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ON THE ITALIAN
ANAPHORIC/PRONOMINAL SYSTEM

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INDEX

INTRODUCTION

This book is mainly concerned with the distribution of anaphors and pronouns in Italian, i.e. with the syntactic and referential properties exhibited by these items in different contexts. The term *anaphor* (or *anaphora)* in the traditional usage identifies every expression able to refer to something else previously mentioned in the discourse. Here it is used with a more technical meaning, as it is in the generative framework, to identify certain phrases which must have an antecedent in the sentence, satisfying certain structural and syntactic constraints. The class of anaphors includes those items which in the non-technical terminology are called reflexive pronouns, such as *himself* in English or *se stesso* in Italian, certain possessives, such as Italian *proprio*, and the English reciprocal *each other*. The class of pronouns, includes the items traditionally called personal pronouns, such as *I* and *me*, in English, or *io* and *me* in Italian, possessives such as *your* and *mine*, or *tuo* and *mio*.

In most Romance languages, and therefore also in Italian, pronouns and, to a certain extent anaphors, are partitioned in two series: the tonic one, including for instance *lui* (he/him), and the corresponding non-tonic, including *lo, gli* (him/ to him). The latter are also called 'clitics' (proclitics or enclitics), since they must hang on some other word for stress reasons; here we will investigate only the third person singular-plural non-clitic series, with a brief *excursus* in chapter 4 on first and second person clitic and non-clitic pronouns (and anaphors). [1]

Such a topic is usually considered part of the theory of Binding which, especially lately, plays a central role in linguistic investigation. As a first approximation, the empirical content of Binding Theory can be summarized as follows: it has long been observed that pronouns, anaphors and names, i.e. the whole class of Noun Phrases, cannot occur freely, in the sense that their distribution and interpretation are constrained in a

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[1]We will not investigate here the distribution of the Italian reciprocal *l'un l'altro* (each other) and of the anaphoric clitic *si* (see, among others, Belletti 1982; Manzini 1983a; Burzio 1986 and, more recently, Cinque,1988 and references cited there).

systematic way. As will be clarified later, such constraints are syntactical in nature; in fact, it can be easily shown that pragmatic or semantic conditions are not sufficient to predict and explain all the properties concerning the distribution of Noun Phrases. Obviously pragmatics and semantics in a broad sense must crucially intervene in the ultimate interpretation of nominal expressions, but they cannot be considered the *only* source of constraints.

The aim of this book consists in providing on one hand a description of the main features of the Italian anaphoric-pronominal system; on the other, in suggesting some theoretical proposals to account for the phenomena in question.

This book is organized as follows: in the first chapter we will sketch a brief introduction to the Government and Binding Theory in general and to the Theory of Binding in particular. In chapter 2, on the basis of some phenomena of Italian, we will propose a general account for a certain type of anaphor, often referred to as *long distance anaphors*, which can also be extended to predict similar phenomena in other languages. Chapter 3 deals with the distribution of clause bound and long distance anaphors within Prepositional Phrases. Furthermore, we will show how the comparative method can be fruitful in the investigation of binding phenomena; in particular, we will consider the Italian and French anaphoric/pronominal systems. Finally, in chapter 5 we will analyze some apparent exceptions in Italian to the well-motivated generalization concerning the non-existence of Nominative anaphors.

CHAPTER 1

SOME THEORETICAL NOTIONS

1.

In this chapter we will briefly present some technical notions which will be useful throughout the following discussion. In this section we will introduce the basic concepts of the theory; in sections 2 and 3 we will focus on the proposals concerning binding phenomena.

The theoretical framework we are referring to is called *generative grammar*; the goal of such an approach to the study of language, with a certain approximation, consists in defining a set of principles, i.e. a *grammar*, able to *generate* all and only the sentences belonging to a certain language.[1] In particular, we will adopt the basic concepts of Government and Binding Theory developed by Chomsky (1981) and his collaborators.

Let us illustrate the notion of Universal Grammar (henceforth UG), which is the fundamental concept of this approach.

Language is viewed as an innate biological faculty: humans are considered to be endowed from the birth with a system of principles able to acquire a grammar under the exposure to linguistic experience; such an hypothesis seems to be the natural one on the basis of the under-determination and uniformity of the language learning process (cf. e.g. Chomsky 1975); such a biological faculty is also assumed to be universal. This topic deserves further discussion, but we will not pursue it further, since its scope goes beyond the limits of our work.

However, one can easily observe that languages differ from each other, i.e. that the grammar of a given language can generate structures which do not exist in another one.

The conceptual problem which arises at this point is the following: how is it possible that the goals we just described can be met by a consistent

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[1]For further discussion, see Chomsky (ch. 2 and 3, 1986a).

theory of language acquisition *and* language variation? The answer relies to a large extent on the so-called theory of parameters. Such a theory hypothesizes that a cluster of properties, crucially distinguishing two or more languages, can often be reduced to a single, more abstract, difference, referred to as a 'parameter of Universal Grammar'. As a consequence, the real differences among languages, apart from the semiotically arbitrary variation in the encoding of the concepts in the lexicon, are less numerous than the apparent ones.

This way, a theory of the learning process turns out to be much simplified: we can think of it as the setting of the value of open parameters, based on exposure to a very restricted sample of sentences. UG can, thus, be considered as constituted by principles and several parameters whose value is set on the basis of the linguistic experience of the learner. By means of exposure to a limited *corpus* of data, a child is then able to define the whole structure of his language; for more detailed discussion, see Chomsky (1981, ch.1).

The components of the theory of grammar are called 'modules'; they intervene on a given structure, independently of each other. In the following pages, we will introduce with more details the most important among them.

A grammar also provides various levels of representation for each expression it generates. Traditionally, a grammar is seen as a mapping between the following levels:

(1)

$$
\begin{array}{c}
\text{D-structure} \\
| \\
\text{S-structure} \\
\diagup \quad \diagdown \\
\text{PF} \qquad \text{LF}
\end{array}
$$
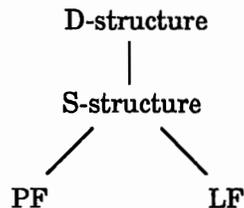
Technically speaking, D-structure is said to be a pure representation of thematic relations, i.e. of the referential roles (such as Agent, Experiencer, Patient and others) which lexical items, conceived of essentially as n-ary logical predicates, assign to their arguments (e.g. a Verb to its subject and object). Such thematic assignment is local, taking place basically under adjacency and, whenever an argument appears removed from its normal thematic position (e.g. a direct object not

occurring adjacent to its Verb) it is said to have been displaced by a *movement* rule, leaving behind an empty category or *trace* in the original position; the mapping to the following level is precisely through the application of this rule of *move-α*. S-structure, whose linear arrangement of words is most often the one encoded in the phonetic realization, is viewed as an 'annotated' structure, where the history of movement is explicitly recorded by means of traces. The mapping to Logical Form is essentially performed by the rule of Quantifier Raising (QR). Phonological rules basically intervene in the mapping to the Phonetic Form (PF). In the following chapters, we will never consider PF and we will restrict our attention mainly to D- and S-structure, occasionally referring to certain phenomena which are often claimed to find their origin at LF (e.g. weak crossover effects, quantificational scope). Whether the various levels are really motivated, or are just a notational variant of other ways of expressing the same empirical content by means of just one level is a potentially open question which will not be addressed in this work.

X-bar Theory

The first module of grammar to be introduced is the X-bar (X') theory, originally elaborated by Jackendoff (1977; cf. also Stowell 1981).

As is standard in any syntactic approach, we will admit that words fall into a restricted number of distributionally defined categories. The fundamental categorial types are the following: Noun (N), Verb (V), Adjective (A) and Preposition/ Postposition (P). These are called 'lexical categories'; there is also a certain number of non-lexical categories: Inflection (I), which essentially includes verbal auxiliaries and affixes; Complementizer (C), like English *that* or Italian *che*; Determiner (D), i.e. the category of articles and other elements which introduce nominal expressions. A sentence, however, cannot be taken to be simply a concatenation of linearly arranged categories, since adjacent words are grouped together in a systematic way to form larger constituents, or phrases. The resulting structure is often represented by means of tree diagrams in which each category or phrase corresponds to a so-called 'node' where higher nodes (i.e. larger constituents) are said to dominate (contain) lower ones (smaller constituents). Technically speaking, we will say that every word is a head and every head projects higher constituents of the corresponding categorial type: the highest will be called · maximal projection. Thus, among such maximal projections are: Noun

Phrase (NP), Verb Phrase (VP), Adjective Phrase (AP), Prepositional Phrase (PP), Inflection Phrase (IP), Complementizer Phrase (CP) (cf. Chomsky 1986a; 1986b; Radford 1988), and Determiner Phrase (DP).

The X-bar approach to constituent structure identifies some invariants in the possible hierarchical configurations. Most importantly, Chomsky (1970) and Jackendoff (1977) observed that, independently of the lexical category which is involved in a particular structure, the way in which a head defines its projections obeys some general constraints. Chomsky (1986b) has extended such an approach to also include the structure projected by non-lexical heads in particular I and C, which are considered to project clausal constituents, i.e. sentences. X-bar theory establishes that whenever there is a head X, there will also be a maximal projection, referred to as XP or X^{max}, and at least one intermediate projection, call it X'. Moreover, X-bar theory defines the levels where the arguments of the head must be attached; the intermediate projection X' is said to consist of X and its 'Complement'; the following projection of X', X" (generally X^{max}, in the sense that usually only two projections are hypothesized) is instead said to consist of X' and its Specifier. Notice, however, that the term 'Specifier', no less than 'Complement', does not identify a category, but only a position which will be alternatively and also simultaneously, in certain cases, filled by different items of various categorial types.

X-bar theory, in other words, defines a skeleton for phrase structure; this however is not sufficient, since the branching direction has not yet been specified. In fact, we have only established that a head projects up to a maximal projection, but Complement and Specifier can in principle appear either on the right or on the left of the head. Branching directions are, in fact, parametrized, i.e. they are selected by each language. English, for instance, is a so called VO language, according to the traditional typological terminology; in terms of X-bar theory, we can say that the branching direction of V', containing the complements of V, is to the right. The subject of sentences, on the contrary, appears in Spec of IP on the left of I, therefore we will say that IP branches to the left. We can reasonably hypothesize that the minimal X-bar skeleton structurally available for each phrase looks as follows:

(2)

```
                    X"
                 ╱  |
            Spec    X'
                    |  ╲
                    X    Compl
```
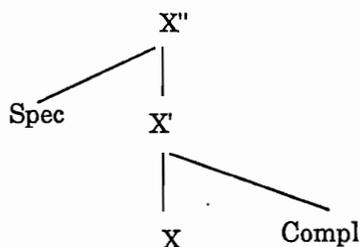
Where Spec represents the position of the Specifier, and Compl the position of possible complements of the head.

Thematic theory

Once the structural relations have been established, i.e. the options of X-bar theory have been set, we still require the information necessary to project an actual phrase. In fact, to decide how many and which categories can occupy the positions abstractly termed 'Complement', or 'Specifier', we must know something more on the semantic properties of the head. Each lexical head assigns a semantic, i.e. thematic, interpretation to its complements and, for some heads, also to its Spec position.[2] Consider a Verb like *eat*: it projects a VP (=V"), it has an intermediate projection V' which also dominates an object NP:

(3)

```
              VP
            ╱ |
        Spec  V'
              | ╲
              V   NP
              |
             eat
```

---
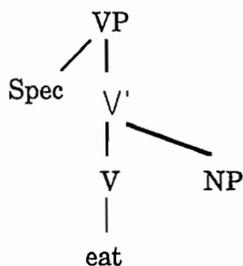
[2]The term 'thematic relation' has been introduced mainly by and Gruber (1965) and Jackendoff (1972).

Certain adverbials can appear in preverbal Spec position, for instance *always*, *often* and so on. The NP is interpreted with reference to the thematic grid of the verb: *eat* takes a Theme as complement, and requires that it be realized as an NP; we will say, therefore, that the Verb assigns a θ- (thematic) role to its object. The θ-grid of the Verb, however, is not exhausted, since there is another θ-role to be assigned, the so-called external θ-role. Such a θ-role, is assigned externally with respect to the maximal projection VP and corresponds to the subject position hanging from IP (=I'').[3] The structural and thematic relations in a sentence like *John eats an apple* are the following:

(4)

```
                      IP
                     / |
              NP      I'
              |       |
            John      I        VP
           (Agent)             |
                               V'
                               |
                               V                    NP
                               |                    |
                             eats              an apple
                                               (Theme)
```
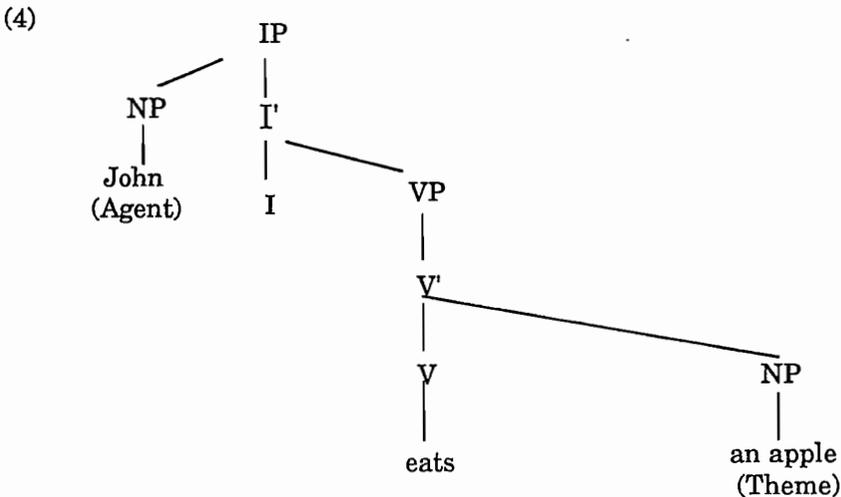
eat, assigns Theme to *an apple* and Agent to *John*. θ-assignment is local, i.e. each head can specify its semantic relations to phrases 'close' to it: in fact, we do not want the interpretative properties of the object of *eat* to ever be

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[3]According to recent hypotheses, however, all the θ-roles of a given head, also the subject role of Vs, are assigned internally to its maximal projection and subsequent movement raises the subject to the Spec of IP. See especially Koopman and Sportiche (1988). Notice that such an idea would provide an elegant solution to the locality anomalies discussed directly below in the text, making the whole θ-process homogeneous: no long-distance θ-assignment, in fact, would ever occur, but only a strictly local one plus raising to the external subject position

assigned to an element appearing, for instance, in a superordinate sentence, such as *Lucy* in: *I told Lucy that John eats an apple*. An ideal assumption is that θ-marking always takes place under sisterhood (Chomsky 1986b).[4]

A given structure can be ungrammatical for lack of θ-assignment. For instance *John seems to me that Mary is intelligent* is ungrammatical because no θ-role is assigned to *John*. An important principle of UG is called the θ-criterion and can be very roughly formulated as follows:

(5)   θ-criterion:
       (a) Every argument must be assigned a θ-role
       (b) Every θ-role is assigned to an argument

where arguments are essentially referring expressions, a semantic role limited in natural languages to nominal and sentential phrases, like NP and CP (perhaps IP).

Part (b) of the definition needs to be further qualified, since some proviso must be included for intransitivizable Verbs, such as for instance *eat*. Notice also that in our definition we have not specified whether θ-assignment must be unique or not. The uniqueness requirement seems to be too strong, since a double thematic specification appears to be available in some cases, such as *John ate the meat raw*; *the meat* receives an interpretation from *eat* and another one from *raw*; both θ-assignments are motivated on an empirical basis. In the following chapters, however, we will not investigate this problem further, so a formulation of the θ-criterion as in (4) will be sufficient to our purposes.

Finally, let us point out that a position where a θ-role is actually assigned is called a θ-position. An argument (A-)position is a *potential* θ-position, i.e. a site in the tree in which on structural grounds a θ-role could be assigned, even though only the choice of the actual lexical item may establish whether this will happen or not. The subject of *seem*, for instance, provides a good example of an A-position which is *not* a θ-position.

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[4]Two nodes in a tree are said to be sisters if and only if they hang directly from the same node, i.e. are immediately dominated by it.

On C-command and Government

Before proceeding to the explanation of the other modules, we will introduce two crucial structural relations which can be defined on trees and will enter the formulation of most og the principles discussed in the following chapters. Such relations are c (i.e. constituent)-command and government; let us illustrate c-command first.

C-command defines a particular structural relation on a tree: as an abstract schema, we may say that a command relation is instantiated between α and β whenever α does not dominate β and the minimal node of a certain type dominating α also dominates β. The more concrete realizations of this schema are obtained by specifying the type of 'minimal node' involved: two such notions are of special relevance in the current theory and for the discussion in this book, namely c-command in the strict sense (as originally defined in the first part of Reinhart's (1976) dissertation) and m-command, also called c-command in an extended sense by Aoun and Sportiche (1982). In the strictest version of c-command, α c-commands β if and only if the minimal *branching node* dominating α dominates β; in Aoun and Sportiche's approach this definition is relaxed yielding a notion which Chomsky (1986b) has termed m (i.e. maximal)-command: α m-commands β if and only if the minimal *maximal projection* dominating α dominates β.

It has been debated which of the two notions is more correct with respect to the various modules of grammar.With respect to Binding Theory it seems that the notion of c-command is the relevant one.[5]

The notion of government can be defined by strengthening that of m-command in various possible ways, adding conditions on the governor and structural conditions of locality; from the latter viewpoint one abstract definitional schema which is found in several works relies on the concept of reciprocal m-command: α governs β only if α m-commands β and viceversa, for $\alpha \neq X0$.

Case-assignment

Morphologically, several languages distinguish various Cases, as in Latin, Greek, German, Russian and so on; Case features are realized

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[5]For a discussion of this topic, see ch.1 in Giorgi and Longobardi (forthcoming).

by Noun Phrases, therefore, also by pronouns and anaphors. Moreover, in English, or Italian, pronouns are the only elements which appear with overt Case features: e.g. *io* (I, nominative) vs. *me* (me, accusative), English *I* vs. *me* etc. The presence even of a very limited number of visible Case alternations suggests, however, that the grammar must mention all possible NP positions in a sentence associating each of them with the required Case feature. For instance, we will state that subjects of tensed Is take the nominative form while objects of Vs take the accusative one. In so doing we are also giving a rather exhaustive list of the environments where a lexically realized NP may surface in the language: in English or Italian, next to a tensed Verb or auxiliary, and after a Verb or a Preposition. If we assume now that every lexically filled NP needs to be assigned an abstract Case, even when morphology neutralizes all Case differences, we will obtain a general principle on the distribution of non-empty NPs. We can then formulate the Case Filter (Chomsky 1980, developing a suggestion by J.R. Vergnaud):

(6)   *NP [phonetic matrix]
        if NP has no Case

Lexical and non-lexical heads may assign a Case to NPs. Chomsky (1986a) proposes a distinction between two mechanisms of Case-assignment: structural and inherent Case-assignment. Structural Case is assigned by certain heads by virtue of the structural configuration, i.e. with no reference to a corresponding assignment of a θ-role; the structural Cases are basically Nominative and Accusative, assigned by I and V (or P, perhaps) respectively; in fact, between the head I and the NP appearing in the Spec of IP there is no (direct) thematic relation. Between a Verb V and its object there is also usually a thematic relation, but this fact is not necessary in order to trigger Case-assignment. Consider in fact the following example:

(7)   Mary believed me to have left

In (7) there is no thematic relation between *believe* and *me*, since the latter gets its semantic interpretation as the argument of the subordinate Verb *leave*; *believe*, however, assigns the pronoun Accusative Case. This phenomenon is known under the name of 'Exceptional Case marking' (ECM). Notice also that there is no alternative to ECM here, since

infinitives cannot Case-mark their subjects; consider for instance the following contrast:

(8)a. *I/Me to leave is desirable
   b. For me to leave is desirable
   c. That I leave is desirable

(8)c. is grammatical since there is a tensed Inflection which can assign Nominative to the subject; (8)b. is also grammatical since *for* has the property, in English, of assigning structural Accusative; (8)a. is ruled out by the Case Filter since *me* cannot have Case.[6] Let us introduce now the notion of 'inherent Case': such a Case is assigned only to θ-related elements, in a sense as a consequence of θ-marking, and in some languages is often realized through the insertion of a semantically empty Preposition. The Genitive assigned by Nouns and Adjectives typically belongs to this class; in fact there is no Exceptional Case Marking performed by a Noun or an Adjective. Consider for instance:

(9)a. *Their belief (of) me to leave
   b. Their belief that I will leave

Sentence (9)a. is ungrammatical, with or without *of*, i.e. the prepositional marker for Genitive, since the N *belief* cannot assign Case to an NP without θ-marking it; no similar problem arises in (9)b, given that both Case and θ-marking requirements are satisfied within the subordinate clause.

Case is assigned under government, i.e. in the local domain roughly defined by the structural relation of reciprocal m-command. However, notice that Exceptional Case Marking does not meet this condition, if it is formulated in such terms: in fact, there is a maximal

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[6]In Italian there are no ECM verbs, like *believe*. However there is a construction instantiating the same Case pattern, i.e. Small Clause streuctures:

i   Gianni considera [$_{SC}$ me/*io intelligente]
       Gianni considers me/*I intelligent

though being θ-marked by *intelligente*, the subject of the Small Clause is Case-marked by the matrix verb, *considerare*, as shown by the fact that it surfaces in the Accusative and not in the Nominative. For a discussion of the properties of these constructions in interaction with binding phenomena, see chapter 3.

projection, IP, intervening between the Verb and the NP in question, which should render Case-marking impossible.

The Projection Principle and the Full Interpretation Principle

The Projection Principle establishes that lexical structure must be represented categorially at every syntactic level. To be more precise, it requires that the θ-criterion (and in an extended version also the Predication Principle: see directly below) be met atthe level of D-structure, S-structure and LF. Such a principle is important because of its predictive power. In fact, if an argument is understood in a certain position, it must be there, even when it is not phonetically realized; if this is the case, then a so called 'empty category' has to be instantiated in the position in question.

Let us briefly consider the consequences of this principle for movement: the most direct one is that, given the θ-criterion, movement of a maximal projection is admitted only to a non thematic position. The reason for this constraint should now be clear: in fact, if a position is thematic, at D-structure an argument will have to occupy it. If this argument is moved to a non-thematic position, at S-structure it will continue to meet the θ-criterion by receiving the original θ-role through the so called *chain* relating it to its trace. If, instead, it is moved to a thematic position, it will end up with two θ-roles violating the θ-criterion. If, finally, a position is non-thematic, any argument occurring there at D-structure will violate the θ-criterion before being able to reach a thematic position at S-structure. Recall that the non-thematic positions are the subject position, when it is dethematized, as in passive constructions, or non-thematic at all, as in the case of subjects of so called raising Verbs (like the already mentioned *seem*), and, trivially, A'-positions, where by definition no θ-role can be assigned. The Full Interpretation Principle establishes that at LF every maximal projection must be licensed, i.e. it must have an interpretation: a given XP can either be an argument, or a predicate, or an operator. To be an argument an XP must get a θ-role, directly or through a chain (θ-criterion); a predicate must be licensed through predication (see Williams 1980; Rothstein 1983) i.e. by having a

subject (Predication Principle), and an operator through the binding of a variable (non-vacuous quantification).[7]

2.

    In this section we will specifically consider the Theory of Binding (henceforth BT), which will be the main topic of this book. We will first briefly illustrate its empirical content, then we will draw an history of its development through the years.

    The Theory of Binding rules the distribution of NPs in coreference relationships, partitioning them into three different classes: anaphors, pronouns and names, otherwise called, less perspicuously, referential (R) expressions; a different principle of binding applies to each class of items (see Chomsky 1981; 1986a). Such a tripartition of nominal expressions follows from the interaction of two binary features: [±anaphoric] and [±pronominal]. The assignment of the values is based on empirical evidence deriving from the results of certain tests. Anaphors are characterized as [+anaphoric] [-pronominal]; pronouns as [-anaphoric] [+pronominal]; R-expressions as [-anaphoric] [-pronominal]; the combination of the positive value for both features cannot correspond to a lexical item, due to independent considerations concerning government and Case theory. There is however an empty category which is identified by such values, i.e. the understood subject of infinitives, usually referred to as PRO. The tests in question are (a) the possibility of having intrinsic reference and (b) the capacity of taking a split antecedent; the first determines the feature [±anaphoric], i.e. elements with intrinsic reference are classified as [-anaphoric], whereas the second concerns the feature [±pronominal], i.e. elements which can take a split antecedent are classified as [+pronominal]. Throughout the chapters of this book we will refer to such tests as the crucial ones for distinguishing the various classes of items. In the fourth chapter, in particular, we will consider this way of classifying NPs from a methodological point of view, in comparison with other possibilities and we will argue that our porposal is

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[7]Expletives remain outside this classification, in the sense that there is no principle concerning them. The hypothesis suggested by Chomsky (1986a) is that at LF they disappear, i.e. the expletive is replaced by the element which is coindexed with it. If this is case, only principles applying at levels other than LF can be relevant for the distribution of expletives.

the most adequate both from an intra-theoretical point of view and from a purely empirical one.

The following examples concern intrinsic reference properties:

(10)a. *I love himself
   b. I love him
   c. I love John/ that man

In (10)a. the NP *himself* cannot take a reference directly in the world; in fact, even if from the pragmatic context it might be clear that the speaker is referring to, say, *John*, for instance by pointing at him, there is no way for such a sentence to be considered grammatical. It is simply the case that *himself* cannot be used, without a grammatical antecedent, owing to its intrinsic semantic content. We will say that *himself* and other reflexives select the value [+anaphoric]. On the contrary, in the same situation, *him* could be used, as shown by the fact that (10)b is grammatical: *him*, therefore, has intrinsic reference, which means that it selects the value [-anaphoric]. As far as (10)c. is concerned, obviously, *John* or *that man* have intrinsic reference; and so we will say that they are [-anaphoric] too.

With respect to the other feature classification, i.e. [±pronominal], consider the following examples:

(11)a. $John_i$ informed $Mary_j$ that the firm would fire $them_{i+j}$
   b. *$John_i$ restored $Mary_j$ to $themselves_{i+j}$

In (11)a *them* can have *John* and *Mary* as antecedents, taken together as a set; such a possibility is not available for *themselves* in (11)b, even if, taken separately, both *John* and *Mary* could be coreferential with a singular reflexive in the same position:

(12)a. John restored Mary to herself (through a long psychoanalytic therapy)
   b. John restored Mary to himself (through his patient love)

The conclusion is therefore that *them* is classified as [+pronominal] and *themselves* as [-pronominal]. An R-expression will then be specified as [-pronominal], to distinguish it from pronouns like *him* and *them*.[8]

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[8]We will not discuss here the status of epithets,; we agree with the core of Lasnik's (1989, ch.9) proposal, which classifies them as "referential pronouns", i.e. as

Let us now give a general idea of the problems which must be faced in this area. It has long been observed that anaphors and pronouns are in "complementary" distribution, following a terminology traditionally adopted in structural linguistics and, more specifically, in phonology: roughly speaking this means that the set of the contexts in which the one or the other appears do not intersect. Such a claim is not absolutely correct, in that it implies a certain degree of simplification, but as a first description of the phenomena it seems reasonably adequate. Consider in fact the following examples:

(13)a. John loves himself
    b. John loves him
(14)a. *Mary thinks that John loves herself
    b. Mary thinks that John loves her

In (13)a. *himself* must be interepreted as *John*, whereas in (13)b. *him* cannot. Conversely, in (14)a. the anaphor *herself* cannot be used, whereas the pronoun can be interpreted as *Mary*. Obviously, as we already discussed above, from the semantic or pragmatic point of view nothing can tell us that the interpretation must be this way; apparently there is no reason at all, why a pronoun cannot refer to *John* in (13)b. or an anaphor to *Mary* in (14)a. If this is the case, then, we can suppose that such phenomena are to be explained by more abstract principles which rule the distribution of NPs. Notice also that even the distribution of R-expressions is not completely free:

(15)a. John loves John
    b. [Only the mother of John] loves John

In (15)a., the two occurrences of *John* cannot refer to the same person; whereas in (15)b. this seems to be much more acceptable.

As we have seen in the examples (14), an anaphor cannot refer to an item lying outside the minimal clause containing it, whereas a pronoun can. Compare (14) with sentences (13), where, on the contrary, the anaphor can refer to the subject of the same clause, but not the pronoun. These observations point to the conclusion that the local context is crucial defining the distribution of anaphors and pronouns, since an anaphor

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[+pronominal], and then attributes them some peculiar referential properties, which differ from those of pronouns.

must have a local antecedent, whereas a pronoun cannot. The anaphors exhibiting this property are called (improperly, to a certain extent) "clause bound anaphors". However, in chapter 2, we will see that there exist certain items, classified as anaphors, according to the tests discussed above, which do not obey the locality conditions; therefore, they are called 'long distance', or 'subject oriented', anaphors.

Notice also that, as we have seen in example (15)b., the embedding of an item, i.e. *John*, makes a crucial difference with respect to its binding properties. Consider the following examples:

(16)a. *[$_{NP}$ The mother of John$_i$] loves himself$_i$

   b. [$_{NP}$ The mother of John$_i$] loves him$_i$

The distribution of anaphors and pronouns in (16) is complementary with respect to the one illustrated in examples (13). Moreover, from a locality point of view, we can see that in (16) the items of the pairs *John-himself*, *John-him* appear in the same clause. Therefore in this case the explanation must lie somewhere else. Notice that if the intended antecedent is embedded inside an NP, it is no longer available to an anaphor and becomes accessible to a pronoun. The crucial notion which captures such a distribution is the one of c-command; an anaphor must be coindexed in the local domain, with a c-commanding item, and a pronoun must be disjoint, in the local domain, from any c-commanding item (but not from non c-commanding ones). Notice, finally, that the notion of "precedence" is not a crucial one, contrary to what has been claimed in early Binding studies, as illustrated by the following examples of backward pronominalization:

(17)a. The woman who betrayed him$_i$ killed John$_i$

   b. His$_i$ mother loves John$_i$

In both sentences, the pronoun precedes the R-expression it refers to, but the results are grammatical, given that there is no c-command. We will not discuss here the theoretical development leading from the early hypotheses about the relationship between a pronoun and its "antecedent" to the present one, since it lies beyond the limits of this work; let us simply point out that cases like the ones in (17) strongly suggest that the principles of grammar must have a *structural* nature, i.e. the relevant generalization does not concern linear order, but hierarchical

organization. Consequently, they can be captured only by a sufficiently abstract theory of language.

The Binding Theory includes a principle for each kind of item, i.e. anaphors, pronouns and R-expressions:

(18)   A: An anaphor is bound in the local domain γ
        B: A pronoun is free in the local domain γ
        C: An R-expression is free

Let us illustrate (18), briefly summarizing what we have said up to this point. Since anaphors lack any kind of reference, they will have to be assigned an antecedent or 'binder' from which they can receive one: syntax must constrain their distribution with respect to such antecedents. "Bound" means "coindexed (implying "coreferential") with a c-commanding element in argument position"; this way an anaphor inherits (all and only) the reference of its antecedent. The locality condition permits the identification of a portion of the tree where the anaphor can look for an antecedent.

Principle B is in some sense a mirror image of principle A, establishing that in a given domain, ideally the same as for the anaphor, a pronoun must be "free", i.e. not coindexed with a c-commanding element in argument position. The pronoun, in other words, must be locally disjoint in reference.

Finally, an R-expression must be free in the whole structure, i.e. can only corefer with non c-commanding arguments. Let us stress again that all the principles of BT make crucial reference to the notion of c-command, a necessary component of the definition of 'bound' and 'free', since *bound* means: coindexed with a c-commanding NP, and *free* means: not coindexed with a c-commanding NP.

3.

In this section, we will briefly consider the historical development of the theory of binding.

The first important studies on pronominalization phenomena in the generative framework can be traced back to the sixties, i.e. to Lees and Klima (1963) and Langacker (1969). In these works there was already the idea that anaphoric and pronominal items must be subject to a structural principle of some sort, and notions such as "precedence" and "command" had been introduced to account for some of the asymmetries observed in the distribution of the items in question. However, only in 1976, Reinhart,

in her dissertation *The Syntactic Domain of Anaphora,* developed the crucial structural notion, i.e. c(onstituent)-command; see section 1 for discussion and definitions. Also in 1976, Lasnik, in *Remarks on Coreference* (in: Lasnik, 1989), pointed out that to make the correct prediction on the distribution of pronouns, a rule of *disjunction* had to be formulated. Chomsky adopted this idea only in 1980, in his work *On Binding*, where the notions of *bound* and *free* are introduced. Chomsky's (1980) formulation is the following:

(19)a. An anaphor α is bound in β if there is a category c-commanding it and coindexed with it in β

   b. Otherwise, α is free in β

(20)   If α is an anaphor and α is in the domain of the subject of β, β minimal, then α cannot be free in β

(21)   A Nominative anaphor cannot be free in S'

The first clause of (20), corresponds substantially to principle A of (18) and the second one to principle B. (20) captures the locality requirement on the binding of anaphors: an anaphor must be bound in the minimal category which contains a subject, basically its sentence. (21) states the impossibility for a Nominative anaphor to exist.The following sentences, in fact, are ungrammatical in several languages:

(22)a. *Himself loves John

   b. *John thinks that himself will marry Mary

The conceptual content of (21) can be summarized as follows: in order for an item to receive Nominative case, must be in subject position; but if so, in its sentence, or S', nothing else can c-command and bind it. As a consequence, sentences with subject anaphors are always ungrammatical. For a discussion of this condition, see chapter 5 of this book, where we propose, following Rizzi (1989) and Picallo (1984), that the crucial generalization does not concern *Nominative* anaphors, but anaphors in *Agreement* with the Verb.

     Notice that in the definitions (19)-(21) there is no mention of R-expressions: (19)b, in fact, specifies a domain β where α must be free, therefore, in this way, we can predict the distribution of pronouns, but not of names. However, the basic notions involved in binding, i.e. c-

command and locality, already play a crucial role. In the Government and Binding framework, developed in Chomsky (1981), we find the following formulation:

(23) α is bound in β if and only if α and β are coindexed and β c-commands α

(24) α is free if and only if it is not bound

(25) α is the governing category (GC) for β if and only if α is the minimal category containing β a governor of β, where α=NP or S

(26) A: An anaphor is bound in its GC
B: A pronominal is free in its GC
C: An R-expression is free

Notice that binding is possible only from an argumental (A) position, i.e. the binder must be in a potential thematic position. Beside the introduction of principle C, ruling R-expressions, the main innovation, with respect to *On Binding*, consists in the introduction of the notion of *governor* in the definition of the local domain. This way, principles (23)-(26) make the correct predictions in the cases of ECM (see the paragraph above on Case assignment). Consider the following examples:

(27)a. $[_{S0}$John believes $[_{S1}$ me to be clever]]

b. $[_{S0}$John$_i$ believes $[_{S1}$him$*_i$ to be clever]]

c. $[_{S0}$John$_i$ believes $[_{S1}$himself$_i$ to be clever]]

In order to assign Accusative Case to the subject of the embedded infinitival, as shown in (27)a., *believe* must govern it. If the local domain is defined on the basis of the presence of the governor, it is possible to predict the distribution of anaphors and pronouns in (27)b. and c. In (27)b., in fact, the minimal S which includes the pronominal, *him*, and its governor, is the matrix sentence, not the embedded one; this way the pronoun is predcited to be disjoint from *John*. On the contrary, in (27)b., the anaphor is predicted to be bound inside S0 and therefore it must be coindexed with *John*. In the same book, *Lectures on Government and Binding*, however, Chomsky revises the formulation given above mainly to predict some data concerning internal NP positions, i.e. the contrast between (28)a. and (28)b.:

(28)a. *We$_i$ heard $[_{NP}$ their stories about each other$_i$]

b. We$_i$ heard [$_{NP}$ some stories about each other$_i$]

Both in (28)a. and in (28)b. the local governor of the anaphor is the Preposition *about*. In (28)a., however, there is an explicit subject of the NP, *their*, which does not appear in (29)b., where the teller of the stories remains unspecified. In (28)a. the anaphor cannot refer to the matrix subject, contrasting, therefore, with the other example. The grammaticality of (28)b. does not follow from the definitions given above, since according to them the NP is considered in any case the relevant domain for binding. On the contrary, for an anaphor in postnominal position, it is possible to be bound outside the NP, if the latter has no subject. The definitions are the following:

(29) From Chomsky (1981, p.211)
    (i)   AGR is coindexed with the NP it governs
    (ii) β is a *governing category* for α if and only if β is the minimal category containing α, a governor of α, and a SUBJECT accessible to α[9]

With the term SUBJECT, Chomsky identifies both the subject of Sentences, the one of NPs and the agreement features of the verb. Such a move, i.e. including agreement in the category of SUBJECTS, yields as a result the impossibility of Nominative anaphors, already discussed in the OB framework. In any case, beside this consideration, it is important to note that this way the distribution in (28) is correctly obtained.

    This formulation of the binding conditions is much more empirically adequate than the previous one. Still, it leaves some important problems open. For example, that the principles in (25) and (26) identify exactly the same local domain, as the relevant one, for both anaphors and pronouns. As we have seen above, this is largely correct, since in most cases anaphors and pronouns appear in complementary distribution, but as soon as complementarity does not abtain, such a theory fails to be adequate. There are two main cases in which the distribution is not complementary, let us consider them in turn.

    The first one concerns the possessive position:

(30)a. [$_S$ [John and Mary]$_i$ love [$_{NP}$ their$_i$ parents]]

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[9]On the notion of *accessibility*, see the discussion in chapter 2.

b. [$_S$ [John and Mary]$_i$ love [$_{NP}$ each other's$_i$ parents]]

The English reciprocal *each other* is an anaphor and is not in complementary distribution with *their*. To solve this problem, Chomsky (1986a) proposes a revision to the theory of Binding, which basically states that the relevant domains are no longer identical, but their extension also depends on the availability of an index which satisfies the binding requirements. In other words, the domain of an anaphor must include the anaphor itself, its governor *and* an item which can possibly function as an antecedent, at least potentially (i.e. independently, for instance, of morphological considerations). In the case of a pronoun, this amounts to saying that the characteristics of the local domain must be such that the pronoun can be free. The consequence of this revision is non-complementarity in the cases given above. The local NP, in fact, is not the relevant domain for the anaphor, since it does not contain a possible antecedent; this way the domain must be extended to the whole sentence. In contrast, the local NP *is* a suitable domain for the pronoun, since it can be free in it. The principles of binding given in Chomsky (1986a) are the following:

(31) From Chomsky (1986a, pp. 171- 172)

Suppose we have an expression E with the indexing I, where an indexing is an association of indices with phrases of E. We say that the indexing I and the pair (α, β) are *compatible* with respect to the binding theory if α satisfies the binding theory in the local domain β under the indexing I:

(A) α is an anaphor and is bound in β under I

(B) α is a pronominal and is free in β under I

(C) α is an R-expression and is free in β under I

(32)   Licensing condition for a category α governed by a lexical category γ in the expression E with indexing I:

For some β such that (i) or (ii), I is BT-compatible with (α, β):

(i) α is an R-expression and (a) if α heads its chain or (b) otherwise

(a) β=E

(b) β is the domain of the head of the chain of α

(ii)   α is an anaphor or pronominal and β is the least CFC
           containing γ for which there is an idexing J BT-compatible
           with (α,β)

(33) From Chomsky (1986a, p. 169)
     A governing category is a "Complete Functional Complex" in the
     sense that all grammatical functions compatible with its head are
     realized in it; the complements necessarily, by the Projection
     Principle, and the subject, which is optional unless required to
     license a predicate, by definition.

A complete discussion of these principles would lead us too far away. Let
us briefly point out the crucial points. Principle C has been revised so to
include the trace of wh-movement, which is considered an R-expression,
having the special property of being bound by an operator, therefore
forming a chain with it (and the intermediate positions, if existing). This
consideration justifies the first clause of the principle given in (32); we
will not discuss it further here, since the focus of this book is mainly on
principles A and B.
     Principles A and B have been formulated in order to predict the
cases discussed above. Notice that there is no explicit mention of
categories such as NP, or S, as the relevant domain for binding, nor do we
find any reference to subjects, AGR, or SUBJECTS (cf. Chomsky, 1981),
since the empirical content which was previously expressed this way is
now captured by the notion of CFC. Such a notion, however, is only
informally defined by Chomsky, as we have reported in (33). For a more
accurate discussion of CFC, along with its empirical consequences, see
Giorgi (1987).[10]
     Notice now that there is another important case of non-
complementarity, which has not been deeply discussed in Chomsky
(1986a), i.e. subject oriented anaphors, which, when bound outside their

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[10]Notice that Chomsky (1986a) also discusses the non-complementary distribution of
anaphors and pronouns when in post-nominal position, within NPs:
From Chosmky, (1986a, p.170)
(i)   The children heard [stories about each other]
(ii)   The children heard [stories about them]
in (i) and (ii) the anaphor and the pronoun can be both coindexed with *children*. This
fact is due to the optional presence of a PRO, subject of the NP. Therefore, such a
subject must not be present in (i), and can optionally be realized in (ii). For further
discussion, see also Giorgi and Longobardi (forthcoming).

governing category, are not in complementary distribution with pronouns. Consider the following examples:

(34)a. Quel dittatore$_i$ sperava che i libri di storia avrebbero parlato a lungo di sè$_i$ e delle sue gesta
That dictator hoped that the book of history would talk for a long time about *self* and his deeds
   b. Quel dittatore$_i$ sperava che i libri di storia avrebbero parlato a lungo di lui$_i$ e delle sue gesta
That dictator hoped that the book of history would talk for a long time about him and his deeds

There is no contrast between (34)a. and (34)b.: *lui* is a pronoun, whereas *sè* turns out to be an anaphor, if we apply the tests discussed above, i.e. intrinsic reference and split antecedent. As it is easy to observe, the binding properties of *sè* are not captured by any of the formulations of binding given above. This topic will be discussed in the following chapters.

CHAPTER 2

TOWARD A THEORY OF LONG DISTANCE ANAPHORS[*]

Introduction

From a descriptive point of view, it can be observed that anaphoric elements pattern in at least two different ways. On the one hand there are anaphors (as for instance in English, *himself, themselves, each other...*) which obey a locality condition; i.e. an anaphor can pick up its antecedent in a limited domain, but the syntactic role of the antecedent can vary. Let us call this kind of anaphors "strict" anaphors. On the other hand, there exist anaphors, in languages sush as Latin, Japanese, Icelandic, Norwegian, Malayalam, which do not obey the locality constraint and can take an antecedent in an apparently unlimited domain; however in this case, the syntactic, or better to say, thematic role of the antecedent is narrowly specified in the interpretative condition, i.e. it has generally to be a subject.[1] We shall refer to this kind of anaphors as "long distance" anaphors.

In this chapter we shall basically analyze the behavior of the Italian possessive element *proprio*. First we will demonstrate that it is an anaphor, as opposed to a pronoun, and then we will show that it displays properties of both types of anaphors. The Italian anaphoric system, in fact, appears to be a mixed one, as can be shown by analyzing the behavior of the two third person non-clitic anaphors: *sé* and *se stesso*. The data show that *se stesso* patterns like an English anaphor, i.e. it obeys the locality condition of strict anaphors; *sé* behaves as a long distance anaphor.

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[1] We will specify below what we exactly mean by "subject".

Proprio, being the possessive element corresponding both to *se stesso* and *sé*, seems to inherit the characteristics of both types of anaphors.

However the aim of this work is not only a descriptive one, since our purpose is to give a theoretical account of the behavior of long distance anaphors in general. Our theory can also provide an explanation for some data of English anaphors, which cannot be accounted for by a theory of strict anaphors and which went unexplained and even unnoticed in previous theories. In other words: even in English, where the locality constraint seems to hold quite rigidly, there exist phenomena which can be much better explained by a theory of long distance anaphors than by current theories of strict anaphors.

This work will also illustrate how, contrary to most current assumptions, the notion of accessible subject still plays a crucial role in defining the domain of binding for a long distance anaphor.

We will further show the implications of a theory of long distance anaphors for the weak crossover phenomena and we will draw some conclusions on the meaning of the two features [±pronominal] and [±anaphoric], proposed in Chomsky (1982) to classify the set of nominal expressions.

Finally, it is our purpose to give some suggestions in order to account for the variation among languages in terms of parametric choices.

1.

Proprio is a possessive element in Italian, which appears within NPs in the same position where possessive pronouns (*mio, tuo, suo* (my, your, his/her)...) appear and accepts only 3rd person singular or plural antecedents. With the possessive pronouns it also shares the peculiar adjective-like inflectional features of gender and number which agree with the head-noun of the NP containing it.[2]

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[2]Notice that *proprio* can also be an adverb, meaning something like *precisely, quite*
i.   Quel ragazzo assomiglia proprio a Giovanni!
        That boy looks precisely like Giovanni
ii.   Gianni è proprio uno stupido!
        Gianni is quite a stupid guy!
we are not interested here in this use of *proprio.*
Consider also that *proprio* can be used as an emphatic element along with a possessive pronoun:
iii.   Gianni persegue esclusivamente i suoi propri interessi
        Gianni pursues only his own interests

In order to clarify the nature of *proprio* as an anaphor, we will argue that it bears the features [-pronominal] and [+anaphoric] in the sense of Chomsky's (1982) characterization of lexical anaphors.

It has been noticed in the recent syntactic research that natural languanges distinguish between two fundamental types of elements which are able to corefer with others in the sentence: i.e. anaphors and pronouns. It is possible to distinguish these two sets by their systematically different pattern of behavior with respect to, at least, the following properties: the possibility of taking its immediate antecedent also from outside the same complex sentence, the possibility of having split antecedents, and the impossibility of coreferring with nominals within a specified domain (the so-called "disjoint reference"). The cooccurrence of these properties identifies pronouns and their absence defines the class of anaphors. Chomsky (1982) classifies nominals using two binary features [± pronominal] and [±anaphoric] ; pronouns are classified [+pronominal, -anaphoric] and anaphors [-pronominal, +anaphoric]. The values of the two features are independent from each other, since there seems to exist at least one nominal element displaying mixed properties, namely the empty NP PRO, whose behavior and distribution, according to Chomsky (1982), could follow from the feature specification [+pronominal, +anaphoric].[3] In order to assign *proprio* the feature [-pronominal] we can appeal to the split antecedent test, that can work well as an operational test, even if the reason why pronouns can have split antecedents and anaphors cannot is not clear.

Let us see the following examples:

(1)a. Gianni$_j$ comunicò a Mario$_i$ che l'azienda li$_{i+j}$ aveva licenziati

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our idea is that the sequence *possessive pronoun-proprio* behaves exactly as a pronoun and not as an anaphor, as the following examples seem to indicate:

iv. Gianni$_j$ dovette comunicare a Maria$_i$ che era andata in fiamme la loro
    propria$_{i+j}$ casa, e non quella di Osvaldo
    Gianni had to say to Maria that their own house had gone up in flames, and not Osvaldo's one.

v. I suoi propri amici abbandonarono il paese, quelli della moglie no
    His own friends forsook the country, while (his) wife's did not

in (iv) *loro propria* has split antecedent, and in (v) *suoi propri* has intrinsic reference, because it can refer to a third person singular in the world. Therefore we will not pursue this matter here.

[3]Correspondingly we find elements marked [-pronominal, -anaphoric], e.g. names like *John, that wonderful picture, the boys in the garden*, etc.

Gianni told Mario that the factory had fired them
b. *Gianni$_j$ ha ricondotto Maria$_j$ a se stessi$_{i+j}$
Gianni restored Maria to themselves
(2) *Gianni$_j$ ha ricondotto Maria$_j$ alla propria$_{i+j}$ famiglia
Gianni restored Maria to self's family

in sentence (1)a. the clitic pronoun *li* can refer to *Mario* and *Gianni* taken together as a set, but this is not possible for *se stessi*, i.e. the 3rd person plural reflexive anaphor. Sentence (2) shows that *proprio* behaves like *se stesso*, and not as a pronoun.

Notice that, taken separately, both *Maria* and *Gianni* are possible antecedents for an anaphor, as shown by the following examples:

(3)a. Gianni$_i$ ha ricondotto Maria a se stesso$_i$ con il suo affetto paziente
Gianni restored Maria to himself with his patient love
b. Gianni ha ricondotto Maria$_i$ a se stessa$_i$ con una lunga terapia psicoanalitica
Gianni restored Maria to herself with a long psychonalytic therapy
c. Gianni$_j$ ha ricondotto Maria$_i$ alla propria$_{i/j}$ famiglia
Gianni restored Maria to self's family

we can therefore attribute to *proprio* the feature [-pronominal]. On the other hand, *proprio* can be considered a [+anaphoric] element, as is possible to argue on the grounds of its lack of intrisic reference. Consider the fact that pronouns can always pick up a definite referent in the world, or in the previous discourse, if they do not have one in the sentence, whereas anaphors cannot. Consider now the following sentence:

(4) La sua casa di campagna ha due piani
His countryhouse has two floors

where *sua* refers to a definite third person singular in the world, while the corresponding one with the same meaning and with an anaphor instead of a pronoun is not acceptable:

(5) *La propria casa di campagna ha due piani
Self's countryhouse has two floors

notice that an anaphor may occur unbound in that position, since, when the context allows it, it is possible to give an arbitrary interpretation to the

anaphor *proprio*, as in sentence (6) (this property will be discussed in detail below):

(6)   La propria$_{arb}$ casa è sempre la più bella
         One's house is always the nicest

the crucial point, however, is that *proprio* like unbound anaphors in general can never directly refer to a definite object in the world.[4]

As for other anaphors, the relationship between *proprio* and its antecedent seems to be subject to some sort of c-command requirements, thus further contrasting with the behavior of pronouns with a definite antecedent:[5]

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[4]We have to explain why we decided to associate the feature [±pronominal] and [±anaphoric] with the test of split antecedents and of intrinsic reference respectively and not viceversa, i.e. why we did not assign the feature [+anaphoric] instead of [-pronominal] to elements refusing split antecedents or, correspondingly, the feature [-pronominal] instead of [+anaphoric] to those lacking intrinsic reference. The reason lies in the fact that this way we can derive the independently required feature specification for PRO, i.e. [+pronominal] and [+anaphoric] and not the opposite one, i.e. [-anaphoric], [-pronominal]. In fact PRO can take split antecedents even in a context of obligatory control, at least in Italian, as shown by the following examples, therefore it is specified as [+pronominal]:
i   Gianni$_j$ ha proposto a Maria$_i$ di PRO$_{i+j}$ partire insieme per Casablanca
       Gianni proposed to Maria to leave together to Casablanca
Furthermore, when PRO is allowed not to have an antecedent within the sentence, it dispalys lack of intrinsic reference, taking the arbitrary reading, and not a definite one:
ii.   PRO$_{arb}$ possedere una casa in campagna è piacevole
       Owning a house in the country is pleasant
According to our classification, therefore, it will be characterized by the feature [+anaphoric] too. Therefore we can maintain the typology of empty categories as stated in Chomsky (1982):
PRO [+anaphoric ;-pronominal]
Wh-trace [-anaphoric ; -pronominal]
NP-trace [+anaphoric ; -pronominal]
pro [-anaphoric ; +pronominal]
[5]Following Aoun and Sportiche (1982), we define c-command and government as in (i) and (ii) respectively:
i   α c-commands β iff
       the minimal maximal projection dominating α dominates β

(7)a. Gianni$_i$ ama la propria$_i$ casa
        Gianni loves self's house

   b. *La madre di Gianni$_i$ ama molto la propria$_i$ casa
        Gianni's mother loves self's house a lot

   c. la madre di Gianni$_i$ ama molto la sua$_i$ casa
        Gianni's mother loves his house a lot

   d. *La propria$_i$ madre ama molto Gianni$_i$
        Self's mother loves Gianni a lot

   e. Sua$_i$ madre ama molto Gianni$_i$
        His mother loves Gianni a lot

examples (7)b. and (7)d. are ungrammatical, the anaphor being not c-commanded by the antecedent. These sentences contrast with the corresponding ones containing a pronoun instead of an anaphor which are perfectly grammatical, even if the pronoun is coindexed with *Gianni*. These contrasts are predicted by the Binding Theory as we will illustrate below.

There is another difference between *proprio* and pronouns which shows that *proprio* behaves as an anaphor and not as a pronoun: *proprio* like other anaphors, for instance *sé* and *se stesso*, can take the impersonal *si* and the arbitrary PRO as antecedent, whereas a pronoun cannot:[6]

(8)a. PRO$_{arb}$ uccidere il proprio$_{arb}$ cane è spiacevole
        To kill self's dog is unpleasant

   b. *PRO$_{arb}$ uccidere il loro$_{arb}$ cane è spiacevole
        To kill their dog is unpleasant

(9)a. Si$_{imp}$ pensa sempre che la propria$_{imp}$ casa sia la più bella

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ii. α governs β iff

      α is a X° category (N,V,A,P) and

      α and β c-command each other

See ch. 1 in Giorgi and Longobardi (forthcoming) for a more detailed analysis of the notion of c-command involved in binding

[6]This peculiarity has been already noticed by Parisi (1976). Notice that in Italian arbitrary PRO and impersonal *si* are inherently plural , as can be seen, for instance, in example (12) in the text, where *se stessi* necessarily bears the morphological ending *-i* , i.e. masculin plural. Recall that *proprio* and *sé* are not inflected with respect to the features of the antecedent.

One always thinks that self's house is the nicest
b. *Si$_{imp}$ pensa sempre che la loro$_{imp}$ casa sia la più bella
One always thinks that their house is the nicest
(10)a. PRO$_{arb}$ uccidere se stessi$_{arb}$ è un gesto incomprensibile
To kill themselves is an incomprehensible action
b. Nei momenti più difficili si$_{imp}$ pensa solo a se stessi$_{imp}$
In the most difficult moment one thinks only to onself (lit: themselves)
(11)a. Pro$_{arb}$ parlare solo di sé$_{arb}$ annoia l'ascoltatore
to speak only about oneself bores the hearer
b. In certe occasioni si$_{imp}$ parla sempre di sé$_{imp}$
On certain occasions one always speaks about self
(12)a. *PRO$_{arb}$ pensare che il nemico li$_{arb}$ uccida è triste
To think that the enemy will kill him (lit: them) is sad
b. *Si$_{arb}$ pensa sempre che il nemico li$_{arb}$ ucciderà
One always thinks that the enemy will kill one (lit: them)

Summing up, we can say that *proprio* is an anaphor and as such it is likely to be subject to principle A of the BT. Since we will adopt here, for reasons that will be clear in the following sections, the revised version of the BT developed by Manzini (1983b), a few words on her BT seem to be necessary.

2.

A problem left open by Chomsky's (1981) formulation of the BT is the non complementary distribution of pronouns and anaphors when embedded within an NP (the so-called "picture Noun Phrases"):[7]

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[7] Chomsky's (1981) definitions are the following (see chapter 1 for discussion):

i.   α binds β iff

      α and β are coindexed and α c-commands β

ii.   A:an anaphor is bound in its Governing Category

       B: a pronoun is free in its Governing Category

iii.   γ is a Governing Category for α iff

       a. γ is a minimal category containing α, a governor for α and a subject accessible to α

       b. γ is the root sentence, if not (a) and α is governed

(13)a. [$_{S0}$ The boys saw [$_{NP}$ their pictures]]
   b. [$_{S0}$ The boys saw [$_{NP}$ each other's pictures]]
   c. [$_{S0}$ The boys thought that [$_{S1}$ [$_{NP}$ their pictures] were on sale]]
   d. [$_{S0}$ The boys thought that [$_{S1}$ [$_{NP}$ each other's pictures] were on sale]]

according to Chomsky's definitions, the Governing Category in (13)a.-d. is the matrix sentence and the anaphor in (13)b. and (13)d. is correctly predicted to be bound in S0, but the pronoun is predicted to be disjoint in reference from *the boys*, as is not the case.

The intuitive idea Manzini wants to capture is that in sentence (13)b., the NP containing the anaphor behaves as if it, as a whole, where an anaphor, but nothing similar happens if the NP contains a pronoun instead of an anaphor, as in (13)a. In fact by her theory the syntactic domain in which an anaphor has to be bound, given certain structural conditions, is not the Governing Category of the anaphor itself, but the one of the NP immediately containing the anaphor, i.e. the c-domain of the anaphor. Therefore principle A of the BT is modified in such a way that an anaphor is predicted to be bound in this "expanded" category (the Domain Governing Category), whereas pronouns are subject to the classical version of principle B of the BT--and hence predicted to be free in their Governing Category. The prediction of Manzini's theory are only slightly different from those of Chomsky's version of the BT; however these two theories differ in an interesting way with respect to sentences (13)c. and (13)d., a point which seems to be crucial in a theory for long distance anaphors. We shall concentrate on this matter below. Furthermore, let us add that Manzini's revision of the BT is widely supported by data about control phenomena we will not discuss here; our purpose is to provide some additional evidence that supports her analysis and some suggestions that can answer some open questions.

The principles she gives are the following:

(14)   A: an anaphor is bound in its Governing Category and Domain Governing Category
        B: a Pronoun is free in its Governing Category

(15) γ is a Governing Category for α iff
        i. γ is the minimal category with a subject containing α and a governor for α and
        ii. γ contains a subject accessible to α

(16)   γ is a domain Governing Category for α iff
        i. γ is the minimal category with a subject containing the c-
        domain of α and a governor for the c-domain of α and
        ii. γ contains a subject accessible to α

The notion "accessible", following Chomsky (1981), is defined as follows:

(17)   α is accessible to β iff
        α c-commands β and
        coindexing of α and β does not violate the i-within-i condition

The i-within-i condition is specified as follows:

(18)   *[β ...α...]   where α and β are coindexed.

    Given these definitions, therefore, in sentences (13)a.-d. the
element in the subject position of the NP, i.e. the anaphor or the pronoun
(call it α), has no Governing Category, for the NP is the minimal category
with a subject, α itself, containing α and a governor for α, i.e. *pictures*, but
NP does not contain a subject accessible to α, since α is not accessible to
itself.[8]
    However in (13)a. and b. has a Domain Governing Category,
namely S, for S is the minimal category with a subject, *the boys*, or its
AGR, containing the c-domain of α , NP, and a governor, V, for the c-
domain of α , and S contains a subject accessible to α, *the boys* or its AGR.
Therefore the anaphor is predicted to be bound in its Domain Governing
Category, as it is; the pronoun lacking a Governing Category, is predicted
to be able to corefer freely, hence not to be disjoint in reference from *the
boy*. Furthermore, the genitive in sentences (13)c. and d. lacks a
Governing Category too: for the minimal category with a subject
containing α, the c-domain of α and a governor for its c-domain, AGR, is
the embedded sentence, but it does not contain a subject accessible to α,
since coindexing of α and NP or AGR in S would violate the i-within-i

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[8]We can say that   is not accessible to itself either by stipulating that the c-command
relation is not a reflexive one, or by adding it directly to the i-within-i condition.

constraint.[9] In these cases, as in (13)c., the pronoun is correctly predicted not to be disjoint in reference from *the boys*; as for the anaphor, it lacks either a Governing Category and a Domain Governing Category. Manzini's conclusion therefore is that when embedded in subject position of a subject NP, the anaphor is not ruled by principle A and, since it has to corefer, it corefers freely, hence *the boys* is a possible antecedent. She additionally supports this theory by claiming that even in the following sentence:

(19)   [S [NP Each other's pictures] would please the boys]

the anaphor is free from the effects of the BT and, having to corefer, corefers with *the boys*, at least for those speakers who accepts the sentence. Notice that in these cases the c-command requirement is violated, since *the boys* does not c-command *each other*.[10]

It seems obvious that this theory is not as restrictive as we would like it to be, because if we merely say that the anaphor can corefer freely we will allow any coindexation, which, as can be easily shown, is not correct.[11] Therefore if we want to adopt this theory as a proper theory of binding, we have to modify it, or to propose some additional principles,

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[9]Following Chomsky (1981), we may claim that AGR bears some pronominal features and that it is coindexed with the element in subject position, therefore it cannot be an accessible subject for an anaphor embedded in the subject NP.

[10]Following Manzini's theory, PRO never has a Governing Category, since it can only occur in subject position of an S or of an NP, therefore the subject of this category is never accessible to PRO. Actually, we assume, as in Chomsky (1981), that it can never have a Governing Category since if it had one, it should be bound inside it (Principle A) and free inside it (Principle B), and this obviously yields a paradox. This way, in order to derive the distribution of PRO, we do not need, contrary to Chomsky's (1981) assumptions, to postulate that PRO is always ungoverned, but only that it never has an accessible subject.

[11]Consider for instance the following sentences:
i.   *Each other's$_i$ pictures would please the friend of the boys$_i$
ii.   *John and Mary's$_i$ friend thought that each other's$_i$ pictures would be on sale
iii.   *John and Mary$_i$ thought that Bill announced that each other's pictures would be on sale

These examples will be further discussed in the text, however it is worth noting that if the anaphor could corefer freely, these examples should be grammatical, whereas they are clearly unacceptable.

independently motivated, that can account for the behavior of anaphors in this position.

Going back to *proprio*, since we established that it is an anaphor, we might expect it to behave according to the (revised) version of the BT, i.e. to be bound in its Governing Category and Domain Governing Category.

3.

These expectations are only partially fulfilled. As shown by example (3)c., repeated here as (20), if *proprio* is embedded within an indirect object both the subject and the object of its S (its Domain Governing Category) are possible antecedents:

(20)   Gianni$_i$ ha ricondotto Maria$_i$ alla propria$_{i/j}$ famiglia
        Gianni restored Maria to self's family

this result are predicted by the BT; however not every sentence that is predicted by the BT to be ungrammatical , is indeed impossible with *proprio*, even if it is with respect to other anaphors, for instance *se stesso*. This fact is illustrated by the contrast between (21)b., which is grammatical and (21)a., which is not:

(21)a. *Gianni$_i$ pensava che quella casa appartenesse ancora a se stesso$_i$
        Gianni thought that that house still belonged to himself
    b. Gianni$_i$ pensava che quella casa appartenesse ancora alla
        propria$_i$ famiglia
        Gianni thought that that house still belonged to self's family

the BT predicts that in sentences (21)a. and b. the only possible antecedent should be *quella casa* (that house), since, according to the definitions, it is the only accessible NP contained in the Domain Governing Category. This antecedent, however, is not compatible as for its feature specifications (i.e. fem. sing.) with *se stesso* (himself, i.e. masc sing), and is then ruled out for pragmatic reasons as a possible antecedent for *proprio*. Hence (21)a. and b. should be ruled out by the BT, the anaphor being unbound in its (Governing Category and) Domain Governing Category. This result is correct for *se stesso*, but it is not for *proprio*. The BT therefore fails to predict the behavior of *proprio*, which in some cases can pick up an antecedent outside the domain defined by the BT; thus we have to look for some other principles in order to explain the acceptability of sentences like (21)b.

Consider the following examples:

(22)a. Gianni$_j$ ritiene che Osvaldo$_i$ sia convinto che quella casa
         appartenga ancora alla propria$_{i/j}$ famiglia
         Gianni believes that Osvaldo is persuaded that that house still
         belongs to self's family
    b.   Gianni$_j$ convinse Mario$_i$ che la propria$*_{i/j}$ casa era andata in
         fiamme
         Gianni persuaded Mario that self's house had gone up in flames
    c.   *Ho convinto Maria$_i$ che la propria$_i$ casa era andata in fiamme
         I persuaded Maria that self's house had gone up in flames

these examples suggest that subjects, no matter how superordinate, are possible antecedents for *proprio*, whereas non-subjects (e.g. objects) of a moe superordinate sentence are not.[12] These coreference possibilities seem to be the usual ones as far as non clause-bound anaphors in other languages are concerned (cf. Japanese, Latin, Icelandic, Norwegian...).[13] Therefore on the ground of these data we may at first

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[12]Oviously in an object-control structure, the controlled PRO can be the antecedent of *proprio*, which therefore only indirectly "refers" to an object, so that this fact is clearly irrelevant to the generalization we are arguing for:

i.   Gianni$_j$ costrinse Osvaldo$_i$ a PRO$_i$ dichiarare che la propria$_{i/j}$ casa era
         andata in fiamme
         Gianni forced Osvaldo to declare that self's house had gone up on flames

Notice that this fact also clarifies that *proprio* is not disjoint in reference, in the sense of pronouns, from objects. Consider in addition the following examples:

ii.   Gianni$_i$ pensa che tu lo$_j$ voglia introdurre nella stessa azienda dove lavorano
         i propri$_i$ genitori
         Gianni thinks that you want to introduce him into the same firm where self's
         parents work

iii.   *Penso che tu lo$_i$ voglia introdurre nella stessa azienda dove lavorano i
         propri$_i$ genitori
         I think that you want to introduce him into the same firm where self's
         parents work   —

in sentence ii. the antecedent of *proprio* is *Gianni* and cannot be *lo*, as shown by example iii. which is ungrammatical. However nothing prevents *proprio* from being more indirectly coreferential with an object.

[13]For Japanese see Kuroda (1965); for Latin see, among the others, Ernout and Thomas (1972), for Icelandic see Maling (1984) and Anderson (1986); for Norwegian see Hellan (1986; 1987)

conclude that *proprio* can exploit two different strategies: either it obeys the classical principle A of the BT, or it adopts a narrowly constrained long distance strategy available to certain anaphors in many languages.[14]

However, not any subject is a possible antecedent for *proprio*; consider the following examples:

(23)a.　Osvaldo$_i$ pensava che quella casa appartenesse ancora alla propria$_i$ famiglia
Osvaldo thought that that house still belonged to self's family

　　b.　Osvaldo$_i$ ritornò in patria prima che il fisco sequestrasse il proprio$_{*i}$ patrimonio
Osvaldo came back to his country before the public treasury sequestred self's estate

　　c.　Maria$_j$ sperava che Osvaldo$_i$ ritornasse in patria prima che il fisco sequestrasse il proprio$_{*i/j}$ patrimonio
Maria hoped that Osvaldo would come back to his country before the public treasury sequestreted self's estate

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[14]One may claim that in cases where an element escapes the requirements of Principle A of the BT, it is no longer an anaphor, but becomes a sort of pronominal element. This however, seems not to be the case for *proprio*, because even when it is long distance bound, it still cannot take split antecedents. Consider for instance sentence (i):

i.　　　Gianni$_j$ ritiene che Osvaldo$_i$ sia convinto che quella casa appartenga ancora alla propria$_{i/j/*i+j}$ famiglia
Gianni believes that Osvaldo is persuaded that that house still belongs to self's family

separately both subjects are possible antecedents, but not if taken together as a set, i.e. as split antecedents. Furthermore, even in these cases, *proprio* can be coreferential with the impersonal *si* and the arbitrary PRO:

ii.a.　　Si$_{imp}$ pensa sempre che un tale sforzo danneggi la propria$_{imp}$ salute
One always thinks that such an effort may damage one's helth

　　b.　　E' sciocco PRO$_{arb}$ pensare che un tale sforzo danneggi la propria$_{arb}$ salute
It is silly to think that such an effort may damage one's health

whereas this coreference is still impossible for pronouns:

iii.a.　　*Si$_{imp}$ pensa sempre che un tale sforzo danneggi la loro$_{imp}$ salute
One always thinks that such an effort may damage their health

　　b.　　*E' sciocco PRO$_{arb}$ pensare che un tale sforzo danneggi la loro$_{arb}$ salute
It is silly to think that such an effort may damage their health

hence we can maintain the feature characterization for the long distance *proprio* we gave before.

These examples seem to show that if *proprio* is embedded within an adverbial clause (at least within certain type), the subject of the S immediately dominating the adverbial is not a possible antecedent.[15] This second generalization seems to be consistent again with data from other languages, for instance Japanese and Icelandic.

In fact Kuroda has pointed out since 1965, that in the following example:

(24)   John-wa Bill-ga zibun-o mi-ta toki hon-o yon-de i-ta
        John was reading a book when Bill saw self

the otherwise long distance anaphor *zibun* has to be coindexed with *Bill* and not with *John*. Moreover, sentences (25) seem to show that a more

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[15]In some subordinate sentences of cause, *proprio* sounds more acceptable even if referring to the subject of the S immediately dominating the sentence of cause:

i   Gianni$_j$ ha punito Maria$_j$ per PRO$_j$ aver fatto uno sgarbo alla propria$_j$ moglie
        Gianni punished Maria$_j$ for PRO$_j$ having been rude to self's wife

Notice also that in this case PRO is controlled by an object, therefore we may argue that the object c-commands PRO (cf. Manzini, 1983a). If so, the clause in question has to be attached under the VP. This structural fact might correlate with a marked reinterpretation of such subordinates as true complements of the verb, thus as part of the P-domain of the subject; therefore, in this case, the long distance anaphor could be bound by the subject of the immediately superordinate sentence. Furthermore, the acceptability of a sentence in which the subject of the S immediately dominating the adverbial is intended to be the antecedent of a long distance anaphor contained into the adverbial, varies according to the degree of "involvement" of this subject in the event described by the adverbial clause. If the subject is not involved, i.e. the two clauses describe two different events, this kind of binding is strongly unacceptable, otherwise it could be more acceptable:

ii. a.   ? Gianni$_j$ fu informato che il capo si era innamorato della propria$_j$ moglie
          Gianni was informed that the chief was in love with self's wife

    b.   *Gianni$_j$ fu ucciso in quanto il capo si era innamorato della   propria$_j$ moglie
          Gianni was killed because the chief was in love with self's wife

    c.   Gianni$_j$ era infelice in quanto il capo si era innamorato della propria$_j$ moglie
          Gianni was unhappy because the chief was in love with self's wife

In ii.b. ther is no immediate relation between the adverbial clause and the fact that *Gianni* was killed. In ii.c. the relation between *Gianni*'s role and the adverbial clause is more evident. This contrast between ii.a. and b. is very neat even if the long distance binding of *proprio* is not perfect because of the presence of the Indicative mood which, as we will explain below in section 7. makes the sentence worse.

superordinate subject is a possible antecedent for *zibun*, whatever the linear order

(25)a. Mary-wa$_j$ Bill-ga$_j$ zibun-o$_{i/j/*k}$ mi-ta toki John-ga$_k$ hon-o yon-de i-ta to itta

    b. John-ga$_k$ Bill-ga$_i$ zibun-o$_{i/j/*k}$ mi-ta toki hon-o yon-de i-ta to Mary-wa$_j$

    Mary said that John was reading a book when Bill saw self

In these sentences *Mary* is a possible antecedent, exactly as *Mario* is a possible antecedent for *proprio* in sentence (23)c.
    The same holds in Icelandic too (cf. Maling, 1984):

(26)   Jon$_j$ segir ad Haraldur$_i$ komi fyrst Maria bjodi sér$_{*i/j}$
    Jon says that Harald comes since Maria invites self

We would like to argue here that this is a general property of long distance anaphors in any language.
    Potentially relevant to the exact definition of the long distance behavior of *proprio* are also some cases in which the c-command requirements between *proprio* and its antecedent seem to be violated. Consider for instance the following examples:

(27)a. La propria$_i$ salute preoccupa molto Osvaldo$_i$
    self's health worries Osvaldo a lot

    b. La malattia della propria$_i$ moglie preoccupa molto Osvaldo$_i$
    The illness of self's wife worries Osvaldo a lot

    c. *I propri$_i$ peccati turbano il sonno di Osvaldo$_i$
    self's sins upset Osvaldo's sleep

    d. *La propria$_i$moglie ha assassinato Osvaldo$_i$
    self's wife murdered Osvaldo

notice that in these sentences a special type of verb appears. Verbs like *preoccupare* (worry), *turbare* (upset), but not *assassinare* (murder), have an experiencer as object and can have a theme as subject; their thematic structure does not correspond to the one of normal agentive verbs and this

seems to be crucial.[16] As examples show, in fact, sentence (27)d. with the same structure, but with a truly agentive verb, is ungrammatical. Sentence (27)c. demonstrates also that *proprio* cannot take as antecedent an element embedded inside the object NP of this kind of verbs (even if the head of this NP is [-animate] like *sonno* (sleep)), but has to take the whole object as antecedent.

The question arising with respect to these sentences, is the following: is this peculiarity a process independent of the long distance strategy, that we have just identified, or should it be subsumed under the same generalization?

Consider the following example:

(28)   La salute di quelli che amano la propria$_i$ moglie preoccupa molto Osvaldo$_i$
        the health of those who love self's wife worries Osvaldo a lot[17]

in (28) *Osvaldo*, an object, is surprisingly a possible antecedent for the long distance anaphor *proprio*. Whatever solution we can provide for the

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[16]Ruwet (1972) gives many examples illustrating the contrast between this class of verbs that he calls *verbes psychologiques* and the normal transitive verbs. For an interesting analysis of this kind of verbs, see Belletti and Rizzi (1988) and Pesetsky (1990).

[17]Sentence (28) is a case of restrictive relative. The long distance strategy seems not to work if the relative is an appositive one.
Consider the following examples:
i.a.   Gianni$_j$ pensa che Mario$_i$ che t$_i$ ama la propria$_{i/*j}$ moglie sia intelligente
        Gianni thinks that Mario, who loves self's wife, is intelligent
  b.   Gianni$_j$ pensa che chi$_i$ t$_i$ ama la propria$_{i/j}$ moglie sia intelligente
        Gianni thinks that who loves self's wife is intelligent
ii.a.   La salute di Mario$_i$ che t$_i$ ama la propria$_{i/*j}$ moglie preoccupa Osvaldo$_j$
        The health of Mario, who loves self's wife, worries Osvaldo
  b.   *La salute di noi$_i$ che t$_i$ amiamo la propria$_{i/j}$ moglie preoccupa Osvaldo$_j$
        The health of us, who love self's wife worries Osvaldo
in all these examples *proprio* can behave as a strict anaphor and, if the antecedent is not compatible with the anaphor, as in sentence ii.b., the sentence is ungrammatical. These data can be possibly explained by Cinque's (1982) hypothesis that appositive relatives are a sort of parenthetical sentences: for this reason we may assume that they cannot be a P-domain of anything in the sentence. See also Safir (1985).

problem raised by experiencing verbs, sentences like (28) show that the peculiar behavior of such verbs affects long distance anaphors as well, allowing observational violations of both c-command and the "subjecthood" constraint for antecedents.

4.
          Our hypothesis is that a correct theory of anaphors should propose some principles to subsume under the same generalization the data we have just described in the previous sections, because they seem to "go together":
a. some anaphors are not clause bound (long distance anaphors)
b. only subjects (if the verb is not an experiencing verb) are possible antecedents for them
c. if embedded in an adverbial clause, even a long distance anaphor cannot pick up the subject of the S most immediately dominating the adverbial as its antecedent
d. with a certain class of verbs, the experiencing verbs, the object behaves as a subject, with respect to the binding possibilities of a long distance anaphor, in addition to the violation of the c-command requirements.
          As a first approximation, wa can state the following principles:

(29)   A long distance anaphor is P-bound (P=prominent argument)

where p-bound means:

(30) α is P-bound to β iff
          α is coindexed with β and
          α is in the P-domain of β

we now have to define the notion "in the P-domain of"; we can assume that each lexical head that is a verb, an adjective, or a noun, defines a thematic (θ) domain, i.e. the set of arguments θ-marked by that head. One of the arguments of this thematic domain can be said to be "prominent" with respect to the others and the set of the remaining ones, with all the material they dominate, can be called its P-domain. We might include in the P-domain also the verbal, adjectival or nominal head which defines the θ-domain. We propose that the prominent argument should be identified with the highest one in the following thematic hierarchy: 1)agent,

2)experiencer, 3)theme and others.[18] Therefore it follows that every thematic argument is in the P-domain of the subject (excluding the case of experiencing verbs); adverbials are never member of a P-domain by themselves, not being θ-marked by any lexical head (although they can be part of a larger thematic argument, hence of a higher P-domain); APs in small clause constructions are P-domains of the subject of the small clause, as in the following example:[19]

(31)   Ho visto Gianni contento di Osvaldo
        I saw Gianni pleased with Osvaldo

where *Gianni* although Case marked by the matrix verb, is θ-marked by *contento* (pleased; notice that in Italian *contento* is not derived from a verb) and identified as the prominent argument. PPs are not P-domains of anything, because prepositions are heads, but not really lexical ones, and therefore they do not identify a thematic domain (although they can be embedded in a larger P-domain), nouns can identify a thematic domain and a prominent argument in this domain, both in the case of a small clause construction and in the case of a nominalization:

(32)a. Ritengo Gianni il migliore amico di Osvaldo
        I consider Gianni the best friend of Osvaldo
    b. [NP L'opinione di Gianni che Osvaldo fosse partito] si è rivelata
        erronea
        Gianni's opinion that Osvaldo had left turned out to be wrong

in both these cases *Gianni* is the prominent argument in the θ-domain defined by the noun. Finally, the syntactic subject is in the P-domain of the experiencer, in the case of the experiencing verbs. Therefore we can account for the behavior of anaphors with this kind of verbs in a unified

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[18]Languages usually tend to identify the syntactic notion of subject with the semantic one, i.e. our notion of "prominent" argument: agents for instance are often subjects in both senses. As with most formal correlates of semantic notions, there are however some exceptions, e.g. the case of experiencing verbs we discussed at lenght in various parts of the article, where the argument counting as syntactic subject, does not count as the semantic one, and viceversa. See also Belletti and Rizzi (1988)
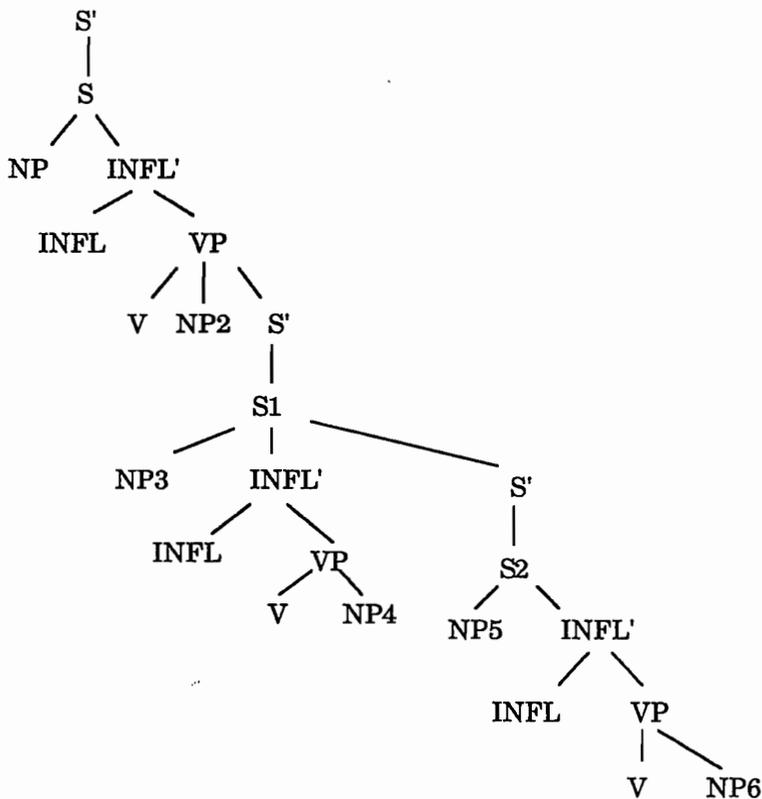
[19]For a detailed analysis of small clause constructions see Stowell (1981); see also Chomsky (1982).

way by treating all the relevant examples as instances of the long distance strategy and eliminating the need for a modification of c-command.

This theory, instead of referring to a notion of c-command, makes crucial use of the notions "prominent argument" and P-domain. The notion of c-command by itself cannot explain why a superordinate object, or a subject of an S dominating an adverbial clause are not possible antecedents for a long distance anaphor, since they both c-command the anaphor. Therefore the notion of P-domain seems to be more restrictive and superior to the one of c-command for these cases. Furthermore, if we want to explain in the same way, as seems reasonable, the data under point c., the notion of c-command becomes even incorrect as too restrictive, since, under normal assumptions, the object does not c-command the subject.

Notice also that the P-domain of something embedded in an NP or an S (S') can never lie outside this NP or S, so that in these cases the notion of prominency makes roughly the same predictions as c-command. Similarly, even if the subject of an experiencing verb is in the P-domain (though not in the c-domain) of its object, it is not in the P-domain of something embedded within the object (therefore sentence (27)c. is ungrammatical). Let us consider the consequences of this principles:

(33)

```
          S'
          |
          S
         / \
       NP   INFL'
           /    \
        INFL     VP
                / | \
               V NP2 S'
                     |
                     S1
                   /  |  \
                NP3  INFL'      S'
                    /   \        |
                 INFL    VP      S2
                        /  \     / \
                       V   NP4 NP5  INFL'
                                   /    \
                                INFL     VP
                                        |  \
                                        V   NP6
```

Assume first that a long distance anaphor α is embedded in the subject position of NP4 and that NP3 is β, α is contained in the P-domain of β, therefore the following sentence is predicted to be wellformed:

(34)   Maria pensa che Gianni_i ami il proprio_i fratello
        Maria thinks that Gianni loves self's brother

Anyhow this sentence is irrelevant, because it is impossible to distinguish it from the case subsumed by the BT, to which *proprio* is subject too.

Consider now the case in which α is either embedded in NP4 or NP3, and β is NP1; this sentence is predicted to be wellformed in either case, since both NP3 and NP4 are contained in the P-domain of β.

(35)a. Mario¡ pensa che Luisa ami la propria¡ moglie
Mario thinks that Luisa loves self's wife
   b. Maria¡ pensa che il proprio¡ fratello ami Luisa
Maria thinks that self's brother loves Luisa

Consider now the case in which β is NP2; in this case neither NP3 nor NP4 are in its P-domain, since it does not have one; therefore the following sentences are predicted to be ungrammatical with this kind of coreference, as is the case:

(36)a. *Gianni ha convinto Maria¡ che quella casa appartiene alla propria¡ famiglia
Gianni convinced Maria that that house still belongs to self's family
   b. *Gianni ha convinto Maria¡ che la propria¡ casa è la più bella
Gianni convinced Maria that self's house is the nicest

Consider now a long distance anaphor embedded in NP5 or NP6; it cannot refer to NP3, because the adverbial clause S2 is not in the P-domain of this NP, but it can refer to NP1, because it is contained in its P-domain, namely the entire content of the VP.

(37)a. Maria¡ pensava che Osvaldo¡ sarebbe ritornato in patria prima che il fisco sequestrasse il proprio*¡/¡ patrimonio
Maria thought that Osvaldo would come back to his country before public treasury sequestred self's estate
   b. Maria¡ pensava che Osvaldo¡ sarebbe ritornato in patria prima che il proprio*¡/¡ figlio si sposasse
Maria thought that Osvaldo would come back to his country before self's son got married

Furthermore, consider the case in which β is embedded within NP1; it is no longer a possible antecedent for a long distance anaphor in NP3, since the anaphor is not embedded in the P-domain of β, but of the

whole NP. The same happens if the long distance anaphor is inside NP4, NP5 or NP6.

(38) *Il fratello di Gianni$_i$ pensa che la propria$_i$ casa sia andata in fiamme
      Gianni's brother thinks that self's house went up in flames

On the contrary an NP embedded as subject of another NP, when being the prominent argument in the thematic domain of the head noun, can be the antecedent of a long distance anaphor contained within another argument of the head. Consider for instance the parallelism between the following pairs:

(39)a. Gianni$_j$ crede che Osvaldo$_i$ sia innamorato della propria$_{i/j}$ moglie
        Gianni believes that Osvaldo is in love with self's wife
    b. L'opinione di Gianni$_j$ che Osvaldo$_i$ sia innamorato della propria$_{i/j}$ moglie è sbagliata
        Gianni's opinion that Osvaldo is in love with self's wife is wrong
(40)a. Gianni$_j$ disprezzava l'uomo$_i$ che t$_i$ aveva ucciso la propria$_{i/j}$ moglie
        Gianni despised the man who killed self's wife
    b. Il disprezzo di Gianni$_j$ verso l'uomo$_i$ che t$_i$ aveva ucciso la propria$_{i/j}$ moglie era enorme
        Gianni's contempt for the man who had killed self's wife was enormous

in all these sentences *Gianni* is a possible antecedent for *proprio*. Notice also that (39)b. contrasts with (41):

(41) [S0 [NP L'opinione di Gianni$_i$ [S1che ha tanto colpito la propria$_{*i}$ moglie]] è la seguente:...
      Gianni's opinion which struck self's wife so much is the following...

where S1 is a relative clause, therefore it is not θ-marked by the noun and is not part of the P-domain of *Gianni*: the coreference of *Gianni* and *proprio* when the latter is embedded in S1 is accordingly impossible.[20]

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[20]See also Maling (1984)

Equally correct results seem to follow in the case of the experiencing verbs, assuming, as we said, that the subject is in the P-domain of the object. Therefore we predict that sentence (42)a. should be grammatical, and sentence (42)b. should not (with the indicated coreference; notice that it is perfectly acceptable if the antecedent is the whole NP):

(42)a. La malattia della propria$_i$ moglie preoccupa molto Osvaldo$_i$
The illness of self's wife worries Osvaldo a lot

   b. La malattia della propria*$_{i/j}$ moglie preoccupa molto [NP un amico di Osvaldo]$_i$]$_j$
The illness of self's wife worries a friend of Osvaldo a lot

in (42)a. *proprio* is contained in the P-domain of the antecedent: in (42)b. it is not, since the subject is in the P-domain of *un amico di Osvaldo* and not of *Osvaldo* alone. Notice that this theory crucially predicts that, in sentences with this kind of verbs, a long distance anaphor embedded within the object cannot refer to the subject, since the object is not in the predicate of the subject. However the contrast should disappear where *proprio* can behave also as a strict anaphor, i.e. if it and its antecedent occur in positions such that their coindexing is able to meet the demands of principle A of the BT. Consider the following examples:

(43)a. Un figlio$_i$ stupido preoccupa sempre coloro che amano la propria*$_i$ madre
A stupid child always worries those who love self's mother

   b. Un soldato valoroso$_i$ uccide sempre coloro che minacciano in armi il proprio$_i$ paese
A brave soldier always kills those who threaten self's country

as these examples show, there is a contrast between (43)a., where an experiencing verb appears, and (43)b., where the verb is a normal transitive one.[21] However, as the following examples show, this contrast

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[21]Notice also this minimal contrast (G. Cinque, p.c.):

i.a.   A Carlo$_i$ non dispiace ciò che è successo alla propria$_i$ famiglia
Carlo is not sorry for what happened to self's family

  b.   *A Carlo$_i$ non ho detto ciò che è successo alla propria$_i$ famiglia
To Carlo I did not say what happened to self's family

disappears, if *proprio* can behave as a strict anaphor; in this case the notion of "P-domain" is not relevant:

(44)a. Un figlio stupido$_i$ preoccupa sempre la propria$_i$ madre
A stupid child always worries self's mother
b. Un soldato valoroso$_i$ uccide sempre i propri$_i$ nemici
A brave soldier always kills self's enemies

According to our theory we expect to find a difference between As and Ps, the former being lexical and defining a θ-domain and the latter not doing so, even if both seem to take a structural subject in the case of small clauses. Therefore we predict that a long distance anaphor should occur within APs referring to the subject, but not with PPs. This prediction seems to be fulfilled:

(45)a. Ho visto il professore$_i$ contento del rendimento degli studenti che seguono il proprio$_i$ corso
I saw the professor pleased with the performance of the students who follow self's course
b. Ho visto il professore$_i$ accanto agli studenti che seguono il proprio$_{*i}$ corso
I saw the professor next to the students who follow self's course

in sentence (45)b. *gli studenti* is a possible antecedent, but *il professore* is not. Notice that the only strategy available to *proprio* for it to be coreferential with *il professore*, is the long distance one, because it is embedded within a sentence (the relative one). However in those cases in which *proprio* can be subject to the BT, every difference between a. and b. disappears, because for the BT only the structural relations are relevant:

(46)a. Ho visto il professore$_i$ contento dei propri$_i$ studenti
I saw the professor pleased with self's students

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in sentence i.a. *Carlo* is the prominent argument in the P-domain corresponding to the verb *dispiacere* (to be sorry), since it is θ-marked as an experiencer and no agent is present, therefore it is the highest argument in the thematic hierarchy. In i.b. the unexpressed subject , *io* (I), bears the agent θ-role, whereas *Carlo* is only an indirect object and therefore it is not prominent in the P-domain defined by *dire* (say); as a consequence, the anaphor cannot be bound by it.

    b.   Gianni ha visto il professore¡ accanto ai propri¡ studenti
        Gianni saw the professor next to self's students

Notice also that with respect to this kind of constructions, nouns behave like adjectives and not like prepositions, as we have already said:

(47)   Ritengo Gianni¡ un grande amico solo di coloro che stimano la propria¡ moglie
         I consider Gianni a good friend only of those who appreciate self's wife

this sentence is acceptable with *proprio* referring to *Gianni*, contrasting with sentence (45)b.

    We will analyze now what happens in the case of a derived subject, i.e. in the case of raising constructions and of passives. Let us consider first raising. As already known, the derived subject of a verb like *sembrare* (seem) or *risultare* (turn out) does not belong to the θ-domain of this verb, since this position is not directly θ-marked, rather it is connected through its trace to the θ-domain of the embedded verb. Therefore, we predict that the subject of a raising verb should not be a possible antecedent for a long distance anaphor:[22]

(48)a. ?*Gianni¡ mi risulta t¡ essere stato molto più felice quando quella casa apparteneva alla propria¡ famiglia
         Gianni turns out to me to have been much happier when that house still belonged to self's family
    b. Gianni¡ sostiene di PRO¡ essere stato molto più felice quando quella casa apparteneva ancora alla propria¡ famiglia
         Gianni claims to have been much happier when that house still belonged to self's family

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[22]Obviously the following sentence is perfectly acceptable:
i   Gianni¡ risulta t¡ aver pensato che la propria¡ moglie lo avesse tradito
       Gianni turns out to have thought that self's wife had betrayed him
in this case the trace is a possible antecedent for *proprio*, therefore we could say that in i. *t*, and not *Gianni*, P-binds *proprio*. In order to exclude this possibility, we have to construct an example such that *t* should be ruled out as a possible antecedent, as those in the text.-

in sentences (48), since the anaphor is embedded within the adverbial; the subject of the sentence immediately dominating the adverbial (either *t* or PRO) is not a possible antecedent.

As a consequence, example (48)b. is grammatical because the anaphor is embedded in the predicate of its antecedent, *Gianni* being the prominent argument in the θ-domain of *sostenere* (claim). On the other hand, (48)a. is less acceptable since *Gianni* does not belong to the θ-domain of *risultare* (turn out), but it receives a θ-role from *essere felice* (be happy) via the trace, *proprio* therefore is not embedded in the P-domain of this subject in the sense we have defined above.

Observe also that, lacking of an agent, the experiencer of a raising verb is always a possible antecedent for a long distance anaphor, as predicted by this theory:

(49)a. A Maria$_j$ sembrava che Gianni fosse innamorato della propria$_j$ sorella

It seemed to Maria that Gianni was in love with self's sister

b. Gianni sembrava a Maria$_j$ essere innamorato della propria$_j$ sorella

Gianni seemed to Maria to be in love with self's sister

c. Gianni$_i$ diceva a Maria$_j$ di PRO$_i$ essere innamorato della propria$_{i/*j}$ sorella

Gianni told Maria he was in love with self's sister

in the latter sentence *Gianni* is an agent and as such is the only possible antecedent for *proprio*.

Consider now the case of passive:

(50)a. Gianni$_j$ ha convinto Osvaldo$_i$ del fatto che la propria$_{*i/j}$ casa èla più bella del paese

Gianni convinced Osvaldo that self's house is the nicest in the village

b. Osvaldo$_j$ è stato convinto da Gianni$_i$ del fatto che la propria$_{*i/j}$ casa è la più bella del paese

Osvaldo has been convinced by Gianni that self's house is the nicest in the village

Intuitively we would expect that sentences (50)b. would display the same coreference possibilitites as (50)a., that is, since the semantic structure

does not vary between active and passive, *Gianni* should be a possible antecedent also in (50)b. and *Osvaldo* should not. Judgements, however, are exactly reversed as shown by the examples. Anyhow, at a closer look the orfiginal unfulfilled expectation does not appear to be the correct one, since the NP in the *da* phrase in passives seems not to be directly θ-marked by the verb; therefore in (50)b., the embedded sentence cannot be part of the P-domain of *Gianni*.[23] Consequently the prominent argument becomes the experiencer *Osvaldo*; it follows that *proprio* in the case of passives can refer to the derived subject since the latter is the prominent argument and the anaphor is embedded within its P-domain.

Let us now consider the properties of the English reciprocal anaphor *each other*. We will argue here that a theory of Long Distance anaphors would be relevant in order to explain some data left unexplained in previous theories. Consider for instance the following examples:

(51)a.   [$_{S0}$ John and Mary$_i$ thought that [$_{S0}$ [$_{NP}$ each other's pictures$_i$] were on sale]]

    b.   * [$_{S0}$ I persuaded/told the boys$_i$ that [$_{S0}$ [$_{NP}$ each other's$_i$ pictures] were on sale]]

for some speakers (51)b. can result not completely ungrammatical, but it is generally judged worse that (51)a.

Both Chomsky's theory (1981;1982) and Manzini's one (1983b) predict, for different reasons, that (51)b. is as well formed as (51)b; on the one hand, in fact, Chomsky's theory expands the Governing Category up to the matrix sentence, for this is the minimal category containing the anaphor, a governor for the anaphor and an accessible subject; on the other, in the frame of Manzini's revision of the BT, the anaphor lacks both a Governing Category and a Domain Governing Category (NP cannot be

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[23]Notice that in this case the preposition *da* θ-marks its complement. This fact could seem a contradiction with respect to what we claimed above in the text, i.e. that prepositions not being lexical, do not identify a thematic domain as other categories do and, consequently, do not identify a prominent argument inside it. However we would like to point out here that these assumptions are fully compatible, in that the crucial difference among Ps, on one side, and Ns, As and Vs, on the other, is that the former are non-lexical and in this sense, though θ-marking a complement, they do not define a thematic domain, as other categories do. See also chapter 3 for further discussion.

a Governing Category because it contains the anaphor, the governor for the anaphor, but it does not contain a subject accessible to it; S1 cannot be a Domain Governing Category because it does not contain an accessible subject either) therefore the anaphor is predicted to corefer freely: hence in both theories the object of the matrix sentence is a possible antecedent exactly like the subject.

Borrowing Manzini's theory it becomes possible for us to assume that when an anaphor occupies the subject position of a subject NP, the BT *per se* becomes irrelevant since there exists no structural domain in which it could apply; in contrast with her conclusions, however, we will argue here that the behavior of the anaphor in such a position is not completely free from any binding constraint, rather it corresponds to the one predicted by a theory for long distance anaphors.[24] This way it is possible to explain some data about English anaphors, which are not accounted for neither by Chomsky's theory, nor by Manzini's one.

Our claim that an anaphor normally subject to the BT, when embedded in a subect NP behaves as a long distance one and not as a strict one, is supported also by data from other languages, for instance Malayalam, where the strict anaphor *swa-* when embedded in a subject

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[24]We consider here the prenominal subject position of an NP and not the postnominal one, since the former is the only position *proprio* can occupy in Italian; *each other*, on the other hand, can appear in both positions:

i.   pictures of each other
ii.   each other's pictures

For further details on this point, see Manzini (1983b). Notice also that in Italian the following phrases are not acceptable:

iii.a.   *Il libro di sé/se stesso
          the book of self/himself
    b.   *Il libro di lui
          the book of him

iii.b. can be acceptable with contrastive meaning:

iv.   Ho letto il libro di lui, non quello di lei
        I read his book, not hers

iii.a. and b. contrast with the following phrases:

v.a.   Il proprio libro
        self's book
    b. Il suo libro
        His book

which are fully acceptable. On the internal structure of NPs and the distribution of Determiners, see also Giorgi and Longobardi (forthcoming).

NP behaves as a long distance one, displaying a pattern of data similar to the one of *proprio*.[25]

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[25]Malayalam is a Dravidian language spoken in India; see Mohanan (1982).

In Malayalam there exist two third person anaphors: *taan* and *swa-*. *Taan* always displays the behavior of long distance anaphors; *swa-*, as we said in the text, is usally a "strict" anaphor, and behaves as a long distance one only when embedded in a subject. Mohanan supports this generalization, giving, among the others, the following data (Mohanan, p.176):

i. s[s[s[*tante*/swa*n*tam   suhr *tt*   aanaye   *n*ulli
                     self's   friend   elephant   pinched

    e*nn* e]s amma acchanoote   parunnu e*nn*]s raajaavine
    that   mother father   said   that   king

    *toonn*i *enne*]s ma*n*triye raani   wiswasippicu
    felt   that   minister queen believe-caused
(the queen convinced the minister that the king felt that mother told the father that self's (queen's/*minister's/king's/mother's/ *father's) friend pinched the elephant)

ii. s[s[s[aana *tante* suhr *tt*ine   *n*ulli   *enne*]s
            elephant self's friend   pinched   that

    amma acchanoote   parunnu *enne*]s raajaavine *t oonn*i
    mother father   said   that   king   felt

    e*nn*e]s ma*n*triye raani   wiswasippicu
    that   minister queen believe-caused
(The queen convinced the mnister that the king felt that the mother told the father that the elephant pinched self's (queen's/*minister's/king's/mother's/ *father's/ elephant's) friend

iii. s[s[s[aana swa*n*tam suhr *tt*ine   *n*ulli   *enne*]s
             elephant self's   friend   pinched   that

    amma acchanoot parunnu *enne*]s raajaavine *toonn*i
    mother father   said   that   king   felt

    e*nn*e]s ma*n*triye raani wiswasippicu
    that   minister queen believe-caused

Going back to *each other*, if in such a structural position it behaves as a long distance anaphor, it will follow that only the superordinate subject and not the (direct or indirect) object can be a possible antecedent; moreover, for *each other* embedded within (the subject NP of) an adverbial clause, the subject of the sentence most immediately dominating the adverbial should not be a possible antecedent. Sentence (52) hence is predicted to be worse than (51)a., as seems to be the case:

(52)   * [S [S John and Mary$_i$ will be here before [NP each other's$_i$ pictures] are on sale]]

Furthermore, as Manzini has already pointed out, the object of an experiencing verb can be the antecedent for *each other* embedded in the subject NP (even if the antecedent does not c-command the anaphor). Consider the following contrast:

(53)a. Each other's$_i$ pictures pleased the boys$_i$
     b. *Each other's$_i$ wives murdered the men$_i$

even if for some speakers (53)a. could be a non perfectly grammatical sentence, it can be said to be better than (53)b.

So far *each other* seems to behave exactly as a long distance anaphor, however it is important to notice that not all the properties exhibited by *proprio* are shared by *each other*; for instance, even if in the subject position of a subject NP it escapes the BT, it cannot "skip" an intervening subject:

(54)a. * [S0 John and Mary$_i$ thought that [S1 Bill announced that [S2 [NP each other's$_i$ pictures] were on sale]]]

(The queen convinced the minister that the king felt that the mother told the father that the elephant pinched self's (*queen's/minister's/*king's/mother's/ *father's/ elepahnt's) friend's

In i. *swa-* is embedded in the subject and behaves as a long distance anaphor, in fact there is no difference in this sentence between *swa-* and *taan*; in iii. *swa-* is embedded within an object and behaves as a "strict" anaphor, referring to the subject of its own clause. Sentence ii. shows that there is no restriction with respect to *taan*, that behaves in the same way both when embedded in an object and when embedded in a subject.

b. * [$_{S0}$ John and Mary$_i$ thought that [$_{S1}$ Bill would be here [$_{S2}$ before [$_{NP}$ each other's$_i$ pictures] were on sale]]]

these sentences are judged ungrammatical. It seems therefore that even when behaving as a long distance anaphor, *each other* has to find its antecedent in a more limited domain than Italian *proprio*. However, we will still maintain our hypothesis, i.e. that in some structural position the otherwise strict anaphor *each other* behaves as a long one, since we will argue that the corresponding sentences are allowed to be grammatical in Italian for some completely independent conditions which are not met in English (see section 7 below for discussion).

Obviously, *proprio* differs from *each other* also in that it can take the long distance strategy even if embedded in an object NP, where *each other* cannot:

(55)a. *John and Mary think you will sell each other's pictures
b. *The health of those who love each other's$_i$ wives worries John and Bill$_i$

in these cases we could say that the structural position of *each other* is subject to the BT and, therefore, it has to be bound in the S which contains it.

What we would like to emphasize here, anyhow, is that in this framework we can capture the generalization, first pointed out by Manzini (1983b), that the two possibilities of coreferring with an element outside its clause and with a non c-commanding element both hold when *each other* is embedded within a subject, because in such a position the BT does not apply. Notice instead, that in our hypothesis the fact that *each other* cannot "skip" an accessible subject (even if embedded within a subject) and the fact that it does not behave as a long distance anaphor when embedded in an object NP, are two different phenomena: later on we will present some data which fit with this assumption (cf. section 7 below).

Consider at this point the latter problem: why can *proprio* obey the long distance strategy also when embedded in an object, i.e. in a domain normally opacized by the BT and, conversely, *each other* cannot?

In order to explain this fact, it seems to be necessary to postulate both a universal structural principle and a parametrized lexical specification; i.e. every anaphor, when it escapes the BT, lacking both a Governing Category and a Domain Governing Category, will take the long distance strategy; this happens in the subject position of the subject

NP. Moreover, an anaphor can be specified in the lexicon as a long distance one and in such a case it can take the long distance strategy even when embedded in an object. Let us say that anaphors of the first type are marked in the lexicon as [+BT], that is: in the relevant structural positions they must behave according to principle A of the BT; and that anaphors of the second type are marked [-BT], i.e. they have to behave according only to principle (29). *Each other* is marked [+BT] and behaves as a long distance anaphor only when the BT becomes irrelevant. On the other hand, if we claim that *proprio* is marked both [+BT] and [-BT], its behavior immediately follows. It is worth noting, however, that this double specification of *proprio* has not to be interpreted as a conjunction of features (as, for instance, in the case of the PRO theorem), but as an exclusive disjunction, i.e. a real lexical ambiguity. These strategies are both available to *proprio* to the effect of increasing the number of acceptable sentences: if one of them can be used to make a sentence grammatical, it is used. For instance, a strict anaphor should be unacceptable if coreferential with an element outside the specified domain but if *proprio* is in the P-domain of this element, the sentence will be grammatical, since the long distance strategy will apply and the other one will not. Any how there is also a certain degree of redundancy because there exist cases in which it is impossible to attribute the responsibility for the grammatical *status* of the sentence to one strategy or to the other: for instance when *proprio* is coreferential with the subject of its own clause, it is impossible to distinguish between the two.

It is worth noting finally, that Chomsky's theory correctly predicts the grammaticality of sentence (56), as opposed to sentences (54); whereas Manzini's theory fails to draw the distinction, since in her theory all sentences are predicted to be grammatical:

(56)   [$_{S0}$ John and Mary$_j$ think   [$_{S1}$ it$_i$ is a pity that [$_{S2}$ each other's$_j$ pictures are on sale]$_i$

While essentially adopting most insights of Manzini's theory, we will be able below to give an explanation for this contrast too by independently rescuing the advantages of Chomsky's formulation.

6.

We argued in the previous section that *proprio* is lexically specified as [+BT] and [-BT]; now we have to explain why *proprio* has the

described feature specification. We will argue here that a closer analysis of the Italian anaphor system can give an account of this fact. In Italian there exist two different anaphors for the third person: *sé* and *se stesso*.[26] *Sé* always has the same form for both genders and numbers; *se stesso* is constituted by the invariant element *se* and a part, *stesso*, that can have different inflections, according to the number and gender of the antecedent. We will argue here that *se stesso* is only [+BT] and that *sé* is only a [-BT] anaphor.[27] Our hypothesis is that *proprio*, being the possessive anaphor for both *sé* and *se stesso*, inherits both features, being hence [+BT] and [-BT].[28]

We will not discuss here what determines the peculiar distribution of *sé* and *se stesso* with respect to *each other*, since it seems not to be relevant to the aim of this discussion. The only important fact to note is that *sé* cannot be governed by a verb but it always has to be governed by a preposition, hence it always has to be embedded within a PP, whereas *se stesso*, at least apparently, can appear as governed by a verb or by a preposition, even if the latter option is very restricted; we will not pursue this matter here. For this discussion it will be sufficient to assume that if the governor is a verb, the anaphor has to be *se stesso* and that if the

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[26]An analysis of *sé* has been proposed by Napoli (1979). We have to point out, however, that we disagree with some judgments she gives on Italian sentences. For different judgements on the anaphoric system see also Manzini and Wexler (1987).

[27]*Stesso* can be also used along with pronouns as an intensifier. However, the phrase *pronoun-stesso* behaves as a pronoun and not as an anaphor, analogously to the sequence *possessive pronoun- proprio:*.

i. a. Il re$_j$ comunicò al primo ministro$_i$ che loro$_{i+j}$ stessi avrebbero sedato la rivolta
    The king told the prime minister that they in person would put down the riot
  b. Lui stesso mi ha salutato alla stazione
    He himself greeted me at the station

Sentence i.a. shows that *loro stessi* can take split antecedents and sentence i.b. shows that *lui stesso* can have a specific referent in the world. Therefore we will not analyze these sentences further.

[28]Notice, for instance, that in Latin there is only one third person (singular and plural) anaphor, i.e. *se (sui, sibi)*, which behaves according to the long distance strategy, and that the corresponding possessive *suus, -a, -um*, has essentially the corresponding strategy.

governor is a preposition, the anaphor, in most cases, will be *sé*.[29] Consider the following examples:

(57) a.(=3b.) Gianni ha ricondotto Maria$_i$ a se stessa$_i$ con una lunga
 terapia psicoanalitica
 Gianni restored Maria to herself with a long psychoanalytic
 therapy
 b. Gianni$_i$ ama solo se stesso$_i$
 Gianni loves only himself
 c. *Gianni$_i$ pensa che tu ami se stesso$_i$
 Gianni thinks that you love himself

se stesso behaves as predicted by the BT: it can corefer with anything inside its Governing Category (and Domain Governing Category), i.e. both subjects and objects are possible antecedents, and actually it must be bound by something inside such a specified domain (cf. sentence (57)c.). But consider now the following examples:

(58) Gianni$_j$ ha intrattenuto Maria$_i$ su di sé$_{*i/j}$
 Gianni entertained Maria about self
(59) a. Quel dittatore$_i$ pensava che i libri di storia avrebbero parlato a
 lungo di sé$_i$ e delle sue gesta[30]
 That dictator thought that the books of history would talk for a long
 time about self and his deeds
 b. * Quel dittatore$_i$ pensava che i governi di tutto il mondo stimassero
 di più se stesso$_i$
 That dictator thought that the governments all over the world would
 appreciate himself more

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[29] On the distribution of 3rd person anaphors in Dutch (*zich* and *zichzelf*) see Koster (1986) and Everaert (1986). At first sight, the distribution of these elements seems to be very similar to the distribution of the corresponding Italian anaphors, *sé* and *se stesso* respectively.

[30] Coordinate structures like *parlare di sé e delle sue gesta* (speak about self and his deeds) seem to be more acceptable than the simple ones, for reasons which are not clear and which we do not want to discuss here.

these sentences show that *sé* cannot refer to an object and that, as opposing to *se stesso*, it can corefer with a more superordinate subject.[31]

(60)a. Quel dittatore$_j$ pensava che il popolo$_i$ sarebbe stato molto più felice
se i libri di storia avessero parlato di più di sé$_{*i/j}$ e delle sue gesta
That dictator thought that people would be much happier if the books
of history talked more about self and his deeds

   b. * Quel dittatore$_i$ pensava che il popolo sarebbe stato molto più felice
se i governi di tutto il mondo stimassero di più se stesso$_i$
That dictator thought that people would be much happier if the
governments all over the world appreciated himself more

These examples show in turn that *sé*, exactly as *proprio*, if embedded in an adverbial cannot refer to the subject of the sentence immediately dominating the adverbial, but has to refer to a more superordinate subject. Sentence (60)b. is obviously ungrammatical since *se stesso* is not locally bound whatever antecedent could be considered.

(61)a. La fedeltà dei ministri a sé$_i$ ed alla sua famiglia sorprese molto il
re$_i$
The loyalty of the ministers to self and his family surprised the
king a lot

   b. *La fedeltà dei ministri a se stesso$_i$ sorprese molto il re$_i$
The loyalty of the ministers to himself surprised the king a lot[32]

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[31]Notice also this minimal contrast, allowed by this case of identity of distribution between *sé* and *se stesso*:

i   Gianni$_i$ mi ha udito parlare contro di sé$_i$/*contro se stesso$_i$
        Gianni heard me talking often against self/*himself

[32]*I ministri* (the ministers) is a subject accessible to *se stessi*, therefore it defines the domain in which the anaphor has to be bound. Furthermore, if no overt subject appears in such constructions, we can and, according to Chomsky's (1981) Projection Principle we actually must, hypothesize a pronominal empty category, *e*, analogously to infinitival structures such *essere fedeli* (be loyal); this subject can be a good binder for the anaphor:

i   La loro$_i$ fedeltà verso se stessi$_i$ fu encomiabile
        Their loyalty to themselves was praisworthy

ii.   I ministri$_i$ promisero e$_i$ fedeltà a se stessi$_i$ e al proprio$_i$ programma di
        governo
        The ministers promised loyalty to themselves and self's political program

here it is possible to see that, if embedded in the subject of an experiencing verb, *sé* can corefer with the experiencer, whereas *se stesso* cannot, since the subject *i ministri* (the ministers) induces opacity to the NP in a *a* phrase.

These examples seem to show that *sé* is a long distance anaphor and *only* a long distance anaphor. In fact, as opposed to *proprio*, it can never be bound by an object, even if the latter is contained in the same clause, as (58) clearly illustrates; this means that *sé* is always subject to principle (29). Furthermore, to sharpen the argument, we can show that *sé* cannot be considered a pronominal element, since it cannot take split antecedents:

(62)   Gianni$_j$ vorrebbe che Mario$_j$ parlasse di sé$_{*i+j}$ e della loro famiglia in TV
        Gianni would like Mario to speak about selves and their family on TV

here *Gianni* and *Mario*, if taken separately are both possible antecedents, but not if taken together as a set. Correspondingly, *sé* lacks intrinsic reference and can be bound by arbitrary PRO.

(63)a. *Tu parli troppo di sé
       You talk too much about self
    b. Tu parli troppo di lui
       You talk too much about him
    c. PRO$_{arb}$ parlare sempre di sé$_{arb}$ é scortese
       To speak always about self is unpolite

Our conclusion therefore is that *sé* is an anaphor marked only [-BT]. Let us further analyze if this hypothesis is correct. We would expect that in structures analogous to the ones in sentences (45) above, the subject of the small clause with an adjective as its head should be a possible antecedent, but the subject of a small clause with a preposition should not. Notice that in this case, there is no need to embed the anaphor within a

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iii.   I ministri$_j$ promisero di PRO$_j$ essere fedeli a se stessi$_j$ e al proprio$_j$
          programma di governo
          The ministers promised to be loyal to themselves and self's political program

sentence, because *sé* can never have the [+BT] strategy (whereas *proprio* could).

(64)a. Osvaldo_j ha visto un serpente_i vicino a sé∗_{i/j}
Osvaldo saw a snake near self

  b. Osvaldo_j ha visto un serpente_i vicino a se stesso_{i/∗j}
Osvaldo saw a snake near himself ·

  c. Osvaldo_j ha visto il professore_i contento di sé_{i/j}
Osvaldo saw the professor pleased with self

in sentence (64)a. *sé* corefers with *Osvaldo* and cannot corefer with *un serpente* (a snake). One could say that it is obvious, since otherwise the sentence should be pragmatically absurd. But nevertheless, it is worth noting that the grammatical intuitions are stll clear, as sentence (64)b. shows. Here *se stesso* corefers with *a snake* and, even if absurd, this one is the only available interpretation, since the local domain in which *se stesso* has to be bound is the small clause which has *un serpente* (a snake) as subject. On the other hand, sentence (64)c. is perfectly acceptable with either subject as antecedent. We can conclude that our predictions are fulfilled and that *sé* is an only [-BT] anaphor. As we have already pointed out, in sentences (46)a. and b., which are the ones structurally corresponding to our examples in this section, there is no difference in grammaticality, because is also marked [+BT]; the contrast shows up only in sentences (45)a. and b., where the only strategy available to *proprio* is the long distance one.

7.
        Now we have to try to solve the remaining problem: what permits *proprio* and *sé* to skip an accessible subject, i.e. to corefer with a subject even if it is a more superordinate one? As we have already noticed, this is not possible for *each other*, even in those cases where it escapes the BT. Therefore a correct theory should account for the following difference as well:

(65)a. Gianni_j suppone che Mario_i sia convinto che la propria_{i/j} casa sia andata in fiamme
Gianni supposes that Mario is convinced/SUBJ that self's house went up in flames

  b. Il re_i suppone che il primo ministro_j sia convinto che la fedeltà del popolo verso di sé_{i/j} e la sua famiglia sia assoluta

> The king supposes that the prime minister is convinced/SUBJ that
> the loyalty of the people to self and his family is absolute
>
> c. John and Mary$_j$ thought that the boys$_i$ announced that each
> other's$_{i/*j}$ pictures would be on sale

We will argue here that the condition which allows *proprio* to take *Gianni*
as antecedent is not met in English. The condition in question is the one
that permits in Italian to define a domain, in which the long distance
anaphor has to be bound, larger than in English. In order to better
illustrate this condition, consider the contrast between sentences (65)a.
and b. and (66):

(66)a. Gianni$_j$ mi ha detto che Mario$_i$ é convinto che la propria$_{i/?*j}$ casa
sia andata in fiamme
Gianni told me that Mario was/IND convinced that self's house
went/SUBJ up in flames

    b. Il re$_j$ mi ha detto che il primo ministro$_i$ é convinto che la fedeltà del
popolo verso di sé$_{i/*j}$ e la sua famiglia sia assoluta
The king told me that the prime minister was/IND convinced that
the loyalty of the people to self and his family was/SUBJ absolute

This contrast show that *proprio* and *sé* can skip an accessible subject and
refer to a more superordinate one, but also that there exist in Italian some
conditions under which the long distance anaphors cannot take the subject
of a more superordinate sentence, exactly like *each other*. In Italian these
facts seem to be related to the kind of mood (Indicative vs.Subjunctive) that
appears in the subordinate clauses of these sentences: Indicative seems to
"block" long distance binding. That the choice of the mood can be relevant
for the coreference possibilities of a long distance anaphor seems to be
confirmed also by data from other languages, for instance Icelandic (cf.
Maling, 1984; Anderson, 1986).[33]

    Now we will try to analyze in detail such data: in Italian it is
possible to distinguish between two classes of verbs, among those taking

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[33]Anderson (1986) does not correlates the binding possibilities of a long distance
anaphor in Icelandic with the presence of Subjunctive *per se*, but rather with the lack
of autonomuos tense specification in a subordinate sentence with Subjunctive. We are
arguing here, however that the condition of P-binding does not change from
language to language, but that the way in which an underlying [+dep] INFL
manifests overtly can vary .

sentential complements: non-epistemic verbs (e.g. *volere* (want), *sperare* (hope), *desiderare* (whish)) and epistemic verbs, which can be roughly distinguished into verbs of thinking (e.g. *pensare* (think), *credere* (believe), *sospettare* (suspect), *supporre* (suppose)) and verbs of knowing/saying (e.g. *dire*(say; tell), *affermare* (affirm), *sostenere* (claim), *sapere* (know)).

Let us restrict to the cases in wich the verb of the matrix clause appears in the Indicative mood.[34]

As a first approximation wa can say that epistemic verbs of thinking take the Subjunctive in the subordinate clause; epistemic verbs of saying/knowing take the Indicative and non-epistemic verbs take the Subjunctive.[35] If a long distance anaphor, like *sé* and *proprio*, is

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[34]There are however in Italian matrix sentences with Subjunctive, the so-called independent Subjunctive, which are, for instance, concessive, exhortative, dubitative.

[35]Notice that it is difficult to clearly differentiate the two subclasses of epistemic verbs from the semantic point of view; in fact some verbs of thinking like *pensare* (think) and *credere* (believe) can behave as verbs of saying, taking the Indicative in the subordinate clauses instead of the Subjunctive, and meaning something closer to "I am claiming..." than to "I am thinking...", shifting therefore from a subjective meaning to a more objective one, whereas non epistemic verbs can never shift from Subjunctive to Indicative. Consider for instance the following sentences:

i. a. Penso che Mario sia intelligente
      I think that Mario is/SUBJ intelligent
   b. Penso che Mario è intelligente
      I think (and I am saying it) that Mario is/IND intelligent
   c. Sospetto che Mario sia/*è intelligente
      I suspect that Mario is/SUBJ, *IND intelligent
ii. a. Ho detto che Mario è/*sia intelligente
       I said that Mario was/IND, *SUBJ intelligent
    b. Ho affermato che Mario è/*sia intelligente
       I affirmed that Mario was/IND,*SUBJ intelligent
iii. a. Spero che Mario sia/*è uscito
        I hope that Mario is/SUBJ,*IND gone
        (I hope that Mario went out)
     b. Voglio che Mario esca/*esce
        I want that Mario goes/SUBJ, *IND out
        (I want Mario to go out)
Notice also that in some cases an epistemic verb of saying or knowing can take the Subjunctive in its sentential complement; for instance under negation:
iv. Non ho mai detto che Gianni sia uno stupido
    I never said that Gianni was/SUBJ a fool

embedded in a non subject NP, the presence of the Subjunctive generally improves the possibility of long distance binding. Consider the following examples:

(67)a. Gianni$_i$ suppone che tu sia innamorato della propria$_i$ moglie
         Gianni supposes that you are/SUBJ in love with self's wife
   b.   ?*Gianni mi ha detto che tu sei innamorato della propria$_i$ moglie
         Gianni told me that you were/IND in love with self's wife
(68)a. Gianni$_i$ suppone che tu creda che io sia innamorato della propria$_i$ moglie
         Gianni supposes that you believe/SUBJ that I am/SUBJ in love with self's wife
   b.   ?*Gianni$_i$ suppone che tu abbia detto in giro che io sono innamorato della propria$_i$ moglie
         Gianni supposes that you started/SUBJ the rumour that I am/IND in love with self's wife

The same constrasts hold with sé

(69)a. Quel dittatore$_i$pensava che i governi europei avessero parlato a lungo di sé$_i$ e delle sue gesta
         That dictator thought that european governments talked/SUBJ for a long time about self and his deeds
   b.   ?*Quel dittatore$_i$ ha detto a Reagan che i governi europei hanno parlato a lungo di sé$_i$ e delle sue gesta
         That dictator told Reagan that european governments talked/IND for a long time about self and his deeds

There is a systematic contrast between sentences a. and b. of these pairs. In the most embedded clause in a. we find a Subjunctive, in b. an Indicative. The presence of the Indicative, in the most embedded clause, the one immediately containing the long distance anaphor, makes it harder for the anaphor to take an antecedent outside.
    Consider now the following sentences:

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v.   Non ho mai sostenuto che Gianni fosse intelligente
        I never claimed that Gianni was/SUBJ intelligent

(70)a. [S0 Gianni_i sospetta che [S1 tu abbia affermato che [S2 la propria_i
moglie é innamorata di un altro]]]
Gianni suspects that you affirmed/SUBJ that self's wife is/IND in
love with an other man

b. ?* [S0 Gianni_i mi ha detto che [S1 tu hai affermato che [S2 la
propria_i moglie é innamorata di un altro]]]
Gianni told me that you had affirmed/IND that self's wife
was/IND in love with an other man

(71)a. [S0 il re_i sospetta che [S1 tu sia convinto che [S2 la fedeltà dei
ministri verso di sé_i sia solo fittizia]]]
The king suspects that you are/SUBJ convinced that the loyalty of
the ministers to self is/SUBJ only apparent

b. ?* [S0 Il re_i mi ha detto che [S1 tu sei convinto che [S2 la fedeltà dei
ministri verso di sé_i sia solo fittizia]]]
The king told me that you are/IND convinced that the loyalty of the
ministers to self was/SUBJ only apparent

In these cases too the presence of an Indicative in S1 makes the sentence
worse. Notice however that in (70) and (71) the relevant mood is the one of
S1 since nothing else distinguishes the two sentences of each pair. We
could draw a first generalization by saying that an Indicative mood
intervening "between" the anaphor and the clause that contains the
antecedent (S0) blocks the anaphor from being coreferent with the
antecedent.

Notice that in Italian, as well as in Icelandic (Maling, 1986), there
exists also a phenomenon that we can call "mood attraction": it is possible
to find a Subjunctive in dependence upon a verb that usually takes the
Indicative if the still more superordinate verb is one of those epistemic
verbs that select Subjunctive in the subordinate clause.[36] Consider in fact
the following sentences:

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[36]Notice that it is impossible to have mood attraction if the matrix verb is a non-
epistemic one, although this kind of verbs selects Subjunctive:
i Voglio che Mario affermi che Gianni è/*sia intelligente
I want that Mario affirms/SUBJ that Gianni is/IND,*SUBJ intelligent
This difference between this class of verbs and the epistemic verbs of thinking
suggests that these two sets cannot be unified, although they both select Subjunctive.
Notice that we can find the phenomenon of "mood attraction" also in those cases
where the Subjunctive mood is not selected by a more superordinate verb, but by the
context:

(72)a. Mario afferma che Gianni è/*sia intelligente
   Mario affirms that Gianni is/IND,*SUBJ intelligent
   b. Credo che Mario affermi che Gianni è/sia intelligente
   I believe that Mario affirms/SUBJ that Gianni is/IND,SUBJ
   intelligent

Even in the cases of mood attraction it seems that there is an effect of Subjunctive on the binding possibilities of the anaphor:

(73)a. ?* [$_{S0}$ Credo che [$_{S1}$ Mario$_i$ sostenga che [$_{S2}$ tu sei innamorato
   della propria$_i$ moglie]]]
   I believe that Mario claims/SUBJ that you are/IND in love with
   self's wife
   b. [$_{S0}$ Credo che [$_{S1}$ Mario$_i$ sostenga che [$_{S2}$ tu sia innamorato della
   propria$_i$ moglie]]]
   I believe that Mario claims/SUBJ that you are/SUBJ in love with
   self's wife
(74)a. * [$_{S0}$ Credo che [$_{S1}$ Mario$_i$ sostenga che [$_{S2}$ tu hai parlato di sé$_i$
   della sua famiglia in TV]]]
   I believe that Mario claims/SUBJ that you spoke/IND about self
   and his family on TV
   b. [$_{S0}$ Credo che [$_{S1}$ Mario$_i$ sostenga che [$_{S2}$ tu abbia parlato di sé$_i$ e
   della sua famiglia in TV]]]
    believe that Mario claims/SUBJ that you spoke/SUBJ about self
   and his family on TV

Let us try to offer a first theoretical account for these data. What seem to be clear is that Indicative does not need to be dependent on something else, as shown by the fact that in the unmarked case it is the mood of the matrix sentence. Therefore we can define Indicative as an independent mood and Subjunctive as a dependent one. We can represent this idea by using a binary notation under the node INFL of each clause, [-dep], [+dep]; the first is generally realized as an Indicative and the second, selected by the matrix head (N, V, A) of the complement, as a Subjunctive.[37] It is now possible to specify our previous suggestion, i.e. that an Indicative mood

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ii.   Che Mario affermi che Gianni sia intelligente è assurdo!
        That Mario claims/SUBJ that Gianni is/SUBJ intelligent is/IND absurd!

[37]We assume that the mood specification is a feature on the INFL node.

intervening "between" the anaphor and the clause that contains the antecedent blocks the anaphor from being coreferent with the antecedent: we can say, more generally, that an INFL node marked [-dep] defines the maximal domain in which a long distance anaphor is P-bound.

As also the following examples demonstrate, when the long distance anaphor is embedded inside the subject, it seems that the mood of its own clause is irrelevant for defining the domain of P-binding:

(75)a. [$_{S0}$ Gianni$_i$ suppone che [$_{S1}$ la propria$_i$ casa sia la più bella del paese]]
        Gianni supposes that self's house is/SUBJ the nicest in the village

   b.   [$_{S0}$ Gianni$_i$ dice che [$_{S1}$ la propria$_i$ casa é la più bella del paese]]
        Gianni says that self's house is/IND the nicest in the village

(76)a. [$_{S0}$ Quel dittatore$_i$ suppone che [$_{S1}$ un'improvvisa cattura di sé$_i$ e della sua famiglia da parte dei ribelli sia altamente improbabile]]
        That dictator supposes that a sudden capture of self and his family by the rebels is/SUBJ highly improbable

   b.   [$_{S0}$ Quel dittatore$_i$ dice sempre che [$_{S1}$ un'improvvisa cattura di sé$_i$ e della sua famiglia da parte dei ribelli é altamente improbabile]]
        That dictator always says that a sudden capture of self and his family by the rebels is/IND highly improbable

(77)a. [$_{S0}$ Gianni$_i$ suppone che [$_{S1}$ tu creda che [$_{S2}$ la propria$_i$ casa sia la più bella del paese]]]
        Gianni supposes that you believe/SUBJ that self's house is/SUBJ the nicest in the village

   b.   [$_{S0}$ Gianni$_i$ suppone che [$_{S1}$ tu abbia detto in giro che [$_{S2}$ la propria$_i$ casa é la più bella del paese]]]
        Gianni supposes that you started the rumour that self's house is/IND the nicest in the village

(78)a. [$_{S0}$ Quel dittatore$_i$ suppone che [$_{S1}$ tu creda che [$_{S2}$ un'improvvisa cattura di sé$_i$ e della sua famiglia da parte dei ribelli sia altamente improbabile]]]
        That dictator supposes that you believe/SUBJ that a sudden capture of self and his family by the rebels is/SUBJ highly improbable

   b.   [$_{S0}$ Quel dittatore$_i$ suppone che[$_{S1}$ tu abbia detto che [$_{S2}$ una improvvisa cattura di sé$_i$ e della sua famiglia da parte dei ribelli é altamente improbabile]]]
        That dictator supposes that you said/SUBJ that a sudden capture of self and his family by the rebels is/IND highly improbable

These facts can be accounted for by reitroducing the notion of accessible subject: the relevant domain should be identified both by an INFL marked [-dep] and by an accessible subject. In fact, in the examples we just gave, the long distance anaphor itself is embedded inside the subject of its clause. Therefore the latter is no longer accessible to the anaphor, since coindexing of the anaphor and the subject NP would violate the i-within-i condition. This condition also seems to be very natural and not surprising.

Let us restate principle (29) as follows:

(79)   A long distance anaphor α is P-bound in its modal domain

(80) γ is the modal domain of α iff

γ is the minimal thematic argument containing α and a subject accessible to α and

γ's INFL is marked [-dep]

We will explain in the next section the reasons why we introduce a notion of "thematic argument" and which are the predictions following by such an assumption.[38] At this point we will only say that "thematic argument" means an argument θ-marked by any lexical head (cf. the definition of θ-domain above). What we want to emphasize here is the role of the notion of accessible subject, that has always been excluded from any theoretical account of the behavior of the long distance anaphors.

As we have already informally pointed out, principle (79) and definition (80) can account for the data we have just presented in (75)b., (76)b., (77)b. and (78)b., since the most embedded sentence contains the anaphor and its INFL is marked [-dep], but it does not contain an accessible subject, for the NP containing the anaphor is not accessible to the anaphor itself. Therefore S0 is the minimal thematic argument containing and a subject accessible to it (the personal pronoun *tu* or *Gianni*) whose INFL is marked [-dep]. The crucial relevance of the notion accessible subject for defining the binding domain of *proprio* can be shown by the following contrast which exploits the well known optionality of subjects within NPs:

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[38]By convention, a matrix sentence though not θ–marked by any head, always functions as if it were a thematic argument, i.e. a relevant modal domain, for the sake of applying (80).

(81)a. ?* [S0 Gianni_i ha detto che [S1 [NP la mia opinione che la propria_i moglie sia una terrorista] é infondata]]
    Gianni said that my opinion that self's wife was/SUBJ a terrorist is/IND baseless

   b. [S0 Gianni_i ha detto che [S1 [NP il fatto che la propria_i moglie sia una terrorista] é ormai di pubblico dominio]]
    Gianni said that the fact that self's wife was/SUBJ a terrorist was/IND by now public

in sentence a. S1 is the thematic argument containing the anaphor, a subject accessible to it, *mia* (my), whose INFL is marked [-dep], therefore *Gianni* is not a possible antecedent; on the contrary, in example b., since *fatto* (fact) does not have any subject, S0 is the thematic argument whose INFL is marked [-dep], containing the anaphor and a subject accessible to it, i.e. *Gianni*.

Obviously if we substitute *ritenere* (believe) for *dire* (say) in (81)a., S1 will be in the Subjunctive mood, therefore the sentence will be more acceptable:

(82)   [S0 Gianni_i ritiene che [S1 [NP la mia opinione che la propria_i moglie sia una terrorista] sia infondata]]
    Gianni believes that my opinion that self's wife is/SUBJ a terrorist is/SUBJ baseless

A parallel contrast, subtle but systematic, can be found between (83)a. and b:

(83)a. [S0 Gianni_i pensa che [S1 [NP l'opinione di Clara che [S2 tu sia innamorato della propria_i moglie]] sia un'idozia]]
    Gianni thinks that the opinion of Clara that you are/SUBJ in love with self's wife is/SUBJ a nonsense

   b. * [S0 Gianni_i mi ha detto che [S1 [NP l'opinione di Clara che [S2 tu sia innamorato della propria_i moglie]] é un'idiozia]]
    Gianni told me that the opinion of Clara that you were/SUBJ in love with self's wife was/IND a nonsense

in sentence (84)a. the modal domain is S0, since there are no other INFL node marked [-dep], therefore *Gianni* is a possible antecedent. In sentence

(84)b. the modal domain in S1, since this INFL is marked [-dep], hence *Gianni*, lying outside this domain, is no more a possible antecedent for *proprio*.

In these cases we could see that even a nominal head can select Indicative or Subjunctive in its sentential complement; consider also the following examples:

(84) (=39b.)a. [$_{S0}$ [$_{NP}$ L'opinione di Gianni$_i$ che [$_{S1}$ Osvaldo$_j$ sia innamorato della propria$_{i/j}$ mogliè]] é sbagliata]
Gianni's opinion that Osvaldo is/SUBJ in love with self's wife is/IND wrong

    b. [$_{S0}$ [$_{NP}$ L'affermazione di Gianni$_i$ che [$_{S1}$ Osvaldo$_j$ é innamorato della propria$_{*i/j}$ moglie é sbagliata
Gianni's claim that Osvaldo is/IND in love with self's wife is/IND wrong

(85)a. [$_{S0}$ [$_{NP}$ L'opinione di Gianni$_i$ che [$_{S1}$ Osvaldo$_j$ voglia parlare di sé$_{?i/j}$ e della sua famiglia in TV]] é sbagliata]
Gianni's opinion that Osvaldo wants/SUBJ to speak about self and his family on TV is/IND wrong

    b. [$_{S0}$ [$_{NP}$ L'affermazione di Gianni$_i$ che [$_{S1}$ Osvaldo$_j$ vuole parlare di sé$_{*i/j}$ e della sua famiglia in TV]] é sbagliata]
Gianni's claim that Osvaldo want/IND to speak about self and his family on TV is/IND wrong

in examples a. of the given pairs the modal domain is S0, for S0 is the minimal thematic argument containing α, a subject accessible to α and whose INFL is marked [-dep]. Therefore both *Osvaldo* and *Gianni* can P-bind the long distance anaphor. Viceversa in examples b. the modal domain is S1, since this one is the minimal thematic argument containing α, a subject accessible to α and whose INFL is [-dep]; consequently only *Osvaldo* is a possible antecedent. This kind of examples provide us also with the oppurtunity of explaining why in definition (80) we used the formula "γ's INFL..."and not "...containing an INFL...". In fact there are cases of NPs containing a long distance anaphor, a subject accessible to it a [-dep] INFL and yet such NPs do not qualify as the relevant domain for P-binding:

(86)a. [$_{S0}$ Gianni$_i$ ritiene che [$_{S1}$ [$_{NP}$ l'affermazione di Clara che la propria$_i$ moglie é una terrorista] sia sbagliata]]

Gianni believes that Clara's claim that self's wife is/IND a terrorist is/SUBJ wrong

b. [$_{S0}$ Gianni$_i$ ritiene che [$_{NP}$ la dichiarazione di Clara che la propria$_i$ moglie ha appena smentito] sia sbagliata]
Gianni believes that Clara's claim that self's wife has just belied/IND is/IND wrong

the fact that proprio can corefer with Gianni led us to conclude that NPs, lacking an INFL of their onw, never qualify as a modal domain. What we said above about Subjunctive also holds for Infinitive. The INFL of an infinitival clause seems to be marked [+dep], since Infinitive normally does not occur in root sentences and gives the effects we just described for Subjunctive:

(87)a. [$_{S0}$ Gianni$_j$ costrinse Osvaldo$_i$ ad [$_{S1}$ PRO$_i$ ammettere di [$_{S2}$ PRO$_i$ essere entrato nottetempo nella propria$_{i/j}$ casa
Gianni forced Osvaldo to admit to have gone during the night into self's house

b. [$_{S0}$ Gianni$_j$ mi ha detto che [$_{S1}$ Osvaldo$_i$ ti$_k$ costrinse ad [$_{S2}$ PRO$_k$ entrare nottetempo nella propria$_{i/?*j}$ casa]]]
Gianni told me that Osvaldo forced/IND you to enter in self's house during the night

(88)a. [$_{S0}$ Il re$_j$ costrinse il primo ministro$_i$ a [$_{S1}$ PRO$_i$ dichiarare di [$_{S2}$ PRO$_i$ essere sempre rimasto fedele a sé$_{i/?j}$ ed alla propria famiglia]]]
The king forced the prime minister to declare to have always been loyal to himself and self's family

b. [$_{S0}$ il primo ministro$_j$ ha dichiarato che [$_{S1}$ il re$_i$ ti$_k$ costrinse a [$_{S2}$ PRO$_k$ rimanere fedele a sé$_{i/*j}$ ed alla sua famiglia]]]
The prime minister declared that the king forced/IND you to remain loyal to himself and his family

in sentences a. of the given pairs, the domain in which *proprio* and *sé* can be P-bound is S0, since this one is the minimal domain which contains the anaphor, a subject accessible to the anaphor (the two PROs or *Gianni*) and whose INFL is marked [-dep]; therefore *Gianni* is, along with either of the two coindexed PROs, a possible antecedent for *proprio*.

In sentences b. the minimal thematic argument containing the anaphor and a subject accessible to it whose INFL is marked [-dep] is S1,

therefore the subject of S0 is no longer a possible antecedent for the anaphor. We now can give a possible explanation for the fact that *each other* can never skip an accessible subject as we said above. Consider that in English the *consecutio modorum* seems to be less overtly manifested than in Italian: for instance the use of Subjunctive is quite limited and it often has a literary flavor. We will assume that such superficial differences can be traced back to a more abstract parametric contrast between the two languages: in English, differently from Italian, INFL nodes marked [+dep] might not exist at all. In other words, we assume that in English the binary distinction [+dep] [-dep] does not apply, that is: every INFL is [-dep]. Therefore it is not possible to extend the domain in which an anaphor behaving as a long distance one has to be P-bound, beyond the limits identified by the first INFL node.[39]

Therefore, as already noted, sentence (89)(=54a.) is predicted to be ungrammtical:

(89)   *[$_{S0}$ John and Mary thought that [$_{S1}$ Bill announced that [$_{S2}$ each other's pictures were on sale]]]

the minimal thematic argument containing , a subject accessible to   and an independent mood is S1, where there is no possible antecedent such that it can P-bind *each other* and, as a consequence, the sentence is ungrammatical. Notice that this theory incorporating the notion of "accessible subject" finally predicts the difference between (89) and (90), pointed out by Chomsky (1981) and left unexplained by Manzini's theory (1983), as we said above:

(90)   [$_{S0}$ John and Mary think [$_{S1}$ it$_i$ is a pity that [$_{S2}$ each other's pictures are on sale]$_i$]]

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[39]The features [+dep] [-dep] are abstract ones. What we said about English in the text does not mean that in this language there are no subcategorized moods; our suggestion is that there is no effect of such subcategorization on the level of representation where the P-binding applies, but only on a morphological level.

However at least one English speaker still finds a contrast between sentences with an Indicative and sentences with a Subjunctive:

i.   *John and Mary$_i$ think that Bill will announce that each other's$_i$ pictures are on sale

ii.   (??) John and Mary$_i$ insist that Bill announce that each other's$_i$ pictures are on sale

in (90), S2 is coindexed with the dummy pronoun filling the subject position of S1, therefore *it* is no longer a subject accessible to α, since coindexing of α and *it* would violate the i-within-i condition. The minimal thematic argument (or the matrix sentence) containing α, a subject accessible to α whose INFL is specified for an independent mood is S0 and *each other* can be P-bound by *John and Mary*.

Notice that our theory can also account for a similar contrast existing in Italian:

(91)a. [S0 Gianni$_j$ sostiene che [S1 é un vero peccato che [S2 i propri$_j$ figli non abbiano frequentato l'università]]]
Gianni claims that it is/IND truly a pity that self's children did not attend/SUBJ the university
   b. ?*[S0 Gianni$_j$ sostiene che [S1 tu vuoi che [S2 i propri$_j$ figli frequentino l'università]]]
Gianni claims that you want/IND that self's children attend/SUBJ the university
(Gianni claims that you want self's children to attend university)

in sentence (91)b. the modal domain is S1, since S1 is the minimal thematic argument containing a subject accessible to *proprio*, i.e. *tu* (you), whose INFL is marked [-dep]. Therefore *Gianni* cannot be a possible antecedent. In (91)a. the modal domain is S0, since S0 is the minimal thematic argument containing an accessible subject, which in this case is *Gianni*, the subject of S1 not being accessible, and whose INFL is marked [-dep]; consequently, in this case *Gianni* is a possible antecedent for the long distance anaphor.

To sum up, this theory minimally differs from Chomsky's, but it seems to be more powerful in that it can predict, beside these contrasts, the behavior of *each other* when contained in an adverbial clause (cf.52), when contained in an NP in subject position of a VP with an experiencing verb (cf. 53a.), and the ungrammaticality of a sentence like (51)b., where the antecedent is intended to be the object of the superordinate clause.

8.

In this section we will illustrate the predictions following from that part of definition (80) specifying that the modal domain has always to be a

thematic argument. This means that the modal domain has to be an argument receiving a θ-role from a lexical head. Obviously every complement clause receives a θ-role from the lexical head V of the superordinate sentence; a subject clause along with its complements; relative clauses and adverbials are not θ-marked by any head; as a consequence, they can never constitute the domain in which a long distance anaphor has to be P-bound.

Notice that in section 4 above, we have already pointed out the similarity between these two kinds of clauses: a long distance anaphor embedded in either of them cannot take the subject of the relevant category (NP or S) immediately dominating the relative or the adverbial clause as its antecedent (cf. for instance, examples (37) and (41)) since according to our definitions, they are not contained in the predicate of the latter, not being θ-marked by any head. It seems plausible consequently that in a strategy which crucially refers to the notion of θ-marking, such clauses cannot hold as modal domains for exactly the same reason. Consider in fact that these sentences often bear an Indicative i.e. a [-dep] INFL, yet in these cases the Indicative does not prevent the long distance anaphor from being P-bound outside. Consider the following examples:

(92)a. Quel dittatore$_j$ é convinto che il suo popolo$_i$ fosse molto più felice quando quei territori appartenevano ancora alla propria$_{*i/j}$ nazione
That dictator is convinced that his people was much happier when those countries still belonged/IND to self's land

   b. Gianni$_i$ ha finalmente arrestato il bandito che aveva rapito la propria$_i$ moglie
Gianni has finally arrested the gangster who had/IND kidnapped self's wife

these data follow from our theory, since although such clauses contain an independent mood, they are not thematic arguments and cannot constitute a modal domain. Thus according to our formulation of (79) in sentences (92) the modal domain is the matrix sentence and *Gianni* qualifies as a possible antecedent.[40]

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[40]Notice that from this theory it would follow a contrast between the following sentences:

The theory we have discussed in this section and in the previous ones, can account for the data we just described and can explain why *each other*, even when it behaves as a long distance anaphor, cannot take as"far" an antecedent as *proprio* and *sé* can. We suggested that in English every INFL node is independent and therefore *each other*, even if under certain circumstances it can escape the BT and can be bound in the next higher S, has to find a more local antecedent since it is not possible to extend the modal domain to a still more superordinate clause.[41] This difference between English and Italian can therefore be interpreted as due to a parametric choice every language has to make, i.e. languages differ in that in certain cases, as in English, it has been chosen not to distinguish the INFL nodes in [+dep] and [-dep] and, accordingly, every INFL node marks, from this viewpoint, an "island"; whereas in other

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i.   [$_{S0}$ Gianni ritiene che [$_{S1}$ Osvaldo fosse molto più felice [$_{S2}$ quando quella casa apparteneva ancora alla propria famiglia]]]
      Gianni claims that Osvaldo was/SUBJ much happier when that house still belonged/IND to self's family

ii.   [$_{S0}$ Gianni mi ha detto che [$_{S1}$ Osvaldo era molto più felice [$_{S2}$ quando quella casa apparteneva ancora alla propria famiglia]]]
      Gianni told me that Osvaldo was/IND much happier when that house still belonged/IND to self's family

in example i. the matrix sentence is the modal domain, since the adverbial clause is not a thematic argument and S1 is a thematic argument but its INFL node is marked [+dep], therefore *Gianni* is a possible antecedent. In example ii. the modal domain is S1, since it is a thematic argument whose INFL is marked [-dep]; therefore *Gianni* should not be a possible antecedent for the anaphor in S2. However, as we illustrated above in the text, *Osvaldo* cannot P-bind the long distance anaphor in S2, since the anaphor is not contained in the P-domain of *Osvaldo*. Sentence ii. therefore is predicted by our theory to be unacceptable (*quella casa* (that house) not being a possible antecedent for pragmatic reasons). Judgements are not very clear, because for many speakers the presence of an Indicative mood is not a very strong barrier against the interpretation of a long distance anaphor, whereas the requirement of prominency seems to be much stronger. Therefore sentence ii. could still be interpreted with *Gianni* as antecedent, ignoring the presence of Indicative in S1.

[41]As J. Higginbotham pointed out to me, we find in English a sort of dependence of an embedded verb, i.e. in the sentence i.

i   John said that he was sick

the embedded sentence can be accounted true both in the case John said "I was sick" and in the case he said "I am sick", just because it is dependent upon a superordinate verb in the past tense. These facts, however, are not investigated here and need further work

languages, as for instance Italian, this distinction applies and determines the complex surface behavior of *proprio* and *sé*. We would also like to emphasize that while in Italian an INFL marked [+dep] is usually realized as a Subjunctive or an Infinitive, this is not universally necessary; we might very well conceive of languages where such an abstract dependency relationship shows up through quite different syntactic and morphological categories, for instance the use of tenses which seems to be relevant for the long distance anaphors in Icelandic according to Anderson (1986) (cf.fn.33).

Correspondingly we should also expect that languages displaying some (probably much more limited) cases of morphological mood dependency with clear mood distinction actually might not have the full underlying distinction between [+dep] and [-dep] INFL nodes with its syntactic consequences for long distance binding: English, according to our analysis, is likely to be such a language.

Consider further another question: one could claim that the independent parametric variation between English and Italian suffices to explain the differences in the behavior of *each other* and *proprio* and that there is no need to establish any lexical difference between the two. In fact in section 5 we suggested that *proprio* is marked both [+BT] and [-BT] and that *each other* is only marked [+BT] and behaves as a long distance anaphor just in those cases in which the BT does not apply. In our view both parameters cooperate to give the right predictions. However there are cases in which they are redundant as for instance when *each other* is embedded within the object of a subordinate sentence:

(93)   *[S0 John and Mary think that [S1 Bill will sell each other's pictures]]

this sentence is excluded both by the fact that in this position *each other* cannot escape the BT, and by the fact that, even if it were able to assume the long distance strategy, the INFL of S1 could never be marked [+dep]. It is possible, in principle, to eliminate this redundancy by claiming that *each other* is marked in the lexicon exactly as *proprio*, i.e. [+BT] and [-BT], and that all their differences are due to the contrasting values of the parametric choice concerning the features of the INFL node. Assuming this hypothesis only the impossibility of extending the modal domain up to S0 would prevent *each other* from being coreferent with anything outside its clause. However such a theory makes some incorrect crucial predictions, for instance in the case of relatives clauses:

(94) *[$_{S0}$ John and Mary$_i$ met [$_{NP}$ the boy who [$_{S1}$ sold each other's$_i$ pictures]]]

as we pointed out above, a relative clause cannot be a modal domain since it is not a thematic argument, then in this case the modal domain is S0, therefore *John and Mary* should be a possible antecedent for a [-BT] anaphor; however this sentence is ungrammatical, therefore we are led to conclude that *each other* is not ambigously specified in the lexicon as *proprio* is, but that it bears only the feature [+BT]. If it is so, in fact, sentence (94) is correctly predicted to be ungrammatical, since *each other* is inside an object and not a subject, the BT applies and S1 is specified as the relevant domain in which it has to be bound; however there is no antecedent compatible with *each other* and the sentence is ruled out. Notice also that this way we can predict the contrast between (94) and (95):[42]

(95) ?John and Mary$_i$ met the boy whom each other's$_i$ pictures had pleased

in this case *each other* is contained inside a subject, consequently the BT does not apply and the anaphor, behaving as a long distance one, can pick up *John and Mary* as its antecedent more easily.

Another argument for assuming a double parametric specification (the lexical one, i.e. [+BT], on the anaphor, and the structural one, [+dep] on the INFL of certain subordinate clauses) distinguishing *proprio* from

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[42]Notice that it is impossible to check this prediction by using an example with an adverbial clause:

i. *John and Mary$_i$ will be here before the boy sells each other's$_i$ pictures

even if we claimed that *each other* is marked both [+BT] and [-BT], this sentence would be predicted to be ungrammatical. In fact the adverbial clause cannot be the modal domain, since it is not θ–marked by any lexical head; therefore the domain in which the anaphor could be P-bound should be the matrix sentence, but *John and Mary* cannot be a possible antecedent, *each other* not being contained in the P-domain of this subject. Moreover the following sentence too is predicted to be ungrammatical, under both hypotheses, since the INFL of S1 cannot be marked [+dep]:

ii. *[$_{S0}$ John and Mary thought that [$_{S1}$ Bill would be here before the boy sells each other's pictures]]

Again, either theories make the correct prediction and it is impossible to discriminate between the two.

each other and Italian from English comes from the Malayalam data we described above (cf. section 3). Malayalam, as we said, shows an anaphor *taan* which is long distance bound, according to something like our principle (79), in any position where it occurs. This fact suggests that this language is like Italian as far as the [+dependent] character of subordinate clauses is concerned. However recall that beside such long distance anaphor, we find the strict one *swa-*, which is always clause bound, except when embedded within a subject, therefore exactly like English *each other*; but, differently from *each other*, in the latter position *swa-* can skip an accessible subject, precisely what we expect according to our theory in a language allowing [-dep] subordinate clauses. Therefore Malayalam *swa-* represents the intermediate case predicted by our theory between the behavior of English *each other* and Italian *proprio*.

9.

In this section we will analyze the arbitrary reading of *proprio*: consider the following sentences:

(96)a.   La propria$_{arb}$ libertà é un bene prezioso
          One's freedom is valuable
     b.   Osvaldo$_i$ pensa che la propria$_{i/arb}$ libertà sia un bene prezioso
          Osvaldo thinks that self's/one's freedom is valuable
(97)   Osvaldo$_i$ detesta la propria$_{i/*arb}$ libertà
          Osvaldo hates self's freedom

in examples (96) *proprio* is contained in a subject NP; in both sentences it can have the arbitrary reading, i.e. it can behave as a free variable. As example (97) shows, it is impossible to give this interpretation if the anaphor is embedded in an NP in object position.

Such behavior of *proprio* with respect to the arbitrary reading is very similar to the one of PRO (cf. Manzini, 1983b), both in Italian and in English:

(98)a.   [$_{S0}$ [$_{S1}$ PRO$_{arb}$ to behave oneself in public] would help Bill]
     b.   Mary thinks that [$_{S1}$ [$_{S2}$ PRO$_{arb}$ to behave oneself in public] would help Bill
     c.   *John asked Bill PRO$_{arb}$ to behave oneself]
(99)a.   [$_{S0}$ [$_{S1}$ PRO$_{arb}$ radersi senza rasoio di sicurezza] é pericoloso]

To shave oneself without a safety-razor is dangerous
b. Maria pensa che [$_{S1}$ [$_{S2}$ PRO$_{arb}$ radersi senza rasoio di sicurezza] sia pericoloso]
Maria thinks that to shave oneself without a safety-razor is dangerous
c. *Ti ho chiesto di [$_{S1}$ [$_{S2}$ PRO$_{arb}$ radersi senza rasoio di sicurezza]]
I asked you to shave oneself without a safety-razor

these examples show that if PRO is embedded in a subject sentence, it is possible to give it the arbitrary interpretation as examples (98)a. and b. and (99) a. and b. show; but if it is contained in an object sentence, the only available reading is the controlled one.[43] In fact sentences (97)c. and (98)c. are ungrammatical, but the following ones are fully acceptable:

(100)a. John asked Bill$_i$ PRO$_i$ to behave himself
b. Ti$_i$ ho chiesto di PRO$_i$raderti senza rasoio di sicurezza
I asked you to shave yourself without safety razor

The position where the arbitrary reading is allowed, is the one in which, by Manzini's theory (1983b), the BT becomes irrelevant. In fact in sentences (98)a.-b. and (99)a.-b., PRO does not have a Governing Category, since it is ungoverned, and it has no Domain Governing Category, since S1 is the c-domain of PRO, S0 is the minimal maximal projection containing the c-domain and a governor for the c-domain (AGR); but it does not contain a subject accessible to PRO; for coindexing the subject clause S1 or AGR to PRO would violate the i-within-i condition (AGR and S1 are already coindexed, since S1 is the subject of the sentence). Therefore in both cases the BT cannot apply and the arbitrary reading becomes possible.[44]

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[43]As Manzini (1983b) pointed out, some PROs in an object sentence can be arbitrary in reference:
i. John ordered PRO to behave oneself
her suggestion is that in these cases there is a phonologically null indirect object of *order* and that PRO is actually bound by it. We will not further consider these data here.

[44]Notice that PRO, when arbitrary in reading, bears the feature [+human] and in Italian also [masc plur]:
i. a.   PRO$_{arb}$ rotolare giù per la montagna è pericoloso
To roll down the mountain is dangerous

Consider now that the contexts in which *proprio* can take the arbitrary reading seem to be the ones where we assume strict anaphors to take the long distance strategy, i.e. in which principle A of the BT does not apply. Therefore the possibility of obeying the strategy of principle (79) seems not to exclude the availability of the arbitrary reading, as instead the requirements of the BT do. We can conclude that the two options are in free variations. But recall now that *proprio* is also specified in the lexicon for the [-BT] strategy; the fact that the *structural* long distance strategy and the arbitrary reading are not mutually exclusive must not extend, on the contrary, to the *lexical* long distance strategy of *proprio*. Otherwise *proprio* would be able to appear anywhere with the arbitrary reading.[45]

As we said above, our hypothesis is that when a [+BT] anaphor (as PRO, *proprio* and *each other* are) occurs in a position where the BT becomes irrelevant, it can take either the arbitrary reading as the long distance strategy.

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    b. PRO_{arb} uscire nudi per strada è vietato

         To go out nude/masc plur is forbidden

It would be perfectly natural, from a pragmatic point of view, to interpret i.a. as referring to a stone, however it is not a possible interpretation and we understand the sentence as referring to an unspecified human being. Similarly in ii.:

ii. a.   Le finestre di una casa devono essere sempre pulite

         The windows of a house have to be always clean

    b.   Le $proprie_{arb}$ finestre devono esssere sempre pulite

         One's windows always have to be clean

it is impossible to understand *proprio* in sentence ii.a. as referring to a house; as in the case of PRO; we rather refer it to a person.

[45]Consider however that the arbitrary reading is excluded in the following case:

i.   La $propria_{i/*arb}$ libertà è indispensabile a $loro_i$

     Self's freedom is necessary to them

Notice the contrast with ii.

ii.   La $propria_{arb}$ libertà è indispensabile

     Self's freedom is necessary

in ii. it is tempting to claim that we have an unexpressed argument, a PP_{arb}, whereas this PP is lexically expressed in i. In both cases such an argument might be argued to obligatorily bind the anaphor. Therefore we would be lead to conclude that the arbitrary reading is only a particular realization of the *structural* long distance binding.

The fact that the arbitrary reading can be explained as a case of binding by an unexpressed argument is a hypothesis which needs further investigation. On this matter see also Cinque (1976).

We can now raise the questions: why does *each other* take only the long distance strategy? What is the behavior of PRO in those contexts apart from the possibility of the arbitrary reading?

To the first question we can answer that *each other* cannot be arbitrary in reading because of its intrinsic reciprocal meaning. Consider in fact that the normal meaning of reciprocal expressions always requires that two thematic positions be involved in their interpretation:

(101)   John and Mary love each other

(101) means that "John loves Mary" and "Mary loves John" where the roles of the subject and of the object are both crucially involved. It is then clear that the arbitrary reading, involving no antecedent at all, i.e. no other thematic position in the sentence, cannot be available to *each other*.

As far as PRO is concerned it must be noticed that, when the BT does not apply, its coreference possibilities are much wider than the ones predicted by principle (79). Consider in fact the following examples:

(102)a. [$_{S0}$ [$_{S1}$ PRO$_i$ to behave himself in public] would help Bill$_i$]
   b. [$_{S0}$Mary$_i$ knows that [$_{S1}$ PRO$_i$ to behave herself in public] would help Bill]
   c. [$_{S0}$ [$_{S1}$ PRO$_i$ to behave himself in public] would help Bill's development]
   d. Mary told John$_i$ that [$_{S1}$ [$_{S2}$ PRO$_i$ to behave himself in public] would help Bill$_i$]]
   e. [$_{S0}$ [$_{S1}$ PRO$_i$ to behave himself in public] would help the development Bill$_i$ planned for himself]
   f. They$_i$ thought I said PRO$_i$ feeding each other$_i$ would be difficult (from Chomsky, 1981, p.191)

PRO behaves more like a pronoun in that not only can it take the object of its clause as antecedent, as in (102)a. and the superordinate subject as in (102)b., a behavior it shares with a long distance anaphor, but it can also corefer with an NP embedded within the object NP ((102)c.), with the object of the superordinate sentence ((102)d.), with the subject of a relative clause embedded in the object ((102)e.) and can skip an accessible subject ((102)f.). Examples c.,d., e. and f. illustrate that PRO does not strictly behave as a long distance anaphor, in that a long distance anaphor cannot

be bound by an NP embedded inside the object, even if the verb is an experiencing verb.:

(103)(=27c.)a.* I propri$_i$ peccati turbano il sonno di Osvaldo$_i$
      Self's sins upset Osvaldo's sleep
  b.   *Each other's pictures$_i$ pleased John and Mary's$_i$ pride

and, as we have already shown, a long distance anaphor cannot have a more superordinate object as antecedent; obviously it cannot either be P-bound by an NP contained in an embedded relative clause, or, in English, by a subject of a still more superordinate sentence.

      We attribute this difference between PRO and other anaphors to the fact that PRO bears the feature [+pronominal]; therefore we assume that it shares with full pronouns the property of being able to take any definite description in the domain of discourse as antecedent.

APPENDIX: Some remarks on weak crossover

The fact that *proprio*, when contained in the subject of an experiencing verb, can take the object as antecedent, allows some interesting considerations on the weak crossover effect. Consider the following examples:

(1)a. · La propria$_i$ salute preoccupa ciascuno$_i$
·Self's health worries everyone
  b. *La sua$_i$ salute preoccupa ciascuno$_i$
His health worries everyone

sentence (1)b. clearly represent a weak crossover violation, since a pronoun embedded in the subject NP cannot be a variable bound to a quantifier in object position. The same results could be expected in the case of the anaphor, so that sentence (1)a. should be as bad as (1)b., but it is not.

Sentences (1) seem thus to show that sensitivity to weak crossover is a property just of pronominal elements and not of anaphoric ones.

Notice that these facts may constitute a problem for a condition like the Bijection principle (Koopman and Sportiche, 1981; Chomsky, 1982) which merely refers to the distribution of semantic variables without taking into account the syntactic feature specification of the elements which finally end up translated as variables.

Consider, moreover, that PRO does not display any weak crossover effect (cf. Higginbotham, 1980):

(2)   PRO$_i$ conoscere suo padre fa piacere ad ogni ragazzo$_i$ --
Knowing his father pleases every boy

this contrast between PRO and pronouns seems to suggest that the weak crossover effect is a property of [-anaphoric] elements, i.e. that only [-anaphoric] elements show the typical pattern of weak crossover violations.

Recall in fact that pronouns have the features [-anaphoric] [+pronominal], whereas PRO is [+pronominal] [+anaphoric], as we have already said. This classification obviously predicts that a pure anaphor should not show any effect of weak crossover either; given the structural properties of *proprio* it is possible to test this prediction, that is clearly confirmed by example (1)a. We conclude therefore that any adequate principle accounting for the crossover effect must be able to derive something like the following theorem:

(3)   If α is a [-anaphoric] element interpreted as a variable bound by a quantified expression β, β c-commands α at S-structure

It is worth noting also that sentence (1)b. might provide an argument for claiming that what is relevant in analyzing these sentences is a thematic notion such as that of P-domain and not only a readjustment of the phrase structure or of the definition of c-command. In fact, if one argued that the surface structure of sentences (1) is derived in such a way that at a certain point of the derivation the object is allowed to c-command the subject, it may follow that sentence (1)b. should be grammatical, since when the quantified expression c-commands the pronoun at S-structure no weak crossover violation normally arises. But, as sentences (1)a. and (1)b. clearly contrast, we cannot adopt this view.

Notice that even in the cases where we assumed that PRO takes its reference by crucially exploiting the feature [+pronominal], i.e. when its antecedent is an element which neither binds nor P-binds it, it is not subject to any weak crossover effect; in other words, it still uses the peculiarity that we traced back to the feature [+anaphoric]:

(4)a. PRO_i trasferirsi a Roma ha giovato alla carriera di ogni uomo politico$_i$
        To move to Rome was useful to the career of every politician
   b.   ?*Il suo$_i$ trasferimento a Roma ha giovato alla carriera di ogni uomo politico$_i$
        His movement to Rome was useful to the career of every politician

on the one hand this fact is not surprising at all, since we assumed throughout that PRO bears both specifications [+pronominal] [+anaphoric]. On the other, this shows once more the non obligatoriness of the (structural, at least) long distance strategy for [+anaphoric] elements that

we have already noticed in connection with our discussion of the possibility of the arbitrary reading. In fact if PRO always maintains its [+anaphoric] properties, as examples (3) seem to show, it can obviously exploit the advantages of the pronominal coreference strategy, just in case the requirements of P-binding are not compelling.

CHAPTER 3

.THE DISTRIBUTION OF ANAPHORS AND PRONOUNS WITHIN
PREPOSITIONAL PHRASES

Introduction

The distribution of anaphors and pronouns inside PPs is slightly
different from the one we see in the other contexts. Since we do not want to
make resort to an *ad hoc* theory for these phenomena, here we will
investigate and explain the anomalous data in order to obtain a coherent
theory of binding.

The aim of this chapter is twofold: on one hand we propose an
account for the distribution of third person pronouns, clause-bound and
long distance anaphors within PPs; on the other, to this purpose, we
individuate thematic properties peculiar of Prepositions, which
differentiate them from other lexical heads such as Adjectives and
Nouns. This way, some phenomena concerning the behaviour of PPs in
Small Clause constructions, and in predicative. contexts in general, will
be captured.

In the first section we analyse the distribution of anaphors and
pronouns. In the second, we present the central hypothesis of this work, i.e.
that the behaviour of such elements is related to the thematic properties of
Prepositions. In the third and in the fourth, we consider the distributions of
PPs in Small Clauses and in predicative constructions. In the fifth, we
discuss some differences between locative and non-locative Prepositions.
Finally, we try to handle some potential counterexamples, suggesting that
independent principles can account for certain apparent anomalies.

1.

It is a well known fact (cf. Bouchard 1984; Chomsky 1981) that,
when embedded within PPs, anaphors and pronouns yield grammatical

results, variable according to the choice of the antecedent. Consider for instance the following examples:

(1)a.   Gianni_i ha aizzato Maria contro di sé_i / ?contro di lui_i /*contro se stesso_i
   Gianni turned Maria against self /against him /against himself

   b.   Gianni ha aizzato Maria_i *contro di sè_i /*contro di lei_i /contro se stessa_i
   Gianni turned Maria against self /against her /against herself

(2)a.   Gianni_i ha riconciliato Maria con sé_i /?con lui_i /?*con se stesso
   Gianni reconciled Maria with self /with him /with himself

   b.   Gianni ha riconciliato Maria_i *con sé_i /*con lei_i /con se stessa_i
   Gianni reconciled Maria with self /with her /with herself

(3)a.   Gianni ha ripiegato la pasta sfoglia_i *su di sé_i /*su di essa_i /su se stessa_i
   Gianni folded the dough on self /on it /on itself

   b.   Gianni_i ha ripiegato la pasta sfoglia su di sé_i /su di lui_i /*su se stesso_i
   Gianni folded the dough on self /on him /on himself

(4)a.   Gianni_j ha aizzato Maria_i contro coloro che disprezzano il proprio*i/j figlio
   Gianni turned Maria against those who despise self's child

   b.   Gianni_j ha riconciliato Maria_i con coloro che amavano il proprio*i/j figlio
   Gianni reconciled Maria with those who loved self's child

   c.   *Gianni ha ripiegato ogni pezzo di pasta sfoglia_i sul contenitore che era adatto alla propria_i cottura
   Gianni folded every piece of dough on the container which was best for self's cooking

In these examples the distribution of pronouns and anaphors varies, at first sight, depending upon the grammatical function of the intended antecedent, *Gianni* or *Maria*. However, before analysing the phenomenon, let me clarify some general characteristics of the anaphoric system of Italian.

As pointed out in chapter 2, the Italian non-clitic anaphoric system for 3rd person includes a "long distance" possessive anaphor, *proprio*, and two non-possessive one, *sé* and *se stesso*. *Proprio* is morphologically an adjective and can cooccur with the article, as other possessive elements

(cf. Giorgi and Longobardi, forthcoming). It can be clause bound and, in this case, both subject and object of the same clause can be possible antecedents, or it can be long-distance bound, and, if so, it is in most cases subject-oriented, in a sense to be made precise in terms of θ-theory. *Sé* is a subject-oriented anaphor and is invariant for both numbers; *se stesso* is the clause-bound anaphor, corresponding to himself/herself, *stesso* is morphologically an adjective and the *-a* (masc, sing) ending alternates with other ones (*-a, -e, -i*), according to the choice of the antecedent. Notice also that *sé* cannot be governed by a verb, at least in my dialect:

(5)   Gianni ama solo se stesso /*sé
        Gianni loves only himself

sé must be governed by a P, whereas *se stesso* admits both governors, i.e. a verb, as in (5), and a Preposition, as in (6)b:

(6)a.   Gianni$_i$ é molto contento di sé$_i$
        Gianni is very happy with self
   b.   Una lunga terapia psicoanalitica riconciliò Maria$_i$ con se stessa$_i$
        A long psychoanalytic therapy reconciled Maria with herself

The binding options of *proprio* parallel the ones of *sé* when long distance bound, and those of *se stesso* when clause bound. We will not further discuss this matter here.

   Let us go back to examples (1)-(3): *sé* can only refer to *Gianni* and never to *Maria*. Even if, when referring to *Gianni*, *sé* is the preferred option, the pronoun *lui* is also grammatical, whereas the clause-bound anaphor is excluded, contrary to normal cases. When the object is the intended antecedent, abstracting away from the coreference possibilities of *sé*, we can observe that the pronoun and the anaphor are again in complementary distribution, although reversing the judgements holding with respect to the case of a subject antecedent. We will come back to this point in a while. The data in (4) parallel the distribution of in (1)-(3), since long distance bound *proprio* can only refer to *Gianni* and not to an object.[1] Consider however the following examples:

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[1] The distribution of anaphors and pronouns in similar constructions in English is slightly different. The most salient aspect is the variation, across speakers and lexical

(7) a. Ho aizzato Maria$_j$ contro il proprio$_j$ figlio
         I turned Maria against self's child
     b. Ho riconciliato Maria$_j$ con il proprio$_j$ figlio
         I reconciled Maria with self's child
     c. Ho ripiegato ogni pezzo di pasta sfoglia$_j$ sul proprio?$_j$ contenitore
         I folded every piece of dough on self's container

Examples (7) minimally contrast with those in (4), confirming that
proprio, when clause bound, can refer also to an object, like *se stesso*[2] .

---

choices, of the acceptability of the anaphor, as exemplified for instance by the
following sentence:
i.   John$_j$ pulled the blanket toward him$_j$ /*-? himself$_j$
where *himself* for some speaker is starred, as *se stesso* in Italian, but for others is
almost acceptable;
Dutch instead exhibits a distribution very similar to the Italian one, given that in such
a language we also find an anaphor comparable for some aspects to Italian *sé* (see
(Koster, 1985, 1986; Everaert, 1986)
ii.   Jan$_j$ troh de deken naar hem$_j$ /zich$_j$ /*zichzelf$_j$
            Jan pulled the blanket toward him /self /himself
French is apparently similar to Italian:
iii.   Victor$_j$ tire la couverture à lui$_j$ /*lui-même$_j$
            Victor pulls the blanket toward him /himself
But see Zribi-Herz (1980) for other, more problematic, cases. These phenomena will
be better analyzed in chapter 4.
[2] Notice that an anaphor expressing the indirect object of a verb like *restituire* (give
back), can be bound both by the object and by the subject (see Giorgi and Longobardi,
forthcoming, ch. 1):
i.   a. Una lunga terapia psicoanalitica ha restituito Maria$_j$ a se stessa$_j$
                A long psychoanalitic therapy brought Maria back to herself
            b. Gianni$_j$ ha restituito Maria a se stesso$_j$ con il suo affetto paziente
                Gianni brought Maria back to himself with his patient love
In this paper I will not consider verbs taking a direct and an indirect object, since their
thematic and structural properties are rather different from the phenomena we are
considering here.
The verb *parlare* (talk) is another interesting case. To my knowledge, it is the only
verb in Italian taking an indirect object and a complement introduced by *di* (which
here means *about*). The distribution of anaphors and pronouns, in my dialect, is the
following:
ii.   a. Gianni ha parlato a Maria$_j$ di lei$_j$
                Gianni talked to Maria about her

The distribution of clause bound anaphors and pronouns can be accounted for on the basis of the following hypothesis: the sequence NP-PP counts as the relevant domain for principle A and B, as if the NP were, in some sense, the "subject" of the PP, able to opacize the domain. Such a solution seems rather natural, given that this way the exceptionality of the distribution disappears, being reduced to familiar notions, i.e. to a definition of the relevant domain almost identical to the one adopted in usual cases. Along the lines suggested by Chomsky (1986a), we can use the notion of Complete Functional Complex to identify the relevant domain for principles A and B to apply. Under the formulation proposed in Giorgi

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    b. *Gianni ha parlato a Maria$_j$ di se stessa$_j$
        Gianni talked to Maria about herself
    c. Gianni$_j$ ha parlato a Maria di sé$_j$ /se stesso$_j$
        Gianni talked to Maria about self /himself
    d. *Gianni$_j$ ha parlato a Maria di lui$_j$
        Gianni talked to Maria about him

Burzio (1987) also accepts ii.b.; in his paper he gives an interesting analysis of these and related phenomena. Under a slightly different perspective, a tentative proposal to account for the pattern in ii. can be the following:

(iii)
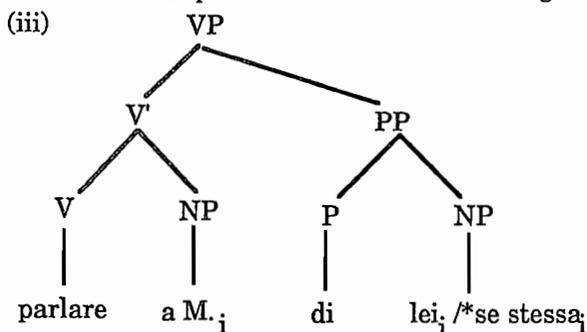
To predict the data in ii. we must hypothesize: 1° that V' blocks c- command. 2° that a does nor project a PP forming a relevant domain for c- command. 3° that the PP headed by *di* (about) is not transparent to c- command. All of these claims seem rather plausible given that, with respect to the first, it has already been argued (Chomsky 1986a, Giorgi and Longobardi, forthcoming, ch.1) that the notion of branching node makes more accurate predictions in binding phenomena than the notion of Maximal Projection; with respect to the second, it seems to me to be independently needed and the third is actually the 'unmarked' assumption.

(1987), on the basis of independent evidence, a CFC can be defined as follows[3] :

(8)   (Given a lexical headα)

γ is a CFC iff it meets at least one of the following requirements:

a. it is the domain in which all the θ-roles pertaining to the head are realized
b. it is the domain in which all the grammatical functions pertaining to the head are realized

where 'grammatical functions' also include predication relations, essentially that of 'subject of' the X^{max} projected by the head. In our cases, the NP in question can be defined the 'predication subject' of the structure, projected as a SC.

The situation, however, immediately turns out to be less clear as soon as we consider the distribution of long distance anaphors: if the relevant NP behaves as a subject, identifying the domain for the application of principles A and B, how is it that LDAs cannot refer to it? In fact, if such an NP has to be assimilated, under every relevant respect, to a subject, it should be predicted to be an acceptable antecedent for *sé* and long *proprio*.

The puzzle becomes even more interesting, if we contrast the examples given above with closely corresponding structures containing an Adjective instead of a Preposition. Consider for instance the following examples:

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[3] In Giorgi (1987), the evidence analysed to define the notion of CFC comes from the distribution of anaphors and pronouns in two different domains: in NPs projected by Ns having three arguments (possessor, agent and theme), as in i., and in predicative constructions, as in (ii):

i.   Il ritratto di se stesso$_j$/*$_j$ di Leonardo$_j$ di Ludovico il Moro$_j$
        The portrait of himself by (lit: of) Leonardo of the Duke Ludovico il Moro
ii.   Gianni è il miglior giudice di se stesso
        Gianni is the best judge of himself

The peculiarities of such constructions permit some theoretical insights concerning the nature of the domain relevant for principles A and B of the Binding Theory. For further discussion, we refer to the reference cited above.

(9)a.   Gianni$_j$ ha visto il professore$_i$ contento degli studenti che seguivano il proprio$_{i/j}$ corso

        Gianni saw the professor satisfied with the students which followed self's class

   b.   Gianni$_j$ ha visto il professore$_i$ con gli studenti che seguivano il proprio?*$_{i/j}$ corso

        Gianni saw the professor with the students which followed self's course

(10)a.   Gianni$_j$ ha trovato il medico$_i$ soddisfatto delle condizioni del paziente affidato alle proprie$_{i/j}$ cure

        Gianni found the physician satisfied with the conditions of the patient assigned to self's care

   b.   Gianni$_j$ ha trovato il medico$_i$ davanti all'abitazione del paziente affidato alle proprie*$_{i/j}$ cure

        Gianni found the physician in front of the house of the patient assigned to self's care

(11)a.   Gianni$_j$ ha visto il professore$_i$ contento dei propri$_{i/j}$ studenti

        Gianni saw the professor satisfied of self's students

   b.   Gianni$_j$ ha visto il professore$_i$ con i propri$_{i/j}$ studenti

        Gianni saw the professor with self's students

(12)a.   Gianni$_j$ ha trovato il medico$_i$ soddisfatto dei propri$_{i/j}$ pazienti

        Gianni found the physician satisfied with self's patients

   b.   Gianni$_j$ ha trovato il medico$_i$ davanti ai propri$_{i/j}$ pazienti

        Gianni found the physician in front of self's patients

(9)b. and (10)b. can be considered, with respect to the relevant structure, identical to the cases illustrated in (4). The contrast between (9)b. and (9)a. and (10)a. and (10)b. is rather sharp: in (9)a. and (10)a. a long distance *proprio* can refer to *professore*, or to *medico*, whereas it cannot in (9)b. or (10)b., as in (4). If *proprio* is not long distance bound, once again, the contrast disappears, so that (11)b. and (12)b. are grammatical, as examples (7) are.

     These data challenge the *naïve* hypothesis one could be tempted to formulate, i.e. that, though creating an opaque domain with respect to principles A and B of the BT, the object remains an object and, therefore, is not a possible antecedent for a subject-oriented anaphor. If this view were correct, in fact, we should expect (9)a. and (10)a. to be ungrammatical, on a par with (9)b. and (10)b. It is rather obvious, on the contrary, that the solution must be able to single out PPs against APs, in a principled way. *A*

priori there are two possibilities: one could either try to show that the difference between (9)a. - (9)b., and (10)a. - (10)b., is a structural one, or claim that the structure is the same, but that, due to the interaction of certain properties of Ps with those of LDAs, the distribution given above is obtained.

Given that there is no evidence suggesting a possible structural solution, the proposal we are going to develop here follows the second line of reasoning. We claim that the structures projected by both sentences in (9) and (10) are identical and that the differences are due to thematic properties of Prepositions, which diverge from the ones of Adjectives, as we have anticipated above. This hypothesis will turn out to predict other data in an independent domain, i.e. that of Small Clauses and predicative structures.

Notice also that Nouns pattern together with Adjectives, as shown by the lack of contrast in the following case:

(13)a.   I dipendenti hanno eletto Gianni$_i$ presidente della ditta fondata dal proprio$_i$ padre
    The dependent workers elected Gianni president of the firm founded by self's father

    b.   I dipendenti hanno eletto Gianni$_i$ presidente della propria$_i$ ditta
    The dependent workers elected Gianni president of self's firm

These data suggest once more that Prepositions must be treated as exceptional.

2.

In the preceding chapter, we proposed an account of the distribution of LDAs. The crucial variables considered there were the thematic properties of the antecedent and the mood (subjunctive, of infinitive, vs. indicative) of the clauses intervening between the anaphor and the antecedent. here we will abstract away from the mood, which is irrelevant to the present purpose, and will focus on θ-role assignement.

Let us reproduce the relevant principles here. For an LDA to be bound, the following conditions must be met:

(14)   A long distance anaphor is P-bound
(15)   α P-binds β iff
    β is coindexed with α and

β is in the P-domain of α

(16)   P-domain of α :

Given a lexical head which assigns the θ-roles $k_1 \ldots k_n$ to $\alpha_1 \ldots \alpha_n$, and

k_1, prominent among $k_1 \ldots k_n$, assigned to α_1

$\alpha_2 \ldots \alpha_n$, together with their predicates and all the nodes they dominate, are the P-domain of α_1

In chapter 2 a hierarchy of prominence for θ-roles is also suggested. Let us briefly point out the empirical content: P-bound stands for 'bound by the Prominent argument': this means that a LDA can only take as antecedent *one* element in a certain thematic domain, i.e. the most prominent one, where agents and experiencers are usually prominent. Almost always, these θ-roles are assigned to subjects and, therefore, LDAs turn out to be subject-oriented.

An approach in terms of θ-relations permits us to distinguish structural subjects from θ-prominent elements. Our hypothesis will develop this idea: in the examples given above, the relevant element, the apparent 'object' of the verb, is always the structural subject of the XP, forming with it a SC. In the case of a Preposition, however, it is not thematically prominent, whereas it is so for an Adjective or a Noun. Let us formulare the most radical version of this principle:

(17)   A Preposition does not assign an external θ-role

If (17) is correct, then we can predict the distribution of LDAs. The 'object' of the clause cannot be prominent in the θ-domain identified by a preposition, given that the only element receiving a θ-role from P is the internal argument of the latter. On the contrary, Adjectives, and Nouns, θ-mark the external argument, with the consequence that it is possible antecedent for a LDA. The structures we attribute to the examples just discussed are the following:

(18)a.
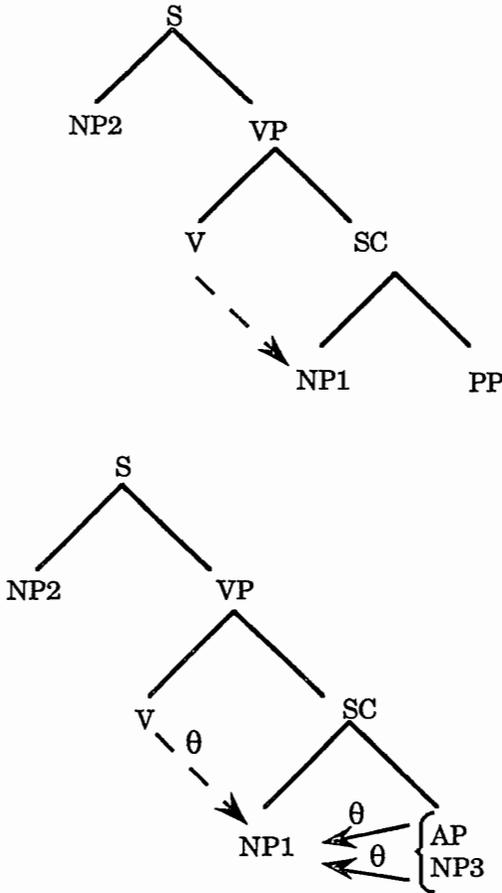
As illustrated by the arrows, the Verb in both cases can satisfy the q-requirements of NP_1 in a way which will be considered with more details in the next section. The PP does not assign any θ-role to NP_1, whereas the AP and NP_3 do[4].

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[4] In these structures containing a predicate AP, or NP, we are led to the conclusion that the same NP position receives two θ-roles, one originating from the Verb and the other from the Adjective or the Noun. A similar situation is also found in the following structure (cf. also Chomsky, 1986a):

The consequence of this hypothesis is that the LDA dominated by an AP, or NP, node is contained in the P-domain of the prominent argument NP_1, given that such an NP is not θ-marked at all by P and, if possible, must refer outside the SC, with NP_2 (which in turn is the prominent argument in the P-domain identified by the Verb).

The relation between the PP, on one side, and AP and NP on the other, with NP_1, is in any case a predication relation (see Williams 1980; Rothstein 1983). This is sufficient to license the PP and the AP, according to the licensing conditions given in Chomsky (1986a). Notice that such a predication relation *must* be instantiated. A Small Clause representation, as the one in (17)a. or b., in fact, is the only one compatible with the distribution of (clause bound) anaphors and pronouns (under the CFC definition given above) and a binary branching constraint on phrase structure (cf. Kayne 1984). From the viewpoint of the Full Interpretation Principle proposed by Chomsky (1986a), the XP in these SCs is certainly not an argument, nor an operator, therefore, it must be a predicate of NP_1.[5]

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i.   Gianni è uscito nudo
      Gianni went out naked
On these structures, see Stowell (1987) and references cited there.
At this point, one could ask which kind of θ-role the AP and the NP are assigning to the subject of the SC. With respect to the AP in (9)-(12), we could say that their heads, *contento* (happy) and *soddisfatto* (satisfied), assign an Experiencer θ-role. The relationship between an NP such as *presidente* (president) in (13) and its external maximal projection is less obvious. In certain cases the θ-role of the predication subject is clearly Agent; consider for instance the following case:
ii.   Gianni$_j$ è t$_j$ l'assassino di Mario
      Gianni is the murderer of Mario
Here *Gianni* is obviously the agent of the murder. This interpretation can be extended also to the following sentences:
iii.   Gianni è il presidente della Fiat
      Gianni is the president of Fiat
iii., in fact, means that *Gianni* is the 'agent' who presides Fiat. On predication see, among the others, Williams (1980), Rothstein (1983), Higginbotham (1985).
[5] The Full Interpretation Principle proposed in Chomsky (1986a) can be rephrased as follows:
i.   A maximal projection must be either an operator, or an argument, or a
      predicate
Notice that in a Small Clause structure headed by a PP, we are hypothesizing a predication relation, without θ-assignment. This situation is certainly not anomalous, given the existence of raising structures:

Before proceeding further, let us remark that, if we are correct, the present analysis constitutes a strong argument in favour of the idea that LDAs obey a thematic strategy like the one suggested in the rpeceding chapter. Structural differences in fact, seem not to be able to discriminate between APs-NPs and PPs, whereas the thematic approach to the distinction will be confirmed in the next sections by a full range of completely independent observations.

3.

In order to show that our hypothesis is correct, we will first discuss some additional data clearly suggesting that Ps do not assign an external θ-role and then, in the following section, we will analyze copular constructions.

As we briefly mentioned above, according to Chomsky's (1986a) Full Interpretation Principle, the NP subject of a SC in order to be licensed, must receive a θ-role. Our proposal is that with verbs like *vedere* (see) or *tirare* (pull) can satisfy such θ-requirements can be satisfied in the following way: the Verbs θ-mark the Small Clause, under sisterhood and, as a lexical property of theirs, the θ-role can percolate down to the SC subject. The SC and its subject, therefore, end up sharing the same θ-role (e.g. theme). This hypothesis seems to be independently needed to capture the fact that the sentences in (19) imply, i.e. have the same truth values of, the sentences in (20):

(19)a. Ho visto Gianni in cucina
        I saw Gianni in the kitchen
    b. Ho tirato il tappeto sotto al tavolo
        I pulled the carpet under the table
(20)a. Ho visto Gianni
        I saw Gianni
    b. Ho tirato il tappeto
        I pulled the carpet

---

ii. $[_S [_{NP}$ Gianni$]$ $[_{VP}$ sembra t essere partito $]]$
          Gianni seems to have left

The relation between Np and VP is barely a predication one, since the VP headed by the raising Verb does not θ–mark the subject NP.

In both cases, the relation between the verb and the NP seems to be the same and our hypothesis can provide an insight in this complex phenomenology (cf. also Higginbotham 1984).

A prediction following from the requirements imposed by θ-theory plus our principle (17) is that, in structures where the only possible θ-assigner is the predicate of the SC, i.e. where θ-percolation is inhibited, a PP predicate should determine ungrammaticality, due to lack of θ-role on the subject NP, contrasting with other XPs. To perform our test, we must look for verbs which can take a SC, but not a simple NP: *rendere* (render) and *ritenere* (believe) belong to this class:

(21)a. Ho reso Gianni felice
        I rendered Gianni happy
    b. Ritenevo Gianni felice
        I believed Gianni happy
(22)a. *Ho reso Gianni
        I rendered Gianni[6]
    b. *Ritenevo Gianni
        I believed Gianni

Examples (21) cannot imply (22), and the latter indeed are sharply ungrammatical and uninterpretable, as if the NP were unlicensed. The impossibility for the NP subject of the SC to receive a θ-role can explain these phenomena. If *rendere* and *ritenere*, in fact, can θ-mark the SC, but the θ-role cannot percolate down to its subject, the NP by itself cannot be interpreted.

Our prediction concerning the distribution of PPs is actually borne out. Consider in fact the following examples:
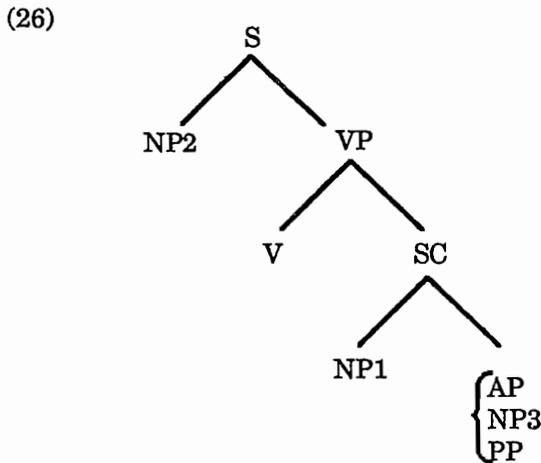
(23)a. ??Ritengo il giornale sul tavolo/qui
        I believe the newspaper on the table/here
    b. *Renderò il giornale sul tavolo/qui
        I will make the newspaper on the table/here
(24)a. Ritengo il giornale interessante

---

6 Sentence (22)a. is possible, even if pragmatically marked, when the verb *rendere* (render) is interpreted as the omophonus *give back*:
i   Ho reso il libro
        I gave the book back

I believe the newspaper interesting
b. Renderò il giornale interessante
I will make the newspaper interesting

(25)a. Ritenevo Gianni il medico più bravo della città
I believed Gianni the best physician of the town

b. Un buon corso di specializzazione, renderà Gianni il medico più bravo della città
A good specialization, will render Gianni the best physician of the town[7]

The structure we can attribute to (23) - (25) is the following one:

(26)

```
                    S
                  /   \
              NP2      VP
                      /  \
                     V    SC
                         /  \
                      NP1    ⎧AP
                             ⎨NP3
                             ⎩PP
```

The Verb, in these cases, does not assign a θ-role to NP_1 and the only way to satisfy the θ-criterion is through θ-marking by the predicate of the Small Clause. If such an XP is not able to satisfy this requirement, then,

---

[7] A stylistic variant of (25)b. is the following sentence:

i   Un buon corso di specializzazione farà *di* Gianni [NP il medico più bravo della città]

lit: A good specialization will make *of* Gianni the best physician in town
... will render Gianni the best physician in town

The insertion of *di* is an interesting phenomenon to notice, even if, at the moment, we have no explanation for it. Notice also that APs are ungrammatical in this context:

ii   *Farò *di* te orgoglioso
I will make of you proud

the structure is predicted to be ungrammatical. In fact, even if in different degrees, the PP is usually worse than the AP and the NP.

Other verbs belonging to this class are: *considerare* (consider) and *stimare* (esteem):

(27)a. Consideravo Gianni intelligente
        I considered Gianni intelligent
   b.   Consideravo Gianni un buon medico
        I considered Gianni a good physician
   c.   ??Consideravo Gianni a Parigi
        I considered Gianni in Paris
(28)a. Stimavo Gianni intelligente
        I esteemed Gianni intelligent
   b.   Stimavo Gianni il medico più bravo della città
        I esteemed Gianni the best physician in town
   c.   ??Stimavo Gianni a Parigi
        I esteemed Gianni in Paris[8]

---

[8] *Considerare* (consider) and *stimare* (esteem) do not admit a simple NP, exactly like *ritenere* (believe) or *rendere* (render):
i. a.   Consideravo Gianni *(stupido)
         I considered Gianni stupid
    b.   Stimavo Gianni *(stupido)
         I esteemed Gianni stupid
Stimavo Gianni, by itself, can still be interpreted if the verb is taken to mean 'consider valuable'. An informal and tentative explanation for this fact can be the following: with *stimare* the predicate of the NP can either be overtly expressed, or can be collapsed within the interpretation of the head V. If so, the semantic value of the predicate must be 'valuable' by default. *Stimavo Gianni,* therefore, can only mean that I have a *positive* opinion about him.
Notice that verbs like *supporre* (suppose) and *credere* (believe) are almost grammatical even with a SC headed by a P:
ii. a.   (?) Supponevo Gianni a Parigi
          I supposed Gianni in Paris
     b.   (?) Credevo Gianni a Parigi
          I believed Gianni in Paris
However, they do not admit a bare object, presumably because they cannot θ-mark it:
iii. a.   *Supponevo Gianni
          I supposed Gianni
     b.   *Credevo Gianni
          I believed Gianni
For a possible explanation of the data in (ii), see fn. 11 below.

Under NP movement, as expected, the thematic properties of the Verb stay unchanged. Consider the following passive examples:

(29)a. Gianni è considerato un buon medico / intelligente
        Gianni is considered a good physician / intelligent
   b.   ??Gianni è considerato a Parigi
        Gianni is considered in Paris

Analogously, the structure containing the PP is less acceptable even with raising-verbs.

(30)a. Gianni sembra intelligente
        Gianni seems intelligent
   b.   Gianni sembra il medico più bravo della città
        Gianni seems the best physician in town
   c.   ??Gianni sembra in salotto
        Gianni seems in the living-room
(31)a. Gianni risultò intelligente
        Gianni resulted intelligent
   b.   (In quel concorso), Gianni risultò il medico migliore
        (In that competition), Gianni resulted the best physician
   c.   ??Gianni risultò in salotto
        Gianni resulted in the living-room

With respect to θ-marking there seem to be no differences between the examples in (27) and (28) and the ones given above. The only one consists in Case-marking: passives, *sembrare* (seem) and *risultare* (result), in fact, do not assign Case, so that movement of the subject of the SC to the subject position of the raising verb is obligatory[9].

Let me briefly summarize the results achieved until now. Verbs like *vedere* (see), *trovare* (find), *eleggere* (elect), *riconciliare* (reconcile), *aizzare* (turn), etc. take a Small Clause complement and assign both Case

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[9] Notice that also *sembrare* and *risultare* obligatorily require a predicate of the NP:

i a.   Gianni sembrava *(stupido)
        Gianni seemed stupid
   b.   Gianni risultava *(stupido)
        Gianni resulted stupid

If the predicate is not expressed, in fact, *Gianni* lacks a θ-role.

and θ-role, through percolation, to its subject. The result is that the predicate of the Small Clause can either be an AP, an NP, or a PP. If it is a PP, long distance binding is not allowed; given our hypothesis in (14)-(16) (cf. ch. 2), this is a first piece of evidence suggesting that a Preposition does not assign an external θ-role. Verbs like *rendere* (render), *ritenere* (believe) and *considerare* (consider) etc., plus *sembrare* and *risultare*, take a Small Clause complement, but the θ-role does not percolate to its subject; as a consequence, if the predicate can θ-mark it, the structure is grammatical, as in the case of APs, or NPs, otherwise it is ruled out by the Full Interpretation principle, as in the case of PPs. Moreover, raising Verbs such as *sembrare* (seem) and *risultare* (result) cannot even Case-mark the subject of the SC, so that raising is obligatory.

4.
The brief discussion concerning the raising structures in the previous section is strongly connected with copular constructions in general. Recall first that, according to Stowell (1978) and Burzio (1981; 1986), copular constructions are also derived via raising, in analogy with the case just discussed[10] :

(32)a. Maria è [t bella]
       Maria is handsome
   b. Maria è [t l'assassino]
       Maria is the murderer
   c. Maria è [t in cucina]
       Maria is in the kitchen

---

[10] See also Longobardi (1983 and 1985) and Higginbotham (1984) for discussion. Longobardi distinguishes two major copular structures: the predictional one and the identificational one, exemplified respectively by examples like the following:
i.   Io sono l'assassino
      I am the murder
ii.   L'assassino sono io
      lit: The murder am I
      The murder is me
These structures have different interpretative and syntactic properties. Here we are abstracting away from these differences, considering exclusively the predicational type, which is the one relevant to our purpose.

If *be* does not assign a θ-role to the subject of the SC, we expect (32)a. and b. to differ in grammaticality from (32)c., whereas they are all grammatical. Notice also that the ungrammatical or marginal structures given in the previous section considerably improve, if the verb *be* is inserted[11] :

(33)a. ?Ritengo essere il giornale sul tavolo/qui
         I believe the newspaper to be on the table/here
    b. ?Farò essere il giornale sul tavolo
         I will make the newspaper be on the table
    c. Il giornale sembra essere sul tavolo
         The newspaper seems to be on the table
    d. Il giornale risulta essere sul tavolo
         The newspaper results to be on the table

If the hypothesis we suggested above is correct, these facts can be straightforwardly accounted for in the following way: the Verb *be* in (32)c. and (33) assigns a θ-role to the subject, so that the Full Interpretation Principle can be satisfied.

Therefore, the structure *be*+PP in (32)c. and (33) is basically assimilated to the one projected by *vedere* (see) or *riconciliare* (reconcile) (in the passive), where the Verb θ-marks (without Case-marking) the subject of the Small Clause.

---

[11] The potential presence of *be* is a very interesting topic, which we will not be able to consider here. The reader has presumably already noticed that a SC headed by a PP is not equally ungrammatical with all the Verbs considered in the text. For instance in (20) *rendere* (render) is worse than *ritenere* (believe), *considerare* (consider), *stimare* (esteem) etc. It is interesting to note that *rendere* is also incompatible with the insertion of *be*:
i   *Renderò essere il libro sul tavolo
         I will render the book to be on the table
Such ungrammaticality is not just a matter of semantics, since, as we have seen in the text, *fare* (make) has roughly the same interpretation, but is compatible with *be*. A possible suggestion to connect these facts can be the following: in the intermediate cases we are marginally able to supply an empty copula. If the copula is not admitted, for independent reasons, as with rendere, we have strong ungrammaticality. The higher degree of grammaticality of Small Clauses headed by a P with verbs like *credere* (believe) and *supporre* (suppose), could also be explained by hypothesizing the presence of a dummy be which can θ-mark the subject. Cf. also fn. 8.

This thematic characteristic can be taken to be part of the lexical properties of *be* at least under its *locative* interpretation. Consider also that locative *be* is not isolated in the Italian lexicon, but takes the same semantic value as the verb *stare* (to be). Consider for instance the following example:

(34)   Maria *è/sta* in cucina
         Maria is in the kitchen

stare is an ergative verb like *essere*, subcategorizing for a PP, which in structures like (34) has a clear locative meaning, and can be substituted for *be* in all locative contexts[12] :

(35)a.   (?)Ritenevo dover *stare* il giornale sul tavolo
         lit: I believed must be the newspaper on the table
         I believed the newspaper to be on the table
   b.   Farò *stare* il giornale sul tavolo
         I will made the newspaper be on the table
   c.   Gianni sembra *stare* in salotto
         Gianni seems to be in the living room
   d.   Gianni risultò *stare* in salotto
         Gianni resulted to be in the living room

Of course, *essere* and *stare*, unlike other verbs considered above, only take a SC as their argument and not a full Sentence.

---

[12] The Verb stare is in some cases compatible with APs:
i.   Il gatto sta buono /tranquillo /fermo
         The cat stays quiet /calm /still
however, this does not apply to every context:
ii.   *Il giornale sta interessante
         The newspaper stays interesting
It seems that *stare*+AP is grammatical only if it can mean "to stay in some place, in the state (usually quitness) specified by the Adjective".
Apparently, the AP is a predicate of the subject, and the locative PP, subcategorized by the Verb, is empty. Notice also that the 'location' can even be overtly specified; in this case the range of possible Adjectives is wider:
iii.   a. *Gianni sta malato
            Gianni is sick
         b. (?)Gianni sta malato all'ospedale
            Gianni is sick in the hospital

Now, with respect to the typology of possible verbs, we would wonder whether there is a Verb thematically like *sembrare* (seem), which however only takes a SC as its internal argument, i.e. does not allow either for infinitival be, after raising, or for non-raising structures. The answer is positive; in fact, in Italian we find the Verb *diventare* (become), which is an ergative one, compatible with APs (or NPs), but not with PPs:

(36)a. Gianni diventerà intelligente / un ingegnere
        Gianni will become intelligent / an engineer
   b.   *Gianni diventerà a Parigi
        Gianni will become in Paris

We can interpret now the ungrammaticality of (36)b., not as an idiosyncratic lexical gap, but as due to the properties of such a Verb, filling the slot predicted by the proposed partitioning on the basis of θ-marking, Case-marking and complement structures[13].

Finally, in the cases illustrated in (33), we also predict that the distribution of LDAs must not vary according to the presence of an Adjective or a Preposition:

(37)a. Quel terrorista$_i$ risultò essere soddisfatto dell'amnistia che
        aveva ridotto la propria$_i$ pena

---

[13] In the case of *diventare* (become), contrary to *sembrare* (seem) and similar Verbs, we cannot rely on independent evidence, such as the disappearance of the contrast when *essere* (be) is inserted. *Diventare*, in fact, like *rendere* (render) does not admit it; in both cases the ungrammaticality is rather severe, much more than in (30)c. or (31)c.

The data in (36)b., therefore, could also be compatible with the idea that their ungrammaticality is due to subcategorization restrictions, which exclude PPs. This explanation, however, seems rather ad hoc, since it is obviously insufficient in the other cases discussed in the text; the best solution would be to state that diventare too takes a SC complement and that the choice of the predicate is free, everything being equal. PPs would be excluded post hoc by the θ-criterion.

Notice also that from the semantic point of view, nothing is blocking an interpretation; therefore, if it is accounted for just as a lexical idiosyncrasy, we should find variation among languages. This expectation, however, is not fulfilled:

English   *John becomes in Paris
French   *Jean devient à Paris
German   *Hans wird in Paris

That terrorist resulted to be satified with the amnesty which had reduced self's conviction

b. ?Gli avvocati ritenevano essere quel terrorista_i contento dell'amnistia che aveva ridotto la propria_i pena

The lawyers believed that terrorist to be happy of the amnesty which had reduced self's conviction

(38)a. Quel terrorista_i risultava ai servizi segreti essere ormai nello stato che aveva dato asilo politico ai propri_i genitori

That terrorist resulted to the secret services to be by now in the country which had given political refuge to self's parents

b. ?I servizi segreti ritenevano essere quel terrorista_i nello stato che aveva dato asilo politico ai propri_i genitori

The secret services believed that terrorist to be in the country which had given political refuge to self's parents

No difference emerges between sentences in (37) and (38). The structures in (37)b. and (38)b. are both marginal, due to the status of Aux-to-Comp, but do not contrast with each other, at least if compared with the contrasts in (9) and (10) above.

5.

The claim made up to this point, basically holds for what we may term 'locative' PPs, i.e. PPs specifying the location in time and space of their subject. In fact Ps with a clearly non-locative meaning may exhibit a different behaviour, in that they are more acceptable in those contexts where locative Ps are ungrammatical:

(39)a. Mario sembra in gran forma
Mario seems in very good shape

b. Mario risulta in gran forma
Mario results in very good shape

c. Consideravo Mario in gran forma
I considered Mario in very good shape

d. Ritenevo Mario in gran forma
· I believed Mario in very good shape

e. ?Un lungo allenamento rese Mario in gran forma
A long training rendered Mario in very good shape

The Preposition *in* is *stricto sensu* a locative Preposition, but in spite of this, the phrase *in gran forma* has an adjectival interpretation and, in the

examples above, also an adjectival behaviour; according to our hypothesis, therefore, we can say that such PP can assign an external θ-role. On the other hand, the PP in question maintains the structural characteristics of Prepositions. It is a well known fact, for instance, that Ps cannot be dropped in coordinate structures, whereas all other major lexical categories can:

(40)a.   Ritenevo Teresa soddisfatta di noi e Luisa ___ di voi
       I believed Teresa happy with us and Luisa ___ with you
    b.   *Ho messo il libro sotto al tavolo e la penna ___ al quaderno
       I put the book under the table and the pen ___ the note book
    c.   *Ritenevo Teresa in buona forma e Luisa ___ eccellente
       I believed Teresa in good shape and Luisa ___ excellent

"Adjectival" and locative Ps do not differ in this context, meaning that there must always be some feature which unifies all types of Ps. Our proposal is that the lexical categorization is the same, whereas thematic properties vary. Let us consider now other non-locative prepositions:

(41)a.   ?Io sembro /risulto contro l'aborto
       I seem /result against abortion
    b.   ?Io sembro /risulto per l'aborto
       I seem /result in favour of (lit: for) abortion)
    c.   ?Io sembro /risulto a favore degli ecologisti
       I seem /result in favour of ecologists
    d.   ? o sembro /risulto senza amicizie importanti
       I seem /result without important relations
(42)a.   ? Ritenevo /consideravo /stimavo Mario contro l'aborto
       I believed /considered /esteemed Mario against abortion
    b.   ?Ritenevo /consideravo /stimavo Mario per l'aborto
       I believed /considered /esteemed Mario in favour of (lit: for) abortion
    c.   ?Ritenevo /consideravo /stimavo Mario a favore degli ecologisti
       I believed /considered /esteemed Mario in favour of ecologists
    d.   ?Ritenevo /consideravo /stimavo Mario senza amicizie importanti
       I believed /considered /esteemed Mario without important friendships
(43)a.   ??Una lunga militanza nel partito rese Mario contro l'aborto
       A long activity in the party rendered Mario against abortion

b.   ??Una lunga militanza nel partito rese Mario per l'aborto
     A long activity in the party rendered Mario in favour of (lit:for) abortion
c.   ??Una lunga militanza nel partito rese Mario a favore degli ecologisti
     A long activity in the party rendered Mario in favour of the ecologists
d.   ??L'improvvisa defezione dal partito rese Mario senza amicizie importanti
     The sudden defection from the party rendered Mario without important relations

The variation can be attributed to the degree in which the P is interpreted as "adjectival", and therefore able to assign the relevant θ-role.

Other independent tests can be provided to show that these Ps have a more adjectival interpretation. Consider for instance the compatibility with Adjective intensifiers, such as *particolarmente* (particularly), *intensamente* (intensely), *molto* (very) or *poco* (little), (under the 'intensity' reading). Locative Ps are not compatible with them, whereas Adjectives are[14] :

(44)a.   Gianni è particolarmente bello
         Gianni is particularly handsome
b.   *Gianni è particolarmente a Parigi
         Gianni is particularly in Paris

Such intensifiers are in various degrees compatible with the PPs we illustrated above:

(45)a.   Gianni è particolarmente in forma
         Gianni is particularly in good shape
b.   ?Gianni è particolarmente contro l'aborto
         Gianni is particularly against abortion
c.   ?Gianni è particolarmente a favore degli ecologisti

---

14 *Molto* (very) or *poco* (little) can also be used to modify the aspects of duration or frequency, which can be present alto in a locative PP. *Gianni è molto a Parigi in questo periodo* (Gianni is very in Paris in this period, i.e. 'Gianni spents a lot of time in Paris', or 'he is often in Paris' etc.). Cf. also Obenauer (1985) for the analysis of the distinction between intensive and non-intensive adverbs.

Gianni is particularly in favour of ecologists

d. ??Mario è particolarmente senza amicizie importanti

Mario is particularly without important relations

These facts can be informally interpreted in the following way: the more a PP has an "adjectival" meaning, the more it can be modified by an intensifier; an Adjective, in fact, specifies a quality which can be possessed in various degrees, whereas a location is usually a predicate of the type 'yes' or 'no'.[15]

Concluding these brief remarks, the principle in (17) must be rephrased as follows:[16,17]

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[15] Notice also that some of these PPs have an Adjectival counterpart:

i. a. Gianni è contro l'aborto
        Gianni is against abortion
    b. Gianni è contrario all'aborto
        Gianni is unfavourable to abortion
ii. a. Gianni è a favore dell'aborto
        Gianni is in favour of abortion
    b. Gianni è favorevole all'aborto
        Gianni is favourable to abortion
iii. a. Gianni è senza amicizie importanti
        Gianni is without important relations
    b. Gianni è privo di amicizie importanti
        Gianni is lacking important relations

[16] As expected, there is a certain improvement of the structures with *diventare* (become) as well, when there is such a non-locative P:

i. a. (?)? Dopo la visita del Papa, Gianni diventò improvvisamente contro l'aborto
        After the Pope's visit, Gianni suddenly became against abortion
    b. (?)? Dopo quel grande disastro in Cornovaglia, Gianni diventò improvvisamente a favore degli ecologisti
        After that great disaster in Cornwall, Gianni suddenly became in favour of ecologists.

[17] If our reasoning is correct, we should expect other differences between Adjectives and locative Ps (and between locative and non-locative ones) to come out in various areas of grammar. This expectation is borne out in at least one other type of phenomena.

Notice that a predicative NP can be pronominalized by means of the generalized pro-predicate *lo* (it), which is a third person masculine singular accusative clitic:

i. a. Io sono /sembro /divento un assassino
        I am /seem /become a murderer

(46)   Locative Ps do not assign an external θ-role.

6.

There are certain cases in which the distribution of anaphors and pronouns differs from the one we have just analysed. Here we will show how such cases are not exceptional, but simply constitute instantiations of different structures, without a Small Clause configuration. Consider the following examples:

(47)a.   In sogno, Gianni_i riconciliava Maria con Tonino davanti a se stesso_j /??a sé_i /*a lui_i

---

    b.   Io lo sono /sembro /divento
               I it-am /seem /become
Lo can also pronominalize VPs and APs:
ii.   Io sono uscito /io lo sono
               I have gone out /I it am
iii.   Io sono stanca /io lo sono
               I am tired /I it am
Locative PPs in general cannot be pronominalized by means of *lo*:
iv.   Gianni è a Parigi /*Gianni lo è
               Gianni is in Paris /Gianni it is
v.   a.   Gianni sembra essere a Parigi
               Gianni seems in Paris
     b.   Gianni sembra essere intelligente
               Gianni seems intelligent
     c.   Gianni lo sembra
               Gianni it seems (it=intelligent /*in Paris)
These facts too seem to correlate with our distinction: in PPs with an 'adjectival' interpretation, the structure with the clitic is more acceptable:
vi.   a.   Io sono in buona forma /Io lo sono
               I am in good shape /I it am
     b.   Tu sembri contro l'aborto /? (Tu) lo sembri
               You seem against abortion /You it seem
     c.   ?Io sono diventato per l'aborto /? (Io) lo sono diventato
               I became for abortion /I it became
     d.   ?Io sono a favore degli ecologisti /? (Io) lo sono
               I am in favour of ecologists /I it am
The nature of these phenomena is not very clear; further research is needed to capture the relevant generalization and to express the correct principles.

In his dreams, Gianni reconciled Maria with Tonino in front of himself /in front of self /in front of him

b.   In sogno, Gianni riconciliava Maria$_i$ con Tonino davanti a lei$_i$ /*davanti a se stessa$_i$

In his dreams, Gianni reconciled Maria with Tonino in front of her /herself
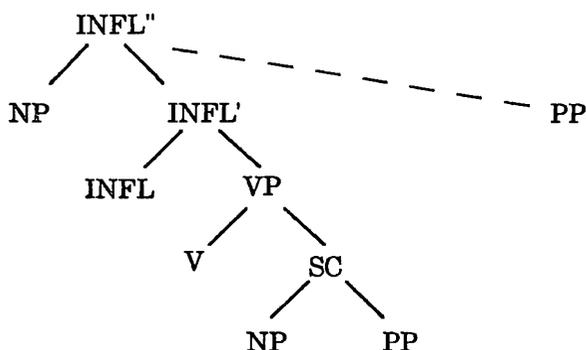
In these examples, the distribution of anaphors and pronouns is exactly the opposite of the one considered in examples (1)-(3). here, in fact, the preferred option for referring to the subject is the clause bound anaphor, whereas the pronoun is ungrammatical and the subject-oriented anaphor is marginal. Conversely, the anaphor is starred if bound by the object, but the pronoun is acceptable. Consider also the following indexing:

(48)   In sogno, Gianni riconciliava Maria con Tonino$_i$ davanti a lui$_i$ /*davanti a se stesso$_i$

In his dreams, Gianni reconciled Maria with Tonino in front of him /himself

If the prepositional object is the intended antecedent, the anaphor is starred and the pronoun is acceptable. This distribution can be easily explained by lack of c-command: the prepositional object introduced by con (with), does not permit c-command by the embedded complement toward the PP. A similar explanation can be adopted for the previous cases too; it is reasonable, in fact, to attribute the examples in (47) the following structure:[18]

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[18] This structure violates the Binary Branching Constraint (Kayne, 1984) that I adopted in this work. However, the problem is more general than that, since it concerns the level of attachment of all kinds of adjuncts. Various solutions come to mind, but the question is too complex to be addressed within the limits of the present work.

(49)

```
                    INFL"
                  /  \  ─ ─ ─ ─ ─ ─ ─ ─
            NP        INFL'              ─ ─  PP
                     /  \
                 INFL    VP
                       /  \
                      V    SC
                          /  \
                      NP        PP
```

The relevant PP is therefore interpreted as an adverbial and can probably be licensed by being a predicate of the subject NP, certainly not of the object. If (49) is the relevant configuration, the object NP cannot c-command into the adverbial, whereas the subject can. As a consequence, the anaphor is acceptable only if bound to the subject, and a pronoun only if disjoint from it.

Another piece of evidence suggesting that (49) is actually the structure for these sentences is the following: as pointed out in the previous chapter, a subject-oriented anaphor embedded inside an adverbial cannot take the subject of the sentence immediately dominating the adverbial as a possible antecedent. In (47)a. the occurrence of *sé* is not fully grammatical, certainly contrasting with the distribution of *sé* in examples (1)-(3) above. This fact could be explained by the configuration in (49), where *sé* is embedded in an adverbial structure. This requirement can be found in many languages with LDAs, such as, for instance, Icelandic, Norwegian and Japanese. The same happens in sentences like the following:

(50)   In sogno, Gianni mangiava delle mele davanti ??a $sé_i$ /davanti a se $stesso_i$ /*davanti a lui_i
        In his dreams, Gianni was eating apples in front of self /in front of himself /in front of him

Finally, other apparent counterexamples are constituted by the following cases:

(51)a.   Gianni$_i$ recitò [$_{NP}$ un PRO$_i$ discorso contro di sé$_i$ /contro se stesso$_i$ /*contro di lui$_i$]

    b.   Gianni$_i$ ascoltò [$_{NP}$ un PRO$_j$ discorso contro di sé$_i$ /*se stesso$_i$/di lui$_i$]

        Gianni listened to a speech against self /himself /him

Here, however, the PP is internal to the NP and the distribution of anaphors and pronouns can be attributed to coindexation with the PRO subject of this NP; see also Chomsky (1982 and 1986a).

      Concluding this brief section, it seems that such cases cannot undermine our proposal, since they are likely to be instantiations of completely different configurations.

CHAPTER 4

ON THE ANAPHORIC AND PRONOMINAL SYSTEMS OF ITALIAN AND FRENCH

Introduction

Comparative syntax, starting from Kayne's pioneristic studies in the seventies, has been a very important instrument in the development of the theory: minimal variations in the paradigms of different languages often crucially clarify various theoretical notions: the more similar are the languages in question, the more interesting are the differences, because presumably they have to be considered as an effect of parametric variations among languages. In this sense, comparative syntax gives an important contribution to the theory of Universal Grammar.

In this chapter we will compare Italian and French. Apparently the anaphoric/pronominal systems of the two languages are very similar, but they can be shown to differ in a rather unexplained fashion, in a subset of cases. We will show that precisely the instruments offered by comparative syntax permit to explain the phenomena in question: considering French alone, in fact, would be rather unproductive. Moreover, following the comparative method, we will be able to draw some general conclusions concerning the status of the principles of the Binding Theory.

On one hand, in fact, we will propose an explanation for some facts of French which can be considered problematic for the present theory of binding, on the other we will discuss some more general issues concerning the way Binding Theory has to be approached.

The most important conclusion, concerns the theoretical status of principle B. In several recent works (see, among the others, Reinhart, 1983 and Burzio, 1988; 1989a; 1989b) it has been claimed that such principle can be dispensed with in favor of additional conditions on the use of anaphors; here we are going to show that such approaches would run into serious problems and that a disjunction principle for pronouns must be

maintained, otherwise a whole range of empirical phenomena would remain unpredicted.

The Theory of Binding, as we already discussed in chapter 1, formally expresses the rules that constrain the possibility for anaphors, pronouns and occasionally names (R-expressions) of having an antecedent. From a methodological point of view, it is important to establish the primitive notions which contribute to the classification of lexical NPs, in order to know which of the principles of BT will rule them. As far as can be seen, there are three possible criteria which can be adopted. The first distinguishes between anaphors, pronouns and R-expressions on the basis of their syntactic behavior, the second one on the basis of morphological properties and the third one by means of semantic characteristics. In the first section we will further qualify these concepts.

The point of view advocated here is strongly in favor of a semantic distinction, i.e. of a definition in terms of referential properties, at least for anaphors and pronouns. We will claim, in fact, that defining the two classes this way presents some clear advantages with respect to both a morphological and a syntactic definition, as far as the methodological 'cleanliness' of the theory and the empirical predictive power are concerned.

In the first part we will investigate the Italian system and in the second one, we will show that Italian and French represent two different instantiations, with different lexical realizations, of the same abstract system. Under this perspective, we will be able to explain the behavior of French anaphors and pronouns which otherwise would remain rather mysterious. In section 6 we will also briefly analyze the first and second person system of Italian, showing that our hypothesis makes the correct predictions even in this domain. Finally, such an analysis will contribute to clarifying several methodological problems related to the conceptual approach to binding.

1.

Let us discuss now what we mean by 'syntactic' and 'morphological' definition. Principles A and B of the BT in the most 'traditional' version (Chomsky, 1981), state that: given an anaphor (principle A), it is bound in the local domain, called governing category; given a pronoun (principle B), it is free in the same local domain and given an R-expression, it is free. What we call here 'syntactic' definition, actually is no definition at all, but simply a truism; one could say, in fact, that what is locally bound is an anaphor, what is locally free is a pronoun

and the items which are free in the whole sentence are R-expressions. If there is no independent criterion which individuates these classes, it is obvious that from a methodological point of view, such a procedure is not correct. Notice for instance, that such a definition immediately collapses as soon as there is no complementary distribution between the various classes of elements, i.e. when both items which are usually locally bound and items which are usually locally free are able to occur in the same position.

Independent evidence, which yields more or less the same tripartition, in principle could come from a closer consideration of the morphological characteristics of the various kinds of items, or from an analysis of their semantic properties. Let us discuss them in turn. Notice also that the *desideratum* would be that the two sets of independent arguments exactly identify the same classes, otherwise they must be taken to be 'measures' of very close, but yet different, sets. In other words, we want that the items morphologically, or semantically, identified as anaphors, also have the property of being locally bound; those items definable as pronouns have the property of being locally free, and R-expressions of being free.

Burzio (1988; 1989a; 1989b) gives a definition of anaphors and pronouns on the basis of morphological evidence. He points out that across languages those items which happens to be locally bound do not have morphological features, i.e. are not (or at least, are less) specified for person, gender and number; whereas items morphologically more specified (usually) are classified as pronouns and, accordingly, are locally free.[1] We will consider again such an hypothesis in the last section, once the data of French will have been discussed. Obviously, the structure of the argument in this case is methodologically correct, since independent evidence converges to yield the same classes of items, so that

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[1]We will not discuss this matter here, since it has been widely and deeply investigated in Burzio's papers and reference cited there. Just to focus the kind of data which have been considered, let us provide some Italian examples. The Italian anaphor *sé* is not specified for gender and number, but only for person, which must be the third one:

i. a.   Lui/ lei ha parlato a lungo di sé
         he/ she talked a lot about self
   b.   Loro hanno parlato a lungo di sé
         They talked a lot about self

Pronouns, on the contrary, are specified for number, and in the singular even for gender: *lui*= mas sing; *lei*= fem sing; *loro*= fem/mas plur

one can take the morphological properties to be the primitive notions, according to which principles of binding apply.

Another set of arguments distinguishing anaphors form pronouns comes from semantic considerations, i.e. from an analysis of the referential properties of the various items. This point of view is the one we are going to argue for here; we will claim, in fact, that assuming semantic notions as primitive ones yields the most accurate empirical predictions.

Under this perspective, the main characteristic distinguishing anaphors from pronouns is the possibility of having intrinsic reference, i.e. of directly identifying a reference in the world. Pronouns have this property, but anaphors do not:[2]

(1)   Io amo lui
        I love him
(2)   *Io amo se stesso
        I love himself

(2) is ungrammatical because *se stesso* cannot be interpreted: for *io* (I) is morphologically incompatible with a non-first person anaphor; *lui* (him), on the contrary, can be interpreted as referring to someone in the world.

Another important property concerns the possibility of having split antecedents, i.e. a collection of elements with different indices and different thematic functions. They are allowed for pronouns, but not for anaphors. Consider for instance:

(3)a.   Gianni$_i$ comunicò a Maria$_j$ che l'azienda li$_{i+j}$ aveva licenziati
        Gianni told Maria that the firm had fired them
   b.   *Con una lunga terapia psicoanalitica, Gianni$_i$ restituì Maria$_j$ a
        se stessi$_{i+j}$
        With a long psychoanalytic therapy, Gianni restored Maria to
        themselves

The reasons for this phenomenon are not clear yet; it could be related to the fact that anaphors must be licensed, i.e. they need a syntactic object as antecedent, in order to survive, and in this sense, a collection of

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[2]For an interesting discussion on the status of epithets, which is rather problematic, see Lasnik (ch. 9, 1989). We will not discuss it here, but we simply refer the reader to his work and references cited there.

arguments is not a syntactic object, since no syntactic rule could ever be expressed in such a way as to affect it.[3]

If one only considers the examples given above, it seems that the distribution of anaphors and pronouns is complementary, i.e. in the contexts in which the former is grammatical, the latter is not and viceversa. The first works on binding rested on this assumption: see, for instance, Chomsky 1980, 1981 and references cited there, where, in fact, principles A and B are formulated in a strict complementary way.[4] Let us briefly consider here the 'traditional' examples illustrating complementarity:

(4)a.   Gianni$_i$ ama se stesso$_i$
       Gianni loves himself
  b.   *Gianni$_i$ ama lui$_i$
       Gianni loves him
(5)a.   *[$_{S0}$ Gianni$_i$ pensa [$_{S1}$ che Maria ami se stesso$_i$]]
       Gianni thinks that Maria loves himself
  b.   [$_{S0}$ Gianni$_i$ pensa [$_{S1}$ che Maria ami lui$_i$]]
       Gianni thinks that Maria loves him

In example (4)a. the binding requirements are met because *se stesso* is locally bound by *Gianni*, which is the subject of the same clause. In (4)b. the index *i* does not satisfy the binding requirements, since *lui* is not locally free, given that *Gianni* bears the same index. The sentence, however, could be grammatical, provided that *lo* is not interpreted as

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[3]Notice that PRO lacks intrinsic reference and can take split antecedents; therefore, at least in one case, the two tests do not identify the same class, showing this way that they constitute independent evidence. Consider the following examples:

i.   PRO$_{arb}$ partire è bello
      To leave is nice
ii.   Gianni$_i$ ha proposto a Maria$_j$ di PRO$_{i+j}$ partire insieme per Casablanca
      Gianni proposed Maria to leave together to Casablanca

Non-controlled PRO is never able to identify a precise referent in the world, for instance *John*, but can only be arbitrary, whereas it can take a split antecedent; we refer the reader to the discussion of these examples in chapter 2 (cf. also Giorgi and Longobardi, forthcoming, ch. 4).

[4]The definitions can be expressed as follows: given a local domain γ,

     A: α, for α an anaphor, must be bound in γ

     B: α, for α a pronoun, must be free in γ

Gianni. Sentence (5)a. shows that the relation between *se stesso* and its antecedent must be local; the grammaticality of (5)b. follows if we consider that the requirement concerning the disjunction of pronouns is also local; this way, *Gianni*, lying outside S1, does not count as a local binder. As already well known, however, such perfect complementarity is only apparent, in that the anaphoric/ pronominal systems are usually far more complex. In this work, we will not consider complementarity *per se*, but we will analyze some cases where, crucially, anaphors and pronouns can cooccur.

Let us focus first on the third person system. Here we will assume that the lexical items have already been classified as anaphors or pronouns, according to the two tests suggested above, as discussed in the second chapter of this book. Italian distinguishes two non-clitic anaphors: *sé* (glossed *self*) and *se stesso* (himself), whereas first and second persons only have one lexical item, i.e. *me stesso* (myself), *te stesso* (yourself), etc. For the sake of exposition, let us briefly recall their characteristics here: *se stesso* is composed of two items: *se* is invariable for gender and number, whereas *stesso* has the morphological endings typical of an Adjective: *-o* (masc. sing.), *-a* (fem. sing.), *-i* (masc. plu.), *-e* (fem. plu.). Obviously, *sé* is invariable.[5] Moreover, for third person there is also a possessive anaphor, *proprio*, which is invariable with respect to the antecedent, i.e. it does not agree in gender and number with the element it refers to, but, like *stesso*, is morphologically an Adjective, agreeing in gender and number with the head Noun it modifies. First and second

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[5]*Stesso* (self) can also occur with R-expressions and pronouns without affecting their behavior with respect to binding:

i.   Gianni stesso
      Gianni in person
ii.   Lui stesso
      He in person

Stesso can be taken to be an intensifier, also because in these constructions it exhibits the typical intonational pattern of emphatic elements. Moreover, it seems that anaphors cannot be intensified. For instance, one could expect that an anaphor like *sé* can be modified by *stesso*, appearing in the contexts where *sé*, but not *se stesso*, can appear. This is not the case:

i.   Quel dittatore pensava che i libri di storia avrebbe parlato a lungo di sé/ *di
      sé stesso/ di lui stesso (e delle sue gesta)
      That dictator thought that the book of history would talk a lot about self/
      about self+emph/ about him +emph (and his deeds)

person, on the contrary, do not have a corresponding possessive anaphor, but only a pronominal possessive.[6]

2.

As we have briefly shown in examples (4) and (5), *se stesso* must be locally bound. Provided that the locality requirement is met, the anaphor can be bound by any c-commanding antecedent, i.e. the latter can realize any syntactic and thematic function. In example (4), the antecedent is a subject, but even direct and indirect objects can satisfy the binding requirements. For example: [7]

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[6]That *proprio* and *sé* are anaphors is shown, among other things, by their lack of intrinsic reference (cf. exx. (1) and (2)):

i. a.   *Ho parlato di sé
       I talked about self
  b.   Ho parlato di lui
       I talked about him
  c.   *Ho parlato della propria madre
       I talked about self's mother
  d.   Ho parlato di sua madre
       I talked about his mother

i;a. and c. are ungrammatical because *sé* and *proprio* cannot have a reference by themselves and lack a proper antecedent in the sentence.

[7]Technically speaking, the principles of Binding for anaphors and pronouns we will refer to here, are the ones discussed in Chomsky (1986a, 171-172):

i. a.   A: α is an anaphor and is bound in β under I

       B: α is a pronoun and is free in β under I

  b.   The indexing I and the pair (α,β) are *compatible* with respect to the Binding Theory if α satisfies the BT in the local domain β under the indexing I.

ii.   The licensing condition for a category α governed by a lexical category γ in the expression E with indexing I:

       For some β such that α is an anaphor or pronominal and β is the least Complete Functional Complex (CFC) containing γ for which there is an i ndexing J BT-compatible with (α,β), I is BT-compatible with (α,β).

iii.   Complete Functional Complex (Chomsky 1986a, p.169)
       a CFC is the domain in which all the grammatical functions compatible with the head are realized

The meaning of ii.is self-evident;i. and ii. state formally that pronouns and anaphors must be, respectively, locally free or bound.

Notice that in English the literal translation of sentence (6)b is ungrammatical. It becomes acceptable in the double object construction:

(6)a.   Una lunga terapia psicoanalitica restituì Maria$_j$ a se stessa$_j$
        A long psychoanalytic therapy restored Maria to herself
  b.   Una lunga terapia psicoanalitica restituì se stessa$_j$ a Maria$_j$
        A long psychoanalytic therapy restored herself to Maria

Let us examine now the distribution of *sé*. It is important to observe first that it can occur only in restricted local contexts, in that it normally cannot be governed by a Verb:[8]

(7)   *Gianni$_j$ ama sé$_j$
       Gianni loves self

in (7) binding requirements could be met, but the condition on the syntactic environment is not. *Sé*, in fact, can only appear after a Preposition:

(8)   Gianni$_j$ parla di sé$_j$
       Gianni talks about self

The reasons for such a constraint are not yet clear and we will not theoretically investigate them further; we will only adopt it as a descriptive generalization.[9] Note also that the Case-realizing (dative) Preposition *a* (to) also excludes *sé*:[10]

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iv.   A long psychoanalytic therapy restored Mary herself
On these data see Lasnik and Barss (1986) and Larson (1988).

[8]Notice that the correct generalization seems really to be in terms of government, since a Verb does not, by itself, determine a domain inacceptable for *sé*, provided that a (immediate) government configuration does not obtain:
i   ?Gianni ama [sé e la sua famiglia]
     Gianni loves self and his family
loves does not immediately govern *sé*, since the node due to coordination intervenes

[9] Manzini and Wexler (1987) discuss some cases of *sé* directly governed by a Verb. We will not consider here this variety of Italian.

[10]Notice that locative *a* admits *sé*:
i   Gianni$_j$ trasse a sé$_j$ la coperta
     Gianni pulled the blanket toward self
On *a* as a Case realizing Preposition and its property with respect to binding and c-command, see Giorgi and Longobardi (forthcoming, ch.1).

(9)   *Gianni¡ ha regalato un'automobile a sé¡
       Gianni made a present of a car to self

In all these contexts, on the contrary, *se stesso* is grammatical. Note that *se stesso* is also compatible with prepositional contexts:

(10)   Gianni ha riconciliato Maria¡ con se stessa¡
        Gianni reconciled Maria with herself

With respect to the distribution of *sé*, (8) already shows that it can be locally bound by a subject; in order to ascertain if it is a contextual variant of *se stesso*, in prepositional contexts, we have to check whether it is subject to locality and whether its antecedent can play a syntactic role of any sort in the structure. Consider the following examples:

(11)a. *Ho informato Maria¡ su di sé¡
       I informed Maria on self
   b. *Ho parlato a Maria¡ di sé¡
       I talked to Maria about self

Unlike subjects, objects, either direct or indirect, are not possible antecedents; with respect to such a property, therefore, *sé* differs from *se stesso*. With respect to the locality condition, consider now (12):

(12)a. [$_{S0}$ Quel dittatore¡ pensava [$_{S1}$ che i libri di storia avrebbero parlato
       a lungo di sé¡ (e delle sue gesta)]]
       That dictator thought that the books of history would tell for a long
       time about self (and his deeds)
   b. [$_{S0}$ Quel dittatore¡ ordinò agli storici [$_{S1}$ di parlare di sé¡ nei loro
       libri]]
       That dictator ordered the historians to tell about self in their books

Quel dittatore (that dictator) even if lying outside S1, is a possible antecedent, contrary to what we have seen for *se stesso*. *Sé*, therefore, is a subject-oriented, non-local anaphor; from the current literature we know that anaphors exhibiting this pattern are found in many languages belonging to different linguistic families: Dutch, Norwegian, Icelandic,

Japanese, Chinese, Malayalam and so on.[11] Even though it is an anaphor, *sé* behaves very differently from *se stesso*; on one hand it is not local, on the other, it has strong restrictions on the syntactic function of the antecedent.

As a consequence, we can say that the third person anaphoric and pronominal system of Italian is tripartite: besides pronouns, there is a clause bound anaphor, *se stesso*, and the subject oriented *sé*.[12]

Notice that *sé* is not in complementary distribution with the pronoun:

(13)a. [S_0 Quel dittatore$_i$ pensava [S_1 che i libri di storia avrebbero parlato a lungo di lui$_i$ (e delle sue$_i$ gesta)]]
That dictator thought that the books of history would tell for a long time about him (and his deeds)

   b. [S_0 Quel dittatore$_i$ ordinò agli storici [S_1 di parlare di lui$_i$ nei loro libri]]
That dictator ordered the historians to tell about him in his books

Lui has to be free in S1, but can be coindexed with any element in the superordinate clause S0.

Neither is *sé* in complementary distribution with *se stesso*. In fact, when the antecedent is the local subject and the anaphor is governed by a

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[11]On Dutch see Koster (1985) and Everaert (1986); on Norwegian see Hellan (1988); On Icelandic see Anderson (1986) and Maling (1984); on Japanese see, among others, Kuroda (1965); on Chinese see Huang and Tang (1988); on Malayalam see Mohanan (1982). There are also other conditions which these anaphors must meet, mainly concerning the kind of mood of the clauses intervening between the anaphor and the antecedent. For instance, such clauses must be in the subjunctive in Icelandic (see Anderson 1986 and Maling 1984); in subjunctive, conditional or infinitive in Italian. Consider the following sentences:

i. a.　　*Quel dittatore sostiene che i libri di storia parlano già di sé
　　　　　That dictator claims that the books of history already talk (IND) about self

   b.　　Quel dittatore era convinto che i libri di storia parlassero già di sé
　　　　　That dictator was convinced that the books of history already talked (SUBJ) about self

For a detailed analysis of this condition in Italian, see the second chapter of this book.

[12] The clitic item *si* can also have an anaphoric function, but its distribution as an anaphor is rather complex and subject to additional restrictions. On *si* see Belletti (1982), Manzini (1983a), Burzio (1986) and Cinque (1988).

Preposition, both items are admitted (if there are no other conditions to be met). For example:

(14)a. Gianni$_i$ dubita perfino di sé$_i$
  Gianni doubts even of self
 b. Gianni$_i$ dubita perfino di se stesso$_i$
  Gianni doubts even of himself

In this case, *Gianni* is a possible antecedent for both anaphors, since the local context satisfies the conditions for both of them.

Let us now analyze the distribution of *proprio*. *Proprio* is the only possessive anaphor in Italian, besides the third person possessive pronouns *suo* (sing) and *loro* (plur). As argued in chapter 2 above, *proprio* has both the properties of *sé* and *se stesso*. Consider the following examples:

(15)a. Gianni$_i$ ama la propria$_i$ moglie
  Gianni loves self's wife
 b. Una lunga terapia psicoanalitica restituì Maria$_i$ alla propria$_i$ famiglia
  A long psychoanalytic therapy restored Maria to self's family
 c. Una lunga terapia psicoanalitica restituì la propria$_i$ moglie a Gianni$_i$
  A long psychoanalytic therapy restored self's wife to Gianni

In (15), *proprio* is locally bound by a subject (a), a direct object (b), and by an indirect object, (c). With respect to such a property, therefore, *proprio* behaves like *se stesso*. Consider now example (16):

(16) [$_{S0}$ Quel dittatore$_i$ pensava [$_{S1}$ che i libri di storia avrebbero parlato a lungo delle proprie$_i$ gesta]]
  That dictator thought that the books of history would talk for a long time about self's deeds

In (16), *proprio* can be long distance bound, therefore paralleling *sé*. The most interesting piece of evidence about the status of *proprio* comes from the ungrammaticality of the following sentences:

(17)a. [$_{S0}$ Ho convinto Maria$_i$ [$_{S1}$ che tutti avrebbero letto il proprio*$_i$ libro]]
I convinced Maria that everybody would read self's book
   b. [$_{S0}$ Ho comunicato a Maria$_i$ [$_{S1}$ che tutti avrebbero letto il proprio*$_i$ libro]]
I communicated to Maria that everybody would read self's book

Proprio cannot refer to *Maria* and can only refer to *tutti*. Therefore, when it is long distance bound, it must be subject oriented. It shares such a peculiarity with *sé*; this amounts to saying that it also corresponds to the latter anaphor. From the point of view of the Italian anaphoric system, we can say that, besides the pronoun, there is one item merging two distinct syntactic functions, i.e. optionally obeying one or the other condition. Abstractly, therefore, one could still maintain that even the possessive system is tripartite, whereas in the lexicon certain items can disjunctively neutralize some of the oppositions.

Let us now consider a more complex case, which on one hand will provide us with additional evidence in favor of our conclusion, on the other, will give us a key to analyze the French system:

(18)a. Gianni$_i$ ha aizzato Maria contro di sé$_i$/ ?contro di lui$_i$/ *contro se stesso$_i$
Gianni turned Maria against self/ against him/ against himself
   b. Gianni ha aizzato Maria$_i$ *contro di sé$_i$ / *contro di lei$_i$ / contro se stessa$_i$
Gianni turned Maria against self/ against her/ against herself
(19)a. Gianni$_i$ ha riconciliato Maria con sé$_i$ / ?con lui$_i$ / ?*con se stesso$_i$
Gianni reconciled Maria with self/ with him/ with himself
   b. Gianni ha riconciliato Maria$_i$ *con sé$_i$/ *con lei$_i$ / con se stessa$_i$
Gianni reconciled Maria with self/ with her/ with herself

These data are analogous to those discussed by Chomsky (1981) and Bouchard (1984) (cf. also ch. 3) for English, apart, of course, from the distribution of *sé*, which we will put aside for the moment.

In (18) and (19) the pronoun and the clause bound anaphors are in complementary distribution. Note however that in the (a) sentences the pronoun is not disjoint from its subject and conversely *se stesso* cannot be bound by it, whereas, the object in the (b) examples behaves as an antecedent in the ordinary way. A standard explanation for these facts is

that the sequence NP-PP constitutes the domain, a Small Clause, in which the Binding requirements must be met. Consequently, an anaphor must have an antecedent inside this domain and a pronoun must be free in it. The structure is therefore the following:

(20)   [$_{S0}$ NP [$_{VP}$ V [$_{SC}$ NP PP]]]

The subject of S0 is not available as an antecedent for *se stesso*, since it lies too far away, whereas the pronoun, satisfying its binding requirements inside the Small Clause, is not disjoint from that subject. On the other hand, the subject oriented anaphor cannot refer to the intermediate NP, *Maria*; an analysis of these phenomena and a proposal for an exaplantion are discussed in chapter 3. Given this evidence, we can conclude that S0 and SC are in the same relation as S0 and S1.

Let us consider now the distribution of *proprio* in these contexts:

(21)a. Gianni$_j$ ha aizzato Maria$_i$ contro coloro che disprezzano il proprio$_{j/*i}$ figlio
    Gianni turned Maria against those who despise self's son
  b. Gianni$_j$ ha riconciliato Maria$_i$ con coloro che amano il proprio$_{j/*i}$ figlio
    Gianni reconciled Maria with those who love self's son

Here *proprio* is embedded in a relative clause; therefore it could take *Gianni* or *Maria*, which lie outside, as antecedents only on the basis of the strategy for long distance anaphors. Again, *proprio* behaves like *sé*, since *Maria*, an object, cannot be its antecedent, whereas *Gianni*, a subject, can. Consider now the following examples:

(22)a. Gianni$_j$ ha aizzato Maria$_i$ contro il proprio$_{i/j}$ figlio
    Gianni turned Maria against self's son
  b. Ho riconciliato Maria$_i$ con il proprio$_i$ figlio
    I reconciled Maria with self's son

In this case, both *Gianni* and *Maria* are possible antecedents. The fact that *proprio* can refer to *Maria* simply follows from its property of being clause bound, i.e. of paralleling *se stesso*. It can also refer to *Gianni*, contrary to *se stesso*, because it is capable of being a subject-oriented, therefore a long distance, anaphor, like *sé*, which can be bound also outside S1. Again, this

is exactly the pattern we predict, by stating that *proprio* is the possessive item corresponding both to *sé* and *se stesso*.

3.

      Consider now some data from French:

(23)a. Victor$_i$ tire la couverture à lui$_i$/ *lui-même$_i$
      Victor pulls the blanket towards him/ himself
    b. Victor$_i$ prend le livre avec lui$_i$/ *lui-même$_i$
      Victor takes the book with him/ himself
(24)a. Marie a réconcilié Victor$_i$ avec lui-même$_i$/ *lui$_i$
      Marie reconciled Victor with himself/ him
    b. Marie a éloigné Victor$_i$ de lui-même$_i$/ *lui$_i$
      Marie withdrew Victor from himself/ him

These examples have been taken from the literature (i.e. Zribi Hertz 1980; Pica 1984; Bouchard 1984). Consider incidentally that *lui* in French has restrictions analogous to those displayed by *sé* with respect to the class of environments in which it can appear, i.e. basically it cannot be governed by a Verb, so that it does not appear in potential cliticization contexts (for instance direct and indirect object position), exactly like *sé*. Such a constraint is also carried over to *lui-même*; in other words, cliticization in French is obligatory whenever possible:

(25)a. *Victor$_i$ aime lui-même
      Victor loves himself
    b. *J' aime lui
      I love him
(26)a. Victor$_i$ s$_i$'aime
      Victor himself-loves
    b. Je l'aime
      I him-love

Abstracting away from the latter restriction, on the basis of (23) and (24) we can conclude that French *lui* and *lui-même* have the same distribution as the Italian pronoun and clause bound anaphor, respectively. Note,

however, that *lui* must be taken to be a pronoun, as is clearly shown by the following example, in which it has intrinsic reference:[13]

(27) Je n'aime que lui
      I love only him

However, it has already been noted in the literature that the distribution of *lui* and *lui-même* is somewhat anomalous. In fact, in spite of the apparent similarities between a pronoun and *lui*, on one hand, and a clause bound anaphor and *lui-même*, on the other, it was noted that in several contexts they do not appear to be in complementary distribution, even where complementarity normally arises in other languages, for instance English and Italian. Consider the following examples:

(28)a. Victor$_i$ croit en lui$_{i}$/ lui-même$_i$
        Victor$_i$ believes in *him$_i$/ himself$_i$
        Victor$_i$ crede in *lui$_i$/ se stesso$_i$ / sé$_i$
    b. Victor$_i$ rit de lui$_i$/ lui-même$_i$
        Victor$_i$ laughs on *him$_i$/ himself$_i$
        Victor$_i$ ride di *lui$_i$/ se stesso$_i$/ sé$_i$
    c. Victor$_i$ doute de lui$_i$/ lui-même$_i$
        Victor$_i$ doubts of *him$_i$/ himself$_i$

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[13]If we are correct, the fact that a given element has intrinsic reference does not imply that it cannot be *also* an anaphor. On the other hand, it is obvious that if an item *never* has intrinsic reference, it is specified *only* as an anaphor. Notice moreover that *lui-même* in certain contexts can be taken to be an emphatic form for *lui*:

i   Lui-même m'a dit que Louise est partie
       He himself told me that Louise has left

This fact anyway does not undermine our hypothesis, since even in Italian the item *stesso* can be added to any NP, as for instance *Gianni stesso* (lit: Gianni self) or *lui stesso* (lit: he/him self), to give an emphatic form. If the same can happen in French, the existence of an emphatic form such *lui-même* must actually be analyzed as the pronoun *lui* plus the intensifier *même*. As a consequence, we expect it to have intrinsic reference as in i. and to be grammatical with split antecedents:

ii.   Jean à dit a Pierre que eux-même partiron
       Jean told Pierre that they themselves will leave

Our expectations seem to be confirmed by these data. Notice also that such forms can appear in agreement, as in ii., a position where anaphors cannot occur (see Chomsky 1986a; Rizzi, 1989); this fact, therefore, provides additional evidence in favor of the analysis sketched here.

Victor$_i$ dubita di *lui$_i$/ se stesso$_i$/sé$_i$

As may be seen from the glosses, both Italian and English exhibit complementary distribution of pronouns and clause bound anaphors, as expected on the basis of the paradigms in (3) and (4).

Of course, we cannot either simply resort to a theory that claims that French *lui* is unspecified as a clause bound anaphor or a pronominal and that *lui-même* is just an emphatic form for it, because this would never predict the ungrammaticality of French *lui* with a local non-subject antecedent, as in (24), where a clause bound anaphor should be admitted. Conversely, we would not predict the ungrammaticality of *lui-même* in (23) either, because if the latter were just an emphatic form, one could not exclude it from any context in which *lui* is admitted.

By considering the Italian and the French anaphoric system together, it is possible to find a solution to this problem.

Recall that, as far as Italian is concerned, in Small Clause contexts with a predicate PP (cf. exx.18-19), besides the pronoun, another element could not be coindexed with *Maria*, as opposed to *Gianni*: it is the subject oriented anaphor *sé*, which cannot take the subject of a Small Clause headed by a Preposition as an antecedent, most likely for thematic reasons, explored in chapter 3. Consider in fact the Italian translations of French (23)a. and (24)a.:

(29)   Vittorio$_i$ ha tirato la coperta verso di sé$_i$/ lui$_i$/ *se stesso$_i$
         Vittorio pulled the blanket toward self/ him/ himself
(30)   Maria ha riconciliato Vittorio$_i$ con se stesso$_i$/ *sé$_i$/ *lui$_i$
         Maria reconciled Vittorio with himself/self/ him

These sentences are analogous to (18) and (19) above. In (29) the subject oriented anaphor *sé* is the preferred option, but *lui* is not ungrammatical, i.e. speakers strongly prefer it to *se stesso*. In (30), on the contrary, the pronoun and the subject oriented anaphor are excluded, but the clause bound one is not. *Sé* is not in complementary distribution with pronouns, as in (29), and is not in complementary distribution with anaphors either, as we have seen in the Italian translations of examples (28) above.

Our hypothesis is the following: *lui-même* can actually be a clause bound anaphor, since the contexts in which it appears are those in which, in Italian and English, *se stesso* and *himself* appear. If we consider (23), (24) and (28) together, we can conclude that *lui*, here, has the same distribution as *sé*, which in fact is grammatical in all these structures.

Such a hypothesis is more adequate than just claiming that French *lui* is a pronoun, since, this way, (28) would remain a mystery.

Recall that we already pointed out that *lui* has intrinsic reference and therefore it must be classified as a pronoun (cf. ex. 27). However, we can still suppose that it is ambiguously specified in the lexicon both as a pronoun and as a subject oriented anaphor. From an abstract point of view, this means that the French anaphoric and pronominal system is tripartite exactly as in Italian, even if the actual lexical items are just two, one for the pronoun and the subject oriented anaphor, and the other for the clause bound anaphor. Recall that something similar happens with *proprio*, which collapses together the characteristics of *sé* and *se stesso*.

Consider also that, as we said above, in French, wherever possible, cliticization is obligatory and that the clitic *le* is always disjoint from the subject of its clause. Conversely, the anaphoric clitic *se* must always be bound to it:

(31)a. Victor$_i$ l'$_j$aime
        Victor loves him
   b. Victor$_i$ s'$_{i/*j}$ aime
        Victor loves himself

Recall, however, that *lui* in (28) is not disjoint from the subject; our idea, i.e. to resort to lexical features of the various items, can explain this potential discrepancy between the two types of elements, simply by claiming that French *lui* is (also) a subject oriented anaphor, but the clitic *le* is not. This hypothesis seems to be plausible, in that, even in Italian, there is no clitic counterpart for *sé*.

We have seen in (30) that *sé* cannot refer to *Vittorio*, exactly like the pronoun. In fact, as discussed in chapter 3, Small Clauses with a predicate headed by a Preposition do not define a suitable environment for a subject oriented anaphor, contrasting with SCs whose predicate is headed by an Adjective. In the latter context, in fact, the subject oriented anaphor and the pronoun are not both excluded. Consider the following examples:[14]

(32)a. Gianni$_j$ ha trovato il professore$_i$ contento di sé$_{i/j}$
        Gianni found the professor happy with self
   b. Gianni$_j$ ha trovato il professore$_i$ contento di lui$_{j/*i}$

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[14]Cf. examples (18),(19),(21) in the text.

Gianni found the professor happy with him

sé can be bound by *professore* in (32)a, whereas Italian *lui*, being a pronoun subject to principle B, must be disjoint from it. Our prediction is that *lui* in French should be acceptable with both antecedents, i.e. it should not be disjoint from *professeur*, once again paralleling the distribution of *sé*:

(33)   Jean$_j$ a trouvé le professeur$_i$ content de lui$_{i/j}$
        Jean found the professor happy with him

Our expectation is met, in that French *lui* can refer to both elements. In fact, since it is ambiguously specified in the lexicon as a subject oriented anaphor and as a pronoun, it is grammatical in all the contexts in which at least one of them is predicted to be. Consistently, where neither one is (cf. ex. (24) to be compared with Italian (30)), *lui* is excluded. If both are allowed (cf. (23) and Italian (29)), *lui* is obviously permitted. In (28) (cf. the Italian glosses), only the subject oriented anaphor is allowed in Italian and, as predicted, *lui* is possible in French.

Finally, an important piece of evidence comes from the distribution of the plural form for *lui* (*eux*) with split antecedents; in those contexts where *eux* is forced to behave as an anaphor, since as a pronoun it would be locally bound, we also expect it not to take split antecedents.

Consider the following examples:

(34)a. [Jean et Paul]$_i$ sont contents d'eux$_i$
        Jean and Paul are happy with themselves
   b.   [Jean et Paul]$_i$ croient que [Marie est contente d'eux$_i$]
        Jean and Paul believe that Marie is happy with them
   c.   Jean$_j$ a dit à Paul$_i$ que [Marie est contente d'eux$_{i+j}$]
        Jean said to Paul that Marie is happy with them
   d.   Jean$_j$ croit que [Paul$_i$ est content d'eux$_{*i+j}$]
        Jean believes that Paul is happy with them
   e.   Jean$_j$ croit que [Paul et Marie]$_i$ sont contents d'eux$_{*i+j}$
        Jean believes that Paul and Marie are happy with them

(34)a.is analogous to (33) above, where *lui* can refer to *professeur*, since as a subject oriented anaphor it has this option. Notice that as a pronoun it would be excluded in this context by principle B. In (34)b., *Jean et Paul* is a possible antecedent for *eux*; in fact, given that it is a non local subject, *eux*

can refer to such a Noun Phrase either as a pronoun or as a subject oriented anaphor. In (34)c. by virtue of its being specified (also) as a pronoun, it can take a split antecedent. (34)d. shows however that if one of the two parts of the antecedent occurs in the local domain, the split antecedent reading becomes impossible. Our explanation runs as follows: in order to refer to *Paul* in (34)d., *eux* must crucially exploit its properties as a (subject oriented) anaphor, but as such it is incompatible with split antecedents. Such a prediction actually follows from our hypothesis. Finally, the impossibility of the reading given in (34)e., where the pronoun should be interpreted as *Paul, Marie and Jean*, shows that even if the local requirements are met, so that in principle it could be locally bound as an anaphor by a plural antecedent, still a split antecedent is not admitted. One could claim in fact that (34)d. is starred because *eux*, due to its plural features, cannot behave as an anaphor, i.e. cannot be locally bound, since *Paul* cannot be a possible antecedent; conversely, *eux* cannot either behave as a pronoun due to the overlapping reference constraints (see Lasnik, 1976). Notice that under the hypothesis considering *eux* a locally bound pronoun, in absence of any further specification, overlapping reference phenomena should in principle not exist.[15]

As we already pointed out in the introduction, these facts constitute an important piece of evidence in favor of a formulation of a disjointness condition for pronouns, i.e. of principle B. Any other theory dispensing with such a principle, in fact, would have to stipulate, more or less *ad hoc*, additional constraints in order to admit split antecedents just in case the item in question is non locally bound.[16]

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[15] For an analysis of overlapping phenomena, see Burzio (1989a).

[16] Both Reinhart (1983) and Burzio (1988; 1989a; 1989b), in fact more or less argue that a pronoun must be used when the anaphor, for whatever reason, is not available. The situation we might infer from what they claim could be the following: in the French cases we just discussed, the anaphor is not available, given that the only anaphors of French are the clitic ones; according to their proposals, therefore, the pronoun *lui*, and its emphatic form, *lui-même*, must be adopted. This theory, however, makes the prediction that split antecedents should be possible, whereas they are not, a fact which therefore remains unexplained or to be stipulated *ad hoc*. According to our perspective, on the contrary, a pronoun can never be locally bound, because of principle B; consistently, locally bound items, being anaphors, can never have a split antecedent.

4.

That the French anaphoric/pronominal system is to be considered tripartite can be independently argued on the basis of the distribution of *soi* and *soi-même*, originally discussed by Pica (1984; 1986; 1987).[17] *Soi* and *soi-même* are anaphors, as shown by their lack of intrinsic reference, but occur only in the context in which the antecedent is a quantified or arbitrary NP:[18]

(35)a. Je n'aime que *soi/ *soi-même
       I love only oneself
    b. Chacun$_i$ n'aime que soi$_i$/ soi-même$_i$
       Everybody loves only oneself
    c. *Jean$_i$ n'aime que *soi$_i$/ *soi-même$_i$
       Jean loves only oneself

(35)a. is ungrammatical because *soi* and *soi-même* cannot be interpreted; (35)b. is acceptable because *chacun*, a quantified NP, is a possible antecedent for them; *Jean* is not, given that it is a definite NP. Pica (1984, ex.57) discusses the following example that shows that *soi* can be long distance bound:

(36)   [$_{S0}$ On$_i$ regrette toujours [$_{S1}$ que les gens disent mal de soi$_i$]]
        One always regrets that people slander one

        Consider now the following sentences:

(37)a. Pour faire un long voyage, on/ chacun prend des livres avec soi/ ?* soi-même
       To make a long trip, one/ everybody takes some books with him

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[17]Notice that the restrictions on cliticization contexts hold here too:
i. a.   *Chacun$_i$ aime soi$_i$
    b.   *Chacun$_i$ aime soi-même$_i$
    c.   Chacun$_i$ s'$_i$ aime
          Everybody loves himself

[18]It is not the case, however, that every quantifier is a possible antecedent for *soi/ soi-même*; actually the only ones seems to be *chacun* and *quelcun*. Notice however, that there is a certain degree of variation among native speakers of French with respect to the possible antecedents.

b. Une longue thérapie psychoanalytique peut réconcilier chacun
avec *soi/ soi-même
A long psychoanalytic therapy can reconcile everybody with
himself

c. (Quand)on   croit en   soi/ soi-même
                doute de
                rit de
(When) one believes in/ doubts of/ laughs at oneself

The distribution of *soi/ soi-même* therefore, exactly parallels that of *sé/ se stesso* in Italian, and that of *lui/ lui-même* in French. Compare, in fact, (37)a. with the French example in (23)b. In the latter *lui* is admitted and *lui-même* is excluded. Since we independently know that *soi* cannot behave as a pronoun, due to its lack of intrinsic reference (cf. ex.(35)a.), we are allowed to conclude that *soi* has the properties of a subject oriented anaphor. Consider now (37)b, compared with (24)a. in French, and (30) in Italian. *Soi* is excluded in (37)b, exactly as *sé* in Italian and *lui* in French; again, since we know that *soi* is not a pronoun, its behavior is due to its being a subject oriented anaphor. In (37)c. *soi*, as French *lui*, is acceptable in a context in which, in Italian and English, the pronoun is excluded.

In conclusion, our proposal reduces the apparently 'exceptional' behavior of *soi* to a more general phenomenon of French, i.e. to the existence in its anaphoric system of a 'slot' occupied by a subject oriented anaphor of the type of *sé*, with which *soi* shares morphological features and etymology.

5.

Let us examine now a further piece of evidence independently suggesting the need for the double specification of a given item as a pronoun and as a subject oriented anaphor.

We have already shown in chapter 2 (cf. also Burzio 1989a) that in Italian only anaphoric elements can refer to arbitrary PRO or to impersonal *si*. This is expected under principle B of the BT in the local context, but is less obvious in non-local ones, in which, usually, subject oriented anaphors are not in complementary distribution with pronouns. Consider the following examples:

(38)a. PRO_{arb} amare se stessi$_{arb}$ /*loro$_{arb}$ è naturale
To love oneself/ them is natural

b. PRO$_{arb}$ parlare troppo di sé$_{arb}$/*loro$_{arb}$ è maleducazione
    to talk too much about self is unpolite

(39)a. Spesso, si$_{imp}$ pensa solo a se stessi$_{imp}$/*loro$_{imp}$
        Often, one only thinks of oneself

b. Spesso, si $_{imp}$ parla troppo di sé$_{imp}$/*loro$_{imp}$
    Often, one talks too much about oneself

(40)a. [S$_0$ E' difficile PRO$_{arb}$ credere [S$_1$ che i libri di storia parleranno
        a lungo di sé$_{arb}$ / *di loro / *di se stessi]]
        It is difficult PRO$_{arb}$ (plur) to believe that the book of history will
        talk for a long time about selves/ them/ themselves

b. [S$_0$ Di solito, non si$_{imp}$ pensa [S$_1$ che i libri di storia parleranno a
    lungo di sé$_{imp}$ / *di loro / *di se stessi]]
    Usually, one (plur) does not think that the book of history will talk
    for a long time about selves/ them/ themselves

In (38) and (39), we can see that both *sé* and *se stessi* (recall that in Italian the arbitrary interpretation is always masculine plural) can refer to impersonal or arbitrary antecedents and that the pronoun is excluded. However, the pronoun must be impossible anyway, because of the locality condition imposed by principle B which in (38) and (39) is violated.

In (40)a. and b. the clause bound anaphor *se stessi* cannot refer to the arbitrary PRO or to impersonal *si*, since they lie outside the minimal domain of binding, in this case S1. The pronoun, which does not have to be disjoint from anything outside the domain established by the BT, limited to S1, still cannot refer to them; consequently, in this case, the only element available is the subject oriented anaphor *sé*.

Now, the obvious question is: what happens if the crucial environment does not admit *sé*? If, for instance, the governor is not a Preposition as in the context considered above, which item will be selected? Consider the following example:

(41) *E' difficile PRO$_{arb}$ credere che i libri di storia menzioneranno a
      lungo *se stessi$_{arb}$/ *loro$_{arb}$/ *sé$_{arb}$
      It is difficult to believe that the books of history will mention for a
      long time themselves/ them/ selves

Sé is excluded by the local environment, i.e. by government by the Verb, *se stessi* by the binding condition, but *loro* is also excluded, due to the constraint on pronouns and arbitrary elements; the result is complete

ungrammaticality, under any option. This fact shows that a certain abstract structure *can* be lexically unrealizable, if in the grammar no element satisfies the requirements imposed by a given configuration.[19]

From the latter observation there follows an important theoretical consequence. It is not the case that every abstract binding structure is always able to select, on functional grounds, at least one possible lexical realization; rather, the principles of grammar (e.g. the BT, the conditions on arbitrary interpretation), together with the lexical properties of the available items, may end up allowing no realization at all for certain *a priori* conceivable binding relationships.

Let us consider now French:

(42)a. J' aime sa mère
        I love his mother
     b. Il faut toujours PRO_{arb} reserver sa_{arb} chambre
        It is always necessary to reserve one's room

Sentence (42)b. shows that the possessive *sa* is a pronoun, since it can have intrinsic reference; sentence (42)a, however, shows that *sa* can refer to an impersonal antecedent with the consequence that the generalization concerning Italian seems not to be met in French.[20]

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[19]In Italian, ungrammaticality can be obtained for lack of suitable possessive elements. Consider, in fact, that the anaphor *proprio* can refer to arbitrary elements. Rizzi (1986) has shown that in Italian there exists an empty arbitrary object, called pro_{arb}. *Proprio*, as expected, can refer to it, when it is clause bound:

i   Un bravo psicoanalista restituisce pro_{arb} sempre ai $propri_{arb}$ genitori
        A good psychoanalyst always restores to self's family

However, since the element in question is an object, we predict it to be not a possible antecedent in case *proprio* is long distance bound:

ii.   Un bravo psicoanalista restituisce pro_{arb} sempre a coloro che hanno a cuore
        la *$propria_{arb}$/ *$loro_{arb}$ salute psichica
        A good psychoanalyst always restores to those who care for self's
        psychological health

In this case, the arbitrary reading for *proprio* is not available, given that the intended antecedent is in object position. As we have already discussed in the text, the possessive pronoun, *loro*, is also not available; therefore, reference to the arbitrary pro in such a sentence is simply impossible.

[20] In English, the impersonal element is *one* (see Chomsky, 1986a) and the possessive form which can refer to it is *one's*:

i   One has to reserve one's room in advance

However, along the lines of our analysis of French *lui*, we may suggest an immediate explanation for this fact: recall that in French the anaphoric system is structured as in Italian, with the only difference that, lexically, the French *lui* plays a twofold role; the natural hypothesis is that the same happens with respect to the possessive *sa*.

An independent piece of evidence following from our hypothesis concerns the impossibility of arbitrary split antecedents for *sa/son* and the plural *leur*. In fact, we claim that an arbitrary element is a possible antecedent only for an anaphor and not for a pronoun. Therefore, the possessive, according to our reasoning, can refer to such an element by virtue of its specification as an anaphor, and not as a pronoun. If this is the case, given that anaphors are incompatible with a split antecedent, arbitrary split antecedents should yield ungrammaticality. Consider in fact the following examples:

(43) a. Jean$_i$ a fait nettoyer sa$_{i/j}$ chambre à Marie$_j$
   Jean made Marie clean his/her room
   b. Jean$_i$ a fait nettoyer leur$_{i+j}$ chambres à Marie$_j$
   Jean made Marie clean their rooms
   c. Il est difficile de *arb$_i$* faire *arb$_j$* nettoyer sa$_{i/j}$ chambre
   it is difficult to make (one) clean one's room
   d. Dans cette maison, il est difficile de *arb$_i$* faire *arb$_j$* nettoyer
   ses*$_{i+j}$/leur*$_{i+j}$ chambres[21]
   In this house, it is difficult to make (someone) to clean his/their rooms

If the antecedent is not arbitrary (cf. 43a. and b.), both *Jean* and *Marie* are available, either singularly or as a set. If the intended antecedents are arbitrary (where *arb$_i$* corresponds to *Jean* of the preceding sentence and

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The same happens with respect to arbitrary PRO:
ii.   PRO$_{arb}$ to reserve one's room in advance is important
In both cases the possessive *his* is excluded.

[21]For some speakers it is difficult to make the possessive coreferent with the closest arbitrary item; the same distribution, however can be obtained including in the split antecedent an higher impersonal subject. Consider the following example:
i   On$_j$ dir toujours que dans cette chaine d'hotel il est difficile PRO$_j$ de faire
       nettoyer leur$_{i/j/*i+j}$ affaires par la domestique
       One always says that in these hotels it is difficult to make the maid to clean one's things

arb_j to *Marie*), the split antecedent choice is no longer available, as shown by the ungrammaticality of the indexation in (43)d.

Note also that the following sentence is ungrammatical, allowing us to reproduce for French the same argument drawn for Italian from (41) above:

(44)   *Il faut toujours PRO$_{arb}$ apprécier

ceux qui aiment *soi$_{arb}$/ *lui$_{arb}$

ceux qui *s$_{arb}$'aiment/ *l$_{arb}$'aiment

It is always necessary to appreciate those who love ...

In (44) *soi* cannot appear because its position is governed by a Verb, although the antecedent would be a suitable one. *Lui* cannot occur because of both the context and the arbitrary characteristics of the antecedent. Clitic *se* is not available because it can only be clause bound and *le*, again, as a pronominal, cannot refer to an arbitrary element. Therefore one cannot simply conclude that the pronoun *son/sa* can be used just on functional grounds, i.e. because in the system there is no anaphor available, since ungrammaticality does arise in similar contexts. On the contrary, we can claim that *son/sa is* an anaphor, i.e. it is ambiguously specified in the lexicon, exactly as is *lui*.

Note also that *sa/son*, as an anaphor, could correspond either to a clause bound or to a subject oriented one. Presumably it corresponds to both, given that in the non-possessive system both are present whereas only *one* possessive element is lexically available.

6.

Let us consider now which are the predictions of our hypothesis when applied to another paradigm of French and Italian, i.e. to the first and second person clitic system. We will mainly consider data from Italian, but our analysis can also be extended to French.

The Italian first person clitics are *me (mi)* for the singular, and *ci (ce)* for the plural; for the second person we have: *te (ti)*, singular, and *vi (ve)*, plural. Such elements can either appear with a local antecedent, a non-local one, or even with no antecedent at all:

(45)a. Tu ti lavi
       You wash yourself
    b. Tu pensi che Teresa ti ami
       You think that Teresa loves you

c. Gianni ti ha lavato
   Gianni washed you

in (45)a. *ti* functions as an anaphor (in English it has to be translated by *yourself*), whereas in b. and c. it has no antedecent in the local domain and in the whole sentence respectively. This fact cannot be simply captured by means of a semantic/ pragmatic explanation, claiming that first and second person clitics, given their *a priori* referential properties, are simply not classified as pronouns or anaphors, because the non-clitic forms exhibit a different patttern:

(46)a. Tu ami solo te stesso/ *te
       You love only yourself / you
   b. Tu pensi che Maria ami solo te/ *te stesso
       You think that Maria loves only you/ yourself

The stressed items, in fact, *te* and *te stesso*, are in complementary distribution (but see below for a more detailed discussion). Our hypothesis predicts that when locally bound, the clitics should exhibit anaphoric properties, for instance they should not be able to take a split antecedent. Consider the following examples:

(47)a. Tu e Teresa pensate che la gente vi ama
       You (sing) and Teresa think that the people love you (plur)
   b. Tu e Teresa vi amate
       You (sing) and Teresa love yourselves
   c. Tu hai detto a Teresa che la gente vi ama
       You (sing) told Teresa that the people love you (plur)
   d. Tu$_i$ pensi che Teresa$_j$ vi*$_{i+j}$ ama
       You (sing) think that Teresa loves you (plur)
   e. *Teresa pensa che tu vi ami
       Teresa thinks that you (sing) love you
   f. Teresa$_i$ pensa the [tu e Gianni]$_j$ vi$_j$/*$_{i+j}$ amate
       Teresa thinks that you (sing) and Gianni love you
   g. Teresa$_i$ pensa che tu$_j$ ami lei$_i$ e te stesso$_j$[22]

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[22] It is interesting to note that the Italian sentence (47)b. is ambigous between the reciprocal reading (you and Teresa love each other) and the reflexive one, as glossed in the text. Notice that the reciprocal interpretation of the clitic exhibits anaphoric properties in that it is strictly local, analogously to the English *each other*: (47)a. , in

Teresa thinks that you love her and yourself

In (47)a. the clitic *vi* (2 person plural) can refer to *tu and Teresa* (you (sing) and T.) which appears as the subject of the higher clause. In (47)b., the clitic is locally bound; (47)c. shows that *vi* can have a non-local split antecedent *(tu+T.)*. In (d) and (c), as predicted, the clitic turns out to be incompatible with a split antecedent which is partly local. Moreover, (47)f. shows that even if a local antecedent satisfies the morphological requirements (cf. ex.46a above), still, a reading including the higher subject, *Teresa*, as part of a split antecedent, is impossible.[23] In (47)g. we show that, semantically, a reading such as the one proposed in (47)e. should be possible; however it can be realized only if the local relation is 'saturated' by an anaphor *(tu- te stesso)* and the non-local one by a pronoun *(Teresa-lei)*.

At this point, we can say that the Italian clitic system distinguishes, as the non-clitic one, between an anaphoric and a pronominal syntactic function, even if, lexically, the two functions are realized by the same lexical item. This consequence actually, follows straightforwardly from our hypothesis, showing that the anaphoric-pronominal paradigm is consistently regular across the various sub-systems of the language in question.[24] Notice also that all clitics, including *si*, when anaphoric, are strictly local, i.e. no long distance

fact, cannot mean that "you think that the people love Teresa and Teresa thinks that the people love you". On the Italian reciprocal *l'un l'altro* see Belletti (1982). Consistently, the ungrammatical readings of d-f remain starred even if the clitic is interpreted as a reciprocal.(47)d. cannot mean: "You think that Teresa loves you(sing) and that you(sing) love Teresa". Analogously (47)e. cannot be interpreted: "Teresa thinks that you (sing) love Teresa and that Teresa loves you (sing)". (47)f. can have the reciprocal interpretation in the embedded clause, i.e. "you(sing) love Gianni and Gianni loves you (sing)", but does not mean: "Teresa thinks that you and Gianni love Teresa and Teresa loves you and Gianni", i.e. a non-local item cannot be included in the set of the antecedents. The impossibility of these readings follows from our hypothesis: if the reciprocal interpretation, in fact, is an anaphoric one it must be incompatible with split antecedents, as seems to be the case.

[23]Example (47)e. is starred because the second person singular subject overlaps in reference with the second person plural clitic; in sentence (47)d., on the contrary, there are other readings available, because no overlapping constraint is necessarily violated.

[24]The third person clitic counterpart, *si*, has not been analyzed here. See however fn. 12 for references.

anaphoric clitic exists, for reasons which, to our knowledge, are not clear yet.

However, it is possible to find in Italian a case analogous to the French one, where the differences between pronouns and long distance anaphors are neutralized; this case is instantiated by the first and second person non-clitic system. We will briefly discuss the relevant evidence; consider the following examples:

(48)a. Teresa parla sempre di te/ *te stesso
       Teresa always talk about you
     b. Tu parli sempre di te/ di te stesso
        You always talk about you
     c. Teresa ha deciso di regalare un'automobile proprio a te/ *te stesso
        Teresa decided to make a present of a car to you/yourself
     d. Tu pensi che Teresa ami (solo) te/ *te stesso
        You think that Teresa loves (only) you/ yourself
(49)a. In questo modo, (tu) hai aizzato Maria contro di te/ *contro te stesso
       This way, you turned Maria against you/ against yourself
     b. In questo modo, Maria ha aizzato te^1 contro te stesso/ *contro di te^2 [25]
        This way, Maria turned you against yourself/ against you
(50)a. Tu dubiti perfino di te/ di te stesso
       You doubt even of you/ yourself
     b. Tu ridi perfino di te/ di te stesso
        You laugh even of you/ yourself

These examples show that the distribution of *te* is very similar to that of French *lui*. Consider fist examples (48): in the context defined of (48)a. *te* is free, as if it were a pronoun, whereas *te stesso* is starred, according to the (obvious) hypothesis that it is an anaphor. However, example b shows that in certain contexts, whose characteristics will be discussed in a while, *te* is not in complementary distribution with *te stesso*, since they both are admitted. Sentences c. and d. provide additional contexts where *te* appears in complementary distribution with *te stesso* being free. In (49) we give the distribution of *te* and *te stesso* in Small Clause examples analogous to

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[25]Notice that the most natural sentence would imply cliticization of *te^1* in preverbal position: *ti ha aizzato contro* (you-clitic-dat turned against), the judgments remain the same. We do not discuss the example with cliticization to avoid the introduction of an additional, non-crucial, factor.

the ones we already discussed in the preceding sections; interestingly, we find for *te* the distribution typical of *sé* and French *lui*. In (50), as we have already seen in (48), *te* occurs in contexts where also the anaphor *te stesso* can occur. A reasonable hypothesis at this point would be that *te* (disjunctively) neutralizes the distinction between pronoun and long distance anaphor, like French *lui*; therefore, when *te* is locally bound, we expect it to behave as an anaphor, for instance with respect to the possibility of taking split antecedents. Before going further discussing this point, let us briefly consider the following examples, where *te* turns out to have a different property with respect to French *lui*, due to the way in which the Italian anaphoric and pronominal system is structured, as opposite to the French one:

(51)a. Tu ami te stesso/ *te
       You love yourself/ you
   b. Teresa ama (solo) te
       Teresa loves (only) you
   c. Di solito fai regali a Maria. Finalmente hai regalato
       un'automobile a te stesso/ *te
       Usually, you make presents to Maria. Finally you made a present
       of a car to yourself/ you

The data in (51) are consistent with the hypothesis that *te* is a pronoun, i.e. it is in complementary distribution with *te stesso* and cannot be locally bound, contrasting in a rather surprising way with the examples in (50). The question at this point can be expressed in the following way: there are certain contexts where *te* can be locally bound by a subject, but in other ones (cf.(51)a. and (51)c.) this option cannot be taken; so far our hypothesis makes the prediction that *te* as a subject oriented anaphor could appear in all of these contexts, therefore either our hypothesis is wrong, or there is an independent factor which modifies its distribution. We will argue that the second option is the correct one. In Italian, in fact, contrary to French, tonic pronouns are admitted even in cliticization contexts, such as for instance the direct object position: consider in fact example (51)a. where the corresponding sentence *tu ti ami* (you yourself-clitic love) is also possible. In this context, however, the subject oriented anaphor *sé* is ruled out, exactly as French *lui*:

(52)a. Gianni ama se stesso/ *sé
       Gianni loves himself/ self

b. Gianni si ama
Gianni himself-clitic loves

(53)a. Jean aime *lui/ *lui-même
Jean loves himself

b. Jean s'aime
Jean himself-clitic loves

c. Je l'aime
I him-clitic love

In French *lui* is starred in cliticization contexts in every case, both as a locally bound item (cf. (53) b) and as a pronoun (cf. (53) c). In Italian it seems that the incompatibility with such positions is only restricted to the subject oriented anaphor, as shown by the examples in (52). The prediction which suggests itself at this point is that *te* cannot appear in the cliticization contexts only when it is locally bound, i.e. it is behaving like *sé*, on the contrary, when *te* has the option of exploiting its pronominal features, it can appear in every context. Notice that such an anomalous distribution would be difficult to explain without making resort to our hypothesis and constitutes an additional argument in favour of the idea that in these cases *te* occupies the slot for the subject oriented anaphor. Let us consider now the predictions concerning the distribution of split antecedents for first and second person tonic items. We will consider the plural forms: *voi* (you, plural) and *noi* (us):

(54)a. [Tu e Teresa]$_i$ pensate che tutti ridano di voi$_i$
You and Teresa think that everybody laughs of you (plur)

b. [Tu e Teresa]$_i$ ridete di voi$_i$
You and Teresa laugh of you (plur)

c. Tu$_i$ hai detto a Teresa$_j$ che tutti ridono di voi$_{i+j}$
You told Teresa that everybody laughs of you (plur)

d. *Tu$_i$ pensi che Teresa$_j$ rida di voi$_{i+j}$
You think that Teresa laugh of you (plur)

e. *Teresa$_i$ pensa che tu$_j$ rida di voi$_{i+j}$
Teresa thinks that you laugh of you (plur)

f. Teresa$_i$ pensa che [tu e Gianni]$_j$ ridete di voi$_{j/*i+j}$
Teresa think that you (sing) and Gianni laough of you (plur)

The discussion is analogous to the one we gave for (47) above: on (a) *voi* behaves as a pronoun, in fact it is coindexed with an element lying outside its local domain, in (b), it appears locally bound. In (c) we show that when

voi is not locally bound, it can take split antencedents (*Tu+Teresa*); if one of the items, for instance *Teresa* in (d), or *tu* in (c) is inside the local domain, the split interpretation is impossible. Finally, in (f), we show that even if the local antecedent has the same morphological features as the item in question, still it cannot be part of a split antecedent for *voi*.
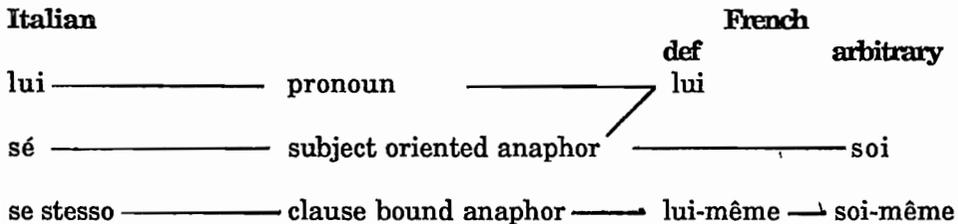
As a conclusion of this section, we can say that even the distribution of first and second persons, clitic and non-clitic, is predicted by our tripartition hypothesis.

Concluding remarks

The French and the Italian anaphoric/ pronominal systems are thus quite alike in their abstract form, though they differ as to the realization in lexical substance, since, in the third person, French neutralizes the distinction between the non-possessive pronoun and subject oriented anaphor and that between anaphoric and pronominal possessives; Italian instead neutralizes the French opposition between definite and quantified/ arbitrary anaphors.

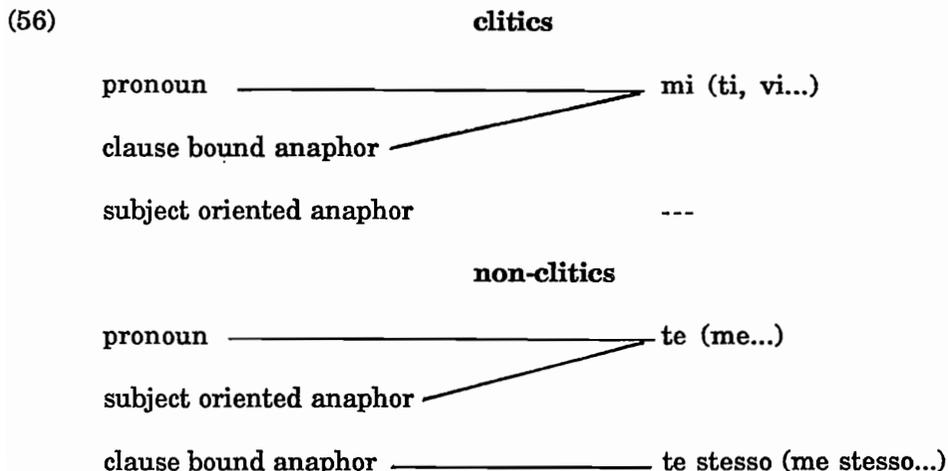The third person non-clitic system can be schematized as follows:

(55)   **Non-possessive system**

Italian   **French**
                                                      def   **arbitrary**

lui ———————— pronoun ———————— lui

sé ————————— subject oriented anaphor ——————— soi

se stesso ————————— clause bound anaphor ——→ lui-même —→ soi-même

                            possessive system

suo ———————— pronoun ——————————————son

proprio ———————— subject oriented anaphor

                            clause bound anaphor
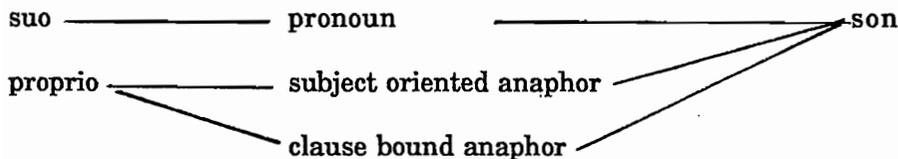
The first and second person (Italian) systems can be schematized as follows:

(56)   **clitics**

pronoun ——————————————→ mi (ti, vi...)

clause bound anaphor ——

subject oriented anaphor   ---

                          non-clitics

pronoun ——————————————→ te (me...)

subject oriented anaphor ——

clause bound anaphor ————————— te stesso (me stesso...)

Let us briefly discuss now the advantages of our methodogical claims with respect to other possible points of view, as anticipated in the introduction.

A syntactic definition of anaphor, and conversely of pronoun, would immediately run into troubles, as soon as one considers non-locally bound anaphors, such as *sé*, or *proprio* in Italian. In fact the only synctatic criterion which can be applied consists in distinguishing locally bound elements from locally free ones. This way, long distance anaphors are classified with pronouns, with the resulting impossibility of explaining, on one hand, their referential similarities with (clause bound) anaphors, and, on the other, their systematic differences with the class of pronouns. More generally, all the contexts of non-complementary distribution constitute a problem to such a view, because a distinction crucially based on locality properties obviously collapses as soon as the distribution does not differ. Bouchard (1984) pursues this idea and solves the problem claiming that BT must account for the core cases of binding, which are those where complementarity obtains. To our opinion such a solution is unsatisfactory if the goal consists in accounting for the anaphoric-pronominal system of a given language as a whole.

A morphological criterion makes much more interesting predictions and is certainly correct at least in one direction. As we said

above, Burzio (1988; 1989a; 1989b) classifies as anaphors the NPs lacking morphological features, and as pronouns the elements which are morphologically specified. However, from our comparative analysis of French and Italian, it follows that French *lui* (*eux, elle, elles*) maintains both gender and number features even when it behaves as a non-local anaphor; notice that French *lui* has the capacity of being bound as an anaphor and, in the crucial contexts, it also exhibits the semantic properties of an anaphor, refusing, for instance, split antecedents, or admitting arbitrary ones. On the other hand, the opposite generalization seems to be correct, i.e. if an element lacks features, it is certainly an anaphor. However, classifying French *lui* as a pronoun would run into troubles as we have already discussed in the text.

Notice that Burzio's (1988; 1989a; 1989b) theory maintain its predictive power if one shifts the level to which it applies. Burzio in fact predicts that an item is an anaphor if it has no morphological features, otherwise it is a pronoun. This is correct if we apply it to the way in which lexical items are linked to the slots; in fact, the less morphologically specified item is linked to the slot for anaphors; a specified one is linked to a slot for anaphors only if there is no other element around which might be. Notice that, at least in Indoeuropean languages the compounds with *self* are always linked to the clause bound anaphor slot.

The prediction following from these considerations is that a pronoun will be linked to an anaphoric slot only under the following condition: a) If there is a item with *self*, the pronoun will never occupy the slot for clause bound anaphors. b) If there is only one item (with no *self* part) linked to an anaphor slot, such an item will 'expand' to the other anaphor slot, and not the item linked to the pronoun one. In other words, non-*self* anaphors will be expanded first and only if such a possibility is not available, pronouns will be.

Notice that the independent evidence on the basis of which we are able to distinguish anaphors from pronouns comes from the semantic tests (for instance, the possibility of taking split antecedents) we discussed in the preceding sections. In this frame, the core of Burzio's idea makes the correct prediction, since a pronoun will be adopted to 'replace' an anaphor, only if no anaphor can be used to this purpose (provided that a *self*-anaphor is 'blocked' to the clause bound anaphor slot).

Concluding, it seems to us that the highest predictive power obtains when anaphors and pronouns are distinguished on the basis of their referential properties, at least as primitive notions, even if important syntactic and morphological generalizations must anyway be captured by

any theory of binding one could propose. Notice also, as we suggested in the introduction, that our discussion constitutes as a whole a strong argument in favor of a formulation of principle B in terms of disjunction, in other words: there exists no such thing as a locally bound pronoun, at least in the systems we reviewed (but, tendentially, we would like to claim that, as a fruitful heuristic, such a restrictive hypothesis should be considered as a universal one), because at a closer look, locally bound items always exhibit anaphoric properties.

CHAPTER 5

AGREEMENT BY DEFAULT AND ANAPHORS[*]   ·

Introduction

        In this chapter we will propose an analysis of an unexpected distribution of anaphors in Italian: in certain constructions, the reflexive item appears in positions which are usually occupied by Nominative subjects; this fact seems, therefore, to violate every generalization observed until now on the distribution of anaphors in Italian and in Indoeuropean languages in general. We will argue, however, that these facts are not genuine counterexamples to the descriptive statement that anaphors cannot be the subject of tensed clauses and that, on the contrary, these phenomena can be accounted for on the basis of some considerations on the nature of verbal agreement and on the properties of Unaccusatives. Moreover, our hypothesis will lead us to consider two problems which are important in the present linguistic frame: the first one concerns the relevance of the ECP with respect to Binding Theory, as proposed by Chosmky (1986a); the second one is related with Belletti's (1988) proposal of the assignment of Partitive Case in unaccusative structures.We will provide empirical evidence which does not support an ECP-like explanation for lack of Nominative anaphors and, on the contrary, is strongly in favor of an account of the type given by Picallo (1984) and Rizzi (1989) in terms of incompatibility with agreement. Finally, the examples we are going to discuss provide an interesting argument in favor of Belletti's (1988) hypothesis on Partitive Case assignment in internal θ-positions.

1.

It is a well known fact that in Italian and in all Indoeuropean languages anaphors cannot occur in positions where there is verbal agreement (see Rizzi, 1989). Consider the following examples:

(1)   Gianni$_i$ ha detto che pro$_i$/ lui$_i$/ *se stesso$_i$ telefonerà domani
        Gianni said that pro/ he/ himself will call tomorrow
(2)   Gianni$_i$ ha detto che pro$_i$/ lui$_i$/ *se stesso$_i$ è entrato nel castello
        nottetempo
        Gianni said that pro/he/ himself entered the castle during the
        night

In sentences (1) and (2) both a zero subject and a pronominal one are admitted as subjects of the embedded clause, but not an anaphor like *se stesso*. Notice also that this happens independently of the fact that an ergative Verb is present, such as *entrare* (enter) in (2), i.e. that fact that the embedded subject is a derived one seems not to affect the distribution of the anaphor.

It has been claimed (see Anderson, 1986; Maling, 1984) that the distribution in question could be due to a gap in the morphological paradigm, i.e. to the lack of a Nominative reflexive item. However this explanation still seems to be insufficient, because one could ask how it is that Nominative forms are systematically absent in all Indoeuropean languages.

Notice that the subject position *per se* is not incompatible with anaphors, as shown by the following examples:

(3)a.   Gianni$_i$ pensa che la propria$_i$ madre non lo abbia mai apprezzato
        Gianni thinks that self's mother never appreciated him
   b.   Gianni considera se stesso il miglior medico di Londra
        Gianni considers himself the best physician in London

In these sentences, the possessive anaphor *proprio* appears embedded in a subject; in (3)b *se stesso* is the subject of a Small clause.[1] Consider also the following example of Chinese:

(4)   Zhangsan shuo [ziji hui lai] (from Rizzi, 1989: ex.32)

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[1]Cf. also the analysis of quirky subjects in Icelandic given in Maling (1984) and in Rizzi (1989).

Z. said that himself will come

Chinese is a language with no agreement marker on the Verb, the grammaticality of this example shows, once again, that the subject position is not *a priori* incompatible with the anaphor. The correct generalization, therefore, as discussed in Picallo (1984) and in Rizzi (1989), seems to be that agreement with the Verb renders anaphors ungrammatical in the tensed subject position.[2] We will not discuss in detail the arguments in favor of such an hypothesis and we refer the reader to the relevant bibliography.

   Let us however briefly discuss another possible hypothesis, suggested by Chomsky (1986a) which makes resort to the ECP in order to prevent an anaphor from appearing in subject position. Chosmky (1986a) argues that, to be interpreted, anaphors move at LF leaving an empty category which needs to be properly governed; given that (preverbal) subjects are not properly governed, anaphors are excluded from this position. However, such an hypothesis has to face an immediate problem in pro-drop languages, given that postverbal subjects are always governed. In fact, as pointed out by Rizzi (1989), the following sentence is grammatical:

(5)   Non pretendo che gli interessi nessuno
       lit: I do not demand that to him interests anyone
       I do not demand that anyone interests him

The negative polarity item can occur in the postverbal position, with wide scope interepretation, whereas, as predicted by the ECP (Kayne, 1984, ch.2), it is excluded, with the same interpretation, in the preverbal one; this fact shows that LF movement is perfectly acceptable in such cases; still, an anaphor in agreement with the verb is starred, even if it appears postverbally:

(6)   * A loro interessano se stessi

___

[2]Such a proposal seems to be superior, from an intra- theoretical point of view, with respect to the one of the unpredictable gap in the morphological paradigm of anaphors, i.e. the lack of a Nominative form. For the incompatibility anaphor-agreement, in fact, principled explanations can be given, for instance in terms of feature clash (see Picallo, 1984; Rizzi, 1989), whereas for the morphological gap this seems more difficult. A similar explanation has also been discussed by Burzio (1989b).

Lit: To them interest themselves

It cannot be the case, therefore, that the impossibility of a preverbal anaphor is due to ECP effects, since otherwise (6) should be grammatical. Rizzi (1989) points out that in such cases agreement seems to be the relevant factor, also in the light of the existence of the following construction, which is grammatical:

(7)   A loro interessa (solo) di se stessi
        Lit: To them interests only of themselves

(7) is a sort of 'impersonal' construction, where the dative presumably occupies the subject position and binds the anaphor; the verb appears in the third person singular and obviously it is not in agreement with the postverbal (plural) genitive anaphor. The contrast with the previous example is a minimal one, in that the only factor which varies is the agreement of the anaphor with the verb: lack of agreement renders the anaphor possible (cf. also the discussion below). Again we will not further consider these hypotheses here, but refer the reader to the discussion in Rizzi (1989).

2.
        So far we have only briefly reviewed some of the arguments in favor of the idea that the crucial factor which excludes subject anaphors is agreement with the verb; recall again that such a generalization is worth maintaining most importantly because it is well supported by cross-linguistic evidence, for instance the Chinese data in (4). However, there is some data in Italian which seems to challenge the generalization in question. Consider the following examples:

(8)a.   In sogno, le apparvero i suoi compagni di scuola
        Lit: In her dreams, to her appeared(3 pers plur) her schoolmates
   b.   Finalmente le vennero restituiti i suoi gioielli
        Lit: Finally, to her were (3pers plur) given back her jewels
(9)a.   Passando davanti allo specchio, le apparve se stessa
        Lit: Passing by the mirror, to her appeared (3pers sing) herself
   b.   Finalmente, dopo anni di psicoterapia, le venne restituita se stessa
        Lit: Finally, after years of psychoterapy, to her was restored (3 pers sing) herself

Apparire is an ergative verb, which takes two internal arguments: a theme and a goal. The theme is the one which agrees with the verb, as shown in (8)a. and (8)b. where the postverbal theme is plural and triggers third person plural on the verb. In (9)a. such an argument is lexicalized as an anaphor, *se stessa* (herself), bound by the dative, *le* (to her); the verb *apparve* (appeared) is third person singular, therefore apparently agreeing with the anaphor. The same happens in example (9)b: in this case *restituire* appears in the passive form and the theme, the anaphor *se stessa*, is bound by the dative *le* (to her); again, the verb is third person singular and at first sight we might suppose that it agrees with the anaphor, given that usually, passive verbs do agree with the internal argument. Therefore, in absence of further analyses, we are led to the conclusion that in these cases there is an anaphor which agrees with the verb and realizes Nominative Case; such a claim, however, is strongly in disagreement with the well motivated generalizations discussed in the previous section. Here we will propose an explanation which draws back these facts to independent intervening factors: we will show that in cases like (9), as well as in other ones, the anaphor is neither in agreement with the Verb nor in Nominative Case.

Before proceeding further, consider that examples (7) are exceptional under many points of view, since for instance not every ergative verb admits the presence of a postverbal anaphor and preverbal ones are anyway not acceptable:

(10)a. *Gianni$_i$ mi ha detto che è entrato se stesso$_i$ nel castello
      Gianni told me that himself entered (lit: entered himself) the castle

  b. *Gianni$_i$ mi ha detto che sarà eletto se stesso$_i$
      Gianni told me that himself will be elected (lit: will be elected himself)

(11)a. *Passando davanti allo specchio, se stessa le apparve
      Passing by the mirror, herself appeared to her

  b. *Finalmente, dopo una lunga terapia psicoanalitica, se stessa le venne restituita
      Finally, after a long psychoanalytic therapy, herself was restored to her

Entrare (enter) differs from *apparire* in (9)a., in that it does not provide a local antecedent, but the anaphor must go back to *Gianni*, i.e. to the subject of the superordinate sentence. (10)b. illustrates an analogous case, with a

passive form, contrasting with (9)b; again in (10)b. a local antecedent for the anaphor is missing.

The reasons for the ungrammaticality of these sentences will be investigated in the following sections; let us simply remark that at first sight it is rather surprising that so similar senteces yield such different grammaticality judgments. Notice that the subject of an unergative active verb, even if postverbal, can never be realized as an anaphor:

(12)   *Gianni¡ ha detto che telefonerà se stesso presto
        Gianni told that will call himself soon

(12) can be compared with the one of (1), i.e. the sentence does not improve even if the subject follows the verb.

There some other cases where we find an anaphoric subject, apparently in agreement. Consider the following examples:

(13)a. Le piacciono solo i biscotti
        Lit: To her "like" only cookies
        She only likes cookies
    b. Le interessano solo i film di Fellini
        Lit: To her interest only Fellini's movies
        Only Fellini's movies interest her
    c. La preoccupano solo le sue malattie
        Lit: Her worry only her deseases
        Only her deseases worry her
(14)   Teresa è terribilmente egocentrica:
        Teresa is terribly egocentric:
    a. Le piace (solo) se stessa
        Lit: To her "like" (only) herself (She likes (only) herself)
    b. Le interessa (solo) se stessa
        Lit: To her interests (only) herself ((Only) herself interests her)
    c. La preoccupa (solo) se stessa
        Lit: Her worries (only) herself ((Only) herself worries her)

These verbs are called 'psych-verbs' (see Belletti and Rizzi, 1988) and exhibit a typical syntactic behavior which correlates with peculiar thematic properties. According to Belletti and Rizzi (1988) the verbs in the examples given above assign only internal θ-roles: an experiencer and a theme. The theme can be moved to the preverbal subject position as in the following case:

(15) I biscotti piacciono a Maria
      lit: Cookies "like" to Maria (Maria likes cookies)

in (13), in fact, the theme agrees with the verb: a plural theme triggers plural on the verb. Analogously to what we have seen in examples (9), in (14) an anaphor can occupy the postverbal subject position; the verb is inflected as third person singular, so that at first sight the anaphor agrees with the verb; the dative clitic in (14)a. and b. and the accusative one in (14)c bind it. Nominative Case is assigned to the theme, both when it is in postverbal position and when it is in the preverbal one, as illustrated by the following examples:

(16)a. Le interesso io/ *me
       Lit: To her interest I/*me (I interest her)
   b. Io/*me le interesso
       Lit: I/*me interest to her

Given these examples we are led to the conclusion that the anaphor in (13)-(14) realizes Nominative Case. Moreover, analogously to examples (11), the anaphor cannot appear preverbally:

(15)a. *Se stessa piace a Teresa
       Lit: Herself "likes" to Teresa (Teresa likes herself)
   b. *Se stessa interessa a Maria
       Herself interests to Maria
   c. *Se stessa preoccupa Teresa
       Herself worries Teresa[3]

Let us consider another piece of evidence which seems related to the phenomena previously illustrated: Cinque (1990) points out that there exists a class of adjectives which exhibits ergative properties, for instance *noto* (known) belongs to the ergative class, contrasting with *fedele* which does not. He provides extensive empirical evidence in favor of this hypothesis; here we will only reproduce the most "traditional" test for ergativity, i.e. *ne* extraction (from Cinque, 1990, ex. 16):

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[3] These sentences are ungrammatical with the normal intonation. Their grammaticality improves if the anaphor is heavily stressed, but presumably in this case the structure instantiated is not the one we are considering here.

(15)a. Ne sono note solo alcune (delle sue poesie)
     Of them are well-known only some (of his poems)
   b. *Ne sono buoni pochi (dei suoi articoli)
     Of them are good few (of his articles)

The contrast between a. and b. can be accounted for following, even in these cases, the traditional explanation given by Burzio (1986) with respect to VPs, i.e. that *ne-* extraction is allowed when the NP is an internal argument, otherwise, it is starred.
    Let us consider now the distribution of anaphors in these cases. Our expectation is that adjectives should exhibit the same asymmetry between ergatives and unergatives we find in VPs (cf. ex.9). Observe first that an anaphor can appear in dative position, with both adjectives, and the subject can bind it:

(16)a. Gianni e Teresa sono ben noti a se stessi
     Gianni and Teresa are well known to themselves
   b. Gianni e Teresa sono sempre fedeli a se stessi
     Gianni and Teresa are always loyal to themselves

Gianni and Teresa agrees with the copular verb, which is inflected as third person plural. Notice that in example (16)a. Gianni and Teresa realizes the theme θ-role, whereas in (16)b. it realizes the experiencer one. Consider now the following contrast:

(17)a. A Gianni non è ancora ben noto se stesso
     Lit: To Gianni is not well-known himself yet (himself is not well-known to Gianni yet)
   b. *A Gianni non è fedele se stesso
     Lit: To Gianni is not loyal himself (himself is not loyal to Gianni)

The dative cannot agree with the verb in any case:

(18)a. A Gianni e Teresa non è ancora noto il risultato
     Lit: To Gianni and Teresa is not known yet the result
     (The result is not known yet to Gianni and Teresa)
   b. *A Gianni e Teresa non sono ancora noti il risultato
     To Gianni and Teresa are (3 pers plur) not known yet the result
     (The result are not known yet to Gianni and Teresa)

This way we can conclude that anaphors in adjectival ergative constructions are, at least at first sight, in agreement with the copula. Moreover, the postverbal position normally realizes Nominative case, as shown by the following example:

(19)   A Gianni sono ben noto io/ *me
        Lit: to Gianni am well known I/ *me (I/ *me am well-known to Gianni)

Therefore, once more, the conclusion which one is allowed to draw on the basis of the *prima facie* evidence seems to be that the anaphor in (17) is Nominative.

Summarizing what we have shown so far, we can say that an anaphor in several constructions where it appears VP, or AP, internally, apparently agrees with the Verb and realizes Nominative Case.

In the following section, however, we will argue that the generalizations concerning the distribution of anaphors, i.e. their impossibility of appearing in agreement positions and of realizing Nominative Case, are not violated in the examples discussed so far, but that independent factors conspire in determining such a distribution.

3.

With respect to the agreement of the anaphor with the Verb, we will show that the anaphor is only apparently in agreement, since, as soon as we modify the morphological features, either of the verb or of the anaphor, we do not obtain acceptable sentences anymore.[4] Consider the following examples:

(20)   Passando davanti allo specchio,
        Passing by the mirror,
        a.   mi apparve me stesso
              to me appeared (3rd pers sing) myself
        b.   *mi apparvi me stesso
              to me appeared (1st pers sing) myself
(21)   a.   * apparve loro se stessi
              appeared (3rd pers sing) to them themselves

---

[4]Notice the contrast between (6) and (7) in the text above. Such a contrast will be explained in the following discussion below.

    b.   *apparvero loro se stessi
            appeared (3rd pers plur) to them themselves
(22)   Finalmente, dopo una lunga psicoterapia,
        Finally, after a long psychoanalytic therapy,
    a.   mi venne restituito me stesso
            to me was restored (3rd pers sing) myself
    b.   *mi venni restituito me stesso
            to me was restored (1st pers sing) myself
(23)   a.   *vennero restituiti loro se stessi
                were restored (3rd pers plur) to them themselves
    b.   *venne restituito loro se stessi
            was restored (3rd pers sing) to them themselves
(24)a. A me piace/ interessa (solo) me stessa
        To me likes/ interests myself
    b. * A me piaccio/ interesso (solo) me stessa
        To me like (1st pers sing)/ interest (1st pers sing) myself
(25)a. *A loro piacciono/ interessano se stessi
        To them like (3rd pers plur)/ interest (3rd pers plur) themselves
    b. *A loro piace/ interessa se stessi
        To them likes/ interests themselves
(26)a. A me non è ancora ben nota me stessa
        To me is not well known myself yet
    b. *A me non sono ancora ben nota me stessa
        To me am not well known myself yet
(27)a. *A loro non sono ancora ben noti se stessi
        To them are not well known themselves yet
    b. *A loro non è ancora ben noto se stessi
        To them is not well known themselves yet

Let us analyze (20) and (21): the ergative verb *apparire* (appear) is inflected for third person singular, the dative *mi* precedes it and the anaphor *me stesso*, which is also first person singular, follows the verb and is bound by *mi*. This example is grammatical, analogously to example (9), and contrasting with the next one where the verb is inflected as first person singular. So it seems that inflecting the verb for a person othyer than the third causes ungrammaticality. [5]

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[5]Notice however that *me stesso* seems not bear first person features, but third person ones. Consider the following example:

In example (21), we can see that modifying number features also yields ungrammatical results: in (21)a. the verb is third person singular; the anaphor and its intended antecedent *loro*, are third person plural items. Notice that even modifying the number of the verb, as in (22)b., we do not obtain a grammatical sentence.

The same pattern can be found in all other examples. The situation, therefore can be summarized as follows: the Verb must have the features for third person singular, and the anaphor must be singular, even if not necessarily expressing a third person; a plural anaphor is excluded. We can conclude therefore that in these cases there is not a real agreement process, since the features cannot vary, but are in some sense "blocked" on third person singular. In the following section we will sketch a proposal to explain these phenomena.

Notice also that if there is no agreement process we also expect the anaphor to be unable to realize Nominative Case. Nominative in fact is a structural case assigned by Inflection and we can suppose that the same process which permits the sharing of features between I and its Spec also allows the assignment of Nominative Case.[6] The empirical evidence confirms such an hypothesis; consider the following examples:

i   Un altro me stesso non l'avrebbe fatto
       Another myself would not have done that

However, the data are not clear, because the status of *me stesso* in sentence i.is not obvious: the Case it realizes in principle should be Nominative, since it is in Spec IP position, but *me* is clearly a non-Nominative form, in contrast to *io* (I). The alternative view, therefore, could be that *me stesso* is an uninflected item with no morphological or Case features already present in the lexicon and, for this reason, it is compatible with every syntactic position, provided that it does not violate any principle of the grammar.

[6]Rizzi (1982, ch. 3) argues in favor of Nominative assignment in constructions where there is no person and number agreeement, i.e. the so-called 'aux-to-Comp' structures. In his work, Rizzi gives the following examples (from Rizzi, 1982, ch. 3, ex 83):

i.a.   *Gianni sostiene [non esser se stesso in grado di dare un contributo]
        Gianni asserts not-to-be himself able to give a contribution
   b.   Gianni_i sostiene [non esser lui_i in grado di dare un contributo]
        Gianni asserts not-to-be he/him able to give a contribution

In these cases, the present formulation of BT (cf. Chomsky 1986a) predicts non complementary distribution between the anaphor and the pronoun, when coindexed with *Gianni* (the minimal CFC relevant for principle A would be the whole sentence, whereas the domain relevant for the pronoun is the embedded structure). This way, one could claim that the anaphor is starred because of Nominative assingment. However, we are exluding here this explanation, at least as the ultimate reason of

(28)a. *Mi apparve io stesso
lit: to me appeared (3 pers sing) I self

   b. *Le apparve io stesso
lit: To her appeared (3 pers sing) I self

   c. Le apparvi io stesso
lit: to her appeared (1 pers sing) I self

Let us briefly discuss these examples: *io* (I) is the Nominative form corresponding to *me* (me); this is true independently of the fact that it is an anaphor or an (emphatic) pronoun. As an emphatic form, it can appear in Nominative contexts:

(29)   Io stesso l'ho detto a Maria!
Lit: I self told it to Maria! (I told it to Mary myself!)

Notice that in absence of further assumptions, in principle we should expect *io stesso* to appear as an anaphor in Nominative contexts.[7] However, if the verb appears with third person singular features (*apparve*), *io stesso* cannot occupy the postverbal position, independently of the problems related to its classification as an anaphor or as a pronoun, contrasting therefore with example (28)c., where the verb appears as first person. Notice that in (28)a. there is a local antecedent available to *io stesso*, *mi*, so that its requirements as an anaphor would be satisfied; in (28)b. there is none, in case it works as a pronoun; nevertheless, such form is always ungrammatical, if there is no agreement with the verb. Such a paradigm seems to confirm the idea that Nominative Case can be

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ungrammaticality, and we are arguing in favor of a more primitive notion, i.e. incompatibility with agreement features. In this case, however, no such features seem to be present; a possible suggestion is to hypothesize the presence of an abstract Infl node, incompatible with the anaphor; other possible solutions come to mind, for instance concerning the precise formulation of the locality requirement on the antecedent. We will not further explore them here.

[7]In fact, the difference in the corresponding Accusative paradigm between the pronoun, *me*, and the anaphor *me stesso* (myself), consists in the presence of the morpheme *stesso*, which "anaphorizes" the pronoun *me*. Therefore, by analogy, one could expect *io stesso* to behave as a nominative anaphor, corresponding to the pronoun *io*. For a discussion of the first and second person anaphoric/pronominal system of Italian, see the previous chapter.

assigned only if there is an agreement process identifying the features of the postverbal item with those of the verb.[8]

4.

Let us consider more closely the problems related with agreement. Our hypothesis can be expressed as follows. There are two types of subject-Inflection agreement: a) Inflection receives the features from the Noun Phrase appearing in Spec (or connected to Spec through a chain). Such features in Italian are person and number. b) No transmission of features between I and its Spec takes place; ungrammaticality however does not arise, since agreement can be realized by default, where the default form is expressed as a third person singular.

Notice that the agreement rules are free and optional, i.e. the two possibilities are always available, but there is one condition to be met in any case, which we call the Spec-head agreement condition:[9]

(30)   Spec-head agreement condition:
         I and its Spec must always realize the same features

(30) is trivially satisfied when the normal strategy applies, i.e. when the features of the subject are copied in I; more interestingly, however, when agreement by default is realized, this condition constrains the occurrence in Spec only of items specified as third person singular. This way we obtain ungrammaticality in all the cases starred in (20) through (27), given that at least the number feature does not match.

There is further evidence that in Italian a third person singular form is the realization of a default agreement, as can be argued in at least two other cases. Let us consider them in turn:

(31)a. Gianni e Mario sono usciti
         Gianni and Mario went out (third person plural)

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[8]See fn. 5 on the status of *me stesso* Recall, however, that in the examples we discussed above, the lack of a real agreement process emerges from the impossibility of varying the features of the verb from the singular to the plural. Generalizing, we could say that first and second person features are available only to Nominative items; see below for a more detailed discussion.

[9]In this paper we are assuming that Inflection is a single node; the actual structure is much more complex, see, among the others, Pollock (1989); however such a simplification does not bear on the arguments discussed here.

b. E' vero che Gianni e Mario sono usciti
It is (third person singular) true that Gianni and Mario went out

c. E' vero/ *sono veri che Gianni è uscito e che Mario è ritornato
It is (third person singular/ *third person plural) true that Gianni went out and Mario came back

(31)a. shows that a conjunction of NPs triggers plural agreement on the verb. It might be supposed, however, that clauses do not have any features for person and number, with the consequence that the normal agreement process cannot take place, since there are no features to be copied in I; therefore, agreement must be realized by means of the default strategy. This way, the only form available to the verb is third person singular. the prediction id that even if there is a conjunction of clauses, as in (31)c., still the verb *è* (is) appears in the singular form and the plural, *sono* (are), is ungrammatical. Notice, as we will discuss more fully in the following section, that agreement by default is possible in this case, because it is not necessary for Nominative to be assigned to clauses . [10]

Another case of agreement by default is instantiated by certain structures involving psych-verbs, as discussed by Belletti and Rizzi (1988) and Rizzi (1989). They point out that the following structure is grammatical:

(32)   A loro importa solo di se stessi
        To them only cares of themselves

Such a structure presents several interesting properties; the verb *importare* belongs to the class of psych-verbs, which, according to Belletti and Rizzi's (1988) hypothesis only take internal arguments; moreover, in such a structure, the Dative has been shown to behave as the subject of the sentence, i.e. it appears in a high structural position; and can bind an anaphor in the other internal position, as shown in the example (32). The characteristic most relevant to our discussion is that both arguments have inherent Case (Dative and Genitive respectively), i.e. no Nominative Case appears. A possible account, therefore, in the light of the preceding discussion, could be drawn along the following lines: no copying of features from the subject to I takes place and agreement is realized by default, this way we are able to provide a principled explanation for the

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[10] We can suppose that the Case filter only applies to Noun Phrases, as hypothesized in Chomsky (1981).

third person singular features appearing on the verb. The realization of agreement by default is also compatible with the absence of Nominative in such structures (in fact, only the sharing of features between I and its Spec enables Nominative assignment). An additional argument in favor of our hypothesis is that, as in the previous examples (cf. 31), a conjunction of Datives does not trigger plural agreement:

(33)a. A Gianni e ad Antonio importa solo di se stessi   .
         To Gianni and to Antonio cares (sing) only of themselves
    b.   A Gianni e Antonio importa solo di se stessi
         To Gianni and Antonio cares (sing) only of themselves

There is no contrast between (33)a. and b.: in both sentences the verb appears as a third person singular and even the conjunction in (33)b. does not modify the features of the verb. Some considerations are in order at this point, the first one is that the a-phrase must be considered featureless, like clauses. This leads us to the generalization that only 'real' NPs have features which can be copied in I and that the presence of a preposition, even of a Case-marking one, as in this case, is a significant barrier to features percolation.[11]

5.

        Let us consider more closely the consequences of our hypothesis with respect to Case assignment. We already pointed out above that the anaphor is not Nominative, but, if this is correct, how is the Case filter satisfied? It is already well known that in non-case marked environments neither an R-expression, nor a pronoun or an anaphor can appear:

(34)a. *Gianni ha detto di Mario telefonare domani
         Gianni said Mario to phone tomorrow
    b.   *Gianni ha detto di se stesso telefonare domani
         Gianni said himself to phone tomorrow
    c.   * Gianni ha detto di lui telefonare domani

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[11]As already discussed elsewhere (see ch. 1 in Giorgi and Longobardi, forthcoming), the presence of the Dative-marking preposition does not inhibit binding; to this purpose, therefore, the Dative is behaving like a NP. Notice also that, with respect to extraction phenomena, the Dative must be assimilated to PPs, as noted in Cinque (forthcoming).

Gianni said him to phone tomorrow

These structures are ungrammatical because the subject of the infinitives though receiving a θ-role, but does not receive Case. Trivially, the anaphor *must* have a Case; however the contexts in which it appears, typically cannot be marked with Accusative, as in passive and ergative constructions. Moreover, as argued above, the position in question is also non-Nominative, so that we are left with the problem of identifying the Case of the anaphor.

As already illustrated above, the structures we examined all exhibit the same pattern: the anaphor always occupies the internal thematic position and cannot be moved to the preverbal position, as shown in section 2 by the ungrammaticality of examples (11). This fact cannot be due to a binding violation, since the clitic c-commands and binds the thematic position.[12] Notice that the Case of the anaphor must be an inherent one, as shown by the ungrammaticality of the following example:

(35)   *Le sembra se stessa essere intelligente
         To her seems herself to be intelligent
(36)   Mary believes herself to be intelligent

Se stessa in (35) does not receive Case from the infinitival copula, moreover, since it is not θ-marked by *sembrare*, it cannot be inherently Case-marked; given that *sembrare* does not assign structural Case, contrasting therefore with verbs of the *believe* class (cf. ex. 36); for a more detailed analysis of these examples, see Belletti (1988) Notice also that binding principles are certainly not violated in (35), since the clitic *le* is available as a possible antecedent for the anaphor. Compare now (35) with (36): in the latter, structural Case is assigned by *believe* and the sentence

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[12]In A'-chains it is sufficient that the binder c-commands the thematic position of the anaphor:

i.   Se stesso$_i$ credevo che Gianni$_j$ amasse t$_j$!
        Himself I believed that Gianni loved!

Notice also that even if there is a binder in the superordinate sentence, the structure is not grammatical:

ii. a. Teresa pensava che le sarebbe stata restituita se stessa
        Teresa thought that to her would be restored herself
    b. *Teresa pensava che se stessa le sarebbe stata restituita
        Teresa thought that herself to her would be restored

is grammatical. We can conclude therefore that in the previous examples the Case received by the anaphor must be an inherent one.

Interestingly, there is a proposal by Belletti (1988), which goes exactly in this direction; she argues that the internal θ-position of ergative verbs receives an inherent Case, that she calls 'partitive'. We are going to argue here that it is exactly this Case, which will be referred to here as 'absolutive', which is assigned under θ-marking in internal θ-position. As Belletti (1988) has already argued, this Case cannot be transmitted via an A-chain, this fact is straightforwardly predicted by Chomsky's 'last resort Principle' (Chosmsky, 1986a), i.e. if there is an A-chain, Case must be assigned on its head. The prediction following from these considerations is exactly what we pointed out above (cf. exx. 11): the anaphor cannot appear in preverbal position since the last resort principle would be violated, given that Nominative could not be assigned to it. This fact is due precisely to the feature [+anaphor] which is incompatible with agreement copying and, as a consequence, with Nominative Case.

Let us summarize the results obtained until now: in internal θ-positions Absolutive Case is assigned and, as already pointed out by Belletti (1988), such a case is an inherent one. Due to the last resort principle and to the constraint concerning the occurrence of an anaphor in agreement, movement of the anaphor to the preverbal position is impossible. This way, we obtain precisely the pattern illustrated above.

Notice that Belletti (1988) points out that partitive Case must be an optional Case, otherwise the consequences relevant to the Definiteness effect could not be derived. here we will not reproduce her arguments and we simply refer the reader to her paper. Notice in any case, that in our crucial examples, due to principled considerations, Partitive case assignment is the only possible option to obtain a grammatical sentence. Nominative, in fact, is not available to the anaphor, according to Picallo's and Rizzi's hypotheses, which we are following here. Moreover, if one wants to maintain Belletti's argument (1988) concerning DE, i.e. that it is due to the exclusive compatibility of partitive with Indefinites, we have to conclude that an anaphor counts as an indefinite.[13] Let us finally point out that from the preceding examples it emerges that Partitive is an inherent Case, though not a Prepositional one and that its assignment is

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[13]This fact is not implausible, given that an anaphor is non-referential by definition and therefore perfectly compatible with an indefinite status. This topic deserves further work; here we are only computing the consequences of adopting the whole of Belletti's proposal, which however is not necessary to this argumentation.

inherent Case, though not a Prepositional one and that its assignment is possible not only under government of a Verb, but also under government of an Adjective. In examples (17), where Partitive appears AP internally, we can see that *se stesso* is dominated by the AP and it is not preceded by a Case-marking Preposition, a situation which does not arise with As under any other condition.[14]

6.

There is however an important empirical residue, i.e. the ungrammaticality of the following example:

(37)   *Gianni mi ha detto che è entrato se stesso nel castello
        Gianni told me that entered himself in the castle

The ungrammaticality of this example is rather surprising given that all the conditions we discussed above should be satisfied. The verb appears as a third person singular, the third person singular anaphor occupies the internal position of an ergative verb. Moreover, *Gianni* should be available as an antecedent .[15] However, we will challenge exactly this point; our hypothesis is the following: given that an agreement by default does not yield coindexation with the postverbal subject (not even with the expletive pro in the preverbal one), we can suppose that its index is sufficient to define a Complete Functional Complex. Notice that this hypothesis does not mean that we are drawn back to the notion of AGR as an accessible subject, because there is no need of generalizing it to all

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[14]One could wonder why such a Case, realized both inside VPs and APs is not realized inside NPs, even if they can manifest ergative properties (see Ch. 1 in Giorgi and Longobardi, forthcoming). Inside NPs, in fact, Cases are only realized prepositionally, for reasons which are not clear.

[15]The definitions of binding we are referring to here are those given in Chomsky (1986a) also referred to in the previous chapter. Let us reproduce them here:

i.   I is BT-compatible with (α, β) if:

        A: α is an anaphor and is bound in β under I

        B: α is a pronominal and is free in β under I

ii.   Licensing condition for a category α governed by a lexical category γ in the expression E with indexing I:

        For some β, I is BT-compatible with (α,β):

        α is an anaphor or pronominal and β is the least CFC containing γ for which there is an indexing J BT-compatible with (α, β).

cases, we are only suggesting that in this case agreement bears an independent (pronominal) index, which, as such, must be taken into account in the computation of the CFC.[16] However, such an index is not able to assign a reference to the anaphor, from the semantic point of view, therefore, if no other element is available inside the same CFC, the sentence turns out to be ungrammatical, because the anaphor cannot be properly governed. The principle in question can be expressed as follows:

(38)   Agreement by default has an index BT-compatible with the
        anaphor, in the sense of Chomsky (1986a), if the anaphor is in a
        chain with an item in Spec

The constraint "if an anaphor is in a chain with an item in Spec" is empirically motivated on the basis of the following examples:

(39)a. John and Mary$_i$ think it is a pity that each other's$_i$ pictures will be
        on sale
    b. Gianni$_i$ vuole che sia messo in vendita quel ritratto di se stesso$_i$ da
        piccolo
        Lit: Gianni wants that pro-expl is put on sale that picture of himself
        as a child
        Gianni wants that picture of himself as a child is put on sale [17]

In these examples the verb appears as a third person singular, therefore one could suppose that it is a realization of agreement by default.[18] However, contrary to the example in (37), the superordinate subjects are available as possible antecedents for the anaphor. To this purpose, observe that in both examples the anaphor is embedded inside a subject and that an intervening expletive is present (in Italian an expletive empty category,

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[16]Cf. the discussion in Chomsky (1986a, pp. 172-177)

[17]Within NPs in Italian (see Giorgi and Longobardi, forthcoming) the form *di*+anaphor, or pronoun, instead of the corresponding possessive, is grammatical only if it is followed by a predicate of some sort (or, in the case of pronoun, it has a contrastive value). In the example (39), we cannot use the anaphoric possessive *proprio*, because we want to exclude the possibility for *proprio* of being long distance bound.

[18] In these cases, in fact, the two options cannot be distinguished because we explicitly established that the agreement rule must be free and optional, and in the examples in question both can apply.

pro, is present, since the subject appears postverbally), but the anaphor is not by itself in a chain with the expletive, exactly because it is deeply embedded. The natural idea behind such a reasoning is that the index of agreement is available only to the item in Spec, or, by transitivity, to something coindexed with it, i.e. to the subject itself, but cannot be accessed by anything else appearing in the sentence.[19]

The following example is analogous to the previous ones:

(40)   Gianni$_i$ vuole che sia messo in vendita quel ritratto di se stesso$_i$ da piccolo
        lit: Gianni wants that pro-expl that is put on sale that picture of himself as a child
        Gianni wants that picture of himself to be put on sale

Even in this case the agreement in question could be a default one; the anaphor however, is not coindexed with the preverbal expletive, since it is embedded inside the subject. Given our specification added to principle (38), therefore, the index of agreement is not available to the anaphor, so that it does not define a binding domain and *Gianni* is a possible antecedent.

Conclusions

Let us briefly summarize our proposal: first, we assume Picallo's (1984) and Rizzi's (1989) idea that anaphors are incompatible with agreement, because of a mismatch of features. Provided that such a condition is not violated, we hypothesize that agreement features on the verb can be realized in two ways: by the ordinary procedure, or 'by default'; in such a case, the verb surfaces as a third person singular. Moreover, the more general, and independently needed, spec-head agreement condition rules out all sentences where, independently of the kind of agreement, the features of Inflection are different from the features of its Spec. Notice that this crucially implies that a postverbal subject *must* be in a chain with the expletive, otherwise the features of the postverbal NP cannot be transmitted to the Spec of IP. When agreement is realized by default, given that no feature copying from I to Spec is involved, Nominative cannot be realized; however, following Belletti's (1988) proposal, we assume that Partitive case is assigned in internal θ-

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[19]On this topic see the extensive discussion in Burzio (1989b).

positions, so that Case requirements are satisfied. The partitive NP cannot be moved in preverbal position, given Chomsky's (1986a) 'last resort principle'. Finally, the index of the agreement by default is BT-compatible with respect to the anaphor, i.e. it identifies the CFC where principle A of the Binding theory applies.

The theoretical goals we pointed out in the introduction are also met. One one hand, in fact, we provided additional evidence in favor of Partitive Case assingment in internal θ-position, on the other, we suggested an account wich resorts to the agreement-anaphor incompatibility hypothesis and not to ECP, to exclude subject anaphor.

CONCLUDING REMARKS

In this book we discuss several problems related to the theory of binding; however, throughout the various chapters, which have been completed in different times, we adopt slightly different formulations of the theory. In particular, in chapters 2 and 3, we adopt the definitions given by Chomsky in *Lectures on Government and Binding* (1981).[1] Chomsky (1981) incorrectly predicts that the distribution of anaphors and pronouns in subject position of an NP is complementary. For this reason, to avoid some of the undesired consequences of such a theory, in chapter 2 we adopt Manzini's (1983b) proposal; she introduces an interesting device which captures at least part of the non-complementarity. Moreover, Manzini's approach, as we have already pointed out, has the advantage of predicting the distribution of arbitrary PRO with respect to the controlled one, yielding some insights on the properties of *proprio* and *each other*.

The proposal we argued for in chapters 2 and 3, concerning subject oriented anaphors, is largely independent from the binding principles ruling clause bound anaphors; let us discuss here an important point.

Consider an anaphor, or a pronoun, α, in subject position of an NP, subject of a subordinate clause, i.e. in a configuration like the following (details omitted):

(1) $[_{S0} \, ... \, [_{S1} \, [_{NP} \, \alpha \, N \,] \, VP \,]]$

Chomsky (1981) predicts that if α is an anaphor, it can be bound by a c-commanding item in the superordinate clause. If α is a pronoun, it is, incorrectly, predicted to be free in the same domain. Notice that, even with respect to an anaphor, such a prediction is not absolutely correct; in fact, as pointed out in chapter 2, and discussed by Chomsky (1986a), an anaphor in that position cannot refer to any (c-commanding) NP of the superordinate clause, but exhibits a "subject oriented" behavior. This fact is particularly

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[1]See chapter 1 for a discussion of Chomsky's (1981) proposal.

relevant for *each other*, which, contrary to *proprio*, is not subject oriented, i.e. it never exhibits such a behavior in other contexts.

Manzini's (1983b) argues that for an α in that position, and *only* there, it is not possible to define a binding domain, with the consequence that the principles of binding apply vacuously. Roughly speaking, in chaper 2 we argued that other principles are allowed to intervene in order to rule the distribution of NPs occupying the position α. Accordingly, the long distance strategy, which we called P-binding, in these cases correctly predicts the distribution of anaphors in Spec of NP, both in Italian and in English. Yet, English *each other* and Italian *proprio* remain different, since, lexically, *each other* is a clause bound anaphor, which is subject to the long distance strategy only as a default option; *proprio*, on the contrary, *is* a long distance anaphor and can exploit such a property in all the contexts where it appears.

Chomsky (1986a) explicitly considers these problems. His proposal successfully solves the non-complementarity in the position α of the structure given in (1), as well as in all the other possessive positions. Therefore, this theory is certainly superior in predictive power with respect to the previous formulations; for this reason, we adopt it in chapters 3 and 4.

Notice however, that the problem of predicting subject orientation in configurations like (1) is not yet solved. Chomsky (1986a) suggests that anaphors must be interpreted at LF and, therefore, are subject to a sort of Quantifier Raising rule, which raises them in the Romance clitic position. Since only subjects are available as antecedents for an anaphor in such a position, subject orientation obtaines. This suggestion is very interesting and has a great deal of far reaching consequences which have not been worked out here. However, in the way it is expressed in *Knowledge of Language*, it does not make the correct predictions, especially for what concerns ECP-like explanations for the lack of Nominative anaphors. We discuss these problems in chapter 5 and conclude that Chomsky's (1986a) proposal cannot be taken as a possible solution for the phenomena in question.

Concluding, what can be argued at the end of our work is that the Binding Theory as it is formulated in *Knowledge of Language* is the most empirically adequate solution for binding phenomena of the kind traditionally covered by binding principles (with exclusion, therefore, of long distance anaphors). As we argued in chapter 4, it is superior to any theory trying to eliminate disjunction (principle B) from the binding principles.

Moreover, we propose a theory for subject oriented anaphors, sketched in chapters 2 and 3, which is independent from principle A; so far, we believe that such a choice is reasonably well-motivated.

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