti 1982 for details). According to Aoun, the two members of the discontinuous expression enter into a binding relation, as shown by the intervention of a specified subject inside the NP in which *l'altro* occurs.<sup>6</sup>

- 10) Quei reporters ammiravano l'uno le foto dell'altro.  
those reporters admired one the pictures of the other
- 11) \*Quei reporters ammiravano l'uno le tue foto dell'altro.  
those reporters admired one your pictures of the other

In order to demonstrate that *l'uno* (the antecedent of *l'altro*) is in an A' position, Aoun first presents data in which it is in an A position.

- 12) L'uno ammira le tue foto dell'altro.  
one admires your pictures of the other

As evident, if *l'uno* is in an A position the association between *l'uno* and *l'altro* is no longer constrained by the binding theory. Since the anaphoric relation between *l'uno* and *l'altro* exists

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<sup>5</sup> There is considerable empirical evidence which points to the conclusion that (at least obligatory) PRO is an anaphor, in contrast to the standard GB-approach. See Bennis & Hoekstra (1989), Koster (1984, 1987), Lebeaux (1985), Manzini (1983), Williams (1980). We will not investigate further the issue here.

<sup>6</sup> The whole anaphoric expression functions instead as a standard A-anaphor.

only when *l'uno* is in an A' position, Aoun concludes that it is an instance of an A'-anaphoric relation.

There are further reasons to take seriously Aoun's proposal. Since we suggested to abandon the generalization referred to as subjacency on empirical grounds (which means that the theory of bounding is no more available to us), one wonders what could motivate the successive cyclic nature of movement. In the present framework, successive cyclicity is due to the fact that the gaps left behind have an anaphoric status and need be locally bound in the sense pertaining to binding (as in the case of A-movement, which has always been dealt with in this way).<sup>7,8</sup> If so, the dichotomy between NP empty categories and variables in trace theory was gratuitous.<sup>9</sup> And since indeed it seems to us that such a distinction is incorrect, we will drop it treating uniformly NP traces and variables (or, better, A' NRP) as *null anaphors*.<sup>10</sup>

We believe that the anaphoric status of *null* and *overt* resumptive elements forces cyclicity.<sup>11</sup> This is of course at odds with the literature that postulates a principled division between resumptive and proper movement chains.<sup>12</sup> A problem that has almost invariably been neglected by those who propose a dichotomic approach is the presence of cyclicity effects for so-called resumptive chains: if the alleged base-generated pronoun does not involve a successive cyclic derivation, why should it be possible to detect its effects in languages such as Spanish or Irish? Yet, this is what the data tell us in a number of cases.

Consider Spanish in the first place. Torrego (1984) shows that the distribution of subject inversion in certain wh-constructions is evidence in favor of a successive cyclic derivation of unbounded dependencies in the language. Here is one of Torrego's examples:

- 13) Qué pensaba Juan que le había dicho Pedro que había publicado la revista?
  - 14) \*Qué pensaba Juan que Pedro le había dicho que la revista había publicado?
- What did John think that Peter had told him that the journal had published?

If we change the wh-element to a d-linked one and insert a resumptive pronoun, which is possible in colloquial Spanish under certain conditions, the inversion of the subject still applies in all the intermediate positions (note that for many speakers the inversion is optional and its

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<sup>7</sup> There could certainly be other reasons that render necessary the successive cyclic nature of movement dependencies. Our claim is that one of these is the anaphoric status of the gaps.

<sup>8</sup> Such a view is admissible only under the assumption that an anaphor in the Specifier of CP may be bound by an antecedent in the (Specifier of CP of a) superior clause. This is independently attested:

- i) ?Qué chico<sub>i</sub> ha preguntado qué fotos de sí mismo<sub>i</sub> han revelado? (Spanish)  
Which guy asked which pictures of himself they revealed?
- ii) \*Qué chico<sub>i</sub> ha preguntado si han revelado fotos de sí mismo<sub>i</sub>? (Spanish)  
Which guy asked whether they revealed pictures of himself?

- iii) Which pictures of himself<sub>i</sub> does John<sub>i</sub> think t that she will trade t?

- iv) Herself<sub>i</sub>, I heard Barbara claim t that Tony hated t. (from Pollard & Sag 1992)

<sup>9</sup> We are certainly not denying the existence of differences between A and A' movement, but simply the stipulation that the gaps they leave behind should obey distinct principles of the Binding Theory.

<sup>10</sup> The above is only in partial accordance with what was originally proposed by Aoun. He took variables to be subject to both Principle A and C of the Binding Theory, a view not shared by us. He also stated (Aoun 1985) that A' traces have an independent theta role, which we do not think to be correct either.

<sup>11</sup> The expression NRP (Null Resumptive Pronouns) is retained purely for convenience. If we are right, it is by all means inadequate terminology.

<sup>12</sup> But see Zaenen, Engdahl & Maling (1981) and Kayne (1981c). Kayne in particular put forward the claim that overt resumptive pronouns might be the spell-out of traces and such an idea is evoked periodically in the literature on resumption. Boeckx (2003) also refuses the usual bipartition movement/resumption, adopting a stranding analysis for the latter.

absence does not give rise to ungrammaticality, but this is so independently from the presence of an overt resumptive element).

- 15) (?)Qué artículos pensaba Juan que creía María que le había dicho Pedro que los podrá publicar la revista? (coll. Spanish)  
 16) \*Qué artículos pensaba Juan que María creía que Pedro le había dicho que la revista los podrá publicar?  
 Which papers did Juan think that María believed that Pedro had told him that the journal will be able to publish them?  
 17) (?)Qué estudiante ha dicho Juan que cree Pedro que no lo conoce nadie? (coll. Spanish)  
 18) \*Qué estudiante ha dicho Juan que Pedro cree que nadie lo conoce?  
 Which student did Juan say that Pedro thinks that nobody knows him?

McCloskey (2001) presents similar data concerning Irish. Let's start observing that if a clause hosts A'-binding of a trace, it is headed by the particle *aL*, whereas if a clause hosts A'-binding of a resumptive pronoun, it is headed by the particle *aN*. Finally, if no extraction procedure occurs the Complementizer assumes the *go* form. The following sentences exemplify:

- 19) an ghirseach a ghoid na síogaí  
 the girl **aL** stole the fairies  
 20) an ghirseach a-r ghoid na síogaí í  
 the girl **aN**-past stole the fairies her  
 'the girl that the fairies stole away'  
 21) Creidim gu-r inis sé bréag.  
 I-believe **go**-past tell he lie  
 'I believe that he told a lie.'

In presence of long-distance extraction, movement and resumption chains appear to diverge wrt cyclicity effects.

- 22) cuid den fhilíocht a chualaís ag do sheanmháthair á rá a cheap an sagart úd  
 some of-the poetry **aL** heard by your grandmother being-said **aL** composed the priest  
 'some of the poetry that you heard your grandmother saying that that priest composed'  
 23) postaí ar maoidheamh go rabh siad sócamhlach agus buan  
 jobs **aN** was-claimed **go** were they comfortable and permanent  
 'jobs that were claimed to be comfortable and permanent'

Such data apparently favour some sort of dichotomic analysis, which treats in a differential way resumption and movement chains (McCloskey 1990). But, as detailed in McCloskey (2001), many Irish speakers utter sentences which deviate from the types listed above. In particular, such sentences 'involve a resumptive pronoun but they also have a "successive-cyclic" character in the sense that they involve distinctive morphosyntactic marking of intermediate C positions' (see also Finer 1997 on Selayarese). These are the three patterns whose existence is attested in the production of Irish speakers in various varieties/register:

- 24) rud a raibh coinne aige a choimhlíonfadh – an aimsir  
 thing **aN** was expectation at-him **aL** fulfill the time  
 'something that he expected time would confirm'  
 25) C'è is d'óigh leat a bhfuil an t-airgead aige?  
 who **aL**-cop likely with-you **aN** is the money at-him  
 'Who do you think has the money?'  
 26) san áit ar d'uradh leis a bhfaigheadh s'é Jim ann  
 in-the place **aN** was-told with-him **aN** find him in-it  
 'in the place where he was told that he would find Jim'

A bifurcation analysis (resumption vs movement) is strongly disfavoured by these and similar data. From a methodological point of view, the absence of overt signs of a cyclic derivation is substantially uninformative. It is their presence (the H1 hypothesis) what really counts as a proof. And Irish testifies that at least in some varieties resumption chains are derived cyclically. Exactly as is assumed that *wh*-constructions in Italian are successive cyclic, though there are no explicit indices supporting such a conclusion in the language, we are convinced that all resumption chains are derived in a cyclic way even if it is not always evident morphologically. This means that we do not treat as strange exceptions the data above: they would instead represent the norm. And, conversely, we do not consider particularly relevant the absence of overt indices (supportive as it is of a methodologically weaker H0 hypothesis).<sup>13</sup> Our approach to extraction is perfectly compatible with the idea that resumption chains are formed successive cyclically, also because we do not relate sensitivity to islands and presence/absence of cyclicity (see chapters 2 and 3).<sup>14</sup>

Another proof of the successive cyclic derivation of resumption chains comes from the domain of reconstruction. We can glance at this employing data from Trentino, which obligatorily resumes - or, better, doubles - extracted indirect objects (also in presence of quantificational antecedents). Analogous judgements in reconstruction configurations hold in colloquial Italian.<sup>15</sup>

- 27) La Teresa<sub>i</sub> la pensa che'l pitor<sub>k</sub> el g<sub>y</sub>'abia dat 'na ultima penelada [al quadro de i so prop<sub>i?\*/i/k</sub> putei]<sub>y</sub>.  
The T. she(cl) thinks that the painter he(cl) to-it(cl) has given the finishing touches to the painting of his/her own children
- 28) [A che quadro de i so prop<sub>i/k</sub> putei]<sub>y</sub> pensela la Teresa<sub>i</sub> t<sub>y</sub> che'l pitor<sub>k</sub> el g<sub>y</sub>'abia dat 'na ultima penelada t<sub>y</sub>?  
To what painting of his/her own children does the T. thinks she(cl) that the painter he(cl) to-it(cl) has given the finishing touches?

Still more facts suggest that a clearcut division between resumption and movement cannot be correct. An obvious argument is the sensitivity to islands of resumption chains: various authors have pointed out that in many languages RPs are subject to island constraints (see Cole et al. 1977 on Chinese; Engdahl 1985 on Swedish; Goldsmith 1981 on Igbo; Koopman 1982 on Vata, among the first ones to deal with the issue). Notice that this is not the main piece of evidence in favor of a common treatment for resumption and movement. We believe to have convincing reasons to keep separated island constraints and cyclicity effects.<sup>16</sup> The argument rather lies in the progressive sensitivity to islands for the different A' chains. If a dichotomy in chain formation is real, we would expect a neat demarcation line: resumption chains should manifest certain properties *ex abrupto*, namely properties completely extraneous to movement chains

<sup>13</sup> It is not our intention to deny the existence of quite systematic differences among the various A' constructions in the possibility of *detecting* cyclicity effects. For instance, consider Spanish again: Torrego (1984) was able to document the presence of cyclicity effects only for a subset of those *wh*-dependencies traditionally assumed to be derived cyclically. Interestingly, they were the lowest ones on the scale of topicality of chapter 3. So, for instance, Spanish *wh*-questions reveal their cyclic character, but not necessarily so RCs. This may only mean that the indirect indices reflecting 'cyclicity' (such as subject inversion in Spanish, or the form of C in Irish) are also sensitive to other variables - for instance, the degree of topicality associated to NRP or the type of constructions in which they appear. This can be sometimes confounding, since the interfering factors should be separately recognized and distinguished in order to be able to draw firm conclusions from the data wrt cyclicity.

<sup>14</sup> As detailed in Sells (1984, 92-93), Hebrew as well has overt indices of a successive cyclic displacement of resumptive material.

<sup>15</sup> Data of this sort would be of much more theoretical relevance in languages like Irish or Hebrew, where resumption and doubling do not interfere. See also Zaenen, Engdahl & Maling (1981) for some other related considerations regarding similarities between null gaps and resumptive pronouns.

<sup>16</sup> Generally speaking, overt resumptive pronouns tend to be less sensitive to islands than null ones. This is presumably so because there is a strong correlation between 'surfacing of NRP' and 'topicality of the gaps' (Boeckx 2003, ch. 2 sec. 2.2.2), though different languages have different thresholds and therefore also different patterns of sensitivity to islands (see section 3 below).

(and island insensitivity could be considered one such characteristic). But what we find instead is a gradual behavior, without any perceivable break. Notice that it is not only extraction which is at stake, but the whole cluster of properties we discussed at the end of chapter 3. Evidence of this sort is theoretically incompatible with any strictly binary categorization of chains, unless proofs be provided of other properties clearly differentiating movement and resumption. To the best of our knowledge similar data are not available, with a significant exception: last resort (or intrusive) RPs, to which we will return in a later section of this chapter.

One more interesting theoretical point is the strong ‘left-handedness’ of basically all the languages of the world: unbounded movement is (almost invariably) to the left. There are very scarce (and not well understood) exceptions to such a rule (see Satyanarayana & Subbarao 1973, Colarusso 1979, Neidle et al. 1997). If one assumes that the gaps left behind by the application of displacement operations are (local) A’-anaphors, it is straightforward to derive the noted regularity from the analogous one holding in the case of (local) A-anaphors.<sup>17</sup> In other approaches, the evident similarity between the two empirical facts is lost and separate accounts are required. And it is not unusual that the left-handedness of human languages be stipulated, and often even accepted as an implicit fact as if it were in no need of an explanation.<sup>18</sup> In this connection, it has also to be stressed that resumption does not alter the direction of unbounded dependencies, which is still invariably ‘leftish’. If we are correct in attributing this fact to the anaphoric character of the gaps, overt resumptive pronouns ought to be anaphors as well. Otherwise, two different accounts would be needed for motivating the absence of unbounded dependencies to the right: a state of affairs which is clearly unwelcome.

## 2) LEVELS OF ANAPHORICITY

At this point, the reader might be disoriented: are we to conclude that the NRP hypothesis is after all wrong and that *anaphors* have to replace what we took to be *pronouns* in the previous chapters? And how can one reconcile this change with the apparent pronominal character of clitics and other resumptive elements and with the quite compelling empirical evidence we put forward concerning the *degree of pronominality* which supposedly pertains to the various NRP? Let’s tackle the two problems separately.

Firstly, the alleged pronominal character of clitics in certain configurations (but see note 18) does not mean that they have to be considered pronouns under all circumstances in which they occur. Our line of argumentation will proceed showing that there are situations not directly related to what is under discussion here in which a (non-clitic) pronoun and an anaphor are homophonous. This will be shown to extend naturally to resumptive elements and doubling configurations as well.

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<sup>17</sup> One version of this rule is obviously Principle A of the Binding Theory, which bars backward anaphora. A similar principle would be operative for A’ anaphors as well.

<sup>18</sup> Given our speculations in chapter 4, another phenomenon that could receive a principled explanation is the clause-boundedness of clitics. In fact, if in the absence of doubling of overt lexical material they forcefully double *pro*, clitics always have to be considered (A’) anaphors, and not pronouns as generally assumed. This means that the locality restrictions on clitics (Kayne 1975) stem precisely from their anaphoric nature.

The difference between reflexive clitics (like *si* in Italian) and non-reflexive ones can simply be attributed to the differences in thematic structure and coindexation. A clitic like *si* has a double coindexing: with a *pro* in object position and with the subject. This would be what determines its peculiar form, and not the fact that it is an anaphor in opposition to the other clitics.

Certain problems may arise in relation to the possibility of binding for the clitic, if its antecedent sits in base position. More than one solution is conceivable. For instance, in a framework à la Kayne one can say that *pro* and clitic form a unit in some stage of the derivation and that binding applies precisely at that stage.

The problem seems nevertheless more general: as noted in note 40 in chapter 4 (see vi), similar questions should be related to the possibility of licensing an (A) anaphor employing (presumably, in-situ) postverbal subjects in Italian. The issue is also closely connected to the existence of rightward movement rules, which are anyway all upward bounded (Ross 1967).

Consider possessive pronouns in English first off. They do not need to be bound in a local domain, but they are also in non-complementary distribution with anaphors, as is well-known:

- 29) The men<sub>i</sub> like their<sub>i/k</sub> pictures.
- 30) The men<sub>i</sub> like each other<sub>i</sub>'s pictures.

Yet, possessive pronouns are undoubtedly pronouns according to a battery of tests. To begin with, they allow split antecedents, contrary to (local and long-distance) anaphors (see Lebeaux 1985).<sup>19</sup>

- 31) John<sub>i</sub> told Mary<sub>k</sub> that their<sub>i+k</sub> clothes were dirty.
- 32) \*John<sub>i</sub> told Mary<sub>k</sub> about themselves<sub>i+k</sub>.
- 33) \*Mario<sub>i</sub> ha detto che Luisa<sub>k</sub> pensava che non dovessero parlare di sé<sub>i+k</sub>.  
M. said that L. thought that they should not speak of (them)selves

Secondly, they do not need to be exhaustively bound and may have an inclusive antecedent:

- 34) He<sub>i</sub> has retired their<sub>i+j</sub> candidature.
- 35) \*He<sub>i</sub> has retired themselves<sub>i+j</sub> from the competition.
- 36) \*Lui<sub>i</sub> decise che avrebbe parlato di sé<sub>i+j</sub> con tutti.  
He decided that he would speak of (them)selves with everybody
- 37) They<sub>i+k+l</sub> decided together that his<sub>i</sub> candidature had to be retired.
- 38) \*They<sub>i+k+l</sub> betrayed himself<sub>i</sub>.
- 39) \*Loro<sub>i+j+k</sub> non pensavano di riuscire a parlare di sé<sub>i</sub>.  
They did not think of being able to speak of (him)self

Thirdly, they can be used deictically (see Safir 2004):

- 40) Mine!
- 41) \*Myself!
- 42) \*Sé!

Finally, they have been claimed not to license an Arb interpretation (see Giorgi 1984):

- 43) \*Uccidere il loro<sub>ARB</sub> cane è spiacevole.  
To kill their dog is regrettable
- 44) Uccidere il proprio<sub>ARB</sub> cane è spiacevole.  
To kill one's dog is regrettable
- 45) È difficile parlare di sé<sub>ARB</sub>.  
It is difficult to speak of self

This is however not always true, especially in a slightly more colloquial register. Consider these examples involving the second person possessive form *tuoi/tua/tuoi/tue*:<sup>20</sup>

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<sup>19</sup> Certain long-distance anaphors (like Japanese *zibun*, Korean *caki* or Malayalam *taan*) allow split antecedents. What is notable, however, is that those same anaphors seem not to tolerate local antecedents and thus show some form of Principle B effects (see Cole et al. 1990, Katada 1991, Jayaseelan 1997), in contrast to long-distance anaphors like Italian *sé*. Since we are interested only in the properties of anaphors compatible with local antecedents, the possibility of split antecedents maintains its relevance as a test for distinguishing anaphors from pronouns (and from other irrelevant anaphoric or pseudo-anaphoric forms).

<sup>20</sup> This is not so also for other pronouns which are not possessive:

- i) \*Pensare che il nemico li<sub>ARB</sub> uccida è triste.  
To think that the enemy kills them(cl) is sad
- ii) Pensare di uccidere se stessi<sub>ARB</sub> è triste.  
To think to kill themselves is sad

- 46) Uccidere il tuo<sub>ARB</sub> cane è spiacevole.  
To kill your dog is regrettable
- 47) È brutto sapere che una tua<sub>ARB</sub> partenza non rattrista nessuno.  
It is not nice to know that your departure does not sadden anybody

Whence the last criterion is probably not relevant. But the others still impede to consider possessive pronouns as a ‘special’ instance of anaphors.

The converse is also theoretically possible, namely that possessive forms be just a ‘special’ instance of pronouns. Whenever we make use of a test which says: ‘A pronoun allows to do this, an anaphor does not’, the fact that a possessive pronoun satisfies it is of course not informative wrt such an hypothesis. Only negative tests (of the form: ‘An anaphor has the property x, which pronouns do not possess’) would be relevant. One such test was the availability of an Arb interpretation suggested in Giorgi’s paper, but as just seen it is not correct. We are not aware of other tests of this type, which could directly disprove or confirm that possessive pronouns can never be anaphors.

We can easily put aside all the problems related to the status of possessive pronouns if we recognize that there exists a systematic ambiguity in the possessive forms of many languages: the same morphological realization is employed as both an anaphor and a pronoun. A strong positive clue that possessive forms in English are ambiguous (Culicover 1997, 72) comes from the existence of *proprio* in Italian.<sup>21</sup> Its distribution is indeed almost completely overlapping with that of the widely more used *suo* (but crucially not the other way around). It can be defined as a possessive anaphor, with no pronominal uses.

- 48) Ilario<sub>i</sub> ama la propria<sub>i/\*k</sub> gatta. (Italian)  
49) Ilario<sub>i</sub> ama la sua<sub>i/k</sub> gatta.  
I. loves his cat

Decidedly stronger evidence comes from languages such as Latin, in which an anaphorical possessive form and a pronominal one are always morphologically distinguished and compete in the syntax.

- 50) Caesar<sub>i</sub> matrem suam<sub>i/\*k</sub> amat. (Latin)  
51) Caesar<sub>i</sub> matrem eius<sub>\*i/k</sub> amat.  
C. loves his mother

Our claim is that Latin gives overt expression to a distinction that is (at least covertly) present in every language that has possessive forms.<sup>22</sup>

Consider now the behavior of the object pronouns *me* (me)/*noi* (us) and *te* (you sg)/*voi* (you pl) in Italian: they can be employed as arguments of reflexive verbs when they are focalized (not necessarily contrastively focalized), being in non-complementary distribution with the anaphoric SELF forms (*noi* and *voi*, which are deprived of case distinctions for subjects and objects, are only very marginally acceptable).

- 52) Lavo me/me stesso.  
(I) wash me/myself  
53) Lavi (?)te/te stesso.  
(you) wash you/yourself

- 
- iii) Pensare che il nemico ti<sub>ARB</sub> uccida è triste.  
To think that the enemy kills you(cl) is sad

<sup>21</sup> See Giorgi (1984).

<sup>22</sup> Similar facts obtain in many other languages as well. See Vikner (1985) on Danish, for instance.

- 54) Laviamo ??noi/noi stessi.  
 (we) wash us/ourselves  
 55) Lavate ??voi/voi stessi.  
 (you pl) wash you(pl)/yourselves

Third person pronouns fully impede that, since the specialized anaphoric SE form *sé* (himself/herself or themselves) exists.

- 56) Lava \*lui/se stesso.  
 (he) washes him/himself  
 57) Lavano \*loro/loro stessi.  
 (they) wash them/themselves  
 58) Lava sé.  
 59) Lavano sé.  
 (he/they) washes/wash self

The conclusion is that in the absence of a separate and specific anaphoric form, pronouns may also act as anaphors taking up both functions.

All this tells us that pronouns and anaphors very often receive expression in the syntax through identical morphological forms. It is thus not at all strange or idiosyncratic to assume that the ‘pronominal’ elements that appear in resumptive chains and clitic doubling are actually anaphors.<sup>23</sup> Indeed, in addition to the proofs we already collected they also fail the other pronominal tests previously reported. See for instance these data about clitic doubling in colloquial Italian (genuine instances of anaphoric resumptive elements behave alike, see below):

No split antecedents:

- 60) \*Gli<sub>i+j</sub> ho dato un regalo di Pietro<sub>i</sub> a Mario<sub>j</sub>.  
 To-him(cl) (I) have given Pietro’s present to M.

Obligatory exhaustive binding:

- 61) \*Vi<sub>i+j</sub> ho dato un regalo a te<sub>i</sub>.  
 To-you(cl) (I) have given a present to you(sg)

No inclusive antecedents:

- 62) \*Ti<sub>i</sub> ho dato un regalo a voi<sub>i+j</sub>.  
 To-you(cl) (I) have given a present to you(pl)

We have now to solve the second problem that was raised. In the hypothesis put forward in the previous chapters, a direct correlation holds between topicality and pronominality.<sup>24</sup> The

<sup>23</sup> A similar analysis permits also to understand the following contrast, from Kayne (1972, 82):

- i) Pourquoi cela<sub>i</sub> est-il<sub>i</sub> faux?  
 Why that is it(cl) false?  
 ii) \*Cela<sub>i</sub> est faux parce qu’il<sub>i</sub> ne correspond pas à la vérité.  
 That is false because it does not correspond to the truth

Whenever *il* has a truly pronominal use, it cannot substitute *cela*. Not so in complex inversion, where it is instead anaphoric (see note 60 in chapter 4).

Comparable facts obtain in Hebrew, where true pronouns are insensitive to SCO configurations while resumptive pronouns are not (see Shlonsky 1992, who partly replicates data from McCloskey 1990 on Irish, for the relevant examples).

<sup>24</sup> Note a substantial difference in this respect between pronouns/A-anaphors and A’-anaphors: the former tend to disappear morphologically whenever topicality increases, while the latter tend to become visible in that same situation. Their relation to IS is thus inverse. This constitutes further support to the idea of analyzing resumptive pronouns as elements intrinsically different from standard pronouns (and from A anaphors).

question is: can such a relation be shown to be relevant to anaphors as well? Our answer is positive, since there are evident informational specializations in the anaphoric systems of many languages. In Italian, for example, the various anaphoric forms are employed only in specific pragmatic contexts (exactly as is the case for pronouns).

Chi lavi?/Who do you wash?

63) #Mi lavo.

Myself(cl) (I) wash

64) Lavo me (stesso).

(I) wash myself

Cosa stai facendo?/What are you doing?

65) Mi lavo.

Myself(cl) (I) wash

66) #Lavo me (stesso).

(I) wash myself

Clitic anaphors are incompatible with a focal value, whereas tonic ones may be used precisely when the argument is focalized (or when a contrast is at stake). Therefore, we can reaffirm and import into our new conceptualization of movement phenomena what was previously introduced under the label of ‘NRP hypothesis’ in this respect.

Even if it is evident that there is a relationship between the morphological form of an anaphor/pronoun and its value of topicality, there is a substantial difference between a ‘standard’ anaphoric/pronominal relation and a movement chain. Only in the latter the form of the anaphor/pronoun depends on the informational status *of the antecedent*, since in the former it is based on the informational status of the anaphor/pronoun itself. Now, assuming that the proposed correlation between form and topicality is correct, the following data show beyond any doubt that anaphors and pronouns involved in standard binding relationships do not change their form according to the informational status of their antecedents. In (67)-(72) clitic and tonic anaphors may be employed, whatever IS value pertain to the antecedent.

67) Mario<sub>i</sub> si<sub>i</sub> ama.

M. himself(cl) loves

68) Mario<sub>i</sub> ama sé<sub>i</sub>/se stesso<sub>i</sub>.

M. loves self/himself

69) Mario<sub>i</sub>, pro<sub>i</sub> si<sub>i</sub> ama.

M, (he) himself(cl) loves

70) Mario<sub>i</sub>, pro<sub>i</sub> ama sé<sub>i</sub>/se stesso<sub>i</sub>.

M., (he) loves self/himself

71) È Mario<sub>i</sub> che t<sub>i</sub> si<sub>i</sub> ama.

It is M. that (he) himself(cl) loves

72) È Mario<sub>i</sub> che t<sub>i</sub> ama sé<sub>i</sub>/se stesso<sub>i</sub>.

It is M. that (he) loves self/himself

Though the informational relationship of pronouns to their antecedents is more complex (see chapter 6), they also confirm this in a range of selected cases. For instance, in the examples below the restriction barring a (non-contrastive) overt subject pronoun in the adjunct clause coreferent with a referential expression in the matrix is unaffected by the informational status of the antecedent (for both object and subject ones). Even more significantly, note that the null subject in the embedded clause is fine independently from the informational status of its antecedent.

73) Mario<sub>i</sub> è stato visto dopo che pro<sub>i</sub>/\*lui<sub>i</sub> è arrivato.

M. has been seen after that pro/he has arrived

- 74) Mario<sub>i</sub>, pro<sub>i</sub> è stato visto dopo che pro<sub>i</sub>/\*lui<sub>i</sub> è arrivato.  
M., (he) has been seen after that pro/he has arrived
- 75) È Mario<sub>i</sub> che è stato visto dopo che pro<sub>i</sub>/\*lui<sub>i</sub> è arrivato.  
It is M. that has been seen after that pro/he has arrived
- 76) Ho visto Mario<sub>i</sub> dopo che pro<sub>i</sub>/?\*lui<sub>i</sub> è arrivato.  
I've seen M. after that pro/he has arrived
- 77) Mario<sub>i</sub>, l<sub>i</sub>'ho visto dopo che pro<sub>i</sub>/?\*lui<sub>i</sub> è arrivato.  
M., I've seen him(cl) after that pro/he has arrived
- 78) È Mario<sub>i</sub> che ho visto dopo che pro<sub>i</sub>/?\*lui<sub>i</sub> è arrivato.  
It is M. that I've seen after that pro/he has arrived

It is not difficult to see where the divergence between movement and non-movement binding relations comes from: the members of a movement chain all share a unique theta-role, which is not the case in a standard anaphoric or pronominal dependency (see Chomsky 1981). This thematic difference leads us to conclude that only constituents bearing distinct theta-roles are visible to IS and can also receive independent informational values. A chain (in the sense of Rizzi 1986c and related works) shares a unique theta-role and thus every position gets one and the same informational value. This is why it is such value that determines the (covert) form of all the anaphors left behind in intermediate steps and in base position. In other words, a movement chain is *informationally homogeneous*, while a non-movement dependency is (or at least may be) *informationally heterogeneous*.

A similar categorization might be relevant to other distinct and characteristic properties of the two types of syntactic relations: as is well-known, anaphoric and pronominal dependencies with two theta roles and two independent IS values (what usually goes under the name of 'construal relations') are insensitive to opaque domains, whereas chains with a single theta role and a single informational value (tend to) obey island restrictions. The Principle of Extraction from Chapter 2, which is an informational restriction on binding relations obtaining only for certain specific syntactic objects (namely chain algorithms), might be explored at a deeper explanatory level taking into account precisely the differences above.<sup>25</sup>

### 3) OVERT RESUMPTIVE PRONOUNS AND ISLANDS

Every theory positing null resumptive pronouns in extraction sites has to face an obvious difficulty: in many cases, overt resumptive pronouns seem to save island violations. Ross (1967) expressed this fact stating that only chopping (and not copying) rules are subject to island constraints. If Ross is right, no island violation should ever arise in languages employing resumptive pronouns in extraction configurations, which is not empirically correct (assuming or not the overall validity of our ideas).

The proposal that different values of topicality pertain to the various resumptive pronouns associated to movement constructions is instrumental to finding a solution to the mentioned issue. As said, independently from the surfacing of resumptive pronouns, we assume that they possess a specific value of anaphoricity. It is such a value which determines the island sensitivity of movement chains (see chapter 2 and 3). Different languages give overt expression to the latent resumptive elements in different contexts. If a language expresses at PF a resumptive pronoun also when it is endowed with a low value of anaphoricity, such an overt element will show sensitivity to islands, to WCO and license parasitic gaps. Languages in which the overt appearance of resumptive pronouns is always connected to a high value of

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<sup>25</sup> Alternatively, it could maybe be proposed that only a specific type of binding relation (anaphoric A' dependencies) is impaired in presence of intervening topical domains, with progressive strength according to the degree of topicality of such intervening domains. This would be independent from the type of syntactic objects involved (construal relations or chains). Which of these two formulations is the correct one should be a matter of empirical superiority.

anaphoricity will instead obviously show a correlation between ‘presence of resumption’ and (at least partial) ‘island insensitivity’.<sup>26</sup> This is merely an indirect relationship, though.

Certain empirical observations available in the literature strongly support such description of the facts. Sportiche (1983) and Tellier (1991) note that in Yiddish a resumptive pronoun is not sensitive to the complex NP island under RC formation, but it is sensitive to it under wh-movement. Rouveret (1994) and Demirdache (1991) report analogous contrasts in, respectively, Welsh and Arabic.<sup>27</sup> Such findings are perfectly explainable given our remarks in chapter 3 and the hypothesis that resumptive pronouns with different degrees of anaphoricity are associated to constituents with different degrees of topicality. On the contrary, any sort of dichotomic approach to resumption fails to predict the existence of similar data. Identical considerations are in order for another set of data, this time referred to the differences in the sensitivity to opaque domains determined by the type of islands (see in particular Boeckx 2003, ch. 3 sec. 6). So, Scottish Gaelic (Adger & Ramchand 2005) or Greek (Alexiadou & Anagnostopoulou 1997) resumptive pronouns are sensitive only to the strongest islands, such as the adjunct condition or the complex NP constraint, but not to the weaker ones, such as wh-islands.<sup>28</sup> Again, our remarks in chapter 2 and 3 are entirely compatible with these facts, showing that overt resumption works in the same way as movement (or, more properly in the NRP hypothesis, in the same way as covert resumption).

There is anyway a class of resumptive elements for which the above remarks are not operative. Its members are *last resort* (or *intrusive*) pronouns of the type studied in Ross (1967), Langendoen (1970), Kroch (1981), Sells (1984, 1987), among others. It is thus very important to distinguish between last resort and ordinary resumptive pronouns.

As noted in Sells (1984), a first difference relates to the fact that last resort resumptive pronouns are not compatible with a functional reading.

- 79) I’d like to meet the linguist<sub>i</sub> that Mary couldn’t remember if she had seen him<sub>i</sub> before.  
80) \*I’d like to meet every linguist<sub>i</sub> that Mary couldn’t remember if she had seen him<sub>i</sub> before.

Bound readings like that in 80) are available to ordinary resumptive pronouns.

Kroch (1981) stresses that intrusive pronouns are not completely grammatical, and seem to be employed only in (more or less) colloquial registers to savage island violations or to mark the base-position of an element in situations of particularly heavy processing load. This is indeed what gives them their typical ‘last resort’ flavor. Such attributes are absent in the case of ordinary resumptive elements. Finally, intrusive pronouns are never sensitive to islands. As we saw above, there are instead many instances of ordinary resumptive pronouns which are sensitive to (some of) them.

In the light of such data, we would like to propose that last resort resumptive pronouns should receive a completely different treatment from ordinary resumptive pronouns. In particular, they would differ from the point of view of binding theory, since intrusive pronouns are actually *true pronouns* replacing an anaphor.<sup>29</sup> Their last resort character would be precisely due to the fact

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<sup>26</sup> The triggering relation between ‘value of anaphoricity’ and ‘surface appearance of the resumptive pronoun’ is only one factor (presumably, the main one) in a complex array of variables.

<sup>27</sup> Even Hebrew seems to show signs of differentiations in the sensitivity to islands of its overt resumptive chains. Borer (1984b) and Boeckx (2003, ch. 3 note 38) report interesting judgements, according to which resumptive pronouns in free relatives (but not in restrictives and appositives) are sensitive to (at least certain) islands. See chapter 6 for similar data about reconstruction possibilities, which show that the gaps associated to free relatives possess a less significant value of topicality than those associated to restrictives and appositives.

<sup>28</sup> Other languages (some of them were already mentioned in section 1) show instead complete sensitivity to islands in presence of resumption - for instance, Vata or Serbo-Croatian.

<sup>29</sup> There are no reasons not to assume that the anaphoric intermediate gaps are preserved as such. In our view, intrusive pronouns would thus not alter the successive-cyclic derivation of unbounded dependencies.

that such a replacement is a marked strategy, which is available only under specific circumstances in substandard varieties.

That intrusive pronouns are true pronouns can be shown with a number of syntactic tests. To begin with, it seems to us that in the same sort of (informal) register that tolerates their presence, the following is also admissible:

Split antecedents:

81) Maria ha detto a Pietro<sub>i</sub> che il suo amico<sub>k</sub>, quello che pro<sub>i+k</sub> giravano sempre insieme, è un imbecille.

M. said to P. that his friend, the one that (they) strolled together all the time, is an idiot.

Prince (1990) noted similar examples in spoken English, which presumably belong in the same sort of register as our Italian one.

82) I<sub>i</sub> have a manager, Joe Scandolo<sub>k</sub>, who we<sub>i+k</sub>'ve been together over twenty years.

Apart from the possibility of split antecedents, the register in which intrusive pronouns are possible also legitimates other configurations that are certainly not admissible in standard varieties of Italian. This again reveals their truly pronominal character.

Not exhaustively bound pronoun:

83) Pensa che ho un amico<sub>i</sub> che pro<sub>i+k</sub> sono stati insieme tutta l'infanzia senza che litigassero mai, (lui<sub>i</sub> e Pietro<sub>k</sub>).

I've a friend that (they) have been together all their childhood without ever arguing, (he and Pietro)

Inclusive antecedent:

84) ?Quei politici li<sub>i+k+y+...</sub> che Berlusconi<sub>k</sub> e Fini<sub>i</sub> sono i primi, andrebbero fatti tutti dimettere.

Those politicians, that Berlusconi and Fini are the first ones, should be all made to resign.

However, there is one (presumably) pronominal test that systematically fails also with intrusive pronouns: the antecedent cannot be (entirely) extra-sentential. This fact is not unprecedented, though. Hankamer & Sag (1976) have already shown that there are two types of pronouns in elliptical contexts (they called them surface and deep). While the first type needs an explicit sentential antecedent, the second tolerates also missing antecedents and antecedence relations pragmatically construed (see also Chomsky 1977, 81).

85) Implicit context: someone attempts to stuff a 9-inch ball through a 6-inch hoop.

#It's not clear that you'll be able to.

86) Same context.

It's not clear that you'll be able to do it.

87) I'm sure that someone has been able to stuff a 9-inch ball through a 6-inch hoop but it's not clear that you'll be able to.

Intrusive pronouns would thus be a further instance of what Hankamer & Sag (1976) named 'surface pronouns'. If so, the mentioned test loses its reliability as an authentic indicator of pronominality and does not disturb any more the picture presented so far.

Finally, these brief remarks should also suffice to explain why it is possible to employ epithets and demonstratives as resumptives last resort, while they are generally not available as ordinary resumptive elements (see for instance Aoun, Choueiri & Hornstein 2001 on Lebanese Arabic).<sup>30</sup>

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<sup>30</sup> Aoun, Choueiri & Hornstein (2001) report another difference between ordinary and intrusive resumptives: the possibility of reconstruction. So, resumptive elements which are not trapped within islands exhibit reconstruction effects, but resumptive elements inside islands show no signs of

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reconstruction. The authors use the availability of a bound reading of the resumptive as an indication of reconstruction possibilities. We do not find Aoun et al. claim tenable. It rather seems to us that the differences they note should be accounted for in the same way Cinque (1989, 1990) analyzed Longobardi's (1986) scope data (see also Rizzi 1990, 100). Dayal (2002) presents related facts about wh-in-situ in English.

As a further proof of the incorrectness of Aoun et al., note that Italian shows the same behavior as Lebanese Arabic in what concerns scope possibilities under resumption.

- i) ?Il suo peggior studente, mi hanno detto che ogni insegnante lo boccherà.  
His worst student, someone told me that every teacher will fail him(cl)
- ii) \*Il suo peggior studente, te ne sei andato prima ancora che ogni insegnante lo punisse.  
His worst student, you went away before every teacher punished him(cl)

Then, it is logical to expect that reconstruction for the sake of binding should also not be available to the intrusive resumptive clitic in configurations similar to that in ii). As a matter of fact, this is not true.

- iii) Certi pettegolezzi su di sé<sub>i</sub>, non so se Mario<sub>i</sub> li conosce.  
Some gossips about self I don't know whether M. knows them(cl)
- iv) ?Quei disegni di se stesso<sub>i</sub>, ce ne siamo andati prima ancora che Mario<sub>i</sub> li potesse vedere.  
Those drawings of himself, we left before Mario could see them(cl)



## CHAPTER 6

### MOVEMENT, PRONOMINALIZATION AND IS

The term Weak Crossover (WCO) has been introduced in Wasow (1972) to describe data of the following type, in which an A' moved element 'crosses over' a pronoun coindexed with it:<sup>1</sup>

- 1) (?) \*Who<sub>i</sub> does his<sub>i</sub> mother love t<sub>i</sub>?

It has to be contrasted with cases of Strong Crossover (SCO), which Wasow (1979, 158) defines as those in which the pre-fronting position of the moved constituent is not less deeply embedded than the pronoun.<sup>2</sup> They present, as the name itself indicates, a stronger sense of ungrammaticality than WCO violations.

- 2) \*Who<sub>i</sub> did he<sub>i</sub> say Mary kissed t<sub>i</sub>?

As is well-known, Chomsky (1976) proposed a principle (later named 'Leftness Condition' by Higginbotham) to account for WCO configurations, which states that a pronoun cannot be coindexed with a variable to its right. Such a description (and its various modifications or reinterpretations in the literature - for instance Koopman & Sportiche 1983, Safir 1984) appears to us inadequate for a variety of reasons.<sup>3</sup> We will therefore try to develop a different kind of explanation, which has informational variables as its point of departure.

#### 1) WCO: CHOMSKY'S PROPOSAL AND ITS PROBLEMS

Let us start from an empirical observation made by Chomsky in his 1976 paper (see also Lakoff 1968, sec. 1.1.4; Kuno 1972a, 304), which puts in correspondence (non-contrastive) focus and typical instances of WCO.

- 3) His<sub>i</sub> cat likes John<sub>i</sub>.
- 4) \*His<sub>i</sub> cat likes JOHN<sub>i</sub>.  
LF: John<sub>i</sub> [his<sub>i</sub> cat likes t<sub>i</sub>]

We will discuss at length in a moment why we do not agree with the specific mechanisms claimed to be at the basis of the wrong configuration in 4) (particularly, the LF-movement analysis of focus). Nevertheless, it has to be stressed that Chomsky's observation remains an important empirical point, which will result essential in trying to understand the real nature of WCO effects.

The evidence in favour of covert LF-movement has always been highly debated and never accepted as definitive. Even admitting its existence unproblematically, we should not forget that, if anything, covert LF-movement has been used for explaining scope properties, which show sensitivity to islands (Rodman 1972, May 1977), while association with focus does not (Jackendoff 1972, Rooth 1985).

- 5) Guinevere has a bone that is in every corner of the house.  
\*for every corner of the house, Guinevere has a (different) bone in that corner  
LF: \*[every corner of the house]<sub>i</sub> Guinevere has a bone that is in t<sub>i</sub>.
- 6) Sam only saw a man who was wearing a [RED] hat.

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<sup>1</sup> The phenomenon was discovered by Postal in 1968 (published 1971), but the difference between Weak and Strong Crossover has not been noticed until Wasow (1972) - see also Postal (1972, note 24).

<sup>2</sup> As we will see, such a definition is not entirely correct. Obviously, the crossing-over is not limited only to movement of interrogative wh-elements, but that is its paradigmatic exemplification.

<sup>3</sup> Chomsky himself wrote in his paper: 'I think I can convince myself that this is correct, but without much faith in the conclusion.'

LF: [RED]<sub>i</sub>; Sam only saw a man who was wearing a t<sub>i</sub> hat.

There are other drawbacks to an LF-movement analysis of IS. Focus can obviously span an entire embedded clause. As Williams (1997) observes, examples of that sort might be problematic for Chomsky's proposal:

- 7) \*John said {that her<sub>i</sub> mother liked MARY<sub>i</sub>}<sub>Foc</sub>  
(from Williams 1997)

According to the LF-analysis the entire clause should be raised, but this movement will not change the configuration of the antecedent and the pronoun. In order to be able to account for WCO, one should postulate successive raisings of focused material proceeding from the larger constituents to the smaller ones embedded inside the former (namely, the preceding hierarchical levels of IS). This is not technically impossible, but unexplored and rather complicated to work out from a theoretical point of view. It implies (covert) raising from (covert) raising positions, and of a multiple sort - since focus can certainly be further embedded. The idea that a single movement suffices for generating the banned configuration is simplistic at best, and the theory necessary to account for the complete array of cases is all but parsimonious in terms of assumptions which are not directly motivated empirically.

Jackendoff (1972, sec. 6.9), Krifka (1991), Tancredi (1992) and Zubizarreta (1998) outline another major problem for all those approaches trying to connect focus with a movement analysis: the failure of the usual constituency tests from an informational point of view (see also Chapter 1).

- 8) What happened to John?/Who did what to John?  
SUE KISSED John.

Here the focus clearly does not coincide with any syntactic constituent and we do not see how Chomsky (1976) and all the authors that used a movement approach could solve the problem.

Additional problematic cases for the 'leftness condition' come from Lasnik & Stowell (1991). They point out that the illicit configuration according to the classic theory

Antecedent<sub>i</sub>                      Pronoun<sub>i</sub>                      Trace<sub>i</sub>

fails to induce ungrammaticality in many circumstances. Parasitic gaps, appositive relative clauses, topicalizations, tough movement: they all represent instances of what Lasnik & Stowell (1991) called Weakest Crossover (which, more plainly, means that the sentences are grammatical or just slightly marginal).<sup>4</sup>

Parasitic gap

- 9) Who<sub>i</sub> did you stay with t<sub>i</sub> before his<sub>i</sub> wife had spoken to e<sub>i</sub>?

Appositive Relative clause

- 10) This book<sub>i</sub>, which its<sub>i</sub> author wrote t<sub>i</sub> last week, is a hit.

Topicalization

- 11) This book<sub>i</sub>, I expect its<sub>i</sub> author to buy t<sub>i</sub>.

Tough movement

- 12) Who<sub>i</sub> will be easy for us to get his<sub>i</sub> mother to talk to t<sub>i</sub>?

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<sup>4</sup> Many of these observations were actually present 'in nuce' in Wasow (1972, 1979), who distinguished various levels of ungrammaticalness for different kinds of constructions. His remarks were apparently forgotten, until Lasnik & Stowell (1991) returned more systematically to the analysis of the problem.

To these, we can add raising constructions that, as already Wasow (1979) noted in passing, do not present a strong deviance when used in WCO configurations (but here no variable is involved, whence the Leftness Condition is respected).

Raising

13) John<sub>i</sub> seems to his<sub>i</sub> mother t<sub>i</sub> to like the new job.

Many, more or less ad hoc, stipulations are possible in order to save Chomsky's (1976) proposal (and derivative ones), for example the type of existing LF levels can be multiplied or the descriptive ontology of quantifiers can be enriched. We will not enter into the details of the modifications proposed, which subtract to the original idea its attractiveness: being simple.

As observed in Bianchi (2001), the Leftness Condition cannot be properly formulated in the Minimalist Program. In fact, binding relations are computed at LF and linear ordering takes place at PF. Since the former supposedly sees only configurational relations (see Chomsky forthcoming), linear constraints cannot even be stated at LF. Given the standard LF-movement analysis of cases such as 14) (or 4), for that matter, one wonders how this problem could be worked out in order to recycle Chomsky's principle in a minimalist perspective.

14) \*His<sub>i</sub> son loves every mother<sub>i</sub>.

LF: every mother<sub>i</sub> [his<sub>i</sub> son loves t<sub>i</sub>]

As originally stated, the Leftness Condition appears incapable of accounting for all the data. Additionally, it seems to us merely descriptive, since it is not clear why it should exist as a universal condition on human languages and what are its relations with other properties of syntax. Finally, it does not result compatible with current minimalist assumptions. More or less the same holds for its variants and modifications.

## 2) WCO: REINHART'S PROPOSAL AND ITS PROBLEMS

Reinhart (1983) introduced into the literature the idea that the bound variable reading of a pronoun is subject to a c-command requirement in the same way of reflexive binding. Consequently, WCO configurations involving quantifiers (see 14)) could be explained away by means of Reinhart's principle (given that under standard assumptions the antecedent does not c-command the pronoun).

It is not clear how to extend a similar proposal to focus-induced instances of WCO, since no 'functional' reading of the pronoun exists in that case (even granting an operator-variable status to focus phenomena, as in the formal semantics treatments of IS). Cases such as 1) should thus receive a separate explanation. Theoretically, this is not a desirable result, since there is intuitively much in common between the two configurations in 1) and 14).

There are in addition plenty of examples showing that Reinhart's condition is simply wrong: a functional reading easily obtains also in the absence of c-command of the quantifier over the pronoun (it is precisely the existence of some of these data that prompted the introduction of very abstract concepts, like that of 'LF-movement', into the theory).

15) Someone from every city<sub>i</sub> loves it<sub>i</sub>.

(from May 1977)

16) Paul Masson will sell no wine<sub>i</sub> before its<sub>i</sub> time.

(from Lasnik & Stowell 1991)

17) I took every book<sub>i</sub> and put it<sub>i</sub> back on the shelf.

(from Bianchi 2001)

18) A: Who does every son<sub>i</sub> love most?

B: His<sub>i</sub> mother.

(see Engdahl 1986)

Furthermore, as Williams (1994) points out, irreducible differences between reflexive binding and bound variable readings of pronouns exist. In other words, ‘the reflexive is not simply the “local” version of bound anaphora’ (Williams 1994, 235).

- 19) \*Everyone<sub>i</sub>’s mother likes himself<sub>i</sub>.
- 20) Everyone<sub>i</sub>’s mother likes him<sub>i</sub>.
  
- 21) \*Every boy<sub>i</sub>/John<sub>i</sub> told every girl<sub>k</sub>/Mary<sub>k</sub> about themselves<sub>i+k</sub>.
- 22) Every boy<sub>i</sub> told every girl<sub>k</sub> that they<sub>i+k</sub> should get married.

To our eyes, Reinhart’s solution results inadequate both conceptually and empirically and we take it to represent a step behind in comparison to the older Leftness Condition.

### 3) WCO AND BACKWARD PRONOMINALIZATION

WCO configurations were originally claimed to be instantiations of the Backward Pronominalization (BP) paradigm, whose discovery is due to the more or less coeval works of Langacker (1969), Ross (1969), Postal (1970), Dougherty (1969). It is quite surprising that this analysis, which is adopted in Wasow (1972/1979), has then been neglected in favor of other treatments specifically devoted to ‘crossover environments’. In so doing, an interesting generalization came to be missed. In fact, we firmly believe that trying to explain WCO separately from the phenomenon of BP generally considered is a misunderstanding.

An exemplification of the BP paradigm is reported here:

- 23) John<sub>i</sub> stays when you ask him<sub>i</sub> to leave.
  - 24) \*He<sub>i</sub> stays when you ask John<sub>i</sub> to leave.
  - 25) When you ask John<sub>i</sub> to leave, he<sub>i</sub> stays.
  - 26) When you ask him<sub>i</sub> to leave, John<sub>i</sub> stays.
- (from Ross 1967)

We can roughly restate the generalization at issue in this preliminary way: a right-to-left pronominal dependence is licit only if the pronoun is in a subordinate clause. This should be extended to cover examples of the following type as well, where the embedding is nominal and not clausal (see Wasow 1979, Jackendoff 1972 and particularly Lasnik 1976, who modifies Langacker’s notion of Command precisely to be able to incorporate similar data into it).

- 27) The story about him<sub>i</sub> that was making the rounds cost John<sub>i</sub> many friends.

Notice that an identical constraint holds in examples which do not involve pronouns, but rather deleted material (see Ross 1967, Postal 1971, Hankamer & Sag 1976, Williams 1997).

- 28) Seven more soldiers came in after ten had left.
  - 29) \*Seven more came in after ten soldiers had left.
  - 30) After ten soldiers had left, seven more came in.
  - 31) After ten had left, seven more soldiers came in.
- (from Ross 1967)

If WCO is really an instance of the more general BP, the same should be true. And it is possible to demonstrate that indeed it is the case:

- 32) ?Il padre già di dieci può certo volere un ennesimo/altro figlio.  
The father already of ten may certainly desire another son
- 33) \*Un ennesimo/altro può certo essere voluto dal padre già di dieci figli.  
Another may certainly be desired by the father already of ten sons

Ross (1967) states that the BP generalization is operative also when employing epithets (but see Lasnik 1976, who points out some problems in this respect). Under certain conditions, it can be shown that WCO configurations are also similar from this point of view.

- 34) ?La madre dell'idiota<sub>i</sub> AMA quel povero bambino<sub>i</sub>.  
 35) \*La madre dell'idiota<sub>i</sub> ama QUEL POVERO BAMBINO<sub>i</sub>.  
 That idiot's mother loves Giovanni.
- 36) I parenti che il mascalzone<sub>i</sub> ha truffato hanno intimato a Pietro<sub>i</sub> di restituire il maltolto.  
 The relatives that the scoundrel cheated ordered Pietro to give back the ill-gotten gains.
- 37) \*Al mascalzone<sub>i</sub> è stato intimato dai parenti che Pietro<sub>i</sub> ha truffato di restituire il maltolto.  
 To the scoundrel<sub>i</sub> it has been ordered by the relatives that Pietro<sub>i</sub> cheated to give back the ill-gotten gains.

This obviously implies that the previous generalization should be revised, making it operative about general conditions on antecedence rather than only about pronominalization possibilities.

#### 4) BP AND IS

The employment of certain types of DPs shows that a focal status at the D-level is not allowed in otherwise licit BP environments.<sup>5</sup> Indeed, an indefinite antecedent produces deviant results, ranging from unnaturalness to full ungrammaticality. This is not new, since it was stated as a constraint on BP already in Postal (1970) (who credits an observation by Kuroda). Obviously, the constraint was not framed in informational terms, which according to us are the correct ones. Postal's generalization was that if a definite pronoun is to the left of an NP, the NP may serve as the antecedent for the pronoun only if it is definite. However, Postal (1970) noted various exceptions. All seem to involve indefinites that may receive a topical interpretation according to our previous classification. Predictably, the only exceptions are those that also hold in dislocation contexts in Italian<sup>6</sup>: partitive/modified indefinites and generics (see chapter 2). So, the kind-referring NP in 39) and 41) is fine in both a BP configuration and a dislocated position, and the partitive indefinite in 42) and 43) presents an identical behavior.

- 38) \*Le persone che lo<sub>i</sub> conoscono bene non dovrebbero disprezzare [un uomo]<sub>i</sub>.  
 The persons who know him(cl) well should not feel contempt for a man
- 39) Le persone che lo<sub>i</sub> conoscono bene non dovrebbero disprezzare [un uomo timido]<sub>i</sub>.  
 The persons who know him(cl) well should not feel contempt for a shy man
- 40) \*Un uomo, ieri non l'ho incontrato.  
 A man, yesterday I didn't meet him(cl)
- 41) Un uomo timido, non l'ho mai incontrato.

<sup>5</sup> Heim (1982) provides an escape hatch for the Leftness Condition in this case, since existential indefinites are treated as variables bound by an existential operator in her framework.

<sup>6</sup> Wasow adds to the list so-called specific indefinites (on whose problematic definition we do not have any convincing proposal to advance; see, among others, Barwise & Cooper 1981, Fodor & Sag 1982, Heim 1982, Enc 1991).

- i) That he<sub>i</sub> was not elected upset a certain leading politician<sub>i</sub>.  
 (from Wasow 1972)

It seems to us that in Italian this is not true.

- ii) ?\*Che non fosse stato eletto infastidi un certo politico.  
 That (he) had not been elected upset a certain politician

See also this English example in Postal (1970), due to Kuroda:

- iii) \*If he<sub>i</sub> calls, you shouldn't talk to a certain man<sub>i</sub>.

A shy man, I've never met him(cl)

- 42) Le persone che lo<sub>i</sub> hanno conosciuto mi hanno parlato bene di [uno di quegli uomini]<sub>i</sub>.  
The persons who knew him(cl) spoke well of one of those men
- 43) Uno di quegli uomini, lo vorrei sposare.  
One of those men, I'd like to marry him(cl)

The mentioned informational constraint could then also suffice to explain the ungrammaticality of 45), assuming reconstruction of the wh-element and its focal status at the D-level:<sup>7,8</sup>

- 44) Le persone che lo<sub>i</sub> conoscono non dovrebbero odiare Giovanni<sub>i</sub>.  
The persons that know him should not hate G.
- 45) \*Chi<sub>i</sub> non dovrebbero odiare le persone che lo<sub>i</sub> conoscono t<sub>i</sub>?<sup>9</sup>  
Whom should not hate the persons that know him(cl)
- 46) His<sub>i</sub> mother loves John<sub>i</sub>.
- 47) \*Who<sub>i</sub> does his<sub>i</sub> mother love t<sub>i</sub>?

Wasow (1972), who first put forward such an idea (see also Cole 1974), actually noted that d-linked wh-elements induce weaker violations, or none at all. We might take data of this type to

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<sup>7</sup> There is considerable and independent empirical evidence showing that some form of reconstruction mechanism is needed in grammar (see Barss 2001 for an overview), while the existence of covert LF movement has always been much more debated. What seems frankly dubious to us is that both of these mechanisms should be appealed to for explaining WCO, given that they have 'mirror image' effects.

<sup>8</sup> A potential problem for this hypothesis could be that wh-in-situ in multiple wh-questions have sometimes been claimed to be insensitive to WCO.

- i) What tyrant tortured her<sub>i</sub> mother in front of what helpless princess<sub>i</sub>?  
ii) \*The tyrant tortured her<sub>i</sub> mother in front of some helpless princess<sub>i</sub>.  
(from Postal 1972)

But the largely prevailing view in the literature is that sentences like i) are ok only as double echo-questions and that true multiple questions are actually out (see Wasow 1972, Cole 1974, Jacobson 1979; see also note 17 in Postal 1972).

<sup>9</sup> In Italian, the extraction of an object with a postverbal subject is also compatible with the following derivation:

- i) Non dovrebbero odiare Giovanni<sub>i</sub> le persone che lo<sub>i</sub> conoscono.  
Should not hate G. the persons that know him(cl)
- ii) \*Chi<sub>i</sub> non dovrebbero odiare t<sub>i</sub> le persone che lo<sub>i</sub> conoscono?  
Whom should not hate the persons that know him(cl)?

But here the focal element would precede the pronoun and should not cause a WCO violation. Since independent constraints on forward pronominalization are operative (see iii) and below), it is difficult to choose one derivation over the other.

- iii) \*Non dovrebbero odiare qualcuno<sub>i</sub> le persone che lo<sub>i</sub> conoscono.  
Should not hate somebody the persons that know him(cl)

Maintaining a derivation like that in the text, the inversion of the subject in 45) would be due to causes which do not concern IS (as in Spanish wh-questions, where it is clearly so - see Torregro 1984; unknown reasons would block wh-inversion in intermediate trace positions in Italian, which has been nevertheless claimed to be optional also in Spanish by some authors - see Vicente 2004, note 19). These sentences illustrate an identical possibility for the extraction of indirect objects.

- iv) (?)A chi darà Mario un regalo t?  
To whom will give Mario a present?
- v) \*Darà Mario un regalo a Pietro. (with non-contrastive interpretation of *Mario*)  
Will give Mario a present to Pietro

be proofs in favor of the proposal, since d-linked wh-elements are relatively fine also in dislocated positions in Italian (and thus topical at the D-level, see chapter 2).

48) ?Which well-known actor<sub>i</sub> did the policeman who arrested him<sub>i</sub> accuse t of being drunk?

The same could be said to account for cases involving quantifiers (as in 14), repeated as 49)), without any reference to LF-movement. Dislocation of a quantifier is marginal or impossible in Italian, testifying of its focal nature at the D-level (see chapter 2).

49) \*His<sub>i</sub> son loves every mother<sub>i</sub>.

50) \*Ogni donna, la conosco.

Every woman, I know her(cl)

On the contrary, quantifiers with a generic (Postal 1970, 464) or partitive interpretation tend to behave differently in BP configurations. Correspondingly, they can be dislocated.<sup>10</sup>

51) \*Le canzoni che pro<sub>i</sub> ha scritto hanno reso famoso [ogni musicista]<sub>i</sub>.

The songs that (he) wrote rendered famous every musician

52) Le canzoni che pro<sub>i</sub> ha scritto hanno reso famoso [ogni aspirante musicista degli ultimi venti anni]<sub>i</sub>.

The songs that (he) wrote rendered famous every aspiring musician of the last twenty years

53) \*Gli scandali in cui pro<sub>i</sub> è stato coinvolto hanno disilluso [ogni politico]<sub>i</sub>.

The scandals in which (he) has been involved disenchanted every politician

54) ?Gli scandali in cui pro<sub>i</sub> è stato coinvolto hanno disilluso [ogni politico della passata legislatura]<sub>i</sub>.

The scandals in which (he) has been involved disenchanted every politician of the past legislature

The difference emerges also with nominal non-clausal embeddings, though certainly less straightforwardly.

55) \*Le sue<sub>i</sub> canzoni hanno permesso ad [ogni musicista]<sub>i</sub> di diventare famoso a prescindere dalla qualità.

His songs permitted to every musician to become famous independently from considerations of quality

56) ?Le sue<sub>i</sub> canzoni hanno permesso ad [ogni musicista degli ultimi vent'anni che si mettesse a comporre qualcosa]<sub>i</sub> di diventare famoso a prescindere dalla qualità.

His songs permitted to every musician of the last twenty years that decided to compose something to become famous independently from considerations of quality

We can revise our definition of the conditions permitting BP incorporating Kuroda/Postal's and Chomsky's observations, which concern focus at respectively the D-level and the intra-CP level.

#### *BP generalization*<sup>11</sup>

A right-to-left pronominal dependency is licit only if the bindee is embedded and the binder does not bear a focal value in the various IS levels.

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<sup>10</sup> Note that these are further counterexamples to Reinhart's treatment of bound pronouns.

<sup>11</sup> It must be emphasized that many researchers in the first '70s have been aware of the solutions reported up to now, which simply represent an updating of what was then in the air using different terminology. What we believe to be striking is that the same concepts that we developed in chapter 2 and 3 for dealing with island phenomena turn out to be necessary as well to account for certain pronominalization restrictions. In later sections of the present chapter this will be shown to be even more general than what could appear so far.

Given that BP is sensitive to focus assignments at the intra-CP level, our precedent remarks in chapter 3 should suffice to convince the reader that the stated generalization is also able to block WCO configurations in English due to restrictive RCs (and to every sort of extraction procedures which are positioned on the very left hand of the proposed scale of topicality at the end of that chapter; remember that the various languages may have a partly different scale). Not only so: it predicts precisely the pattern of gradual judgements that we detected in Italian (see again chapter 3). It is certainly not fortuitous that extraction possibilities out of islands and WCO effects are both different from English for Italian restrictive RCs.

The proper treatment of restrictives in WCO environments has always been highly problematic and that was the main reason which led to the rejection of the equivalence WCO-BP, as in Postal (1972) or Chomsky (1976). In our framework, a difficulty emerges as well: in English, interrogative wh-movement is supposedly higher in the scale of topicality than restrictive RC formation, still partitive and d-linked wh-elements permit a backward pronominal dependency, while the head of a restrictive RC does not. Apparently, it is the topical status of the wh-element at the D-level which manages to overcome the difficulties coming from the intra-CP level, given that informational values tend to sum up (as we saw in chapter 2).<sup>12</sup> This implies that the BP generalization should be rendered threshold-like (in the same way as the Principle of Extraction), which is certainly not surprising given its dependence on informational variables. The problem is that the head of a restrictive RC can be definite (thus also supposedly topical at the D-level), but in languages such as English this does not seem to change substantially grammaticality judgements in WCO configurations. Why do we detect the effects of the D-level in interrogative wh-movement but not in restrictive RC formation, then? We think the answer lies in the somewhat *apparent* topical value of definite heads in restrictive RCs. While it is undeniably true that a definite head is more topical than an indefinite one (the first shows a presupposition of existence; see also note 13), the presence of definiteness is still not a sure indicator of a high value of topicality at the D-level - as repeatedly observed in chapter 2. If we turn to our conceptual characterization of topicality at this level (unfortunately, the dislocation test is not applicable here), it is evident that the head of a restrictive RC alone, even if definite, does not individuate a precise referent, nor a concrete set of contextual elements out of which it has to be chosen. It is only the intersection with its restriction (namely, the RC) which permits to individuate a referent. Because of such implicit semantic characteristics of restrictive RCs, the presence of definiteness cannot have in this case the same informational effects that, say, d-linking has on interrogative wh-movement.<sup>13</sup> The low value of topicality that the head receives at the intra-CP level of the embedded clause cannot be compensated by a high value of topicality at the D-level, and thus ungrammaticality arises. If similar remarks are on the right track, the complete unification of BP and WCO configurations becomes feasible.

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<sup>12</sup> As shown in Postal (1993), certain kinds of extraction that in English do not normally give rise to WCO effects (such as Topicalization) elicit ungrammaticality whenever the moved constituent is conveniently focal at the D-level. This is the reciprocal of the effect analyzed in the text, and points to analogous theoretical conclusions.

- i) Mario<sub>i</sub>, I told his<sub>i</sub> wife that I had called t.
- ii) \*[Everybody else]<sub>i</sub>, I told his<sub>i</sub> wife that I had called t.

<sup>13</sup> However, in Italian perceivable differences are detectable between definite and indefinite heads in WCO configurations (remember that the informational value at the intra-CP level associated to the head is inferior in this language, as evident from the behavior of restrictive RCs in island configurations - see chapter 3):

- i) ?\*Ecco un uomo<sub>i</sub> che sua<sub>i</sub> madre ama t ...  
a man that his mother loves
- ii) (?)\*Ecco l'uomo<sub>i</sub> che sua<sub>i</sub> madre ama t ...  
The man that his mother loves

See also Bianchi's (2004) data on reconstruction, showing similar differences.

## 5) AGAIN ON WCO AND BP

The proposal of considering WCO as a typical case of BP is explicitly refused in Williams (1997). Some words on his considerations are thus needed, in order to clarify our position and take care of his objections.

Williams claims that embedding in an NP subject is not sufficient to create a relation of ‘true subordination’, which is required in order to license a BP. The following illustrates again the type of data at issue:

- 57) Sua<sub>i</sub> madre AMA Maria<sub>i</sub>.  
Her mother loves M.  
58) La presenza importuna dei loro<sub>i</sub> parenti ha fatto imbestialire LE SPOSE<sub>i</sub>.  
The annoying presence of their relatives made sick the brides

It is not clear on what basis one can deny ‘true subordination’ to a relation that systematically allows BP, as other kinds of subordination do (though it is true that there is no single accentual pattern in the data). Williams seems to think that every permitted case of BP with embedding in a subject DP amounts to a dependence from a preceding NP. So, he equates cases similar to 57) with the following one:<sup>14</sup>

- 59) [I assume you recall that this course requires a term paper.]  
Anyone can turn it<sub>i</sub> in to me now who has WRITTEN his term paper<sub>i</sub>.

According to Williams, here *term paper* (the antecedent) is itself anaphoric, being equated with an antecedent in the previous utterance. So, ‘the pronoun *it* is licensed not by the following *his term paper* but by the preceding *a term paper*’. This would be what permits to violate the BP generalization. The same should happen in licit WCO configurations (which under Williams’s view also violate the BP generalization, as testified by the similarities in accentuation).

A similar analysis could maybe have some initial plausibility for sentences such as 57) above, but it is clearly inadequate for examples like 58). Consider now in more detail the differences in accentuation for the various sorts of DP embedding. It may seem that only possessive pronouns require a deaccented object antecedent, but this is not true. The pattern of accentuation is rather dependent upon the type of verb employed. Thus, the following sentences in Italian are not out even if the antecedent receives stress (note that they do not involve stative predicates).

- 60) Suo<sub>i</sub> figlio ha picchiato MARIA<sub>i</sub>.  
His son beat M.  
61) I loro<sub>i</sub> parenti hanno visitato I NOSTRI VICINI<sub>i</sub>.  
Their relatives visited our neighbours

We do not see any easy way to accommodate these differences in accentuation into an explanation similar to Williams’s one.

There are in addition other possibilities of finding empirical proofs disconfirming it. A first observation regards the fact that we can easily construct cases of licit WCO in the absence of an obligatory antecedent in previous utterances. So, this sentence is fine uttered out-of-the-blue:

- 62) (?) [Quale delle auto<sub>i</sub> in garage]<sub>k</sub> il suo<sub>i</sub> proprietario ha abbandonato t<sub>k</sub>?  
Which of the cars in the garage did his owner abandoned?

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<sup>14</sup> Note also that the example contains an object pronoun. Since Lakoff (1968) it is well-known that there is a difference between subject and object pro-forms in BP configurations (see below), which Williams does not take into consideration.

It certainly requires a felicitous pragmatic context and a shared background, but not a previously introduced referent for *suo/his*, as the employment of an interrogative *wh*-element implicitly proves.

Consider also data having to do with the absence of WCO in *presence of accentuation of the antecedent* employing the same category of verbs used before, namely stative predicates. We do find similar cases in natural language: first and second person pronouns are in fact fine in those configurations, also when they are (apparently) focalized.

- 63) Chi ama tua madre?  
Who does your mother love?  
Mia<sub>i</sub> madre ama ME<sub>i</sub>.  
My mother loves me

We know that the pronouns referring to the hearer and to the speaker are somewhat special from an informational point of view, given the pragmatic situations in which language is normally used. Thus, even in focal contexts these pronouns have a particular behavior due to the fact that their referent is always implicitly present. In other words, it is not possible to introduce *ex novo* the hearer and the speaker into the discourse. In the examples above the reference of the possessive pronouns may thus come directly from the pragmatic circumstances in which the utterance takes place, permitting the accentuation of the object pronouns. This means that when in WCO configurations an extra-sentential reference for the pronoun is possible, the ban against the accentuation of the antecedent may decay. It follows that pronouns do not take their reference from outside the sentence in WCO configurations respecting the ban on accented antecedents, since if it were so accentuation would presumably be tolerated and the ban violated.<sup>15</sup>

Williams also affirms that it is possible to find certain examples in which an accented antecedent is focal, since it is fine in an out-of-the-blue context (the sentence comes from Williams 1994).

- 64) That he<sub>i</sub> had been given no assignments upset THE NEW VICE PRESIDENT<sub>i</sub>.

Analogous data may be encountered in Italian.

- 65) Il fatto che non gli<sub>i</sub> abbiano assegnato nessun incarico ha disturbato IL NUOVO VICEPRESIDENTE<sub>i</sub>.

But the fact that a sentence-final constituent gets stress in an out-of-the-blue context does not always guarantee that it is focalized (see Culicover & Rochemont 1983). For example, taking a WCO configuration which is ok with an accented antecedent one notices that a similar sentence is not compatible with a truly focal reading of the object. So, it would be inappropriate as an answer to a question like the one below.

- 66) A chi hanno fatto visita quelle persone?  
Who have those persons visited?  
#I loro<sub>i</sub> parenti hanno visitato I NOSTRI VICINI<sub>i</sub>.  
Their relatives visited our neighbours

Interestingly, a focal reading of the antecedent seems quite unnatural also in cases such as 67).

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<sup>15</sup> Reinhart (1983) proposes to analyze standard BP examples as instances of ‘accidental coreference’. Apart from the fact that the notion of accidental coreference has always been left vague, all the empirical data in this subsection represent counterevidence to similar statements (in accordance with Kayne 2002). When the referent of a pronoun does not come directly from the sentence, syntactic and phonological consequences are detectable. It follows that if such indices are absent, an analysis of that sort results substantially precluded.

- 67) L'assenza di incarichi, chi ha disturbato?  
 Who has the absence of assignments disturbed?  
 ?#Il fatto che non gli abbiano assegnato nessun incarico ha disturbato IL NUOVO VICEPRESIDENTE.  
 The fact that (they) have not given him(cl) any assignments upset the new vice president

Finally, note again that the choice of verb matters a lot. Williams's example contains a psych-verb and according to a variety of tests the object of verbs similar to *upset* has typically subject properties (see Calabrese 1986, sec 2.2, Belletti & Rizzi 1988).<sup>16</sup> Furthermore, Carlson (1977) and Diesing (1992) note that bare plural objects of experiencer verbs like *hate* behave differently from those of other transitive verbs, because they require a generic interpretation (which we considered among the topical readings of indefinites in chapter 2). It is noteworthy that also psych-verbs like *upset* or *thrill* require such a reading, in contrast to standard transitive verbs.

- 68) Skillful cellists thrill conductors.  
 69) Boring bass lines annoy contrabassoonists.

What all this suggests is that (at least certain) psych-verbs are special from the point of view of default IS, casting further doubts on the relevance of Williams's example.

## 6) A CYCLIC DESCRIPTION OF THE BP PARADIGM

According to Wasow (1979), WCO configurations are those in which the pronoun is more embedded than the antecedent - presumably in an absolute sense. Examples that support this view seem to exist:

- 70) \*His<sub>i</sub> mother loves John<sub>i</sub>'s daughter.  
 71) John<sub>i</sub>'s daughter loves his<sub>i</sub> mother.

Here both the pronoun and the antecedent are embedded and Wasow's definition of WCO predicts ungrammaticality. However, it turns out that binding of a pronoun by an embedded antecedent is possible in many other comparable cases in Italian.

- 72) Le sue<sub>i</sub> foto sono piaciute alla famiglia di Giovanni<sub>i</sub>.  
 His<sub>i</sub> pictures pleased John<sub>i</sub>'s family.  
 73) Il suo<sub>i</sub> cane abbaia sempre agli uccelli che Pietro<sub>i</sub> teneva in gabbia.  
 His<sub>i</sub> dog barked continuously to the birds that Pietro<sub>i</sub> kept in a cage.  
 74) Le sue<sub>i</sub> motivazioni non convinsero gli amici di Maria<sub>i</sub>.  
 Her<sub>i</sub> motivations didn't convince Maria<sub>i</sub>'s friends.

The bad example reported before stays bad in Italian as well.

- 75) ?\*Sua<sub>i</sub> madre ama la figlia di Giovanni<sub>i</sub>.  
 Her mother loves G.'s daughter.

But the reasons why it is so are not syntactic and rather connected to the confusion induced by kinship relationships. 'His' may refer to both 'John' and 'daughter' and this is presumably the origin of the problems with these kinds of examples.

Note that we can reproduce data similar to 72), 73) and 74) with clausal embeddings: the pronoun can be inside a 'that-complement' clause, and the antecedent inside a nominal domain.

- 76) Mario ha detto che lui<sub>i</sub> è arrivato tardi ai genitori di Giovanni<sub>i</sub>.

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<sup>16</sup> We cannot enter into a complete analysis of the relation between verb ontology and accentuation here, because it will lead us too far away from the issues under discussion here.

Mario told that he<sub>i</sub> arrived late to Giovanni<sub>i</sub>'s parents.

Actually, the antecedent can even be more embedded than the pronoun in absolute terms.

77) The picture that he<sub>i</sub> didn't see forced many to say that John<sub>i</sub>'s face is beautiful.

78) His<sub>i</sub> picture forced many to say that John<sub>i</sub>'s face is beautiful.

What is relevant is the embedding of the pronoun wrt the antecedent. If the *relative* embedding of pronoun and antecedent is in favour of the first (ie, if the antecedent is embedded inside the pronoun), ungrammaticality arises. Otherwise, it is sufficient that the pronoun is embedded (how deep is not crucial) for a sentence to allow BP, whatever level of embedding pertains to the antecedent.

*Pronoun embedded, antecedent embedded wrt the pronoun itself.*

79) \*La ragazza che lui<sub>i</sub> disse che Giovanni<sub>i</sub> ammirava non arrivava mai tardi.

The girl that he<sub>i</sub> said that Giovanni<sub>i</sub> admired never arrived late.

*Pronoun embedded, antecedent embedded but not wrt to the pronoun.*

80) La ragazza che lui<sub>i</sub> disse di amare non piaceva alle persone che sapevo che Giovanni<sub>i</sub> frequentava.

The girl that he<sub>i</sub> said to love wasn't admired by the persons that I knew that John<sub>i</sub> saw.

Thus, the principle responsible for the BP paradigm cannot be based on the variable 'number of embeddings' (see Langacker 1969 and Postal 1971 for similar considerations).

Langacker introduced the concept of 'command' (direct ancestor of that of c-command) in order to explain data similar to those above. The basic methodological problem with it (considerations of psychological plausibility apart) is that it implies two different accounts for BP, one holding in coordination and the other in subordination contexts, as observed in Reinhart (1983). In fact, in the former case the pronoun does not command the antecedent, still the sentences are clearly out. This means that on the one hand the notion of precedence seems to be sufficient, while on the other the more complex notion of precede and command is required. A unitary solution would be certainly preferable.

Every possible explanation has to account for the difference between embedded and non-embedded pronouns in BP: this is not something one can get rid of. However, a derivational framework does not need any additional stipulation, such as that of command (which is a notion casted in representational terms).<sup>17</sup> If the relation between a matrix clause/head noun and an embedded constituent is cyclically considered, then an embedded constituent dependent on another embedded constituent will always be in relation to a matrix clause/head noun in a particular stage of the derivation of the sentence (even if the matrix clause/head noun is in turn

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<sup>17</sup> It is relatively easy to demonstrate that the notion of c-command is also not relevant, since violations of the BP generalization produce unacceptability even if the pronoun does not c-command the antecedent:

i) \*He<sub>i</sub> has a lot of talent and Peter<sub>i</sub> should go far.

(from Langacker 1969)

ii) \*Anyone can try to hand in it<sub>i</sub> to me who has written HIS TERM PAPER<sub>i</sub>.

(from Williams 1997)

We will see below many data that point to the relevance of IS rather than that of purely structural variables in this respect. Independently from informational considerations, the latest developments of Minimalism have anyway called into question the notion of c-command. See this quotation from Chomsky (forthcoming): 'Whether c-command plays a role within the computation to the C-I interface is an open question. I know of no clear evidence that it does, so will keep to the relations that seem unavoidable...?'

to be embedded in its subsequent stages). It follows that the ungrammaticality of 81) derives from that of 82), which is a configuration that temporarily obtains in its derivation.<sup>18,19</sup>

- 81) \*La ragazza che pro<sub>i</sub> disse che Giovanni<sub>i</sub> ammirava t non arrivava mai tardi.  
 The girl that pro<sub>i</sub> said that Giovanni<sub>i</sub> admired never arrived late.  
 82) \*Pro<sub>i</sub> disse che Giovanni<sub>i</sub> ammirava la ragazza.  
 Pro<sub>i</sub> said that Giovanni<sub>i</sub> admired the girl

[La ragazza che [[pro<sub>i</sub> disse [che Giovanni<sub>i</sub> ammirava t]] non arrivava mai tardi].

The pattern of (un)grammaticality in BP configurations represents thus one more proof of the pervasive cyclic nature of human languages.<sup>20</sup> This leads us to a revision of the previous generalization concerning BP.

<sup>18</sup> The derivation adopted is rigorously bottom-up, on the same wavelength as Chomsky (who has always considered the adoption of an implicit ‘production model’ as one of his irrevocable assumptions). We leave unsolved the difficulties having to do with the adaptation of a similar account to a ‘comprehension model’: linguistics is in a still premature stage of development to face problems of such a complexity.

<sup>19</sup> Antireconstruction effects in presence of antecedents embedded inside displaced constituents (see below) indicate that the things might be more complex than what is assumed in the text. In particular, a cyclic application of the restrictions on BP seems sensible provided that we are able to state a theory in which it is clear what is the status of those cases.

If, as we proposed, *t* is an A’ anaphor, then the embedded antecedents in i) or ii) could not be directly coindexed with the pronoun from that position (this is somewhat equivalent to the notion of non-structured trace) and a violation of BP would thus arise only if a reconstruction procedure is applied. But this is so only under the assumption that movement never took place in structures such as i) or ii), otherwise the pre-movement position of the wh-element should rule out the sentence, assuming that the restrictions on BP are active cyclically also in pre-movement positions. A *generalized base-generation* account suggests itself in that event.

- i) [Quale foto che Giovanni<sub>i</sub> ha visto]<sub>k</sub> lui<sub>i</sub> disse che ammirava t<sub>k</sub>?  
 Which picture that G. has seen he said that (he) admired?  
 ii) (?)È arrivata la ragazza che si chiedeva [quali foto che Giovanni<sub>i</sub> ha visto]<sub>k</sub> lui<sub>i</sub> disse che ammirava t<sub>k</sub>.  
 Is arrived the girl that was wondering which pictures that G has seen he said that (he) admired

Alternatively and more plausibly, if (successive cyclic) movement is effective before every cyclic spell-out, as in many current minimalist approaches, the banned configuration never arises derivationally assuming that the restrictions on BP are active *at the end* of each subcycle, as seems natural given our model of IS. A reconstruction procedure would again be responsible of the bad examples. In both cases, it obviously remains to be established under which circumstances reconstruction is operative (a proposal will be advanced in one of the next sections of this chapter).

<sup>20</sup> One can wonder what happens with nominals. Consider the following fragments:

- i) his<sub>i</sub> sister’s portrait of John<sub>i</sub>  
 ii) \*his<sub>i</sub> portrait of John<sub>i</sub>’s sister (cf. I saw John<sub>i</sub>’s portrait of his<sub>i</sub> sister.)  
 (from Lasnik 1976)

In i), the pronoun is embedded and can refer back to its (non-embedded) antecedent. In ii) the pronoun is instead NOT embedded (from the point of view of the head noun, exactly like a subject in a CP) and the antecedent may not come after it (it can only precede the pronoun). In iii), the antecedent is embedded but not wrt the pronoun, which is embedded too. The sentence is then fine.

- iii) his<sub>i</sub> sister’s portrait of John<sub>i</sub>’s father

The equivalence CP/DP is thoroughly maintained and the principle at work seems identical in both domains. This is so only if the notion of embedding is relativized and examined at the appropriate cyclic level of description. The different status of embeddings for nominals and clauses is not contemplated in non-cyclic treatments, while it is entirely consistent with our account of BP. In a representational framework one would need two different tree structures to represent the embedding of *his* at the nominal and at the clausal level. This is immaterial in a derivational and fully cyclic theory.

*BP generalization (revised)*

A right-to-left pronominal dependency is licit only if the bindee is *cyclically* embedded and the binder does not bear a global FOC value beyond a certain threshold.

Crucial in our understanding of BP is the notion of cyclic embedding, then, which introduces a recursive ‘vertical’ aspect into a question which otherwise has a fundamentally ‘horizontal’ dimension.<sup>21</sup> Data involving coordinated clauses express transparently the linear restriction at issue, which impedes that a pronoun refer backwards to its antecedent (see the next section for a more precise characterization).<sup>22</sup> Such a ban is relaxed in presence of the embedding of the pronoun, though BP remains marked wrt forward pronominalization and still maintains certain limitations peculiar to it. We thus have a *single* restriction on BP, which is exclusively based on linear precedence, and a bunch of interfering variables which include the level of embedding of the pronoun and the informational status of the antecedent - and others are to be added.

## 7) PRINCIPLE C AND BP

Since we saw that the BP generalization is active also for epithets and deleted material, we can wonder which conceptualization could be more appropriate in order to cover all the cases at hand. In this section, it is our intention to show that the restrictions on BP have to be connected to Principle C of the Binding Theory, in a way which will take us to its complete reformulation in an informational perspective.

It is well-known that of the three principles of the Binding Theory, Principle A and B are intimately related, while Principle C is different in nature. The conflation of the three in a unitary module, as in Chomsky (1981), is therefore suspect. Indeed, there is a considerable amount of empirical facts suggesting that the standard formulation of Principle C is inadequate. Consider firstly these contrasts in Italian:

- 83) *Luigi<sub>i</sub> è corso a casa e pro<sub>i</sub> non vuole vederti.*  
L. run home and pro does not want to see you
- 84) *Lui<sub>i</sub> è corso a casa e pro<sub>i</sub> non vuole vederti.*  
He run home and pro does not want to see you
- 85) ??*Luigi<sub>i</sub> è corso a casa e lui<sub>i</sub> non vuole vederti.*  
L. run home and he does not want to see you
- 86) \**Pro<sub>i</sub> è corso a casa e Luigi<sub>i</sub> non vuole vederti.*  
Pro run home and L. does not want to see you
- 87) ?\**Pro<sub>i</sub> è corso a casa e lui<sub>i</sub> non vuole vederti.*  
Pro run home and he does not want to see you
- 88) \**Lui<sub>i</sub> è corso a casa e Luigi<sub>i</sub> non vuole vederti.*  
He run home and L. does not want to see you
- 89) *Pro<sub>i</sub> è corso a casa e pro<sub>i</sub> non vuole vederti.*  
Pro run home and pro does not want to see you

The notion of c-command is irrelevant here and Principle C has thus nothing to say on the sentences. Additionally, the reader may easily realize that we are not in presence of a rule that governs the relation of R-expressions to other elements in structural domains, according to a previous classification into categories. The point evident in the Italian data above is instead the following: there is a single variable (not involving discrete categories) and a precise direction in the allowed pronominalizations.<sup>23</sup> Such a variable is the informational value of a constituent at

<sup>21</sup> A suggestive parallel equates these two different linguistic aspects with harmony and melody in (tonal) music.

<sup>22</sup> This restriction is too strong. Not all pronouns are subject to it in the same way, as we will see in a moment.

<sup>23</sup> See Lakoff (1968, 1.1.5.2) for a very similar description of the facts, based on English data which are entirely compatible with those presented here.

the D-level, and the direction is toward its quantitative increase. A similar formulation permits to understand why *pro* may come both after *lui* and an R-expression, while *lui* and an R-expression may not come after *pro*. The comparison between *lui* and an R-expression is somewhat more difficult, still the contrast is clear: *lui* can (quite marginally: in non-embedded clauses *pro* would be used) follow an R-expression, while an R-expression can never follow *lui*.<sup>24</sup>

Now, whatever explains 86), 87) and 88) can also rule out all standard Principle C violations. The articulation of a new principle is clearly preferable, because it would result more general than Principle C itself and therefore cover more cases. In addition, an entirely informational treatment allows to take into consideration the influence on grammaticality of other informational factors in a completely natural way - an essential task in order to understand properly the BP generalization. The interference from IS would have to be superimposed instead, if one chose to preserve a Principle C-like explanation (which nevertheless appears independently flawed in that case; see note 17 and below). As a first rough approximation, we propose the following:

#### *Order of Topics Constraint (OTC)*

When a (non-embedded) referent *x* is introduced into a sentence it is not possible to refer to it again with the same or less degree of topicality in subsequent (non-embedded) linear positions, unless the bottom of the topical scale in a given language *X* is reached.<sup>25</sup>

The more appropriate name of ‘Backward Topicalization’ (instead of the unfortunate ‘Pronominalization’) should then be introduced to refer to the previously examined configurations. But since in the literature the name of Backward Pronominalization prevailed, we will stick to the old terminology. Anyway, the reader is advised that each time we will mention it in the continuation, the intended meaning should be considered. The correct BP generalization is not about pronouns (or epithets, or deleted material), but rather about informational values.<sup>26</sup>

#### *BP generalization (revised)*

The OTC may be violated only if the bindee is cyclically embedded and the binder does not bear a global FOC value beyond a certain threshold.

Now the BP generalization is practically reduced to a list of conditions alleviating or worsening violations of the OTC, which is an entirely informational constraint.

An interesting piece of evidence in favor of our ideas is that the restrictions on BP seem to be active also for discourse fragments where the relation between a pronoun and an antecedent is established beyond the sentence boundaries.

- 90) A: Mary met John<sub>i</sub> yesterday.  
B: I will see him<sub>i</sub> tomorrow.

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<sup>24</sup> The implicit assumption of the reasoning is that *pro* is the most topical constituent at the D-level, followed by overt pronouns and finally by R-expressions. This should remind the reader of Lakoff’s ‘anaphora hierarchy’, which can also be reframed in purely informational terms.

<sup>25</sup> The OTC is not operative in doubling configurations (see chapter 4, sec. 18). It also interacts sometimes with the so-called ‘principle of disjoint reference’, as in:

- i) \*He<sub>i</sub> met John<sub>i</sub>.  
ii) \*John<sub>i</sub> met John<sub>i</sub>.

We believe that some versions of both of them are necessary, but will leave the issue open here.

<sup>26</sup> Our cyclic treatment of BP turns out to be evidence in favor of the multiple informational spell-out model, which we independently proposed in chapter 2: for the usual restrictions on BP to be active derivationally, the informational properties of the various subcycles should of course be available at every cyclic merge, before reaching the end of the derivation.

- 91) A: Mary met him<sub>i</sub> yesterday.  
 B: \*I will see John<sub>i</sub> tomorrow.

Informational notions are suited to cover extrasentential cases in addition to intrasentential ones, being obviously compatible with discourse analysis.<sup>27</sup> Structural notions such as c-command are not.

The OTC generalizes to many apparently unrelated configurations which are problematic under a Principle C account. The first one involves vocatives and dislocated constituents.

- 92) (hey) TU/tu, cosa pro fai?  
 YOU/you what do(2ps)  
 ‘YOU/You, what are you doing?’  
 93) (hey) GIOVANNI/\*Giovanni, cosa fai?  
 JOHN, what do(2ps)  
 ‘JOHN, what are you doing?’  
 94) (hey) GIOVANNI<sub>i</sub>, tu<sub>i</sub>, pro cosa fai?  
 JOHN, you, what do(2ps)?  
 95) \*Tu<sub>i</sub>, (hey) GIOVANNI<sub>i</sub>, pro cosa fai?  
 You, JOHN, what do(2ps)?

A pronoun can be used both as a vocative and as a clitic left dislocated topic when speaking directly to someone. On the contrary, R-expressions can only be used as (focal) vocatives in those contexts.<sup>28</sup> If one combines a focal vocative R-expression with a dislocated pronoun, forcing coreference, the order dislocated pronoun/vocative R-expression is completely impossible.<sup>29</sup> C-command has not to be considered relevant here, otherwise 94) should be ungrammatical as well due to a Principle B violation (which is not the case).

Other unusual contexts that the literature apparently did not consider so far and for which no generalized explanation is available are represented by iterated clitic left dislocated constituents.

- 96) Giovanni<sub>i</sub>, lui<sub>i</sub>, pro<sub>i</sub> non guarda mai la televisione.  
 G., he, (he) never watches TV  
 97) ?\*Lui<sub>i</sub>, Giovanni<sub>i</sub>, pro<sub>i</sub> non guarda mai la televisione.

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<sup>27</sup> Nevertheless, our investigations will be devoted to what happens inside the sentence boundaries and we will not consider other extrasentential configurations here. A similar observation has been made in Uriagereka (1999) about WCO configurations. The example he reports is:

i) His<sub>i</sub>/<sub>k</sub> friend knocked on the door. A man<sub>i</sub> came in.

<sup>28</sup> This is due to an informational limitation that impedes to refer to a second person with R-expressions when they are dislocated, because the implicit topicality of the hearer(s) imposes to use pronouns. Compare:

i) GIOVANNI E PIETRO, fate le valigie!  
 G. and P., pack!  
 ii) VOI, fate le valigie!  
 YOU, pack!  
 iii) Voi, potreste fare le valigie.  
 You, (you) could pack  
 iv) \*Giovanni e Pietro, potreste fare le valigie.  
 G. and P., (you) could pack

<sup>29</sup> There is a reading in which 95) may sound good. The suitable situation is one in which the hearer is not listening but the speaker does not realize that until after the pronunciation of the beginning of the sentence. At that moment, he decides to attract the attention of the hearer through the vocative. This reading is obviously irrelevant.

He, G., (he) never watches TV

98) Quell'idiota<sub>i</sub>, lui<sub>i</sub> non lo<sub>i</sub> ammetteremo mai nel gruppo.

That idiot, him, we will never admit him in our group

99) \*Lui<sub>i</sub>, quell'idiota<sub>i</sub> non lo<sub>i</sub> ammetteremo mai nel gruppo.

Him, that idiot, we will never admit him in our group

In Iterated Clitic Left Dislocation two different topical elements are coindexed and assigned to the same gap, but only one order is allowed: the one respecting the OTC.<sup>30</sup>

The following sentences, exhibiting CLLD of subjects with different resumptive elements, are further pieces of evidence.<sup>31,32</sup>

100) Lui<sub>i</sub>, pro<sub>i</sub> è arrivato in ritardo.

He, (he) came late

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<sup>30</sup> Both of these sentences are well-formed at the relevant register:

i) ?Se stesso<sub>i</sub>, Giovanni<sub>y</sub>, pro<sub>y</sub> non si<sub>i</sub> ama.

Himself, G., (he) does not love himself(cl)

ii) Giovanni<sub>y</sub>, se stesso<sub>i</sub>, pro<sub>y</sub> non si<sub>i</sub> ama.

G., himself, (he) does not love himself(cl)

An explanation in terms of c-command seems problematic given such data.

<sup>31</sup> Note the grammaticality of (in a colloquial register):

i) ?Se stesso<sub>i</sub>, Giovanni<sub>i</sub> non si<sub>i</sub> capisce.

Himself, G. does not understand himself(cl)

The dislocated constituent should not c-command the subject from the A' position, otherwise ungrammaticality would arise here as well.

<sup>32</sup> Observe also these cases of (so-called) Strong Pronoun Doubling (SPD), from Belletti (2003):

i) Gianni<sub>i</sub> verrà lui<sub>i</sub>.

G. will come he

ii) \*Lui<sub>i</sub> verrà Gianni<sub>i</sub>.

He will come G.

For various reasons, we are skeptical of the treatment of SPD offered in Belletti's paper (see chapter 4, note 97). We believe that the structural configuration of examples such as i) involves a dislocated subject with a postverbal resumptive element. No doubling by means of a tonic pronoun is at issue, then - the structure of the sentence would be identical to what obtains with dislocation of a preverbal subject, apart from the presence of inversion.

Gianni<sub>i</sub> (,) pro<sub>expl</sub> verrà lui<sub>i</sub>.

That the subject gets dislocated in i) would be testified by data like the following, which are unmotivated under Belletti's analysis.

iii) \*Nessuno<sub>i</sub> verrà lui<sub>i</sub>.

Nobody will come he

iv) \*Tutti<sub>i</sub> verranno loro<sub>i</sub>.

Everybody will come they

Note that the (possibility of) absence of pauses is tricky, and should not constitute a criterion in deciding whether a constituent is dislocated or not. See v), perfectly fine without any pause (the overt clitic is an unquestionable marker of dislocation, here).

v) Il pesce<sub>i</sub> (,) non lo<sub>i</sub> mangio.

The fish not it(cl) eat

'The fish, I don't eat.'

- 101) Quell'idiota, pro<sub>i</sub>/?lui<sub>i</sub> è arrivato in ritardo.  
That idiot, (he)/he came late
- 102) Giovanni<sub>i</sub>, pro<sub>i</sub>/?lui<sub>i</sub> è arrivato in ritardo.  
G., (he)/he came late
- 103) ?\*Lui<sub>i</sub>, lui<sub>i</sub> è arrivato in ritardo.  
He, he came late
- 104) \*Lui<sub>i</sub>, Giovanni<sub>i</sub>/quell'idiota<sub>i</sub> è arrivato in ritardo.  
He, G./that idiot came late
- 105) ?\*Giovanni<sub>i</sub>, quell'idiota<sub>i</sub> è arrivato in ritardo.<sup>33</sup>  
G., that idiot came late
- 106) \*Quell'idiota<sub>i</sub>, Giovanni<sub>i</sub> è arrivato in ritardo.  
That idiot, G. came late

Consider now some other data regarding the pronominalization of a prepositional object in another clausal PP.

- 107) ?Hanno spettegolato con Gianni su di lui per tutta la pausa pranzo.  
(They) gossiped with G. about him during the lunch break
- 108) \*Hanno spettegolato con lui su Gianni per tutta la pausa pranzo.  
(They) gossiped with him about G. during the lunch break
- 109) \*Hanno spettegolato con Gianni su (di) se stesso per tutta la pausa pranzo.  
(They) gossiped with G. about himself during the lunch break
- 110) ?Hai finalmente potuto parlare con Gianni di lui?  
Have you at last been able to speak with G. of him?
- 111) \*Hai finalmente potuto parlare con lui di Gianni?  
Have you at last been able to speak of him with G.?
- 112) \*Hai finalmente potuto parlare con Gianni di se stesso?  
Have you at last been able to speak with G. of himself?
- 113) ?Ho chiesto a Gianni di lui.  
I asked to G. of him
- 114) \*Ho chiesto a lui di Gianni.  
I asked to him of G.
- 115) \*Ho chiesto a Gianni di se stesso.  
I asked to G. of himself

Anaphors are disallowed in 109), 112) and 115), and pronouns are substantially fine in 107), 110) and 113) (the antecedent would be in the same local domain of the pronoun if c-command held). According to standard assumptions, such a state of affairs can only mean that there is no c-command of the first PP into the second, which in turn leads to expect that no Principle C violation should arise. But, as evident from the contrasts above, this is not borne out. On the contrary, the OTC makes again the correct predictions in a situation in which Principle C would be inactive.<sup>34</sup>

<sup>33</sup> If instead of CLLD we employ an *à propos de* topic, the sentence is fine.

i) A proposito di Giovanni<sub>i</sub>, quell'idiota<sub>i</sub> non mi ha ancora reso quello che mi deve.  
As to G., that idiot hasn't return me yet what he owes to me

Note instead:

ii) ?\*A proposito di quell'idiota<sub>i</sub>, Giovanni<sub>i</sub> è arrivato in ritardo.  
As to that idiot, G. came late.

<sup>34</sup> The sentences below are apparently problematic for the OTC.

Therefore, a reasonably vast set of different configurations receives the same explanation, whereas the classic Binding Theory appears incapable of accounting for the facts reported in this section.

## 8) OTC AND EMBEDDING

As repeatedly said, the OTC is influenced by the intervention of many factors, which alter the pattern of licit dependencies. One such variable is ‘embedding’, as evident in typical BP cases. But it can be shown that it has effects when either the antecedent or the pronoun<sup>35</sup> are the locus of the operation, though it is the second case the one which has the more dramatic impact on grammaticality.

Let’s start embedding the antecedent in a BP environment. As a result, sentences of this type become fully grammatical in Italian, even if they violate the OTC.<sup>36</sup>

- 116) Pro<sub>i</sub> mi ha detto che non è stato lui<sub>i</sub>.  
(He) told me that it has not been him
- 117) (?)Pro<sub>i</sub> è corso a casa e i suoi familiari pensano che lui<sub>i</sub> non voglia più vederti.  
(He) run home and his family thinks that he does not want to see you anymore.

On the contrary, note that an R-expression cannot corefer with a non-embedded preceding *pro* also when it is embedded (the gist of Principle C-like accounts is based on data of this sort). The difference in topicality is too strong and embedding the antecedent is not able to neutralize the OTC in this case.

- 118) \*Pro<sub>i</sub> mi ha detto che non è stato Gianni<sub>i</sub>.  
(He) told me that it has not been G.
- 119) \*Pro<sub>i</sub> è corso a casa e i suoi familiari dicono che Gianni<sub>i</sub> non vuole più vederti.  
(He) run home and his family thinks that G. does not want to see you anymore.

From the previous discussion it is already known that embedding the pronoun overcomes many of the difficulties stemming from the OTC. In similar situations, even R-expressions can refer

- i) ?Hanno spettegolato su di lui con Gianni per tutta la pausa pranzo.  
(They) gossiped about him with G. during the lunch break
- ii) ?Hai finalmente potuto parlare di lui con Gianni?  
Have you at last been able to speak of him with G.?
- iii) ?Ho chiesto di lui a Gianni.  
I asked of him to G.

But the problem disappears observing that some form of reconstruction is active in cases such as i), ii) and iii). In fact, the following paradigm is also to be found in the data:

- iv) ?\*Hanno spettegolato su Gianni con lui per tutta la pausa pranzo.  
(They) gossiped about G. with him during the lunch break
- v) \*Hai finalmente potuto parlare di Gianni con lui?  
Have you at last been able to speak of G. with him?
- vi) \*Ho chiesto di Gianni a lui.  
I asked of G. to him

<sup>35</sup> Or, better, the ‘subcedent’. Since current terminology seems again defective, a new term should be coined (at the risk of linguistic revisionism). However, in order not to induce confusion in the reader we will maintain the more classic expressions ‘antecedent’ and ‘pronoun’ in the text. This is so purely for convenience.

<sup>36</sup> However, the antecedent cannot be focalized (contrastive interpretations apart).

- i) \*Pro<sub>i</sub> mi ha detto che non è stato LUI<sub>i</sub>.

backwards (but with many limitations concerning the informational status of the antecedent, already analyzed before).

120) The woman who is to marry him<sub>i</sub> will visit Ralph<sub>i</sub> tomorrow.

The same obviously holds for pronouns with a linearly decreasing value of topicality.

121) La donna che pro<sub>i</sub> ha sposato parla di lui<sub>i</sub> in continuazione.

The OTC has clearly to be sensitive to (cyclic) embedding in order to make the correct predictions. Since the intervention of this variable can never completely overcome the restrictions stemming from the OTC, *we do not want it to be included in the principle itself*. It should rather be treated as an intervening factor which merely alleviates certain potentially problematic configurations.<sup>37</sup>

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<sup>37</sup> The interesting interrogative posed by the data is: why should the variable ‘embedding’ interfere with a supposedly informational principle? Is there a relationship between this structural aspect of syntax and IS, such as to render intelligible the interference from the first on the second? In order to begin to understand such an interrelation, consider the following sentences:

- i) La donna che Gianni ha incontrato è sposata con il fratello di Lucia.  
The woman that Gianni met is married with Lucia’s Brother
- ii) Gianni ha incontrato la donna che è sposata con il fratello di Lucia.  
Gianni met the woman that is married with Lucia’s brother

Intuitively, i) says something about a woman and about a man, namely that one is married to the other. It does not say something about *Gianni*, as for example happens in ii). To be more precise, *Gianni* and *Lucia* in i) are not part of the *primary informational domain* of the sentence, which coincides with all the non-embedded constituents of the matrix clause (ie, the last structural and informational level from an hierarchical point of view).

This does not mean that inferior cycles do not possess an informational organization, as we have already seen in detail in chapter 2. We can define as *secondary informational domain* of a sentence all those constituents which are not part of a primary informational domain. Since every element in a sentence receives an informational value, all of them can be focalized or topicalized independently from where they are (ie, foci can be located in both a primary or a secondary informational domain, at the various hierarchical levels pertinent to them). But ‘what a sentence is about’ always coincides with the members of a primary informational domain (notice that such intuitive notion has nothing to do with topicality: every constituent -be it a topic or a focus- which is a member of a primary informational domain satisfies the ‘aboutness’ requirement in the sense at issue here).

In chapter 2 we stated that the intra-CP level of the matrix clause is the peak of the informational cycle. This correlates with a number of special characteristics pertaining exclusively to such informational level and to matrix clauses more generally. To such characterizing properties one would thus have to add the following: the last informational cycle constitutes the primary informational domain of a sentence. Although these sketchy remarks need accurate elaboration and a more formal development, we believe they could be on the right track in pinpointing what connects IS and the ‘vertical aspect’ of syntax expressed by means of embedding procedures.

## 9) BP, SUBJECTS AND OBJECTS

Lakoff (1968) realized that the standard BP generalization is not entirely correct. Pronominal objects do not respect it in a wide range of cases (see also Akmajian & Jackendoff 1970).<sup>38</sup>

- 122) I calmed him<sub>i</sub> before Harry<sub>i</sub> did something rash.  
123) The chairman hit him<sub>i</sub> on the head before the lecturer<sub>i</sub> had a chance to say anything.

This seems systematic in Italian as well. Direct and indirect/prepositional objects pattern together.

- 124) L<sub>i</sub>'ho calmato, prima che Gianni<sub>i</sub> facesse qualcosa di affrettato.  
(I) calmed him before G. did something rash  
125) Ho litigato con lui<sub>i</sub> quando Luigi<sub>i</sub> ha lasciato il lavoro.  
(I) argued with him when L. left the job  
126) L'ho preso da lui<sub>i</sub> dopo che Pietro<sub>i</sub> l'ha ottenuto.  
I took it from him after P. obtained it

Reinhart (1983) employs similar examples to disconfirm Langacker's notion of 'precede and command' and to sustain her own treatment in terms of c-command. But as a matter of fact such data are no evidence in favor of the configurational notion of c-command (while truly invalidating that of command). In fact, it went largely unnoticed that coordination presents a very similar asymmetry between subjects and objects, while not implying c-command of the antecedent over the pronoun.

### *Objects:*

- 127) Ho mandato Luigi<sub>i</sub> a casa e *pro*<sub>i</sub> ci è rimasto tutto il giorno.  
(I) sent L. home and (he) stayed there all day  
128) Ho mandato lui<sub>i</sub> a casa e *pro*<sub>i</sub> ci è rimasto tutto il giorno.  
(I) sent him home and (he) stayed there all day  
129) L<sub>i</sub>'ho mandato a casa e *pro*<sub>i</sub> ci è rimasto tutto il giorno.  
(I) sent him(cl) home and (he) stayed there all day  
130) Ho mandato Luigi<sub>i</sub> a casa e lui<sub>i</sub> ci è rimasto tutto il giorno.  
(I) sent L. home and he stayed there all day  
131) L<sub>i</sub>'ho mandato a casa e lui<sub>i</sub> ci è rimasto tutto il giorno.  
(I) sent him(cl) home and he stayed there all day  
132) ??L<sub>i</sub>'ho mandato a casa e Luigi<sub>i</sub> ci è rimasto tutto il giorno.  
(I) sent him(cl) home and L. stayed there all day  
133) \*Ho mandato lui<sub>i</sub> a casa e Luigi<sub>i</sub> ci è rimasto tutto il giorno.  
(I) sent him home and L. stayed there all day

### *Subjects:*

- 134) Luigi<sub>i</sub> è corso a casa e *pro*<sub>i</sub> non vuole vederti.  
L. run home and (he) does not want to see you  
135) Lui<sub>i</sub> è corso a casa e *pro*<sub>i</sub> non vuole vederti.  
He run home and (he) does not want to see you  
136) *Pro*<sub>i</sub> è corso a casa e *pro*<sub>i</sub> non vuole vederti.  
(He) run home and (he) does not want to see you  
137) ??Luigi<sub>i</sub> è corso a casa e lui<sub>i</sub> non vuole vederti.  
L. run home and he does not want to see you

<sup>38</sup> But not always so. Notice in particular the behaviour of complements to bridge verbs, factives and verbs selecting indirect questions when read with normal intonation (see also below in the text).

- i) \*I said him<sub>i</sub> that Mario<sub>i</sub> is intelligent.  
ii) \*It bothered him<sub>i</sub> that John<sub>i</sub> was late.  
iii) \*I asked her<sub>i</sub> whether Mary<sub>i</sub> wanted to eat.

- 138) ?\**Pro*<sub>i</sub> è corso a casa e lui<sub>i</sub> non vuole vederti.  
(He) run home and he does not want to see you
- 139) \**Pro*<sub>i</sub> è corso a casa e Luigi<sub>i</sub> non vuole vederti.  
(He) run home and L. does not want to see you
- 140) \*Lui<sub>i</sub> è corso a casa e Luigi<sub>i</sub> non vuole vederti.  
He run home and L. does not want to see you

Such an observation reinforces the idea that it is precisely a linear constraint which is at issue, pace Reinhart's claim to the contrary. At the same time, it should force us to amend the OTC, which now results too strong. In fact, it incorrectly rules out cases number 131) and 132) (the latter is maybe only marginal, but a distinct contrast is perceivable wrt the same configuration involving subject pronouns). But, again, there is no need to revise the OTC, provided that one adds to the list of variables interfering with it the 'type of pronoun' (subject vs object). The interesting point then is being able to show that the choice of what we called 'type of pronoun' is related to IS. But before doing so, we will address some other complications still pending.

In coordinated clauses, there are apparent exceptions to the BP generalization operative for subjects, which have first been noted in Langendoen (1969) and Bolinger (1977).

- 141) He<sub>i</sub> lied to me and John<sub>i</sub> was my friend!
- 142) He<sub>i</sub> looks at me and John<sub>i</sub> goes out of his mind.

These exceptions, however, have always an emphatic or contrastive flavour, which is missing in the configurations respecting the restriction. This is clearer employing overt focalizing operators similar to the contrastive one (such as *only*, *even*, etc). The insertion of such elements quite systematically changes the pattern of grammaticality, abolishing the observed constraint on coreference.

- 143) \**Pro*<sub>i</sub> ha l'intera città a sua disposizione e Rosa<sub>i</sub> rimane a casa. (normal intonation)  
(She) has the entire city at her disposal and R. stays home
- 144) *Pro*<sub>i</sub> ha l'intera città a sua disposizione e Rosa<sub>i</sub> rimane soltanto a casa!  
(She) has the entire city at her disposal and R. only stays home!
- 145) \**Prima pro*<sub>i</sub> ha fatto i compiti e poi tuo figlio<sub>i</sub> ha lavato i piatti. (normal intonation)  
First (he) did his homeworks and then your son washed the dishes
- 146) *Prima pro*<sub>i</sub> ha fatto i compiti e poi tuo figlio<sub>i</sub> ha persino lavato i piatti!  
First (he) did his homeworks and then your son even washed the dishes!

Reinhart (1983) considers these exceptions as proofs of the 'stylistic' nature of BP in conjoined sentences. Apart from the fact that such pragmatic or stylistic variables are not analyzed in any detail and rather merely stipulated, it is evident that a similar position relegates WCO to the limbo of stylistic phenomena as well. Observe in fact what happens if we insert a focalizing operator in such an environment (as noted in Wasow 1972/1979 and Postal 1993; 151) and 152) are due to the latter).

- 147) \**Sua*<sub>i</sub> madre ama GIANNI<sub>i</sub>.  
His mother loves G.
- 148) Solo *sua*<sub>i</sub> madre ama GIANNI<sub>i</sub>.  
Only his mother loves G.
- 149) \**Chi*<sub>i</sub> hai detto che amano i suoi<sub>i</sub> genitori?  
Who have you said that his parents love?
- 150) ?*Chi*<sub>i</sub> hai detto che non amano nemmeno i suoi<sub>i</sub> genitori?  
Who have you said that not even his parents love?

- 151) \*The lawyer<sub>i</sub> who his<sub>i</sub> clients hate ...  
 152) The lawyer<sub>i</sub> who even his<sub>i</sub> clients hate ...

The violations are considerably rescued and the constraint is (almost) inoperative, exactly as with coordination. The exceptions detectable in 141) and 142), far from being problematic, reveal once more that the restriction at issue there is exactly the same which matters in WCO and in standard BP configurations involving subordination.<sup>39</sup>

Certain peculiarities of BP environments in null subject languages represent further empirical evidence pointing to an identical conclusion. Luján (1986) argues that licit cases of BP involving subjects become unacceptable if instead of a null pronoun one employs an overt one (unless it receives a contrastive interpretation; see also Larson & Luján 1989).

- 153) Cuando \*él<sub>i</sub>/pro<sub>i</sub> trabaja, Juan<sub>i</sub> no bebe.  
 When he works, John doesn't drink  
 154) Los trabajos que \*él<sub>i</sub>/pro<sub>i</sub> hace no satisfacen a mi hijo<sub>i</sub>.  
 The jobs that he does don't satisfy my son

Analogous examples can be constructed in Italian.

- 155) Quando ?\*lui<sub>i</sub>/pro<sub>i</sub> lavora, Giovanni<sub>i</sub> non beve.  
 I compiti che ?\*lui<sub>i</sub>/pro<sub>i</sub> fa non soddisfano mio figlio<sub>i</sub>.

The addition of one level of embedding to the clause containing the overt pronoun solves the problem.<sup>40</sup>

- 156) Cuando el director insiste en que él trabaje, Juan no bebe.  
 When the director insists that he work, John doesn't drink.  
 157) Los trabajos que insisten que él haga no satisfacen a mi hijo.  
 The jobs that they insist that he do don't satisfy my son.

Independently from the correct explanation to be given to the above asymmetry (which will not concern us; see Calabrese 1986 for some useful remarks), observe that strikingly similar judgements obtain in coordination contexts. If the second conjunct has the overt pronoun in an embedded clause, the sentence is fine. Otherwise, it is out (and, intuitively, the 'sense of inadequacy' of 158) seems analogous to that in 155)).

- 158) Giovanni<sub>i</sub> non parte più e pro<sub>i</sub>/\*lui<sub>i</sub> rimarrà a casa.  
 G. does not leave anymore and (he)/he will stay at home  
 159) Giovanni<sub>i</sub> non parte più e i familiari sostengono che pro<sub>i</sub>/lui<sub>i</sub> rimarrà a casa.

<sup>39</sup> As to the latter, see the following (avoid dislocating the embedded clause in iii) and iv)):

- i) \*Pro<sub>i</sub> non beve perché è Gianni<sub>i</sub> che può risolvere eventuali problemi.  
 (He) does not drink because it is G. that can solve possible problems.  
 ii) ?Pro<sub>i</sub> non beve perché è soltanto Gianni<sub>i</sub> che può risolvere eventuali problemi!  
 (He) does not drink because it is only G. that can solve possible problems!  
 iii) \*Lui<sub>i</sub> rimane quando chiedi a Giovanni<sub>i</sub> di andarsene.  
 He stays when you ask to G. to leave  
 iv) ?Lui<sub>i</sub> rimane solo quando chiedi a Giovanni<sub>i</sub> di andarsene.  
 He stays only when you ask to G. to leave

<sup>40</sup> Genetically unrelated null subject languages like Chinese or Japanese show an identical behavior (see Huang 1982, 388). English as well, if the distinction between accented and unaccented pronouns is taken into consideration (Larson & Luján 1989). See:

- i) \*After HE woke up, John went to town.  
 (from Akmajian & Jackendoff 1970)

G. does not leave anymore and his family sustains that (he)/he will stay at home

The employment of a postverbal subject improves considerably grammaticality judgements in the problematic BP configurations under examination.

- 160) (?)Quando lavora lui<sub>i</sub>, Giovanni<sub>i</sub> non beve.  
When it's him who works, G. does not drink
- 161) (?)I compiti che fa lui<sub>i</sub> non soddisfano mio figlio<sub>i</sub>.  
The homeworks that it's him who does do not satisfy my son

Again, exactly the same change permits to rescue the bad examples involving coordination.

- 162) ?Giovanni<sub>i</sub> non parte più e rimarrà a casa lui<sub>i</sub> tutta la sera.  
G. does not leave anymore and it's him that will stay at home all evening

The two situations present so many similarities that every account not specifically stated for both of them should be considered inadequate or incomplete. That is to say, BP in coordination and subordination configurations shares important characteristics, a fact which suggests that the explanation to be supplied for one of them needs also hold for the other. This being true, such explanation has forcefully to take into consideration linear order rather than c-command. Examples of the sort we have just seen, furthermore, neutralize the objection that one is here in presence of so-called accidental coreference (whatever it is intended with such term, introduced in Lasnik 1976), since it is apparent that structural variables - and in particular the notion of cyclic embedding - influence dramatically the ensuing judgements.

Now, before turning to an informational exploration of the subject/object asymmetry noted by Lakoff, we will investigate some related facts that reveal the existence of other asymmetries of a similar type. We saw that focal antecedents (at both the D-level and the intra-CP level) are generally not tolerated in BP configurations. Since pronominal objects do not respect the same restrictions active for subjects, we can wonder whether they can be coreferent with focal antecedents. The answer turns out to be substantially positive: objects are only weakly sensitive to the informational status of their antecedents in standard BP configurations.

- 163) ?\*Quando pro<sub>i</sub> arriva fermami un uomo<sub>i</sub> per la strada, per favore.  
When (he) arrives stop a man in the street, please
- 164) ?Quando lo<sub>i</sub> vedi arrivare fermami un uomo<sub>i</sub> per la strada, per favore.  
When you see him arriving stop a man in the street, please
- 165) ?\*A meno che non pro<sub>i</sub> ti ami, non dovresti metterti con nessuno<sub>i</sub>.  
Unless (he) love you, you shouldn't have a story with anybody
- 166) ?A meno che non lo<sub>i</sub> ami, non dovresti metterti con nessuno<sub>i</sub>.  
Unless you love him, you shouldn't have a story with anybody

The same holds for WCO and nominal embedding in general: whenever the antecedent is focal, BP with a pronoun embedded inside a direct object produces considerably better results than BP with a pronoun embedded inside a subject.

- 167) ?\*La sua<sub>i</sub> educatrice è stata assegnata ad ogni bambino<sub>i</sub>.  
Her educator has been assigned to each child
- 168) ?Ho assegnato la sua<sub>i</sub> educatrice ad ogni bambino<sub>i</sub>.  
I've assigned her educator to each child
- 169) ?\*L'educatrice che lo<sub>i</sub> seguirà è stata assegnata ad ogni bambino<sub>i</sub>.  
The educator that will oversee her has been assigned to each child
- 170) ?Ho assegnato l'educatrice che lo<sub>i</sub> seguirà ad ogni bambino<sub>i</sub>.  
I've assigned the educator that will oversee her to each child

- 171) \*Il suo<sub>i</sub> regalo è stato dato ad ogni allievo<sub>i</sub>.  
Her present has been given to each pupil
- 172) ?Maria ha dato il suo<sub>i</sub> regalo ad ogni allievo<sub>i</sub>.  
M. has given her present to each pupil
- 173) \*Il regalo che pro<sub>i</sub> desiderava è stato dato ad ogni allievo<sub>i</sub>.  
The present that she desired has been given to each pupil
- 174) ?Gli educatori hanno dato il regalo che pro<sub>i</sub> desiderava ad ogni allievo<sub>i</sub>.  
The educators have given the present that she desired to each pupil

The employment of indirect objects gives analogous results.

- 175) \*Sua<sub>i</sub> madre ha ricevuto ogni bambino<sub>i</sub> dall'educatrice.  
Her mother has received each child from the educator
- 176) ?L'educatrice ha riconsegnato a sua<sub>i</sub> madre ogni bambino<sub>i</sub>.  
The educator has given back to her mother each child

Similarly, direct and indirect objects may contain a pronoun coreferent with a subsequent postverbal focal subject (the observation was made in Ordoñez 1998, which is where the sentence comes from; similar judgements are retained in Italian).

- 177) Qué le regaló a su<sub>i</sub> amigo cada niño<sub>i</sub>?  
What him(cl) gave as a present to his friend each boy  
'What did each boy give as a present to his friend?'

But there still is an environment in which objects are strongly sensitive to the informational value of the antecedent: the BP configurations illicit for subjects (in presence of both subordination and coordination). So, if the antecedent is topical (for instance, it is in subject position), then coreference is generally allowed, but if the antecedent is in a focal position it becomes odd (see also Kuno 1972a, 302 on English).

- 178) L<sub>i</sub>'ho rincorso quando Gianni<sub>i</sub> è scappato.  
I've followed him when G. run away
- 179) ??L<sub>i</sub>'ho rincorso quando ho visto Gianni<sub>i</sub>.  
I've followed him when I saw G.
- 180) L<sub>i</sub>'hanno assunta dopo che Maria<sub>i</sub> ha fatto un corso di inglese.  
They hired her after M. took a course in English
- 181) ??L<sub>i</sub>'hanno assunta dopo che hanno promosso Maria<sub>i</sub> al corso d'inglese.  
They hired her after they passed Mary in the English course
- 182) L<sub>i</sub>'ho visto ma Gianni<sub>i</sub> non mi ha salutato.  
I saw him but G. didn't greet me
- 183) ??L<sub>i</sub>'ho visto ma non ho salutato Gianni<sub>i</sub>.  
I saw him but I didn't greet G.
- 184) La<sub>i</sub> stavo pelando e all'improvviso la mela<sub>i</sub> mi è scivolata per terra.  
I was peeling it and suddenly the apple fell on the floor
- 185) ?\*L<sub>i</sub>'ho pelata e poi Anna ha mangiato la mela<sub>i</sub>.  
I peeled it and then A. ate the apple

The same effect obtains when postverbal focal subjects act as antecedents. See the following example:

- 186) \*L<sub>i</sub>'ho rincorso quando è scappato Gianni<sub>i</sub>.  
I've followed him when G. run away

As usual, a contrastive/emphatic interpretation or the intervention of a focalizing operator alter significantly the picture.<sup>41</sup>

- 187) L<sub>i</sub>'avevo appena visto e già rincorrevo Gianni<sub>i</sub> dappertutto!  
I had just seen him and I already followed G. everywhere!
- 188) L<sub>i</sub>'ho abbracciato senza sosta quando ho finalmente potuto rivedere Gianni<sub>i</sub>!  
I hugged him incessantly when at last I could see again G.!

Consider now an acceptable violation of the BP paradigm involving an apparently focal antecedent.

- 189) Compramelo se trovi un panino.  
Buy it to me if you find a sandwich

If we employ 189) in an out-of-the-blue context, it is immediately evident that it cannot be felicitous. Only the previous mention of *un panino* (a sandwich) in discourse, or its pragmatic salience, renders it legitimate as an antecedent. It is thus not a truly focal antecedent.

- 190) A) Sto andando al bar. Vuoi qualcosa?  
I'm going to the bar. Do you want something?  
B) Sì, grazie. #Compramelo, se trovi un panino.  
Yes, thanks. Buy it to me if you find a sandwich.

Note, instead, the felicity in the same context A of a standard BP case, showing the (substantial, but not really complete)<sup>42</sup> insensitivity of object clitics to the focal status of the antecedent in that configuration.

- 191) B) Sì, grazie. Se lo trovi, comprami un panino.  
Yes, thanks. If you find it, buy me a sandwich.

The asymmetry between subject and object pro-forms emerges also with nominal embeddings. If we check what happens in BP configurations involving antecedents contained inside PPs, for instance, it can be easily realized that it is fully operative. Additionally, such data confirm that focal antecedents, which are never admitted with subject pro-forms, are not tolerated with object pro-forms either in certain BP configurations.

Reinhart (1983) enumerates a variety of tests which show that two different types of PP exist: they are known in the literature as sentential and verb-phrasal PPs. Kuno (1975) argues that sentential PPs are old information, whereas verb-phrasal PPs represent new information. It is relatively easy to collect relevant proofs by means of contextual tests (from Reinhart 1983):

Sentential PP:

- 192) Is Rosa riding a horse in Ben's picture?  
#No, in Max's picture.

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<sup>41</sup> As pointed out in Culicover & Jackendoff (1997), there is also a particular type of coordination, which they call 'left subordinating and', that has the (semantic/pragmatic) properties of conditionals. As such, it is insensitive to the focal status of the antecedent in the second conjunct. See i), which parallels ii).

i) Dagli abbastanza potere e renderai corrotto ogni senatore in questa stanza.

Give him enough power and you will render corrupt every senator

ii) Se gli dai abbastanza potere, renderai corrotto ogni senatore in questa stanza.

If you give him enough power, you will render corrupt every senator

<sup>42</sup> The employment of strongly focal antecedents at both the D-level and the intra-CP level seems to induce marginality also for object pronouns. See:

i) ??Non ho mai fatto il suo<sub>i</sub> ritratto a nessuno<sub>i</sub>.

I've never made his portrait to anybody

Verb-phrasal PP:

- 193) Did Rosa find a scratch in Ben's picture?  
No, in Max's picture.

Since the sentences below violate the BP generalization (the pronoun is not embedded), a subject pro-form may not corefer with the subsequent antecedent - be the latter a topic or not.

- 194) *Subject pronoun, topical antecedent:*  
\*He<sub>i</sub> is an absolute dictator in Ben<sub>i</sub>'s office.  
*Subject pronoun, focal antecedent:*  
195) \*He<sub>i</sub> placed his new brass bed in Ben<sub>i</sub>'s office.

Grammaticality judgements change when we take into consideration objects: here a violation of the BP generalization is tolerated, but only when the antecedent is in a topical sentential PP (data from Reinhart 1983).<sup>43</sup>

- 196) *Object pronoun, topical antecedent:*  
People worship him<sub>i</sub> in Kissinger<sub>i</sub>'s native country.  
*Object pronoun, focal antecedent:*  
197) \*The gangsters killed him<sub>i</sub> in Hoffa<sub>i</sub>'s home town.

Similar results obtain when analyzing clausal complements. Focal CPs (at the intra-CP level in an out-of-the-blue context) impede coreference with an object pronoun in the matrix clause, while topical ones allow it (we have already encountered cases of the first type in note 38). The point can be made clearer by means of minimal pairs, such as:

- 198) Avvisalo<sub>i</sub> (,) quando Mario<sub>i</sub> manca il bersaglio.  
Inform-him(cl) when Mario misses the target  
Tell M. of his missing the target  
199) \*Avvisalo<sub>i</sub> quando Mario<sub>i</sub> manca il bersaglio.  
Inform-him(cl) when Mario misses the target  
Tell M. at his missing the target  
200) Diglie<sub>i</sub>lo(,) se Mario<sub>i</sub> arriva primo.  
Tell-him(cl)-it(cl) if Mario arrives first  
Tell him, if it happens that M. arrives first  
201) \*Diglie<sub>i</sub>lo se Mario<sub>i</sub> arriva primo.  
Tell-him(cl)-it(cl) if Mario arrives first  
Tell him the precise moment when M. arrives first

Only a topical (deaccented) embedded clause permits coreference, exactly as in the case of PPs.

Also in other cases deaccentuation improves grammaticality judgements (but the sentences below are ok in a colloquial register only). There is a distinct contrast in comparison to non-deaccented embedded clauses:

- 202) \*Gli<sub>i</sub> ho detto che Mario<sub>i</sub> è intelligente.  
I told him that M. is intelligent  
203) \*Le<sub>i</sub> ho chiesto se Maria<sub>i</sub> voleva mangiare.  
I asked her if M. wanted to eat  
204) (?)Gli<sub>i</sub>elo ho detto, che Mario<sub>i</sub> è intelligente.  
I told it to him, that M. is intelligent  
205) (?)Gli<sub>i</sub>elo ho chiesto, se Maria<sub>i</sub> voleva mangiare.  
I asked it to her, if M. wanted to eat

<sup>43</sup> Clauses modifying nouns give correspondent results, as expected.

Note that subjects cannot corefer with a subsequent antecedent even in presence of deaccentuation in similar configurations, confirming again the existence of an asymmetry.

- 206) \*Lo pro<sub>i</sub> ha detto, che Mario<sub>i</sub> è intelligente.  
He said it, that M. is intelligent
- 207) \*Lo pro<sub>i</sub> ha chiesto, se Maria<sub>i</sub> poteva mangiare.  
She asked it, whether M. could eat

In other circumstances deaccentuation seems to work also for subjects, instead.

- 208) ?Pro<sub>i</sub> ti ignora, quando dici a Mario<sub>i</sub> di andarsene.  
He ignores you, when you tell M. to go away
- 209) ?Pro<sub>i</sub> si è fatta male, dato che Luisa<sub>i</sub> non ha idea di come scalare una montagna.  
She hurt herself, given that L. has no idea of how climbing a mountain

However, the relevance of these data is dubious: according to us, the natural site to which reconstruction might be operative is pre-matrical here. If reconstruction applied, the BP configuration would vanish rendering pointless the examples, which we think is what happens.

- 210) Quando dici a Mario<sub>i</sub> di andarsene pro<sub>i</sub> ti ignora.  
When you tell M to go away, he ignores you
- 211) Dato che Luisa<sub>i</sub> non ha idea di come scalare una montagna pro<sub>i</sub> si è fatta male.  
Given that L. has no idea of how climbing a mountain she hurt herself

Let's summarize our conclusions so far: i) neither the notion of command nor that of c-command succeed in explaining the generality of the data ii) a cyclic linear constraint seems to be the easier solution available, given that iii) certain other (informational, or informationally related) variables are taken into account in order to complement it.

Point number iii) deserves further consideration, particularly in the light of the asymmetry between subjects and objects previously reported. Taking a standard violation of the BP generalization with subject pro-forms, one notices that inversion improves considerably grammaticality judgements (obviously, we have to resort to a tonic pronoun to allow inversion of the subject).<sup>44</sup>

- 212) \*Lui<sub>i</sub> è stato licenziato perché le strane abitudini di Mario<sub>i</sub> avevano passato ogni limite.  
He was fired because Mario's strange habits went too far
- 213) È stato licenziato lui<sub>i</sub> perché le strane abitudini di Mario<sub>i</sub> avevano passato ogni limite.

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<sup>44</sup> A postverbal pronominal subject can be employed only under certain pragmatic conditions, which means that not all the examples seen so far can be improved by simply postposing an overt pro-form. Once the relevant pragmatic conditions are met, the difference between pre and postverbal subjects is quite evident. Note that the pronouns in 213) and 215) do not receive a contrastive interpretation in the sense which was relevant before when we observed the improvement of grammaticality judgements for sentences violating the BP generalization. In fact, such a contrastive reading is possible there too, as an additional one (see also chapter 3):

- i) È stato licenziato LUI<sub>i</sub> (invece di Piero), perché le strane abitudini di Mario<sub>i</sub> avevano passato ogni limite.  
It was him that was fired (instead of P.), because Mario's strange habits went too far

It is indisputably true, however, that a postverbal tonic pronoun has a sort of contrastive flavour. Nevertheless, we believe that the two notions of contrast have to be kept distinct both from a syntactic and a semantic/pragmatic point of view, though we will not analyze the issue in any depth here (see Calabrese 1986 for similar observations).

It was him that was fired because Mario's strange habits went too far

- 214) \*Lei<sub>i</sub> ha chiamato, quando Maria<sub>i</sub> ha visto che non telefonavo.  
She called, when M. saw that I didn't phone
- 215) Ha chiamato lei<sub>i</sub>, quando Maria<sub>i</sub> ha visto che non telefonavo.  
It was her that called when M. saw that I didn't phone

Postverbal subjects also improve grammaticality judgements for nominally embedded pronouns in BP configurations. For instance, consider the previous (bad) examples of WCO with preverbal subjects and compare them with the corresponding versions with inverted subjects below. There is a remarkable increase in acceptability (contra Ordoñez 1998, but see his note 5).

- 216) ?È stata assegnata la sua<sub>i</sub> educatrice ad ogni bambino<sub>i</sub>.  
It has been assigned her educator to each child
- 217) ?È stata assegnata l'educatrice che lo<sub>i</sub> seguirà ad ogni bambino<sub>i</sub>.  
It has been assigned the educator that will oversee her to each child
- 218) ?È stato dato il suo<sub>i</sub> regalo ad ogni allievo<sub>i</sub>.  
It has been given her present to each pupil
- 219) ?È stato dato il regalo che pro<sub>i</sub> desiderava ad ogni allievo<sub>i</sub>.  
It has been given the present that she desired to each pupil

Unaccusatives present the same, quite clear, contrast.

- 220) ?\*La sua<sub>i</sub> valutazione è arrivata ad ogni alunno<sub>i</sub>.  
Her evaluation arrived to each student
- 221) ?È arrivata la sua<sub>i</sub> valutazione ad ogni alunno<sub>i</sub>.  
There arrived her evaluation to each student

This happens also, though less straightforwardly, with transitives and unergatives (but the postverbal subject needs be accented and the indirect object somewhat deaccented for pronominalization to be allowed).<sup>45</sup>

- 222) ?Queste merci, le ha vendute IL SUO<sub>i</sub> FORNITORE ad ogni cliente<sub>i</sub>.  
These goods, them(cl) has sold his supplier to every client  
'His supplier sold these goods to every client.'
- 223) ?Ciascuno di questi libri, l'ha regalato UN SUO<sub>i</sub> AMICO ad ogni bambino<sub>i</sub>.  
Each of these books, it(cl) has given as a present a friend of his to every child  
'A friend of his has given as a present each of these books to every child.'
- 224) ?Telefonerà IL PROPRIO<sub>i</sub> FIGLIO ad ogni genitore<sub>i</sub>.  
Will phone his son to every parent  
'His son will call every parent.'
- 225) \*Queste merci, le ha vendute il suo<sub>i</sub> fornitore AD OGNI CLIENTE<sub>i</sub>.
- 226) ?\*Ciascuno di questi libri, l'ha regalato un suo<sub>i</sub> amico AD OGNI BAMBINO<sub>i</sub>.

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<sup>45</sup> The position of the subject in the VSO order is not always focal (see note 64 in chapter 4). It appears that precisely when no focal value is assigned to the subject, ungrammaticality persists and no considerable improvement obtains, as in these sentences (read with normal intonation and without dislocating the indirect object to the right, which is possible interpreting the quantifier as a concealed partitive).

- i) \*Qué le regaló su<sub>i</sub> amigo a cada niño?<sup>?</sup> (from Ordoñez 1998)  
What her(cl) gave as a present his friend to each child?  
'What did her friend give to each child as a present?'
- ii) ?\*Cosa ha dato la sua<sub>i</sub> educatrice ad ogni bambino<sub>i</sub>?  
What has given her educator to each child?  
'What did her educator give to each child?'

227) \*Telefonerà il proprio<sub>i</sub> figlio AD OGNI GENITORE<sub>i</sub>.

Compare also with the utter ungrammaticality of:

- 228) \*Il suo<sub>i</sub> fornitore ha venduto queste merci ad ogni cliente<sub>i</sub>.
- 229) ?\*Un suo<sub>i</sub> amico ha regalato ciascuno di questi libri ad ogni bambino<sub>i</sub>.
- 230) \*Il proprio<sub>i</sub> figlio telefonerà ad ogni genitore<sub>i</sub>.

If this is correct, we have many indications that the relevant variables for explaining the complex array of data we presented so far are indeed informational. In particular, i) when a pronoun is in a topical position (or contained inside a topical constituent)<sup>46</sup> its structural possibilities of referring backwards are inferior than when a pronoun is in a focal position (or when it is therein embedded) and ii) in BP, a focal antecedent is problematic for pronouns contained in a topic or substituting a topical constituent, but not for pronouns contained in a focus or substituting a focal constituent. *The terms topical and focal refer here to the*

wer is still premature: we do not know enough about IS and its interrelationships with syntax. But our remarks should suffice to show that the asymmetry is not between subjects and objects, but rather between topics and foci. This renders completely plausible that the OTC be sensitive to such a variable, since it also reflects the informational properties of languages. Observe another difference between subjects and objects that we think is related to that above: in many nom-acc languages null subjects are allowed, whereas null objects are restricted to a narrower class of environments or simply barred.<sup>47</sup> This happens also when there is no asymmetrical agreement on the verb: as shown in Huang (1984), in Chinese, Korean and Japanese null subjects and null objects differ in their syntactic properties and distribution, with the latter better analyzed as pure instances of topic drop. We tentatively connect this empirical fact to the default topicality of subjects and the default focusness of objects in the languages under examination, though we are not able to furnish a proper formalization of the relationship between ‘IS value at the intra-CP level’ and ‘demotion of an argument to a null pro-form’ either.<sup>48</sup> There are data of the same type also in non-null subject languages, like English. In certain special circumstances, in those languages it is possible to omit the subject, but crucially never the object. As is well-known, one such circumstance is represented by coordination (see Van Valin 1986).<sup>49</sup>

<sup>46</sup> Connectivity effects neutralize the relevance of data like the following:

- i) Il suo<sub>i</sub> regalo, Maria l’ha dato ad ogni allievo<sub>i</sub> t.  
His present, M. it(cl) has given to each pupil
- ii) A sua<sub>i</sub> madre, ogni uomo<sub>i</sub> è fedele t.  
To his mother, every man is faithful

Even if the pronoun is inside a topical constituent, reconstruction to a post-quantifier position can easily suspend the problem due to the BP configuration.

<sup>47</sup> Another phenomenon which binds pronominalization possibilities to (default) informational values is the following:

- i) Tell me about John:
  - a He is in love with Mary.
  - b ??Mary is in love with him.

As remarked in Erteschik (to appear), pronominal objects connect harder to previously introduced constituents than pronominal subjects.

<sup>48</sup> Quantifier Float is also presumably relevant in this connection. When the argument from which the quantifier should float off is left in-situ, only (null) subject clitics legitimate the phenomenon in Romance, while (null) object clitics do not. See chapter 4.

<sup>49</sup> Other instances are control or purposive infinitives.

- 231) John enjoyed the book and will certainly like the play.  
 232) John enjoyed the play and my friend liked \*(it).

It is interesting to observe that so-called deep ergative languages (DEL) present an inverted pattern of data: in analogous coordination contexts, only the object may be omitted (see for instance Dixon 1994 about Dyrbal).<sup>50</sup> For a variety of reasons, we strongly suspect that such languages possess a default IS which is the opposite of nom-acc and of only morphologically ergative languages (consider for instance the often noticed restriction regarding the specificity of absolutive arguments). An accurate informational description of DEL is unfortunately still missing, but if we are right the prediction is that in Dyrbal the previous data regarding BP should be the mirror image of what one observes in Italian or English. This is so under the assumption that informational variables influence BP and that in ‘paradigmatic’ DEL a default focal value pertains to ergative subjects<sup>51</sup>, whereas absolutive objects (and subjects of intransitive verbs) have a default topical value.<sup>52</sup>

## 10) STRONG CROSSOVER

SCO configurations represent an interesting challenge to the picture delineated so far. Assuming reconstruction to be operative, an SCO violation involving a subject pronoun is not problematic: as seen, non-embedded pronominal subjects never tolerate (non-pronominal) antecedents in BP configurations. But this is not the case for pronominal objects, which are generally fine in matrix position when the embedded antecedent is inside a topic and also itself topical at the D-level. A comparable asymmetry would then be expected to arise in an SCO configuration, which is exactly of the type mentioned once the moved element is reconstructed in-situ. But such expectation is not borne out: subject and object pronouns are both impossible.

- 233) \*Who<sub>i</sub> did he<sub>i</sub> tell that Mary loves t<sub>i</sub>?  
 234) \*Who<sub>i</sub> did Peter tell him<sub>i</sub> that Mary loves t<sub>i</sub>?

Since in 233) and 234) the antecedent is focal at the D-level, ungrammaticality is not surprising after all. But the same also happens with definite antecedents: SCO configurations are considered insensitive to the type of extraction/extractee employed (contrary to WCO configurations).

As pointed out in Postal (2002), a standard ‘Reconstruction + Principle C’ account is flawed, since it is not always true that putting back the antecedent gives bad results. It is certainly so for examples like 233) and 234).

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<sup>50</sup> A further mirror image pattern of data regards the presence of resumptive pronouns in RCs (and other A’-dependencies as well): it seems that if a nom-acc language adopts overt resumptive pronouns, this is done in the first place with objects (see Suñer 1998 for an overview of the question). A DEL, instead, has the opposite tendency and employs overt resumptive pronouns in the first place with subjects of transitive clauses (when the absolutive restriction on A’-movement is not operative, as in Tongan - see Chung 1978, Murasugi 1992, 133, note 21). We assume again that the availability of an overt resumptive pronoun strategy is connected to IS and to the (default) informational value of the various positions involved. In particular, a focal position would be connected to a more frequent surfacing of the resumptive pronoun (which we consider always present in a null or overt form in every language and for every argumental position, see chapters 4 and 5).

<sup>51</sup> The notion ‘subject’ is here intended as the argument which is the antecedent of reflexives or the addressee in imperatives. See Keenan (1976), Schachter (1976, 1977), Murasugi (1992, sec 4.2) and Dixon (1994, sec 5.3). These seem to be truly universal tests.

<sup>52</sup> These speculations await further research: the IS of DEL is certainly one of the most intriguing open issues, only marginally touched by linguists until now. Its in-depth study would highly increase our understanding of syntax and help in determining how much relevant certain informational variables are to a number of issues often assumed to be unrelated to them. DEL can be crucial in deciding whether informational variables should matter or not in explaining a specific syntactic behaviour. In fact, be *x* a particular phenomenon in nom-acc languages, if in DEL *x* is present with a mirror image pattern of data, then IS is almost certainly relevant to it.

- 235) \*He<sub>i</sub> told that Mary loves someone<sub>i</sub>/Peter<sub>i</sub>.  
 236) \*Peter told him<sub>i</sub> that Mary loves someone<sub>i</sub>/John<sub>i</sub>.

But it is not so for embedded clauses which do not receive a focal interpretation at the intra-CP level of the matrix clause (note that the adjunct in 237) is partially permeable to extraction due to the absence of tense).<sup>53</sup>

- 237) \*It was Gladys<sub>i</sub> who the doctor told her<sub>i</sub> that story while treating t<sub>i</sub>.  
 238) The doctor told her<sub>i</sub> that story while treating Gladys<sub>i</sub>.  
 (from Postal 2002)

In order to understand properly what is going on, we need again the empirical generalization from chapter 2: an extraction is licit only if the domain which it operates on is focal. This means that in 233) and 234) the complement of *tell* cannot be deaccented (which would possibly allow coreference in 234)). For a BP with an object pronoun in non-embedded position to be licit, an antecedent contained in a topical embedded clause is required. Otherwise, ungrammaticality arises. These two desiderata are contradictory: it follows that either extraction is barred, or coreferentiality is impossible. In any event, the sentences result unacceptable.

Examples like 237) are partly different. We saw that the informational restriction on extraction procedures is not dichotomic, but rather gradual. Which means that a not excessively topical domain may still allow certain types of extraction of certain types of extractees (those that permit to leave behind null resumptive pronouns with a sufficient value of pronominality). Now, one wonders what's wrong with 237), given that if the antecedent remains in-situ the sentence is fine and extraction is generally tolerated if one does not coindex *Gladys* and *her*. Our answer is: the informational status of the constituent when it is extracted is different from the informational status of the constituent left in-situ (see chapter 3 on this).

Such an idea will become clearer analyzing similar data from Italian. Consider sentences containing a dislocated embedded clause.<sup>54</sup>

- 239) ?Gli<sub>i</sub>elo ho detto, che hanno invitato Mario<sub>i</sub> ad una festa.  
 Him(cl) it(cl) (I) have told, that (they) invited M. to a party  
 'I told him, that M. was invited to a party.'  
 240) ?Gli<sub>i</sub>elo ho chiesto, quando assumono Mario<sub>i</sub> in fabbrica.  
 Him(cl) it(cl) (I) have asked, when (they) hire M. at the factory  
 'I asked him, when M. will be hired at the factory.'

As observed, coreference is (slightly marginally) permitted here, because the antecedent is contained in a topical constituent (since the postponed antecedent is an object, the judgments are a bit less natural than when a subject is employed - but we have to avoid subject extraction).<sup>55</sup> Dislocated clauses are islands (see chapter 2), still they are not completely opaque to every kind

<sup>53</sup> See above for comparable Italian data.

<sup>54</sup> We cannot employ adjuncts because in Italian it is difficult to ameliorate this type of island removing tense from the embedded clause, and extraction tends to remain impossible. See chapter 3 for more details.

<sup>55</sup> For some reason, the presence of the locative seems to improve substantially the examples as if it absorbed the focus relegating the direct object to a topical status. Compare:

- i) ?\*Gli<sub>i</sub>elo ho detto, che hanno invitato Mario<sub>i</sub>.  
 'I told him, that M. was invited.'  
 ii) ?\*Gli<sub>i</sub>elo ho chiesto, quando assumono Mario<sub>i</sub>.  
 'I asked him, when M. will be hired.'

And also:

- iii) \*Gli<sub>i</sub>elo ho detto, che hanno invitato MARIO<sub>i</sub> ad una festa.  
 iv) \*Gli<sub>i</sub>elo ho chiesto, quando assumono MARIO<sub>i</sub> in fabbrica.

of extraction (see chapter 3), like untensed adjuncts in English. Consider now the following data (be aware that they are possible only in a very colloquial style of Italian):

- 241) \*\*Chi<sub>i</sub> gli<sub>i</sub>elo hai detto che hanno invitato t<sub>i</sub> ad una festa?  
Who have you told him, that was invited to a party?
- 242) \*È Mario<sub>i</sub> che gli<sub>i</sub>elo ho detto che hanno invitato t<sub>i</sub> ad una festa.  
It is M. that I have told him, that was invited to a party.
- 243) ?\*il ragazzo<sub>i</sub> che gli<sub>i</sub>elo ho detto che hanno invitato t<sub>i</sub> ad una festa...  
The guy that I have told him that was invited to a party...
- 244) ??quel ragazzo<sub>i</sub>, che gli<sub>i</sub>elo ho detto che hanno invitato t<sub>i</sub> ad una festa, ...  
That guy, that I have told him that was invited to a party, ...
- 245) ?Quel ragazzo<sub>i</sub>, gli<sub>i</sub>elo ho detto che l<sub>i</sub>'hanno invitato ad una festa.<sup>56</sup>  
That guy, I have told him that was invited to a party.
- 246) \*\*Chi<sub>i</sub> gli<sub>i</sub>elo hai chiesto quando riassumeranno t<sub>i</sub> in fabbrica?  
Who have you asked him, when will be take back at the factory?
- 247) \*È Mario<sub>i</sub> che gli<sub>i</sub>elo ho chiesto quando riassumeranno t<sub>i</sub> in fabbrica.  
It's M. that I have asked him, when will be take back at the factory.
- 248) ?\*il ragazzo<sub>i</sub> che gli<sub>i</sub>elo ho chiesto quando riassumeranno t<sub>i</sub> in fabbrica...  
the guy that I have asked him, when will be take back at the factory...
- 249) ??quel ragazzo<sub>i</sub>, che gli<sub>i</sub>elo ho chiesto quando riassumeranno t<sub>i</sub> in fabbrica, ...  
that guy, that I have asked him, when will be take back at the factory, ...
- 250) ?Quel ragazzo<sub>i</sub>, gli<sub>i</sub>elo ho chiesto quando lo<sub>i</sub> riassumeranno in fabbrica.  
That guy, I have asked him, when will be take back at the factory.

Independently from coreference facts, interrogative wh-extraction and clefts give bad results when applied to a dislocated clause.

- 251) \*Chi lo hai detto(.) che hanno invitato t ad una festa?  
252) ?\*È Mario che lo ho detto(.) che hanno invitato t ad una festa.

Acceptability progressively improves for the other three types of extraction employed, according to a standard pattern that was already analyzed in detail in the previous chapters. The judgements are subtle, but one notices that SCO effects are also subject to a gradual decrease of strength. This is due to the informational value of the extracted element (at the intra-CP level of the embedded clause), which is maintained also when the constituent is reconstructed in-situ. The extractions that were on the left hand of our scale in chapter 3 do not permit coreferentiality between a non-embedded pronoun and an antecedent in a BP configuration, whereas the extractions that were on the right hand do. At a closer look, SCO results sensitive to the type of extraction employed, then - but for independent reasons it is considerably more difficult to detect such a sensitivity for SCO than for WCO (see note 57). Therefore, our claim is that there is no special treatment to be given to SCO configurations separately from a treatment of BP

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<sup>56</sup> Note that this sentence is unacceptable to us.

- i) ?\*Quel ragazzo, gli ho detto che Maria è invitata ad una festa.  
That guy, I told him(cl) that M. is invited to a party

One would say, instead (the presence of the clitic denotes a more colloquial style):

- ii) A quel ragazzo, (gli) ho detto che Maria è invitata ad una festa.  
To that guy, I told him(cl) that M. is invited to a party

Thus, example 245) cannot be traced back to the configuration below (assuming reconstruction to be operative).

- iii) Ho detto a quel ragazzo<sub>i</sub> che l<sub>i</sub>'hanno invitato ad una festa.  
(I) told to that guy that (they) invited him(cl) to a party

(and thus also of WCO): a unified account is possible, if the correct structural and informational variables are taken into account and carefully considered.<sup>57</sup>

## 11) FORWARD PRONOMINALIZATION AND ITS RESTRICTIONS

It is now time to face some problems regarding forward pronominalization (FP) which have sometimes been cited in the literature but never described in a systematic way - and, which is worse, also never satisfactorily accounted for.

### 1/EMBEDDED PRONOUNS

Lakoff (1968) first stressed that FP should not be retained immune from constraints (as then rather commonly believed). Reinhart (1976/1983) indeed notices that there is a difference between subjects and objects in pronominalization possibilities when an extracted (non-embedded) antecedent precedes an embedded pro-form. An object cannot be pronominalized (see also Koopman & Sportiche 1983, Safir 1984, Postal 2002), whereas a subject presents no restrictions whatsoever.

- 253) The actress<sub>i</sub> who<sub>i</sub> t<sub>i</sub> kissed Brando in her<sub>i</sub> latest film will win the Oscar.  
 254) \*The actress<sub>i</sub> who<sub>i</sub> Brando kissed t<sub>i</sub> in her<sub>i</sub> latest film will win the Oscar.
- 255) What actress<sub>i</sub> t<sub>i</sub> kissed Brando in her<sub>i</sub> latest film?  
 256) \*What actress<sub>i</sub> did Brando kiss t<sub>i</sub> in her<sub>i</sub> latest film?  
 (from Reinhart 1976)

The same contrast seems to hold in Italian as well.

- 257) Che attrici<sub>i</sub> t<sub>i</sub> hanno baciato Brando nel loro<sub>i</sub> ultimo film?  
 What actresses kissed Brando in their latest film?  
 258) ??\*Brando, che attrici<sub>i</sub> pro ha baciato t<sub>i</sub> nel loro<sub>i</sub> ultimo film?  
 Brando, what actresses (he) kissed in their latest film?

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<sup>57</sup> The restrictions on the informational status of the postponed antecedent are less marked for *embedded* pronouns: this would explain the well-known difference in grammaticality between WCO and SCO. To see better the point, consider these sentences involving BP with embedded and non-embedded pronouns:

- i) \*Gli<sub>i</sub> ho detto che Mario<sub>i</sub> è intelligente.  
 Him<sub>(cl)</sub> (I) have told that M. is intelligent  
 ii) ?Ho detto a sua<sub>i</sub> madre che Mario<sub>i</sub> è intelligente.  
 (I) have told to his mother that M. is intelligent  
 iii) (?)Gli<sub>i</sub>elo ho detto, che Mario<sub>i</sub> è intelligente.  
 iv) Lo ho detto a sua<sub>i</sub> madre, che Mario<sub>i</sub> è intelligente.
- v) \*Le<sub>i</sub> ho chiesto se Maria<sub>i</sub> voleva mangiare.  
 Her<sub>(cl)</sub> (I) have asked whether M. wanted to eat  
 vi) ?Ho chiesto a suo<sub>i</sub> padre se Maria<sub>i</sub> voleva mangiare.  
 (I) have asked to her father whether M. wanted to eat  
 vii) (?)Gli<sub>i</sub>elo ho chiesto, se Maria<sub>i</sub> voleva mangiare.  
 viii) Lo ho chiesto a suo<sub>i</sub> padre, se Maria<sub>i</sub> voleva mangiare.

When an (object) pronoun is not embedded, a subsequent antecedent may be coreferent with it only if it is topical *and inside a topical constituent* (as in iii) and vii)). Note instead the well-formedness of ii) and vi), which have a topical antecedent which is not contained in a topical constituent. Observe finally that a focal antecedent disallows coreference in both configurations.

- ix) \*Gli<sub>i</sub>elo ho detto, che è intelligente Mario<sub>i</sub>.  
 x) \*Ho detto a sua<sub>i</sub> madre che è intelligente Mario<sub>i</sub>.  
 xi) ??Lo ho detto a sua<sub>i</sub> madre, che è intelligente Mario<sub>i</sub>.

In addition, it seems to us that with a non-extracted antecedent a similar difference is perceivable *provided that the object be focal*. The presence of a suitable context facilitates such an accented (focal) reading of the object (note that focality at the D-level and at the intra-CP level at the same time is particularly problematic).

- 259) Chi hanno baciato quelle attrici?  
Who have those actresses kissed?
- 260) Pro<sub>i</sub> hanno baciato RAUL BOVA nel loro<sub>i</sub> ultimo film.  
(They) have kissed R. B. in their latest film
- 261) ??Pro hanno baciato RAUL BOVA<sub>i</sub> nel suo<sub>i</sub> ultimo film.  
(They) have kissed R. B. in his latest film
- 262) Chi hanno incontrato Mara e Sandra?  
Who have M. and S. met?
- 263) Pro<sub>i</sub> hanno incontrato UN UOMO nel loro<sub>i</sub> giardino.  
(They) have met a man in their garden
- 264) \*Pro hanno incontrato UN UOMO<sub>i</sub> nel suo<sub>i</sub> giardino.  
(They) have met a man in his garden

This was recognized also by Reinhart in her dissertation, though the data were dropped in subsequent publications since they are at odds with a c-command analysis.

- 265) ROSA<sub>i</sub> is kissing Ben in Max's picture of her<sub>i</sub>.
- 266) \*Ben is kissing ROSA<sub>i</sub> in Max's picture of her<sub>i</sub>.  
(from Reinhart 1976)

If the object is not focal, coreference is perfectly fine.

- 267) Quando hanno baciato Raul Bova quelle attrici?  
When have those actresses kissed R. B.?
- 268) Hanno baciato Raul Bova<sub>i</sub> nel suo<sub>i</sub> ultimo film.  
(They) have kissed R. B. in his latest film
- 269) Dove hanno incontrato un uomo Mara e Sandra?  
Where have M. and S. met a man?
- 270) L<sub>i</sub>'hanno incontrato nel suo<sub>i</sub> giardino.  
(They) have met him in his garden

Postverbal subjects give degraded results as well.

- 271) Chi è stato visto?  
Who has been seen?
- 272) ??È stato visto UN UOMO<sub>i</sub> nel suo<sub>i</sub> giardino.  
It has been seen a man in his garden
- 273) Chi è stato baciato?  
Who has been kissed?
- 274) ??È stato baciato RAUL BOVA<sub>i</sub> nel suo<sub>i</sub> ultimo film.  
It has been kissed R. B. in his latest film

Finally, let's analyze the behavior of bare quantifiers. Again, preverbal subjects are different from postverbal ones and from (focal) objects.

- 275) Nessuno<sub>i</sub> è stato visto nel suo<sub>i</sub> giardino.  
Nobody has been seen in his garden
- 276) ?\*Non ho visto nessuno<sub>i</sub> nel suo<sub>i</sub> giardino.  
I've seen nobody in his garden

- 277) ??Non è stato visto nessuno<sub>i</sub> nel suo<sub>i</sub> giardino.  
It has been seen nobody in his garden

The data we reported before about extraction configurations are raw. At a more fine-grained analysis, it turns out that not all types of extraction behave in an identical way (this is also consistent with the data about non-stressed in-situ objects). Consider then the following sentences from Italian:

- 278) ?\*Chi<sub>i</sub> hanno arrestato t<sub>i</sub> malgrado il suo<sub>i</sub> alibi?  
Who did they arrested despite his alibi?  
279) ??L'uomo<sub>i</sub> che<sub>i</sub> hanno arrestato t<sub>i</sub> malgrado il suo<sub>i</sub> alibi...  
The man that they arrested despite his alibi...  
280) ?Quell'uomo<sub>i</sub>, che<sub>i</sub> hanno arrestato t<sub>i</sub> malgrado il suo<sub>i</sub> alibi, ...  
That man, that they arrested despite his alibi, ...  
281) (?Quell'uomo<sub>i</sub>, l<sub>i</sub>'hanno arrestato malgrado il suo<sub>i</sub> alibi.  
That man, they arrested him despite his alibi...  
282) ?\*Brando, che attrici<sub>i</sub> pro ha baciato t<sub>i</sub> nel loro<sub>i</sub> ultimo film?  
Brando, what actresses (he) kissed in their latest film?  
283) ??Le attrici<sub>i</sub> che<sub>i</sub> Brando ha baciato t<sub>i</sub> nel loro<sub>i</sub> ultimo...  
The actresses that Brando kissed in their latest film...  
284) ?Quelle attrici<sub>i</sub>, che Brando ha baciato t<sub>i</sub> nel loro<sub>i</sub> ultimo film, ...  
Those actresses, that Brando kissed in their latest film, ...  
285) (?Quelle attrici<sub>i</sub>, Brando le<sub>i</sub> ha bacciate t<sub>i</sub> nel loro<sub>i</sub> ultimo film.  
Those actresses, Brando kissed them in their latest film.

Needless to say, the data repeat an analogous pattern which we first described in extraction out of islands (see chapter 3). The key to understanding it is again the informational status of the extracted element, which varies according to the type of movement employed. Since we assumed that the pronoun is sensitive to such informational value, the observed empirical facts follow straightforwardly. We believe that no explanation can make justice to similar data without taking into account IS and the explanation of extraction phenomena advanced in chapter 3.

Nouns with clausal embedding confirm the picture above and also permit us to test whether there is an asymmetry between subject vs object pronouns. Even if the judgements are not completely clear, we are inclined to say that no considerable difference is noticeable here.

- 286) ?\*Che attrice<sub>i</sub> pro hai baciato t<sub>i</sub> nell'ultimo film che pro<sub>i</sub> ha fatto?  
Which actress have you kissed in the latest film that (she) did?  
287) ?\*Che attrice<sub>i</sub> pro hai baciato t<sub>i</sub> nell'ultimo film che l'<sub>i</sub>ha vista protagonista?  
Which actress have you kissed in the latest film that had her in the lead role?  
(Cf. Che attrice pro<sub>i</sub> hai baciato t nell'ultimo film che pro<sub>i</sub> hai fatto?)  
Which actress have you kissed in the latest film that (you) did?

The examples with pronouns embedded in nominals are confirmed by data regarding clausal embeddings (the second one from Calabrese 1985).

- 288) Mario ha picchiato Antonio<sub>i</sub> dopo che pro<sub>i</sub> si era ubriacato.  
M. hit A. after he got drunk  
289) La maestra ha sgridato Pierino<sub>i</sub> dato che pro<sub>i</sub> si era comportato male.  
The teacher told off P. given that (he) misbehaved

As before, a truly focal interpretation of the in-situ object is incompatible with a coreferential interpretation of the pronoun. Indeed, accentuation of the objects in the examples above produces deviant results. We can make the same point employing indefinites and bare

quantifiers instead of definite objects (being focal at the D-level, they tend to induce ungrammaticality in any case).<sup>58</sup>

- 290) Un uomo<sub>i</sub> ha picchiato Mario dopo che pro<sub>i</sub> si era ubriacato.  
A man hit M. after (he) got drunk
- 291) ?\*Mario ha picchiato un uomo<sub>i</sub> dopo che pro<sub>i</sub> si era ubriacato.  
M. hit a man after (he) got drunk
- 292) Nessun uomo<sub>i</sub> fu picchiato dopo che pro<sub>i</sub> si era ubriacato.  
No man was hit after (he) got drunk
- 293) ?\*Non fu picchiato nessun uomo<sub>i</sub> dopo che pro<sub>i</sub> si era ubriacato.  
It was hit no man after (he) got drunk

Extraction data are pretty similar to those we saw before.

- 294) ??(?)Chi<sub>i</sub> hai picchiato t<sub>i</sub> dopo che pro<sub>i</sub> si era ubriacato?  
Who have you hit after (he) got drunk?
- 295) ?l'uomo<sub>i</sub> che<sub>i</sub> hai picchiato t<sub>i</sub> dopo che pro<sub>i</sub> si era ubriacato...  
the man that you hit after (he) got drunk...
- 296) (?quell'uomo<sub>i</sub>, che<sub>i</sub> hai picchiato t<sub>i</sub> dopo che pro<sub>i</sub> si era ubriacato, ...  
that man, that you hit after (he) got drunk, ...
- 297) Quell'uomo<sub>i</sub>, lo<sub>i</sub> hai picchiato dopo che pro<sub>i</sub> si era ubriacato.  
That man, you hit him after (he) got drunk...

What we said so far is not completely correct. In fact, it turns out that a distinction needs be drawn between different types of embeddings. They have to be split into two categories, on the same lines of the differentiation which was proposed in the section about BP, following Kuno (1975) and Reinhart (1983). If the pronouns are embedded inside focal complements, they can corefer with an object antecedent in matrix position (whatever informational status pertain to it).

- 298) Ho chiesto ad Antonio<sub>i</sub> quando pro<sub>i</sub> si è ubriacato.  
I asked to A. when (he) got drunk
- 299) Mario ha detto ad Antonio<sub>i</sub> che la notte scorsa pro<sub>i</sub> si è ubriacato.  
M. told to A. that last night (he) got drunk

In such configurations, the same insensitivity can be observed for antecedents focal at the D-level.<sup>59</sup>

- 300) Ho detto ad ogni uomo<sub>i</sub> che pro<sub>i</sub> tornasse al lavoro immediatamente.  
(I) told to every man that (he) got back to work immediately
- 301) Non ho chiesto a nessun uomo<sub>i</sub> che pro<sub>i</sub> facesse più del dovuto.  
I didn't ask to any man that (he) did more than he should

---

<sup>58</sup> Again, we do not find any improvement in acceptability employing an object pronoun.

- i) ?\*Non è stato picchiato nessuno dopo che l'hanno fatto ubriacare.  
It has been hit nobody after someone made him drunk
- ii) ?\*Non è stato picchiato nessuno dopo che pro è stato fatto ubriacare.  
It has been hit nobody after he has been made drunk

<sup>59</sup> But (contrastive interpretations apart!):

- i) ??Ho chiesto AD ANTONIO<sub>i</sub>, quando pro<sub>i</sub> si è ubriacato.
- ii) ??Mario ha detto AD ANTONIO<sub>i</sub>, che la notte scorsa pro<sub>i</sub> si è ubriacato.

And:

- iii) \*Ho detto ad ogni uomo<sub>i</sub>, che pro<sub>i</sub> tornasse al lavoro immediatamente.

Nominal embedding constitutes no exception to the generalization.

- 302) Non ho ancora dato a [nessun impiegato]<sub>i</sub> il suo<sub>i</sub> stipendio mensile.  
I gave to no employee his monthly salary yet  
303) Ho restituito [ogni oggetto]<sub>i</sub> al suo<sub>i</sub> proprietario.  
I gave back every article to his owner

And extraction configurations are once more supportive of it.

- 304) A chi<sub>i</sub> hai chiesto t quando pro<sub>i</sub> si è ubriacato?  
To whom have you asked when (he) got drunk?  
305) A chi<sub>i</sub> hai detto t che la notte scorsa pro<sub>i</sub> si è ubriacato?  
To whom have you said that last night (he) got drunk?

Conversely, subject antecedents are free from restrictions except when the subsequent pronoun is in a conveniently topical constituent. So, 307) contains a pronoun embedded inside a DP strongly topical at the D-level, and it cannot have the same reference as the (focal) subject antecedent in matrix position (data from Huang 1982).

- 306) Who<sub>i</sub> t likes [every story about him<sub>i</sub>]<sub>Foc</sub>?  
307) \*Who<sub>i</sub> t likes [that story about him<sub>i</sub>]<sub>Top</sub>?

As expected, this happens also with in-situ subjects acting as antecedents (here, the embedding is clausal and the contrast regards a restrictive vs an appositive RC and a definite vs indefinite head).

- 308) Every student<sub>i</sub> should respect [every professor [that he<sub>i</sub> has learned things from]].  
309) \*Every student<sub>i</sub> should respect [professor Smith, [who he<sub>i</sub> has learned things from]].

Note the difference between focal and topical subjects at the D-level: only the former are sensitive to the informational status of the constituent in which the pronoun is embedded.

- 310) \*Everybody<sub>i</sub> respects professor Smith, who he<sub>i</sub> has learned a lot from.  
311) John<sub>i</sub> respects professor Smith, who he<sub>i</sub> has learned a lot from.  
(Huang 1982)  
312) \*Who<sub>i</sub> likes that story about him<sub>i</sub>?  
313) Does Mario<sub>i</sub> like that story about him<sub>i</sub>?

Data of this type can be replicated in Italian.

- 314) Mario<sub>i</sub> ama quella storia su di lui<sub>i</sub> che si racconta in giro.  
M. loves that story about him that is making the rounds  
315) ?\*Chi<sub>i</sub> ama quella storia su di lui<sub>i</sub> che si racconta in giro?  
Who loves that story about him that is making the rounds?

It can be also shown that at stake is an informational effect and that the phenomenon is thus only indirectly related to the question ‘functional reading of pronouns’.

- 316) ?\*Chi<sub>i</sub> ama quella storia su di lui<sub>i</sub> che si racconta in giro?  
Who loves that story about him that is making the rounds?  
317) ??È Mario che ama quella storia su di lui<sub>i</sub> che si racconta in giro.  
It’s M. that loves that story about him that is making the rounds.  
318) ?L’uomo che ama quella storia su di lui<sub>i</sub> che si racconta in giro ...  
The man that loves that story about him that is making the rounds...

- 319) (?)Mario, che ama quella storia su di lui<sub>i</sub> che si racconta in giro, ...  
M., that loves that story about him that is making the rounds, ...
- 320) Mario, pro ama quella storia su di lui<sub>i</sub> che si racconta in giro.  
M., (he) loves that story about him that is making the rounds.

## 2/NON EMBEDDED PRONOUNS

Examples with both non-embedded pronouns and non-embedded antecedents are quite difficult to construct, since we usually end up with environments in which anaphors are obligatory.

- 321) \*Ho restituito Mario<sub>i</sub> a lui<sub>i</sub>.  
322) Ho restituito Mario<sub>i</sub> a se stesso<sub>i</sub>.  
I give back M. to him/himself

In the relatively few cases in which it is possible to find a non-complementary distribution of anaphors and pronouns or in which a (local) anaphor is barred, one obtains results which do not differ markedly from those pointed out before when considering pronouns embedded in focal complements.

- 323) ?Hanno parlato con Mario<sub>i</sub> per tutto il giorno di lui<sub>i</sub>.  
(They) spoke with M. the whole day of him
- 324) ?Con chi<sub>i</sub> hanno parlato t<sub>i</sub> per tutto il giorno di lui<sub>i</sub>?  
With whom did they speak the whole day of him?

Antecedents in object position focal at the D-level do not generally disrupt the acceptability of the sentences either.

- 325) ?Non hanno ancora parlato con [nessun ragazzo]<sub>i</sub> di lui<sub>i</sub>.  
They have spoken with no boys of him yet

Coordination data are consistent with those above:

- 326) Chi ha parlato all'assemblea?  
Who spoke at the meeting?  
Ha parlato Carlo<sub>i</sub> e pro<sub>i</sub> ha detto che ...  
Has spoken C. and (he) said that ...
- 327) È arrivato un uomo<sub>i</sub> e pro<sub>i</sub> ha aiutato Mario.  
Is arrived a man and (he) has helped M.
- 328) (?)Ogni senatore<sub>i</sub> era alla festa e pro<sub>i</sub> si preoccupava se sarebbe stato eletto.<sup>60</sup>

<sup>60</sup> Contra Culicover & Jackendoff (1997), this sentence is pretty good in Italian. Note that the insertion of an overt pronoun produces unacceptability (see Montalbetti 1984):

- i) \*Ogni senatore<sub>i</sub> era alla festa e lui<sub>i</sub> si preoccupava se sarebbe stato eletto.  
Every senator was at the party and he was worried about his election

One should avoid employing accented pronouns in comparable configurations in English, then (presumably, that is the origin of Culicover & Jackendoff's judgement).

Other cases to be avoided are represented by 'masked' coordinations, such as:

- ii) Gianni<sub>i</sub> è stato promosso e pro<sub>i</sub> ha incrementato il suo stipendio.  
G. has been promoted and (he) incremented his salary
- iii) ??Hanno promosso Gianni<sub>i</sub> e pro<sub>i</sub> ha incrementato il suo stipendio.  
(They) promoted G. and (he) incremented his salary

Here the sentences behave informationally as if they were a matrix and an embedded clause ((see iv); we will describe immediately below the restrictions active in such configurations), as with the 'left subordinating and' of Culicover & Jackendoff (1997) mentioned in note 41.

Every senator was at the party and (he) was worried about his election

Interestingly, judgements worsen drastically dislocating the pronoun (note also that with the dislocation of the PP in 329) clausal focus ends up being on the antecedent).

- 329) \*Non hanno ancora parlato con [nessun ragazzo]<sub>i</sub>, di lui<sub>i</sub>.  
They have spoken with no boys yet, of him  
330) \*Con chi<sub>i</sub> hanno parlato t<sub>i</sub> per tutto il giorno, di lui<sub>i</sub>?  
With whom did they speak the whole day, of him?

It is possible to detect a quite clear difference between embedded and non-embedded pronouns, which concerns strongly focal antecedents.

- 331) ??Ho incontrato [ogni tuo ex-fidanzato]<sub>i</sub> e pro<sub>i</sub> mi ha chiesto di te.  
I met each of your past boyfriends and (he) asked me about you  
332) \*È arrivato [ogni uomo]<sub>i</sub> e pro<sub>i</sub> ha aiutato Mario.  
There arrived each man and (he) helped M.

A highly focal constituent at the D-level which is also in focal position at the intra-CP level disallows FP in coordination contexts. Compare with the sentences below, which instead have the antecedent in subject position (topical at the intra-CP level).

- 333) [Ogni tuo ex-fidanzato]<sub>i</sub> mi ha scritto e pro<sub>i</sub> ha chiesto di te.  
Each of your past boyfriends wrote to me and (he) asked about you  
334) ??[Ogni uomo]<sub>i</sub> è arrivato e pro<sub>i</sub> ha aiutato Mario.  
Each man arrived and (he) helped M.

D-linking may (partially) help:

- 335) ??È arrivato [ognuno di quegli uomini laggiù]<sub>i</sub> e pro<sub>i</sub> ha aiutato Mario.  
There arrived each of those men over there and (he) helped M.

And embedding the pronoun, as already said, restores grammaticality.

- 336) Ho detto ad [ogni tuo ex-fidanzato]<sub>i</sub> che pro<sub>i</sub> venga a trovarti per il tuo compleanno.  
I said to each of your past boyfriends that (he) come to visit you for your birthday  
337) Ho chiesto ad [ogni uomo]<sub>i</sub> che pro<sub>i</sub> aiutasse Mario.  
I asked to each man that (he) helped M.

### 3/EMBEDDED ANTECEDENTS

When turning to configurations in which the antecedent is embedded and the pronoun is not, one notices that the restrictions on FP are more marked - the examples come from Calabrese (1986).

- 338) Quando Carlo<sub>i</sub> ha picchiato Antonio, pro<sub>i</sub> era ubriaco.  
339) ??Quando Carlo ha picchiato Antonio<sub>i</sub>, pro<sub>i</sub> era ubriaco.  
When C. hit A., (he) was drunk

An in-situ object (even if topical at the D-level) is not pronominalizable with pro, also when it does not bear strong accentuation. A subject antecedent may be pronominalized, instead.

- 
- iv) ??Dato che hanno promosso Gianni<sub>i</sub>, pro<sub>i</sub> ha incrementato il suo stipendio.  
Since (they) promoted G., (he) incremented his salary

However, Calabrese points out that the employment of an overt tonic pronoun ameliorates systematically the acceptability of the sentences with object antecedents.<sup>61</sup>

- 340) (?)Quando Carlo ha picchiato Antonio<sub>i</sub>, lui<sub>i</sub> era ubriaco.  
When C. hit A., he was drunk

Calabrese (1986) noticed further that a clitic object can corefer with an embedded antecedent in object position, while (as just seen) that is impossible for subject null pronouns.

- 341) Quando Carlo ha picchiato Antonio<sub>i</sub>, io lo<sub>i</sub> ho visto sanguinare.  
When Carlo hit Antonio, I saw him bleeding  
342) \*Quando Carlo ha picchiato Antonio<sub>i</sub>, pro<sub>i</sub> era ubriaco.  
When Carlo hit Antonio, (he) was drunk

Embedding the null pronoun in 342) restores grammaticality (Calabrese 1986, sec 1.3),

- 343) Dopo che Carlo ha picchiato Antonio<sub>i</sub>, Maria disse che pro<sub>i</sub> sarebbe stato licenziato.  
After C. hit A., M. said that (he) would have been fired

and the observed restriction is certainly suspended with (topical) clitic objects in the matrix clause.

- 344) Quando Carlo I<sub>i</sub>'ha picchiato, pro<sub>i</sub> era ubriaco.  
When C. hit him(cl), (he) was drunk

Postverbal (focal) subjects pattern as usual with non-clitic objects (see Calabrese 1986, sec 2.1).

- 345) ?\*Quando l'<sub>i</sub>ha picchiato Carlo<sub>i</sub>, pro<sub>i</sub> era ubriaco.  
When him(cl) hit C., (he) was drunk

Akmajian & Jackendoff (1970) note that in cases similar to those above a subject antecedent must not be stressed in English.<sup>62</sup>

- 346) \*That GEORGE<sub>i</sub> would be Tom's thesis advisor never occurred to him<sub>i</sub>.

Contrary to non-embedded antecedents, an embedded one focal at the D-level is also not tolerated in (preverbal) subject position - see 348) vs 347).<sup>63</sup>

- 347) ??Quando qualcuno<sub>i</sub>/un uomo<sub>i</sub> ha picchiato Antonio, pro<sub>i</sub> era ubriaco.  
When somebody/a man hit A., (he) was drunk  
348) Qualcuno<sub>i</sub>/un uomo<sub>i</sub> ha picchiato Antonio quando pro<sub>i</sub> era ubriaco.

---

<sup>61</sup> Both pro and an overt pronoun are disallowed in presence of focal antecedents at the D-level, though.

i) \*Quando Carlo ha picchiato un uomo<sub>i</sub>, pro<sub>i</sub>/lui<sub>i</sub> era ubriaco.  
When C. hit a man, (he)/he was drunk

Not so for object pronouns, instead.

ii) Quando Carlo ha picchiato un uomo<sub>i</sub>, io lo<sub>i</sub> ho visto sanguinare.  
When C. hit a man, I saw him bleeding

<sup>62</sup> Obviously, we would rather say that it cannot be focal.

<sup>63</sup> But note in this case the asymmetrical behavior of object pronouns.

i) Quando qualcuno<sub>i</sub>/un uomo<sub>i</sub> ha picchiato Antonio, I<sub>i</sub>'hanno subito arrestato.  
When somebody/a man hit A., (they) immediately arrested him(cl)

Somebody/a man hit A. when (he) was drunk

- 349) \*The fact that [somebody in the crowd]<sub>i</sub> lost amused him<sub>i</sub>.  
(from Reinhart 1976)

Quantifiers with a bound reading of the pronoun reveal again the existence of an asymmetry between subject and object antecedents. But, being focal at the D-level, they give strongly degraded results also for subjects, in conformity with the observations just reported.

- 350) \*Dato che nessun ragazzo<sub>i</sub> ha fatto caso a Mario, pro<sub>i</sub> non è stato invitato.  
Since no boy showed interest in M., (he) was not invited  
351) \*\*Dato che Mario non ha fatto caso a nessun ragazzo<sub>i</sub>, pro<sub>i</sub> non è stato invitato.  
Since M. showed interest in no boy, (he) has not been invited

Nominally embedded antecedents behave as predictable and, again, topical subjects containing a focal antecedent at the D-level disrupt acceptability (note that here the pronoun is embedded as well, and therefore there is a slight improvement in grammaticality).

- 352) ?\*La vicina che ogni condomino<sub>i</sub> detesta ha usato almeno una volta il barbecue nel suo<sub>i</sub> giardino.  
The neighbour that every joint owner detests used at least one time the barbecue in his garden  
353) \*\*Il barbecue, l'ha usato almeno una volta la vicina che ogni condomino<sub>i</sub> detesta nel suo<sub>i</sub> giardino.  
The barbecue, it(cl) used at least one time the neighbour that every joint owner detests in his garden

## 12) FP AND BP: A BRIEF COMPARISON

At first sight, FP and BP seem different, the former being considerably less constrained than the latter. The differences result particularly evident in these configurations:

FP<sup>64</sup>

[antecedent]<sub>Matr</sub> [pronoun]<sub>Matr</sub>

BP<sup>65</sup>

\*[pronoun]<sub>Matr</sub> [antecedent]<sub>Matr</sub>

FP<sup>66</sup>

[antecedent]<sub>Matr</sub> [pronoun]<sub>Emb</sub>

BP<sup>67</sup>

\*[pronoun]<sub>Matr</sub> [antecedent]<sub>Emb</sub>

However, the restrictions are specular in certain other contexts. This strongly argues in favor of an at least partially common treatment. Consider as a particularly clear exemplification of the point the asymmetry *lui/pro* in both configurations, in presence of the interfering variable 'level of embedding of the pronoun'.<sup>68</sup>

FP

[Ant]<sub>Emb</sub> [\*pro/lui]<sub>Matr</sub>

<sup>64</sup> The configuration is out when an antecedent in object position strongly focal at the D-level precedes the pronoun (also when the pronoun is *not* in a topical position or therein embedded).

<sup>65</sup> The configuration is (marginally) acceptable with an object pronoun and a topical antecedent.

<sup>66</sup> This configuration is out only if the antecedent is an object and receives a focal value, while the pronoun is embedded in a topical domain.

<sup>67</sup> This configuration is in if the pronoun is an object and the antecedent is topical and inside a topical embedded domain.

<sup>68</sup> We do not know the exact reasons responsible for the pattern of data.

[Ant]<sub>Emb</sub> [[pro/lui]<sub>Emb</sub>]<sub>Matr</sub>

- 354) Quando Carlo ha picchiato Antonio<sub>i</sub>, \*pro<sub>i</sub>/lui<sub>i</sub> era ubriaco.  
When C. hit A., (he)/he was drunk
- 355) Quando Carlo ha picchiato Antonio<sub>i</sub>, sono convinto che ?pro<sub>i</sub>/lui<sub>i</sub> fosse ubriaco.  
When C. hit A., I'm convinced that (he)/he was drunk

BP

[pro/\*lui]<sub>Emb</sub> [Ant]<sub>Matr</sub>

[[pro/lui]<sub>Emb</sub>]<sub>Emb</sub> [Ant]<sub>Matr</sub>

- 356) Quando \*lui<sub>i</sub>/pro<sub>i</sub> lavora, Giovanni<sub>i</sub> non beve.  
When he/(he) works, G. does not drink
- 357) Quando insistono che ?lui<sub>i</sub>/pro<sub>i</sub> lavori, Giovanni<sub>i</sub> non beve.  
When (they) insist that he/(he) work, G. does not drink

Another interesting mirror image behavior regards cyclic embedding: in BP it causes ungrammaticality, whereas in FP it eliminates the restrictions active on it.<sup>69</sup>

BP

[[[pronoun [antecedent]]]]

- 358) \*La ragazza che [pro<sub>i</sub> dissero che [Luca e Giovanni]<sub>i</sub> ammiravano t] non arrivava più.  
The girl that (they) said that L. and G. admired was not coming anymore

FP

[antecedent [pronoun]]

- 359) Non hanno visto [nessuno<sub>i</sub> seduto nel suo<sub>i</sub> giardino].  
(They) saw nobody sat in his garden

Compare with non-cyclic embedding cases:

BP

- 360) La ragazza che pro<sub>i</sub> ammiravano t disse di nuovo che [Luca e Giovanni]<sub>i</sub> non arrivavano mai tardi.  
The girl that (they) admired said again that L. and G. were never late

FP

- 361) \*Non hanno visto nessuno<sub>i</sub> nel suo<sub>i</sub> giardino.  
(They) saw nobody in his garden

---

<sup>69</sup> The reason is again connected to the fact that the informational spell-out is cyclic. In the derivational moment in which the complex nominal is assembled, no access is possible to subsequent phases. This explains why coreference is permitted independently from the informational values of the complex constituent at the intra-CP level (see i) and ii), both perfectly fine).

Nessuno<sub>i</sub> dei suoi<sub>i</sub> amici  
No one of his friends

i) [Nessuno<sub>i</sub> dei suoi<sub>i</sub> amici]<sub>Top</sub> è arrivato.  
No one of his friends arrived

ii) Non è arrivato [nessuno<sub>i</sub> dei suoi<sub>i</sub> amici]<sub>Foc</sub>.  
There didn't arrive no one of his friends

In 360) the antecedent is embedded but not inside the pronoun, while in 361) the pronoun is embedded but not inside the antecedent. The change of configuration has a mirror image effect on BP and FP.

Generally speaking, it is apparent that BP and FP are sensitive to very similar variables. This is due to the fact that the restrictions active in the two configurations are complementary. In BP, there is a constraint on the progression

Top+ → Top-,

and in particular on the following subcase of this more general pattern

Top → Foc,

while in FP the restriction is on the progression

Foc → Top.

The marked character of BP wrt FP stems from the fact that the progression

Top- → Top+

is generally less (or not at all) problematic in natural language, contrary to its mirror image.

The data reviewed in the last sections reveal that there are two ways of worsening (or improving) grammaticality, corresponding to the two poles of these progressions. For FP, an increase in the focality of the antecedent or an increase in the topicality of the constituent containing the pronoun (and/or of the pronoun itself) diminish acceptability. The same holds for BP, but here the relative order of the poles is inverted. The quantitative impact of such modifications varies according to the structural prominence of antecedent and pronoun, which depends on their level of embedding.

### **FP**

<i>Antecedent</i>	<i>Pronoun</i>
<b>Foc</b>	<b>Top</b>
+	+

### **BP**

<i>Pronoun</i>	<i>Antecedent</i>
<b>Top</b>	<b>Foc</b>
+	+

The opposite trends lead to an increase in grammaticality (see above for the relevant data).

There are considerable similarities among restrictions on forward and backward pronominalization, which strongly suggest that the variables which determine the possibility of coreference in the two situations have much in common. This is one of the most compelling pieces of evidence for rejecting a purely structural account of the facts under examination in this chapter: no explanation making use of notions such as c-command can ever succeed in accounting for the complex patterns of data and interrelations reported here. The reader should at this point agree with us that IS is crucially involved in the phenomenon of pronominalization. Not only so: we firmly believe that it is also its basic determinant.

### 13) RECONSTRUCTION AND PRONOMINALIZATION

An account of acceptable and unacceptable cases of BP/FP has to be independent from what Higgins (1973) named *syntactic connectedness* (better known today as reconstruction), as obvious from data like the following in which there is no position to which reconstruct and no element that could be reconstructed.

BP  
362) The boy who hated her<sub>i</sub> threw a rock at Mary<sub>i</sub>.  
(from Postal 1971)

FP  
363) \*Ben is kissing ROSA<sub>i</sub> in Max's picture of her<sub>i</sub>.  
(from Reinhart 1976)

However, if in certain cases reconstruction were not obligatory we should observe no violation, contrary to facts. In 364), for instance, a wh-element could bind the coindexed pronoun from the landing site without causing any problem, as we have already mentioned.

364) Who<sub>i</sub> does his<sub>i</sub> mother love t?  
(as in 'Who<sub>i</sub> sold his<sub>i</sub> house?')

vs

365) \*Who does his<sub>i</sub> mother love [who<sub>i</sub>]?

On the other hand, there are cases which go in the opposite direction and suggest that reconstruction is not always obligatory. Van Riemsdijk & Williams (1981) introduced the term 'antireconstruction' for examples of this sort, which fail to induce an SCO violation:

366) \*He<sub>i</sub> likes many of John<sub>i</sub>'s teachers.  
367) How many of John<sub>i</sub>'s teachers does he<sub>i</sub> like [how many of John's teachers]?  
(from Wasow 1979)

Chomsky (1995), building on Lebeaux (1988, 1992) and Freidin (1986), establishes a difference between arguments and adjuncts in reconstruction possibilities, a theory known as 'late insertion of adjuncts'. According to this theory, adjuncts can be merged later into the tree (ie, acyclically). In that case, they would not be available to reconstruction procedures, since they were never in the low 'copy position'. Data of this sort motivate the proposal:

368) \*[Which claim that John<sub>i</sub> was asleep]<sub>k</sub> was he<sub>i</sub> willing to discuss t<sub>k</sub>?

369) [Which claim that John<sub>i</sub> made]<sub>k</sub> was he<sub>i</sub> willing to discuss t<sub>k</sub>?

370) \*He<sub>i</sub> was willing to discuss [which claim that John<sub>i</sub> was asleep]?

371) He was willing to discuss [which claim]?  
(from Chomsky 1995)

372) ??\*[Which pictures of John<sub>i</sub>]<sub>k</sub> did he<sub>i</sub> like t<sub>k</sub>?

373) [Which pictures near John<sub>i</sub>]<sub>k</sub> did he<sub>i</sub> look at t<sub>k</sub>?

374) \*He<sub>i</sub> liked [which pictures of John<sub>i</sub>]?

375) He looked at [which pictures]?  
(from Lebeaux 1992)

The same sort of dichotomy between arguments and adjuncts was highlighted in accounting for certain asymmetrical behaviours in island extraction (Huang 1982, Chomsky 1986). But it was soon abandoned (and reframed in terms of more 'pragmatic' variables - Rizzi 1990 and Cinque

1990 *inter alia* - that were better able to fit the data). Taking into consideration a wider corpus of examples, it seems that the theory known as ‘late insertion of adjuncts’ is condemned to a similar destiny.

In the first place, there are divergent judgements in the literature. Postal (2002) does not find substantially different sentences number 368) and 369), since for him both are acceptable. He then reports a nearly identical case of argument topicalization, claiming that its acceptability is even clearer.

- 376) [The claim that the director<sub>i</sub> was corrupt]<sub>k</sub>, he<sub>i</sub> was unwilling to discuss t<sub>k</sub>.  
 377) \*He<sub>i</sub> was unwilling to discuss the claim that the director<sub>i</sub> was corrupt.

The same holds for the other type of examples.<sup>70</sup> Compare these two contrasting judgements:<sup>71</sup>

- 378) \*<sub>Pesetsky 1995/OK-Postal 2002</sub> Which picture of Tom<sub>i</sub> did he<sub>i</sub> say Sue had purchased?

Secondly, various other cases exist of licit binding configurations in non-reconstructed position for arguments. Kuno (2004) has many, among them:<sup>72</sup>

- 379) [Which psychiatrist’s view that John<sub>i</sub> was schizophrenic]<sub>k</sub> did he<sub>i</sub> try to get expunged from the trial records t<sub>k</sub>?  
 380) [Which psychiatrist’s evaluation of John<sub>i</sub>’s mental state]<sub>k</sub> did he<sub>i</sub> try to get expunged from the trial records t<sub>k</sub>?

To sum up, although contrasts between adjuncts and arguments in reconstruction possibilities might emerge, Lebeaux’s proposal seems more than dubious from an empirical point of view.<sup>73</sup>

<sup>70</sup> See also this example from Higginbotham (1983):

- i) Which biography of Picasso<sub>i</sub> do you think he<sub>i</sub> wants to read t?

<sup>71</sup> Observe that in Italian a quite strong contrast is observable between *pro* and an overt pronoun in similar contexts:

- i) [Quale foto di Giovanni]<sub>i</sub> \**pro*/?(anche) lui<sub>i</sub> ha visto t?  
 Which picture of G. (he)/(even) he has seen?

The variability in grammaticality judgements in English might thus be due to the differences in pronoun accentuation for the various speakers (see note 40).

<sup>72</sup> See also Chierchia (1995, 167), Bianchi (1999, IV.8).

<sup>73</sup> We would like to argue that the correct explanation of the asymmetry could be (at least partly) informational. Remember from chapter 2 that clausal arguments to nouns are generally less topical than clausal adjuncts (as testified, among other things, by the less marked unacceptability arising when extraction takes place from the former). We also know from the discussion of FP in previous section that grammaticality decreases for antecedents contained in increasingly more focal (or less topical) constituents, particularly so if such antecedents are embedded (note the focal value of the moved constituent at the intra-CP level of the matrix clause, which would render critical even slight changes in the other informational levels). The restrictions on coreference would then stem from the restrictions on FP, *with the wh-element interpreted ex-situ in all cases*. The same point can be made for prepositional arguments/adjuncts of nouns: the latter generally receive a topical value from the noun at the intra-DP level. The lie test of Erteschik/Ross is sensitive to such a difference:

- i) La foto di Giovanni è vicino alla finestra.  
 Giovanni’s picture is near the window  
 ?Che in realtà non è di Giovanni, ma di suo fratello.  
 That (it) is actually not of Giovanni, but of his brother  
 ii) La foto vicino alla finestra è di Giovanni.  
 The picture near the window is of Giovanni  
 ?\*Che in realtà non è vicino alla finestra, ma alla scrivania.  
 That (it) is actually not near the window, rather close to the writing desk

Heycock (1995) represents the initiator of another class of analysis, based on the difference between referential and non-referential complements. It is controversial whether the proposal can explain the phenomenon of reconstruction in its entirety, but what we retain to be true is that the variable ‘topicality of the moved constituent’ is one of its major determinants. Consider these contrasts (data from Heycock 1995):

- 381) Which stories about Diana<sub>i</sub> did she<sub>i</sub> most object to t?  
 382) \*How many stories about Diana<sub>i</sub> is she<sub>i</sub> likely to invent t?
- 383) Which lies aimed at exonerating Clifford<sub>i</sub> did he<sub>i</sub> expect t to be effective?  
 384) \*How many lies aimed at exonerating Clifford<sub>i</sub> is he<sub>i</sub> planning to come up with t?

What is quantified over in the bad examples is amount and not entities: the wh-element has obligatorily a non-referential reading. Apart from intuitive judgements, this can be shown by extracting the wh-element from a wh-island, which allows only referential readings of the moved constituent.

- 385) ?\*How many lies do you wonder whether he may come up with t?

Certain referential readings of ‘how many phrases’ are instead good in antireconstruction configurations.<sup>74</sup>

- 386) ?How many stories about Diana<sub>i</sub> was she<sub>i</sub> really upset by t?  
 387) How many lies aimed at exonerating Clifford<sub>i</sub> did he<sub>i</sub> claim that he had no knowledge of t?

The emerging generalization, then, is that highly focal constituents (here, at both the D-level and the intra-CP level) have forcefully to reconstruct in-situ. But it still remains open whether topical constituents *need not* reconstruct, or rather *may not* do that. Bianchi (2004), among other things, addresses precisely this issue.

Bianchi (1999, 2004) deals with the possibility of reconstruction for the head of various types of RCs. Her investigations permit thus to take into account also informational differences at levels other than the D-level (given our remarks in chapter 3 concerning the difference between the heads of restrictive and appositive RCs from an informational point of view).<sup>75</sup> In her most recent paper, she adopts a three-way classification of RCs positing these categories (as

Postal notices an improvement in grammaticality employing topicalization instead of interrogative wh-movement (see 376): this is another proof that the explanation we offered may be on the right track. On the other hand, other factors certainly play a role in the case of that-complements to nouns (see Kuno 1972b, 2004). The following contrast in FP, from Ross (1969), has presumably to be ascribed to variables which are neither informational nor structural (reconstruction is of course irrelevant in iii)):

- iii) \*The knowledge that Fred<sub>i</sub> will be unpopular doesn’t bother him<sub>i</sub>.  
 iv) The possibility that Fred<sub>i</sub> will be unpopular doesn’t bother him<sub>i</sub>.

Note also this very interesting fact (the sentence is again from Ross 1969):

- v) Ann’s knowledge that Fred<sub>i</sub> will be unpopular doesn’t bother him<sub>i</sub>.

<sup>74</sup> See also Fox (1999) for similar data, though he does not employ Heycock’s ‘pragmatic’ explanation and proposes a more semantic account in terms of the interaction between scope reconstruction and Principle C.

<sup>75</sup> Notice that the informational value of the RC head is assigned at the intra-CP level of the embedded clause. The intra-CP level of the matrix clause assigns an informational value to the entire complex DP and not to the RC head in isolation.

suggested in Grosu & Landman 1998): maximalizing, restrictive and appositive relatives. The three types show a decreasing value of topicality for the head at both the D-level and the intra-CP level, as shown for instance from the fact that maximalizing relatives are intrinsically incompatible with specific heads, while appositives are incompatible with non-specific heads (restrictives are fine with both of them, though not with highly individuated syntactic elements, such as proper names or personal pronouns).

The data we are most interested in regard (so-called) Principle C violations and we will focus just on that configuration for the moment. According to Bianchi, the three types of RCs differ in their possibility of reconstructing the head: maximalizing relatives and restrictive relatives with a non-specific head obligatorily reconstruct, while restrictive relatives with a specific head and appositive relatives do not (at least, not necessarily). The data below are all from Bianchi (2004).

- Maximalizing relative:
- 388) \*Se tu immaginassi [<sub>i</sub> pettegolezzi su Gianni<sub>i</sub>] che lui<sub>i</sub> può aver sentito t alla festa, capiresti perché sono preoccupata.  
If you could imagine the gossips on John that he may have heard at the party, you would understand my being concerned.
- Restrictive relative, non-specific head:
- 389) \*[Il bilancio della vita di Gianni<sub>i</sub>] che lui<sub>i</sub> ha fatto t in quell'occasione ...  
The evaluation of the life of John that he has made on that occasion ...
- Restrictive relative, specific head:
- 390) ?Mi hanno riferito [<sub>i</sub> pettegolezzi su Gianni<sub>i</sub>] che lui<sub>i</sub> può aver sentito t alla festa.  
They reported to me the gossips on John that he may have heard at the party.
- Appositive relative:
- 391) [Questi pettegolezzi su Gianni<sub>i</sub>], che lui<sub>i</sub> può aver sentito t, sono privi di fondamento.  
These gossips on John, which he may have heard, are groundless.

Judgements are somewhat delicate and maybe less categorical than what reported, but we certainly agree with Bianchi that there is a substantial effect in the expected direction: an increase in the value of topicality of the head has as a consequence a decrease in ungrammaticality, which in the bad cases is due to the application of a reconstruction procedure (whatever technical implementation might be given to it). We can build true minimal pairs trying to make the point clearer:

- 392) \*[Qualsiasi cosa su Gianni<sub>i</sub>] lui<sub>i</sub> abbia sentito t ...  
Whatever on G. he may have heard
- 393) ??/?\*[Nessun pettegolezzo su Gianni<sub>i</sub>] che lui<sub>i</sub> ha sentito t ...  
No gossip on G. that he has heard
- 394) ?[Quei pettegolezzi su Gianni<sub>i</sub>] che lui<sub>i</sub> ha sentito t ...  
Those gossips on G. that he has heard
- 395) [Quei pettegolezzi su Gianni<sub>i</sub>], che lui<sub>i</sub> ha sentito t, ...  
Those gossips on G., that he has heard, ...

Bianchi's observations confirm the general picture described by Heycock. At this point, however, it is not clear yet whether topical constituents can optionally reconstruct or must stay obligatorily ex-situ. The relevant data to check this involve Principle A and scope. According to Bianchi (2004), maximalizing relatives and restrictives with a non-specific head present scope assignment and anaphor binding under reconstruction only in the lowest chain position. When the head of a restrictive relative does not require a non-specific interpretation, a different pattern emerges: wide scope or narrow scope under reconstruction and anaphor binding in all the chain

positions are available. It then seems that reconstruction becomes *optional* when the topicality of the head increases. But there are other pieces of evidence which seem to contradict such a conclusion. In particular, Bianchi states that for appositives no scope assignment and no anaphor binding under reconstruction is possible. We do not agree and will thus report the data at issue in order to show what we believe to be wrong with Bianchi's reasoning. Let's begin with scope assignment:

- 396) Pro ho telefonato ai due pazienti cardiopatici, che ogni medico visiterà t domani.  
(I) phoned to the two cardiopath patients, that every doctor will examine tomorrow

Bianchi correctly points out that in 396) a functional reading of *due pazienti cardiopatici* (two cardiopath patients) is precluded, since the only possible reading of the sentence involves two identical patients for every different doctor. The problem with this kind of examples is that the head of appositive RCs cannot be focal at the D-level (non-referential or non-specific, in more standard terms), independently from scope assignment. So, the following examples are not well-formed:

- 397) ?\*un cane, che ho visto, ...  
a dog, that (I) have seen, ...  
398) \*ogni paziente, che visiterò domani, ...  
every patients, that (I) will examine tomorrow

Only mentioning a similar head in the preceding discourse allows (marginally) the employment of an appositive RC modifying it (see also chapter 2, note 14).

- 399) A: Mi hanno riferito che hai detto di aver assistito all'investimento di un cane da parte mia. Sei un bugiardo, non è vero.  
A: Someone told me that you said that you witnessed me running over a dog. You're a liar, this is not true  
B: Sei tu che menti! (?)Un cane, che poco fa ho visto distintamente finire sotto le ruote della tua macchina, è sparito dal villaggio proprio oggi.  
B: You are a liar! A dog, that not long ago I distinctly saw under the wheels of your car, disappeared from the village today

In the same way, a functional reading of the head is tolerated if previously introduced into the universe of discourse, as in the following fragment.

- 400) (?)Parliamo ora dei due diversi pazienti che ciascuno di voi dovrà visitare. Si tratterà di pazienti cardiopatici. Questi due pazienti, che ogni medico visiterà domani, sono già stati contattati telefonicamente.<sup>76</sup>  
Let's now talk of the two different patients that each of you has to examine. They will be cardiopath patients. These two patients, that each doctor will examine tomorrow, have already been contacted by phone

Whenever the restrictions on the possibility itself of employing an appositive RC are satisfied, the reading with scope assignment under reconstruction is available, in our judgements.

The data regarding Principle A are even more controversial. We agree with Bianchi's judgements as to the sentence below: the binding of the anaphor is certainly impossible.

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<sup>76</sup> Certain parenthetical elements which should guarantee that we have to do with a 'true' appositive RC (Bianchi, pc) can also be inserted without any substantial change in grammaticality or interpretation:

... Questi due pazienti, che, fra l'altro, ogni medico visiterà domani, ...  
... These two patients, that, besides, every doctor will examine tomorrow, ...

- 401) Maria<sub>i</sub> mi ha riferito [quei pettegolezzi su se stessa<sub>i</sub>/se stesso\*<sub>j</sub>], per i quali, a quanto pare, Gianni<sub>j</sub> si è offeso t.  
Mary has reported to me those gossips on herself/himself, by which John was apparently offended.

But the same happens employing a restrictive relative (due to unidentified reasons). If so, the example does not prove the point which it was thought for.

- 402) \*Maria mi ha riferito [i pettegolezzi su se stesso<sub>j</sub>] per i quali Gianni<sub>j</sub> si è offeso t.  
Mary has reported to me the gossips on himself by which John was offended.

On the other hand, it is perfectly possible to construct sentences that clearly show reconstruction of the anaphor in presence of appositive RCs (see Bianchi 1999, 115-117 for clarifications regarding the employment of *self*-anaphors as a reliable test for reconstruction in Italian).

- 403) [Quei pettegolezzi su stesso<sub>i</sub>], che fra l'altro (Maria mi ha detto che) Gianni<sub>i</sub> nemmeno conosce t a fondo, non turbano certo il suo equilibrio.  
Those gossips on himself, that besides (M. told me that) G. not even knows in depth, do not certainly alter his equilibrium

We therefore conclude that reconstruction is possible with appositives and that it is generally optional when the head of a RC is topical enough.

So far, we have been inspecting reconstruction for the sake of binding in configurations involving embedded anaphors/antecedents.<sup>77</sup> But if we turn to non-embedded cases, the picture which emerges is radically different. For instance, CLLD (which is of course associated to a high value of topicality for the displaced constituent) shows no signs of optional reconstruction (Cinque 1990).

- 404) \*A Maria<sub>i</sub>, dubito che pro<sub>i</sub>/lei<sub>i</sub> creda che Luigi pensi t.  
At M, (I) doubt that (she)/she believes that L. thinks  
405) \*A se stesso<sub>i</sub>, dubito che Luigi<sub>i</sub> creda t che Maria pensi t.  
At himself, (I) doubt that L. believes that M. thinks  
(Cf. A se stesso<sub>i</sub>, dubito che Luigi<sub>i</sub> pensi t.)  
At himself, (I) doubt that L. thinks

Appositive RCs are another possible case in point. The results are analogous to those above (see Schachter 1973, who first observed them).

- 406) \*Maria<sub>i</sub>, a cui dubito che pro<sub>i</sub>/lei<sub>i</sub> creda che Luigi pensi t, ...  
M, at whom (I) doubt that (she)/she believes that L. thinks, ...  
407) ?\*Se stesso<sub>i</sub>, a cui Luigi<sub>i</sub> dubita t che Maria pensi t, ...  
Himself, at whom (I) doubt that L. believes that M. thinks  
(Cf. Se stessa<sub>i</sub>, a cui dubito che Maria<sub>i</sub> pensi t, ...)  
Herself, at whom (I) doubt that M. thinks, ...

Pied-piped relatives present the same behavior, as noticed in Munn (1994, 403) and Bianchi (1999, IV.7).

- 408) \*Andrea, le cui insinuazioni su Beatrice<sub>i</sub> lei<sub>i</sub>/pro<sub>i</sub> non è più disposta a sopportare t, ...  
A., whose insinuations on B. she/(she) is no more inclined to tolerate, ...

<sup>77</sup> Scope reconstruction appears to be different in this respect. We will not explore it further in what follows.

- 409) Quelle insinuazioni su Beatrice<sub>i</sub> di Andrea, che lei<sub>i</sub>/pro<sub>i</sub> non è più disposta a sopportare t, ...  
Those insinuations on B. of A., that she/(she) is no more inclined to tolerate, ...

Since the head is not constituted by a complex DP with embedded layers, reconstruction is forced in any case here (for the head and also for the pied-piped material that it carries along). Only the embedded part of a head is susceptible of not being reconstructed.<sup>78</sup> See also:

- 410) ?I figli di Beatrice<sub>i</sub>, le cui insinuazioni lei<sub>i</sub>/pro<sub>i</sub> non è più disposta a sopportare t, ...  
...  
Beatrice's sons, whose insinuations she/(she) is no more inclined to tolerate, ...  
411) \*Beatrice<sub>i</sub>, i cui dolori lei<sub>i</sub>/pro<sub>i</sub> non è più disposta a sopportare t, ...  
Beatrice, whose pain she/(she) is no more willing to endure, ...

Compare with the (obvious) unacceptability of:

- 412) \*Pro<sub>i</sub>/lei<sub>i</sub> non è più disposta a sopportare le insinuazioni dei figli di Beatrice<sub>i</sub>.  
she/(she) is no more inclined to tolerate Beatrice's sons' insinuations  
413) \*Pro<sub>i</sub>/lei<sub>i</sub> non è più disposta a sopportare i dolori di Beatrice<sub>i</sub>.  
she/(she) is no more willing to endure Beatrice's pain

Reconstruction possibilities are then different for embedded and non-embedded constituents. The latter always reconstruct. As to the former, reconstruction appears instead to be conditioned by the informational status of the displaced constituent (and, partly, also by the level of embedding).

#### 14) SECONDARY SCO EFFECTS

Postal (1993) shows that secondary SCO cases pattern with WCO as to the constructions that elicit the effect. See the following representative examples:

- 414) \*Whose<sub>i</sub> sister did they inform him<sub>i</sub> that Joan would call t?  
415) Jack<sub>i</sub>'s wife, I told him<sub>i</sub> that I had called t.

Furthermore, d-linking ameliorates secondary SCO effects, while it is irrelevant in SCO environments.

- 416) \*Whose<sub>i</sub> mother did he<sub>i</sub> criticize t?  
417) Which one of his<sub>i</sub> friends did he<sub>i</sub> say I criticized t?  
418) \*[Which one of those men]<sub>i</sub> did he<sub>i</sub> say I criticized t<sub>i</sub>?

Potts (2001) presents other data which suggest that this is not a mere correlation. He observes that focalizing operators like *only*, *even*, etc are effective in repairing both WCO violations (Postal 1993) and secondary SCO violations, but not SCO ones.

- 419) the lawyer<sub>i</sub> who only his<sub>i</sub> older clients hate t  
420) Sally is the artist [whose<sub>i</sub> work] only she<sub>i</sub> appreciates t.  
421) \*the artist who<sub>i</sub> (you reported that) only she<sub>i</sub> has criticized t

<sup>78</sup> Since the pied-piped material cannot be connected to the embedded part of the head, the restriction forcing obligatory reconstruction for pied-piped constituents follows straightforwardly. See:

i) ??I figli di Beatrice<sub>i</sub>, le cui insinuazioni non sono più disposto a sopportare t, sono arrivati.  
Beatrice's sons, whose insinuations I'm not anymore inclined to tolerate, have arrived

We believe that in so far as this sentence is acceptable, it has to be analyzed as involving a parenthetical and not a real pied-piped relative with a complex head (see Cinque 1988, 1.1.3).

Why is it that secondary SCO configurations produce exactly the same effects than WCO ones? Note that under the hypothesis that reconstruction is a generalized operation this fact is completely unexplainable, since putting back the antecedent in secondary SCO configurations gives an unacceptable BP paradigm.

422) \*I told him<sub>i</sub> that I had called Jack<sub>i</sub>'s wife.

But if we assume that cases such as 415) (repeated below as 423)) do not imply obligatory reconstruction the desired result follows without any other assumption: the pronoun would be bound from the left-peripheral position. This option is not available if the antecedent is focal<sup>79</sup> (see 424)), simply because in that circumstance restrictions active on FP block the possibility of coreference.<sup>80</sup>

423) Jack<sub>i</sub>'s wife, I told him<sub>i</sub> that I had called t.

424) \*Whose<sub>i</sub> sister did they inform him<sub>i</sub> that Joan would call t?<sup>81</sup>

425) Jack<sub>i</sub>'s wife told him<sub>i</sub> that I called Mary.

426) \*Somebody<sub>i</sub>'s wife told her<sub>i</sub> that I called Mary.

Secondary SCO effects have apparently to be treated on a par with WCO ones though the pronoun is not in the relevant configuration. This is avoidable assuming the operativity of antireconstruction effects coupled with certain restrictions on FP: such a combination 'mimics' what happens in standard WCO configurations. SCO and WCO cannot be rescued by the absence of reconstruction, instead, since the antecedent is not embedded inside the moved element and has thus always to reconstruct in-situ.

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<sup>79</sup> See also this contrast:

i) \*It was somebody<sub>i</sub> else's sister that I informed him<sub>i</sub> you were waiting for t.

ii) It was Jerome<sub>i</sub>'s sister that I informed him<sub>i</sub> you were waiting for t.

(from Postal 1993)

<sup>80</sup> Note that even though the displaced constituent is focal at the intra-CP level of the matrix clause, it can still receive a referential interpretation (namely, it does not have also a highly focal value at the D-level) and thus has not to forcefully reconstruct, as shown in Heycock (1995). This fact is particularly evident in data like the following:

i) Whose allegation that John<sub>i</sub> was less than truthful did he<sub>i</sub> refute vehemently t? (from Kuno 2004)

ii) \*He<sub>i</sub> refuted vehemently the allegation that John<sub>i</sub> was less than truthful.

<sup>81</sup> Observe that the same happens with secondary WCO effects:

i) \*Whose<sub>i</sub> picture did his<sub>i</sub> mother buy t? (from Safir 1996)

ii) \*Somebody<sub>i</sub>'s pictures pleased his<sub>i</sub> mother.

## CHAPTER 7

### CONCLUSION

In this dissertation we explored the interconnections between narrow syntax and IS. The main theoretical conclusion we reached is that informational variables cannot be treated as external to narrow syntax and simply superimposed on it at a later point in the derivation, as is often assumed. We defended instead a cyclic model of grammar in which IS and narrow syntax are inextricably connected and form a specific linguistic module together. This was shown to account for a massive amount of (partly new) data regarding phenomena as diverse as extraction out of islands, floating quantifiers, past participle and subject-verb agreement, clitic doubling, pronominalization and crossover configurations. Many of such data result largely or completely inexplicable under standard accounts, which also fail to trace them back to a single set of related variables, thus unavoidably increasing the complexity of the global picture. On the contrary, it has to be stressed that the concepts underpinning the sort of explanations we proposed here are not baroque additions or ad hoc complications of current linguistic theories, since IS is independently attested in every language of the world, with no known exceptions. It is thus one of the first candidates to be included in an ideal classification of ‘absolute universals of language’. If so, our attempts at undiscovering significant generalizations is truly couched in universalistic terms, though much has still to be done in this connection in order to check the validity of strong ‘genetic’ positions.

Our endeavors have also been oriented to find new paths for explaining some well-known microparametric variations in Romance. In this area, our theoretical apport consisted especially in showing that across family-related languages there are grammatical processes generally active but whose overt manifestation is sensitive (apparently in a threshold-like way) to informational variables. While a similar proposal requires an abstract level of syntactic representation in which numerous invisible operations take place, it has the not negligible virtue of unifying many synchronic and diachronic data, arriving at a coherent description of the common mechanisms at the basis of much cross-linguistic diversification. Empirically speaking, this again allows to account for various facts and observational implicatures which have never been explained in a satisfactory and/or systematic manner before.

The domain in which our ideas most depart from the classic generative tradition is probably the conceptualization of movement configurations. We developed a notion of A’ chain which paradigmatically shows the intrinsic non-separability of the structural (static) and informational (dynamic) building blocks of language. Such a notion turned out to be essential in formulating a proper account of extraction out of islands and of many other empirical observations distributed all over the chapters of the dissertation. As a final point, we can mention in this same regard our treatment of pronominalization restrictions. It is in fact another paradigmatic exemplification of that interrelationships between informational and structural variables that we claimed to be at work in displacement configurations. So, the (dynamic) level of topicality and the (structural) level of embedding of antecedent and pronoun are both indispensable factors to be taken into account for a proper understanding of the phenomena at issue. While movement configurations appear regulated fundamentally by structural considerations, pronominalization restrictions result in the first place of informational origin. But in both cases the secondary determinant significantly overlaps with the dominant one, originating that characteristic fusion of components which is peculiar to syntax in so many of its facets, as (hopefully) demonstrated in the present work.



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