

On the Semantics of Pronominal Clitics and some of its Consequences*

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Abstract

Recent work on the acquisition of the binding conditions suggests that pronominal clitics (PCs) encode the presence of an unsaturated argument position. In other words, PC-constructions encode functional abstraction: the argument position related to the PC is re-opened. This interpretation represents a radical departure from traditional analyses (in virtually every syntactic framework, including HPSG and Principles&Parameters), which take PCs to reduce the valence of the predicate to which they are linked, either in the lexicon (HPSG) or in syntax (P&P). In this contribution, I will provide conceptual and empirical motivation for this radical reinterpretation of PC-constructions, by claiming that it considerably enhances the prospects of explanatory adequacy in (at least) the following domains: (a) the acquisition data relative to Principle B Effects in Romance languages; (b) the familiar vs. bound-variable interpretation of PCs; (c) the diachronic relationship between clitic left-dislocation constructions (CLLD) and PC-constructions; (d) the properties of Romance CLLD which are still in need of a deep conceptual account, like the (optional) presence of a resumptive clitic and the recursive nature of the topic projections in the left-periphery.

Key words: pronominal clitics, interface conditions, interpretable features, topicalization, left periphery, locality effects, resumptive clitics.

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1. The semantics of pronominal clitics

The main controversy in the syntactic literature on pronominal clitics (special clitics in Zwicky's 1977 terminology) revolves around the choice between theories that have clitics as a kind of affixes with special selection properties (see especially Klavans 1985) and theories that take them to be a kind of pronominal arguments with special syntactic distribution (see especially Kayne 1975). This contrast is often referred to as the opposition between the so-called base-generation approach (clitics are generated in their surface position on some syntactic host as pieces of inflectional morphology) and the so-called movement approach (clitics are generated in canonical argument position and undergo movement in syntax). More recently, there have been analyses that try to concile the affixal status of clitics with the advantages of a movement analysis, under the hypothesis that movement involves a clitic-related silent category (see especially Sportiche 1996). Within lexicalist approaches to the theory of grammar, the cliticization process has been regarded as a rule which applies to verbs subcategorizing for complements in order to reduce the number of these complements by transferring the relevant information in the lexical structure of the complex verbal head containing the clitic. For instance, the lexical entry for Italian *lo legge* ('reads it') can be represented as follows in theoretical frameworks such as HPSG (Monachesi 1995: 89):

- (1) [COMPS $\langle \rangle$, CLTS{NP[acc]_{[3sgm]}}}]

What has largely gone unnoticed is that all these theories (despite the different labor division which they propose between lexicon and syntax or, within syntax, between base-generation and movement) essentially share the same basic assumption concerning the semantics of pronominal clitics: clitic-constructions are propositional, since the clitic discharges one of the argument positions of the (verbal) predicate. When we add *lo* ('it') to *legge* ('read'), we basically map a transitive verb (logical type $\langle e, \langle e, t \rangle \rangle$) into an intransitive verb (logical type $\langle e, t \rangle$): *lo legge* gets the semantic representation $\lambda x (x \text{ lo-legge})$, to the effect that, by adding a further argument to *lo legge*, we actually get a proposition. Of course, theories differ as to where this semantic operation (consisting in saturating one of the argument position of a verbal predicate) actually takes place: either in the lexicon (HPSG) or in syntax (with further choices to be made, for syntax-oriented theories, as to what exactly fills the clitic-related argument position in clitic-constructions).

In this contribution, I would like to challenge this uniform semantic analysis of clitics and clitic-constructions. More precisely, I would like to show that an alternative semantic analysis of clitic-constructions is not only possible, but in effect also desirable on conceptual and empirical grounds. This alternative analysis is based on the hypothesis that clitic-constructions are unsaturated expressions: the argument position related to an (object) clitic is re-opened, in the sense that it is interpreted as a bound variable (a variable bound by a λ -operator). As a consequence, sentences involving one or more pronominal clitics are predicates, for-

mally represented as λ -abstracts. This entails that when we add *lo* to *legge*, we do not saturate the object argument position: *lo legge*, as well as *legge*, is a one-place predicate, which is represented as in (2) as a matter of bare output conditions on syntactic representations at the interpretive interface:

- (2) **lo legge** (read-CL_{3sgm}) $\rightarrow \lambda x \lambda y$ (x legge y)

However, there is an important difference. In the case of the verbal head *legge*, (2) is simply a convenient logical form used to represent the fact that *legge* is, semantically, a two-place predicate. In the case of the complex head *lo-legge*, the representation in (2) is partially encoded in syntax: what is encoded is the presence of a λ -operator binding the clitic-related variable y . In other words, I propose that clitic-constructions are grammatical tools designed to encode λ -abstraction over the argument position(s) of (verbal) predicates.

The relevant bare output conditions can be made precise along the following lines. Suppose that pronouns are translated into free variables at the interpretive interface, due to the interface condition formulated in (3) (cf. Heim and Kratzer 1998):

- (3) If α is a pronoun or a trace, i is an index and g is a variable assignment whose domain includes i , then $\|\alpha_i\|^g = g(i)$.

Consider further the two following refinements of the condition (3). First, let us assume that the role played by indexes in (3) is taken over by ϕ -features, in accordance with minimalist guidelines (cf. Chomsky 1995): a pronoun is in the domain of a variable assignment function g not because of the fact that it is endowed with the index i but because of the fact that it is endowed with ϕ -features. Second, let us assume that g has a certain bunch of ϕ -features in its domain only if these ϕ -features are the proper subset of a larger feature-cluster which crucially includes some substantive feature (typically, the [+animate] feature proper to full pronouns, as discussed in Corver and Delfitto 1999):

- (4) g includes AGR only if $AGR \subset \Sigma$, where Σ is a set of features among which there is at least a substantive feature (where AGR = a bunch of ϕ -features).

Given these assumptions, clitic-constructions may be assumed to encode λ -abstracts in the following way. Clitics have been argued to undergo movement in two distinct steps: first, the clitic moves as a whole (that is, as a DP), creating a spec-head configuration with the lexical head to which it is related; second, the clitic moves as a head (that is, as a D) (see Corver and Delfitto 1999 and the references cited there). After the second step, clitic-movement gives rise to abstract syntactic configurations such as (5) ($[_{NP} e]$ is supposed to express the fact that pronominal clitics are transitive structures involving an empty NP-complement of D; for a critical discussion of this hypothesis, see Corver and Delfitto 1999):

(5) $D_i \dots [{}_{DP} t_i [{}_{NP} e]]$

The fact that the empty DP in (5) is in a checking configuration with the lexical head to which it is thematically related ensures that it is enriched with the substantive feature required for it to be interpreted as a free variable (at the interface, the DP will be translated into a variable x which is visible to the variable assignment g). At the same time, the head of the X-chain (that is, D) is translated into a λ -operator, as an instance of a more general output condition at the interpretive interface. Namely, notice that D is nothing else, by hypothesis, than a bunch of ϕ -features (i.e. AGR). When it moves, it creates an AGR-chain, whose head is arguably in an A'-position. A'-chains involving AGR generally encode functional abstraction, as is shown by the interpretation of structures involving Quantifier Raising (cf. Heim and Kratzer 1998):

- (6) a. No linguist is a genius.
 b. (No linguist) [λx (x is a genius)]

Given the interface condition (3) (and the proposed replacement of indexes with AGR), the λ -operator in (6b) is encoded by the index of the QP *no linguist* (in our terms, by the AGR-element realized on the QP in A'-position). The QP itself provides the argument of the λ -abstract created by the abstract AGR-chain. The difference with respect to clitic-movement is that the D-head has no semantic content (by hypothesis, it is nothing else than AGR): it simply contributes to encoding formal objects of the sort $\lambda x (\dots x \dots)$, without providing an argument for the λ -abstract, that is, without saturating the predicate.¹

1. An anonymous reviewer points out that reference to the substantive feature [+animate] seems misleading in the case of partitive clitics such as Romance *en/ne*. This criticism would be justified if I were willing to maintain that clitic-movement is intended to provide the clitic-chain with the substantive feature [+animate]. This is not the case. In Corver and Delfitto 1999, it is proposed that the real issue is underspecification: clitics are underspecified for one of the substantive feature [+animate] and [-animate] and clitic-movement is intended to provide the clitic-chain with *one* of these substantive specifications. The asymmetry between 'animate' and 'inanimate' actually holds only for *strong* pronouns, which are typically specified as [+animate] and only marginally as [-animate] (cf. the discussion in Corver and Delfitto 1999).

The same reviewer also complains about the lack of complete symmetry between the logical forms created by clitic-movement and the logical forms created by Quantifier Raising, in that only the latter gives rise to the canonical tripartite structures that constitute the syntax of generalized quantifiers. This criticism is based on a misunderstanding. With clitics, there is no tripartite structure because of the fact that there is no generalized quantifier as the head of the A'-chain (hence no tripartite structure based on the relational interpretation of determiners). As explicitly proposed in the main text, I interpret A'-chains involving an abstract AGR element as encoding functional abstraction. The λ -abstract may be saturated by a generalized quantifier (even in the case of clitic-constructions, as in *Qualcuno, lo ho visto* 'someone, I've seen him') or by a referential (empty) topic, whose logical type is $\langle e \rangle$. Contrary to what is suggested by the anonymous reviewer, the empty topic *cannot* provide the restriction clause within a tripartite structure: empty topics simply instantiate a distinct logical combination with λ -abstracts with respect to generalized quantifiers.

The conclusion is that the interpretation of clitic-constructions as unsaturated expressions follows from the syntactic properties of clitic movement and some plausible bare output conditions concerning pronominals and abstract AGR-chains.

In this paper, I want to provide empirical evidence in favor of the functional interpretation of pronominal clitics. In section 2, I will contend that the functional interpretation favors a straightforward analysis of acquisition facts and language change facts, while allowing a unitary semantics for pronominal clitics. In section 3, I will show that the functional interpretation is an important heuristic tool in order to establish important comparative differences among different types of topicalization constructions. In particular, I will develop the basic insight that clitic-constructions are usually analyzed as (possibly hidden) clitic left-dislocation structures: the (possibly null) dislocated topic is the argument of the λ -abstract created by clitic-displacement. In the last section, I will extend this analysis by showing that it leads to an elegant solution of some long-standing problems concerning the role and the distribution of clitic-resumption in Romance clitic left-dislocation structures.

2. Empirical evidence for the functional interpretation of pronominal clitics

2.1. Acquisition facts²

Recent acquisition research has revealed that the so-called Delay of Principle B Effect (DPBE) which has been found in English and other Germanic languages such as Dutch does not show up in Romance languages (Italian: McKee 1992, French: Hamann and Philip 1997, Spanish: Baauw, Escobar and Philip 1997), at least when the pronoun involved is a clitic. In a nutshell, the interpretation assigned to (7a) by English children is quite different from the interpretation assigned by Spanish children to the Spanish equivalent of (7a), given in (7b):

- (7) a. The girl is pointing to her.
 b. La niña la señala.

More precisely, English children exhibit a clear non-adult-like behavior in admitting coreference between the subject and the pronoun in approximately 50% of the cases (for adults, the coreference construal is excluded by the application of Principle B of Binding Theory). On the contrary, Spanish children behave (almost) adult-like, in excluding coreference in approximately 90% of the cases. For English and Dutch, it is widely accepted that the DPBE is a consequence of the processing limitations of the children, under the hypothesis that the application of Principle B in (7a) involves a transderivational computation whereby children have to compare a binding construal (the pronoun is a variable bound by a λ -operator) and an accidental coreference construal (the pronoun is a free variable). Since this pro-

2. This section is largely based on the research results achieved in Baauw 2000.

cessing burden arguably exceeds the short-memory resources of the kids, the linguistic computation breaks down before the children are able to decide whether accidental coreference is admitted. We thus expect children to adopt a guessing behavior, and this seems indeed confirmed by the experimental results (coreference is admitted in around 50% of the cases; cf. especially Grodzinsky and Reinhart 1993). This line of analysis is strongly corroborated by the finding that English children virtually behave adult-like when the subject is not an object-referring linguistic expression (in this case, the prediction is that the accidental coreference construal is simply irrelevant, to the effect that Principle B directly applies to exclude coreference between the subject and the pronoun). In effect, coreference is correctly excluded in around 85% of the cases in sentences like (8) below:

(8) Every girl is pointing to her.

How is the functional interpretation of pronominal clitics relevant for this whole issue? Notice that there is no straightforward explanation for the fact that Spanish (and, more generally, Romance-speaking) children do not exhibit the DPBE with pronominal clitics. The main reason is that the property involved in the derivation of the DPBE (processing troubles brought about by a transderivational computation) are not easily parametrizable: we do not expect Spanish children to follow a different strategy in assessing whether coreference is admitted, nor are we ready to concede that their performance skills are higher than those of their English peers (for an in-depth discussion of the shortcomings of other analyses that have been proposed, see Baauw 2000). However, the solution to this acquisition puzzle is straightforward if we adopt the functional analysis of clitic-constructions: since Romance pronominal clitics are interpreted as bound variables as a matter of bare output conditions, the accidental coreference construal (based on the interpretation of the pronoun as a free variable) is simply excluded in cases like (7b), to the effect that binding (hence Principle B) will apply to rule out coreference between the subject and the pronominal clitic. In a sense, adopting the functional analysis of clitics allows us to analyze (7b) in the same way as (8): in both cases binding is the only legitimate construal, because either the antecedent or the pronoun is not object-referring (the antecedent in (8) and the pronoun in (7b)). I conclude that the proposed semantics elegantly fits these acquisition data.³

2.2. Language change data

If clitic-constructions are unsaturated expressions, they have to be combined with one or more arguments (depending on how many pronominal clitics are present) in order to get a proposition. One of the combinatorial possibilities that arise is that the argument that combines with the λ -abstract be a *syntactic* topic. This entails

3. For a critical discussion of the issues raised by the proposed analysis and further arguments in favour of it, see Baauw 2000.

that the reason why (9a) is interpreted as a sentence (a saturated expression receiving a truth-value) is that (9a) has the structure shown in (9b), with an empty topic combining with the λ -abstract:

- (9) a. Marcello lo legge.
 ‘Marcello reads it.’
 b. [_{Top} e] [λx (Marcello legge x)]

In other words, the reason why clitic-constructions are interpreted as sentences is that they involve an additional structural layer, where a (possibly null) topic is realized (semantically, the topic saturates the clitic-related argument-position). The conclusion is that clitic-constructions have the syntax of Romance clitic left-dislocation⁴ or, to put it in more salient terms, that Romance clitic left-dislocation is one of the most prominent syntactic formats to which pronominal clitics are expected to give rise. This important consequence of the present proposal is apparently confirmed by the observation that in the period of transition from spoken Latin to Romance pronominal clitics were arguably first used in combination with a phonologically realized dislocated argument. So, in one of the oldest documents of the Italian language, the so-called *Placiti Cassinesi* (a tenth-century AD legal document), pronominal clitics appear in a construction which responds positively to all diagnostics for clitic left-dislocation (cf. Cinque 1990, Vincent 1997):

- (10) Sao ko kelle terre, per kelle fini ke ki contene,
 I know that these lands within those bords that here are described
 trenta anni le possette parte Sancti Benedicti
 for thirty years them owned the monastery of Saint Benedict
 ‘I know that these lands, within the bords that here are described, for thirty
 years were owned by the monastery of Saint Banedict’

As is well-known, the source of pronominal clitics in Romance is constituted by the Latin pronoun *ille* (originally a demonstrative), whose use started as a means of marking objects or, more generally, internal arguments as referring to items which are taken as given, that is, familiar in the discourse context. In this perspective, it is quite telling that the Latin pronoun *ipse*, which is the source of 3rd pers. pronouns and of definite articles in some Romance varieties, never represents the etymon of object clitics in Romance. The point is that *ipse* was used not simply to mark a topic, but also crucially to signal topic-change, that is, to resume non-familiar topics (a use that dates back to the classical usage; cf. Vincent 1997). Under the present analysis, the natural hypothesis to be put forward is that when the heirs of *ille* came to be used to encode functional abstraction over the clitic-relat-

4. For a detailed presentation of the syntactic properties of Romance clitic left-dislocation, see especially Cinque 1990.

ed argument positions, the topic that *ille* used to mark as familiar at some preceding stage came to be realized in the dislocated topic position typical of clitic left-dislocation structures. This was not a minor change, of course: it involves what has often been characterized as the passage from dependent-marking grammars, where the status of arguments is encoded through morphological marking on the arguments themselves, to head-marking grammars, where the status of arguments is encoded through marking on the verbal head (in this case, by means of clitic morphology). Since clitic-structures involve the presence of dislocated topics, this shift was functional to the preservation of flexible word-order after the disappearance of case-morphology on the arguments of the verb. The continuity between these two stages is constituted by the fact that clitics encode λ -abstraction over argument-positions that were originally saturated by familiar topics, that is, by expressions referring to entities that were salient in discourse. On these grounds, the grammar of cliticization clearly envisages empty topics (as in 9a) besides phonetically realized topics, as in (10). Since the dislocated topic refers to a salient discourse entity, it need not be phonetically realized: it can be syntactically represented as an empty topic (cf. (9b)) which is easily identified in discourse. As a consequence, there is no need to hypothesize a passage from grammatical systems where clitics resumed overt dislocated arguments to grammatical systems where clitics resumed extra-sentential discourse entities, contrary to what is proposed in Vincent 1997: «...the origin of clitic pronouns is to be found in contexts involving pronominal resumption of a focal and dislocated argument. From these contexts, it generalizes to others in which the co-referential or antecedent item is elsewhere in the discourse or extra-linguistic context» (Vincent 1997: 161). In effect, I would like to propose that the dislocated argument never was a focal element, it was a familiar topic since the very beginning; and resumption of extra-sentential antecedents simply does not exist, since it can be reduced to resumption of phonologically unrealized dislocated topics.

The grammar of clitic left-dislocation is virtually the same as the grammar of simple clitic-constructions (even though the element saturating clitic-constructions need not be a left-dislocated topic).⁵ So, if we are not surprised to find clitics com-

5. A reviewer points out that this claim appears to be too strong, in view of certain *prima facie* asymmetries between clitic-constructions and clitic left-dislocation.

A first case concerns anaphorically dependent DPs that can be resumed by a clitic but cannot be left-dislocated. This is shown by the contrast between (i) and (ii) in Catalan:

(i) Tots dos estan molt contents perquè s'han comprat la mateixa camisa,
 them both are very happy because they bought the same shirt
 però jo la trobo més aviat lletja
 but I find it' rather ugly

(ii) *La mateixa camisa jo la trobo més aviat lletja
 the same shirt, I find rather ugly'

Although I fully agree on the judgements (that can be easily extended to other Romance languages, among which Italian), there is a straightforward line of analysis for this sort of contrast

binning with overt dislocated topics in the oldest stages of Romance, we have serious reasons to believe that the speakers using these kind of constructions were also able, since the very beginning, to understand and produce simple clitic-constructions.

that is fully compatible with the claim that simple clitic constructions are hidden left-dislocation constructions. Namely notice that the empty topic in (i) need not be identified with the dislocated non-referential DP in (ii). In the discourse situation involving (i), it is quite possible that the empty topic is identified with something like the definite description «the shirt bought by them both», on partial analogy with the anaphoric mechanisms proper to relatively complex cases of pronominal anaphora, like ‘donkey-anaphora’. In other words, the ungrammaticality of (ii) need not have a direct import on the interpretation of (i), since there are rather obvious alternative ways to identify the content of the empty topic.

Another potentially problematic case concerns clitic-doubling, as it surfaces in Catalan and many Spanish varieties. If clitic-constructions involve an empty topic, clitic-doubling should be impossible. In fact, this criticism would be sound if one could show that there is no way of interpreting the doubling lexical DP as the referential expression saturating the λ -abstract encoded by the clitic-construction. However, the interpretation of the doubling DP as a subject of predication that saturates a λ -abstract is in fact the interpretation of clitic-doubling which has been proposed in a recent paper by J. Aoun for Lebanese Arabic (cf. Aoun 1999). His analysis entails that the doubling DP gets generated in some subject position and that the rest of the sentence undergoes massive displacement, much in the spirit of Kayne’s Antisymmetry hypothesis. This proposal is supported by substantial evidence, among which one should mention matters of scope interpretation. Of course, it is not clear whether this analysis can be generalized to all instances of clitic-doubling. But it should be clear that my hypothesis, far from being incompatible with the existence of clitic-doubling, paves up the way for a new analysis of clitic-doubling. In this respect, I should remind the reader that the essential feature of my proposal is that clitic-constructions give rise to unsaturated λ -abstracts: what I predict is the existence of a semantic subject of predication (saturating the λ -abstract in order to give rise to a proposition), independently of the specific syntactic execution of this subject of predication (which may be realized as a left-dislocated constituent, as a doubling constituent or even, as in the case of bound clitics to be discussed below, as a grammatical subject).

These remarks lead me to the discussion of a third potentially problematic contrast: the Principle C violation effects found in (iii) are completely absent in (iv):

(iii) Al Joan_i pro_k va dir que no l_i’ajudaries [i≠k]
 ‘Joan, (s)he said that you won’t help’

(iv) Pro_k va dir que no l_i’ajudaries [i≠k] or [i=k]
 ‘Joan, (s)he said that you won’t help’

As anticipated above, the solution is pretty straightforward: the coreferential construal corresponds to a logical form in which the saturating expression is the grammatical subject *pro*. In other words, bound clitics correlate with logical expressions where two instances of the same variable are bound by a λ -operator, along the lines of (v) (for the relevance of this analysis in an acquisition perspective, see Baauw 2000):

(v) [λx (x va dir que no ajudaries x)] (pro)

Finally, I would like to mention the fact that overt dislocated topics tend to get a contrastive flavor that is not detected with empty topics. Here, I will simply propose that constituents interpreted contrastively need phonological realization: as a consequence, empty topics will be identified with discourse referents that cannot be contrasted with other (perhaps more salient) discourse referents, as is the case with overt dislocated phrases.

The functional interpretation of pronominal clitics explains the well-attested diachronic link between topicalization and cliticization in Romance, by proposing an inherent link between pronominal clitics and clitic resumption of left-dislocated topics.

2.3. *On the interpretive ambiguity of pronominal clitics*

There is an intriguing issue concerning the semantics of pronominal clitics that has virtually been neglected in the linguistic literature, up to very recent times. The issue has been explicitly raised in Diesing 1999, as a reply to Cardinaletti and Starke's 1999a proposal that the fundamental interpretive property of pronominal clitics ('deficient' pronouns in their terminology) is that clitics must have an antecedent in discourse. In (9a) above, for instance, the use of *lo* ('it') is infelicitous unless it refers to a discourse entity which has already been introduced in the discourse context. Diesing raises the question how this hypothesis can be made compatible with the fact that it is deficient pronouns (and not full pronouns) that are standardly used in order to express bound variable interpretations (at least in the languages which have syntactic clitics). Does being a bound variable count as having a discourse antecedent? If the answer to this question –as it seems– must be negative, it becomes difficult to formulate uncontroversial generalizations concerning the semantics of pronominal clitics: there seem to be (at least) two distinct usages that cannot be reduced to some common interpretive property of clitics. In their reply to Diesing, Cardinaletti and Starke propose a radical solution for this problem, suggesting that the binder of a pronoun interpreted as a bound variable can actually be understood as a discourse antecedent: «In *Everyone thinks he is brighter than his dog*, the bound variable *he* has *everyone* as a discourse antecedent» (Cardinaletti and Starke 1999b). Semantically, however, it is difficult (if not impossible) to make sense of this proposal. There are certainly contexts where generalized quantifiers can be interpreted as object-referring expressions, hence as expressions introducing discourse entities. This can easily be seen from the fact that they give rise to inter-sentential anaphora (cf. the seminal observations in Evans 1980). In Discourse Representation Theory (cf. Kamp and Reyle 1993) there is in fact a semantic operation (called *abstraction*) which is in charge of mapping generalized quantifiers into object-referring entities. When this operation is applied, however, it is not only the quantified antecedent but, crucially, all the lexical material contained in the sentence that is used in order to create the new discourse entity. Even more importantly, there are clearly cases where *abstraction* must not be allowed to take place, since inter-sentential anaphora is excluded, as in (11) below:

- (11) #Non è ancora arrivato *nessuno*. Eppure *gli* avevo detto di essere puntuale.
 'Nobody has arrived, yet. And I had told *him* to be on time!'

If generalized quantifiers were allowed to refer to discourse entities quite generally, there would obviously be no way to rule out inter-sentential anaphora in (11). The very fact is that in Cardinaletti and Starke's kind of examples, repro-

duced below as an Italian sentence involving a pronominal clitic, saying that *everyone* binds *him* is tantamount to saying, semantically, that the pronoun *him* is bound by a λ -operator and that the resulting λ -abstract (i.e. $\lambda x (x \text{ thinks that Fido is brighter than } x)$) is an argument of the second-order function represented by *everyone*. There is no sense whatsoever in which *everyone* constitutes the discourse-antecedent of *him*:

- (12) Ognuno pensa che Fido lo ami.
 ‘Everyone thinks that Fido likes *him*.’

Have we to conclude that it is impossible to provide a unitary semantics for pronominal clitics? The functional interpretation of clitics simply dissolves the problem. In cases like (12), where the clitic is interpreted as a bound variable, all we have to do is assuming that the λ -operator encoded by the syntax of cliticization also binds the trace of *everyone*, giving rise to the λ -abstract $\lambda x (x \text{ thinks that Fido like } x)$ ⁶. This λ -abstract (logical type $\langle e, t \rangle$) is a suitable argument for the generalized quantifier *everyone* (logical type $\langle \langle e, t \rangle, t \rangle$). In other words, the case where clitics are interpreted as bound variables directly follows from the proposed semantics of pronominal clitics, under pretty standard assumptions concerning the semantics of Quantifier Raising (cf. Heim and Kratzer 1998). What about the case where the clitic refers to a familiar discourse-antecedent, as in (9a) above? The answer is straightforward: this construal constitutes the other core case of semantic composition, whereby the λ -abstract encoded by the syntax of cliticization (logical type $\langle e, t \rangle$) combines with an object-referring argument, that is, the empty topic represented in (9b) (logical type e). The familiarity effect – the requirement that the clitic refer to some salient discourse entity – simply follows from the fact that the compulsory argument of the λ -abstract is syntactically represented as an empty category (an empty topic) that has to be identified in discourse (familiarity is thus the expected side-effect of discourse-identification).

Let us briefly consider what we have achieved. Instead of proposing that generalized quantifiers constitute the discourse-antecedent of clitics when clitics are interpreted as bound variables, I have taken the opposite route. I have claimed that clitics are always bound variables (in the only appropriate sense of the word, that is, in the sense that are always bound by a λ -operator). This is in fact what I had already proposed in the previous section, that is, the functional interpretation of pronominal clitics. As for the familiarity effect that arises when there is neither Quantifier Raising nor overt dislocated topics, it follows from the discourse requirements on the empty topic that we have to hypothesize on the grounds of the proposed semantics of cliticization. In effect, clitics never involve inter-sentential anaphora: the reference to some prominent discourse-entity is mediated by the presence of a sentence-internal empty topic. The functional interpretation hypothesis leads to

6. This result can be easily achieved by means of Quantifier Raising: see Heim and Kratzer 1998 and the discussion in the first section of the present paper.

a unitary interpretation of pronominal clitics, by discharging the differences on the intervention of some independent well-established factors.⁷

3. On the syntactic properties of topics

3.1. English topicalization and Romance clitic left-dislocation

Given the analysis above, clitic-constructions always involve the presence of a saturating argument, often expressed as a (hidden) topic. The obvious question to ask concerns the difference between topic-constructions which involve clitic resumption and topic-constructions without resumptive clitics. Given the minimal pair in (13), we know that both (13a) and (13b) can be assigned the semantic analysis in (14), that is, in both constructions the topic counts as the argument of a λ -abstract:

(13) a. This book, I have read. (English Topicalization)

b. Questo libro, l'ho letto. (Italian clitic left-dislocation)

(14) $XP Op_k IP \rightarrow \lambda x_k [IP] (XP) (= \lambda x [I \text{ have read } x]) (\text{this book})$

Although the interpretation is the same, there are reasons to believe that this interpretation is encoded in different ways in morphosyntax. As it is well-known from at least Chomsky 1977, English topicalization obeys all diagnostics for wh-movement and is usually viewed as a particular instance of wh-movement involving null operators. For instance, sensitivity to (strong) islands is explained by associating to (15a) a structure such as (15b), where a null operator moves from the object position of *read* to some designated position in the left periphery of the clause:

(15) a. *This article, I have to speak to the student who read.

b. This article Op_k I have to speak to the student who read t_k

7. A reviewer raises the following issue concerning CLLD with first and second person clitics. Since the overtly dislocated topic has to be a pronoun in these cases, one wonders what the difference might be between the representation in (i), involving an empty topic, and the representation in (ii), involving a phonetically realized topic:

(i) Te quiero ver.
you-want-1s to-see
'I want to see you.'

(ii) A ti, te quiero ver.
to you you-want-1s to-see
'I want to see you.'

In my view, the difference has to do with the salience in discourse of the 'hearer' (i.e. the referent of the 2nd person pronoun): for instance, the contrastive effect found in (ii) is completely absent in (i).

I propose the following re-interpretation of the null-operator strategy. In sentences such as (13a) and (15a), the object position of *read* contains a covert PRED-feature which activates the C-system in the left-periphery, on a par with the *wh*-feature realized on *wh*-phrases and other (covert) features usually related to the Focus-head in the left periphery⁸. In accordance with the standard minimalist procedure, the activation of the C-system is ensured by means of the duplication of PRED in a non-canonical functional head (the Top-head), where PRED is non-interpretable and must therefore be erased through a checking-configuration. Since PRED simply encodes λ -abstraction at the interpretive interface (the argument position where PRED is realized must be re-opened), we reach the result that the clausal scope of the λ -operator is encoded by means of morphologically-triggered syntactic movement. To put it more directly, the scope of the λ -operator is the c-command domain of the position (*spec-of-Top*) to which PRED is displaced in order to erase the non-interpretable PRED-feature realized in the Topic-head. In other words, scope-assignment is parasitic on the checking procedure, to the effect that in English topicalization there is no purely interpretive process by means of which we simply extend the scope of a λ -operator, a process that we might view as complex predicate formation. *In topicalization, complex predicate formation is parasitic on syntax.*

The situation is arguably different for clitic left-dislocation. What we have proposed above is that the displacement of pronominal clitics yields, at the interface, structures of the kind of $\lambda x(\dots x\dots)$, as the result of bare output conditions. Since there is no activation of the C-system, the assignment of clausal scope to the λ -operator cannot be parasitic on any independently established syntactic procedure. Complex predicate formation is not parasitic on syntax but must correspond to a purely interpretive process.

On these grounds, we make two predictions. First, we predict that the constraints on CLLD (concretely, on the relationship between the dislocated topic and the argument position to which it is related) are constraints on *semantic* binding, that is, on the way we can create complex predicates by increasing the distance between a λ -operator and the variable it binds⁹. Second, we predict that constraints on syntactic dependencies (concretely, constraints on movement as a feature-checking procedure) will not affect CLLD.

Regarding the first point, I simply want to emphasize that the results reached in Cinque 1990 (CLLD is constrained by strong islands, but responds negatively to the diagnostics for movement, for instance, does not obey Subjacency and does not license parasitic gaps) can be re-interpreted as evidence for the hypothesis that strong islands (and islands effects quite generally) are conditions on *semantic* binding (that is, on the relations between a λ -operator and the variable it binds) and not constraints on syntactic dependencies¹⁰. Regarding the second point, I will devote

8. See Rizzi 1990 for an analysis of the C-system based on the feature clusters +/-wh, +/-pred.

9. Formally, we say that β semantically binds α iff the sister of β is the largest subtree in a tree γ in which α is (semantically) free (cf. Heim and Kratzer 1998).

10. If clitic-constructions generally involve a dislocated topic, the question arises why the Italian equivalent of (15a), given in (i) below, contrasts with the construction where the topic is phonologi-

the rest of the present contribution to argue that certain typical intervention effects showing up with English topicalization do not constrain CLLD, corroborating the view that in CLLD, contrary to topicalization, there is no syntactic dependency between the dislocated topic and the argument position to which the topic is related (*pace* Cinque 1990). This will shed some light on the status of topic-phrases in CLLD, deriving properties of the left-periphery that have resisted a satisfactory account even in the detailed treatment offered in Rizzi 1997. In particular, Rizzi convincingly argues for the following split-Comp hypothesis, which involves hierarchical ordering of the distinct features encoding illocutionary force, finiteness (that is, the selection of finite vs. non-finite inflection), topichood and focus-related properties:

cally null, in that only the former constitutes a violation of the Complex NP Constraint: both (i) and (ii) should represent strong island violations, since the clitic-construction in (ii) is a CLLD-construction as well:

- (i) *Questo articolo, dovrei parlare allo studente che lo ha letto.
 this paper I should speak to the student who read it
- (ii) Dovrei parlare con lo studente che lo ha letto.
 I should speak with the student who read it

The solution to this problem is straightforward. In (ii), the structure that would yield a CNPC-violation (with the empty topic in sentence-initial position) admits an obvious alternative in terms of embedded topicalization. In other words, the grammaticality of embedded topicalization in cases such as (iii) leads to the possibility of assigning to (ii) the structural analysis in (iv):

- (iii) Dovrei parlare allo studente che, questo articolo, lo ha letto
 I should speak to the student who this article has read it
- (iv) Dovrei parlare allo studente che [e] lo ha letto

It goes without saying that (iv) is correctly predicted to void the CNPC-violation, since the embedded topic saturates the λ -abstract before the scope of the λ -operator extends over the CNP-barrier.

A reviewer observes that this analysis does not easily extend to other strong islands. A case in point is the contrast between the Catalan sentences in (v) and (vi): the null topic cannot be assumed to be attached to the embedded infinitival clause, since infinitive clauses do not admit CLLD:

- (v) *A la Maria vaig sortir de casa [sense dir-li adéu].
 to the Maria I came-out of house without say-her good-bye
 'I left home without saying good-bye to Maria.'
- (vi) Vaig sortir de casa [sense dir-li adéu].
 'I left home without saying good-bye to her.'

Although the issue would deserve more extensive discussion, I think that these apparent asymmetries can be completely eliminated if we simply extend the reasonable hypothesis that the syntactic positions available to the empty topic need not be confined to the left-dislocated one. In the case of adjunct-islands, for instance, there is a clear-cut contrast, in Italian, between the case where a topic is left-dislocated, as in (vii), and the case where the topic is right-dislocated, as in (viii):

- (vii) *A Maria, sono uscito spesso senza neppure rivolgerle il saluto.
 'I often left without even saying good-bye to Maria.'

(16) Force (Top*) (Foc) (Top*) Fin IP (where * indicates recursion)

This structure, envisaging two distinct topic-position (to the left and to the right of the Focus-head) and the possibility of recursion in both positions, raises at least the following questions:

(17) a. Why is Top a recursive head?

b. Why does Top not fill a unique designated position in the left-periphery?

In the next section, I will argue that these properties depend on the fact that the topic-positions in CLLD, contrary to the topic-positions in (English) topicalization, are functional heads which encode an interpretable feature that need not be erased, to the effect that these positions do not constitute the target of checking operations, remaining syntactically inert. Since the absence of Relativized Minimality effects in CLLD will also be shown to follow from the status of the Topic-head in CLLD, I will be able to provide a principled answer for the final question that naturally arises from the inspection of (16), formulated here as (17c):

(17) c. Why does Top give rise to different intervention effects in different languages?

(viii) Sono uscito spesso senza neppure rivolgerle il saluto, a Maria.
'I often left without even saying good-bye to Maria.'

Interestingly, right-dislocation is also insensitive to subject-islands, as shown in (ix):

(ix) Rivolgerle il saluto, a Maria, è stato difficile.
'Saying hallo to Maria has been difficult.'

What I would like to suggest is that the cases where the clitic appears to circumvent island violations in simple clitic-constructions are cases where the empty topic exploits a convenient attachment position (the position proper to right-dislocated constituents in the structures under scrutiny here). This position may be distinct from the set of positions available to left-dislocated constituents. In other words, the logic of the argument is that if one adopts the hypothesis put forward in the present contribution (clitic-constructions are unsaturated expressions) one should then examine the full range of possibilities, as for the syntactic realization of the empty topic, that are left open by this hypothesis (cf. also fn. 5).

A conceptually related problem concerns the perfect acceptability of cases like (x), which are expected to give rise to weak crossover violations under the structural analysis in (xi), to which we are committed:

(x) Sua madre lo ama.
his mother loves him

(xi) [e] [λx (*his* mother loves x)]

Here, the point is that this expectation is simply not correct, since the presence of a phonologically realized dislocated topic does not trigger any weak crossover effect, witness the perfect grammatical status of (xii) (cf. Cecchetto 1995):

(xii) Marcello, sua madre lo ama
Marcello his mother loves him

More generally, I will try to show that the key for the understanding of the syntactic properties of topics lies in the different ways in which *semantic* binding is encoded in morphosyntax (either by means of clitic-constructions or by means of (feature-)movement to a non-L-related checking position in the left periphery).

3.2. *Blocking effects, adverb effect adverbials and the status of CLLD-topics*

English topicalization gives rise to a large variety of intervention effects that do not play any role in CLLD. It is fair to say that a part of these effects are still poorly understood and represent a long-standing issue in locality theory (for a survey and updated discussion, see especially Culicover 1996, from which many of the examples below are drawn). A case in point is constituted by the status of multiple topicalization and by the blocking effects triggered by intervening topics on subsequent topicalization and *wh*-movement. Starting with multiple topicalization, it is not impossible to find cases where it seems to give rise to perfectly legitimate sentences, as in (18) below (notice that embedding does not affect grammaticality):

- (18) a. (They told me that) to that man, liberty we would never grant.
 b. (They told me that) liberty, to that man we would never grant.

However, there are cases where multiple topicalization is seriously degraded, as in (19):

- (19) *I said that that book to me Maxim gave.

As for the blocking effects of embedded topics on subsequent topicalization, Culicover emphasizes that certain constructions can be rescued by adopting special prosodic patterns, as is the case in (20a) below:

- (20) a. To Terry, I think that the MONEY, Lee gave.

Unfortunately, cases as in (20b) cannot be rescued by any particular prosodic pattern¹¹:

- (20) b. *The money, I think that Terry, Lee gave.

An empirical paradigm of comparable complexity is also detected when we consider the blocking effects of embedded *wh*-phrases on subsequent topicalization. The following examples (due to D. Pesetsky) are sufficient to show that it is not difficult to find cases where the dislocation of a topic over a *wh*-phrase leads to grammatically degraded results:

11. See Culicover 1996 for an interesting line of analysis of the kind of contrast exemplified in (20).

- (21) a. On a nice day like this, what are you worrying about?
 b. ?A book like this, why should I buy?
 c. ?*This book, to whom should I give?

There is, however, a subset of the data with respect to which the results are virtually uncontroversial. Intervening topics uniformly block subsequent wh-movement. This fact is exemplified by the sentences in (22), where the wh-phrase is moved across the topic to the left-periphery of the same clause, and by the sentences in (23), drawn from Browning 1996, where the wh-phrase moves higher up to the left-periphery of the main clause:

- (22) a. ??The man to whom that book I gave... (Rizzi)
 b. *You know what in Scotland they eat. (Hudson)
 c. ??I won't be able to remember what on a nice day like this I was worrying about. (Pesetsky)
- (23) a. *Who did Leslie say that, this present, Kim gave to?
 b. *To whom did Lee think that, this present, Robert gave?
 c. *What did Lee insist that, for Kim, Robin should buy?
 c. *Who did Robin say that, this present, t gave Lee?

Browning 1996 observes that there seems to be only one systematic exception to the facts in (23), constituted by the absence of blocking effects on wh-movement when the topic is one of the adverbials which have been independently identified as mitigating the that-trace effects occurring when a wh-phrase is extracted from a subject position (*adverb effect adverbials*). This is shown by the perfect grammatical status of the sentences in (24) ((25) shows that both adverbials involved in (24) are *adverb effect adverbials*):

- (24) a. Who did Leslie say that, for all intents and purposes, t was the mayor of the city?
 b. What did Lee insist that, under normal circumstances, Robin would give to us?
- (25) a. Robin met the man Leslie said that for all intents and purposes t was the mayor of the city.
 b. Lee forgot which dishes Leslie had said that under normal circumstances t should be put on the table.

Let us consider first the behavior of adverb effect adverbials. Browning 1996 proposes an analysis of the correlation between the absence of that-trace effects and the

absence of blocking effects on wh-movement in terms of CP-recursion. The sentences in (24) are associated with the syntactic structure exemplified in (26), where *t* is the trace of the displaced wh-phrase:

(26) ... $[_{CP} t_i'$ $[_C \text{that}_i$ $[_{CP} [_C t_i$ $[_{IP} t_i \dots$

The wh-trace in the *spec* of the higher CP-layer (t_i') induces agreement on C, which is sufficient to license the wh-trace in subject position according to the elegant analysis of that-trace effects developed in Rizzi 1990. In effect, it is CP-recursion that ensures that the empty subject be formally licensed by Agr-on-C: although the complementizer *that*, being lexically incompatible with the realization of Agr-features, is expected to block Agr-on-C in the higher C-head, the Agr-features can be successfully transmitted to the foot of the C-chain (the C-head of the lower CP), which is phonologically empty. At the same time, the presence of the C-chain ensures that the wh-phrase be moved over the topicalized adverbial without producing any Relativized Minimality violation (due to the so-called *equidistance effect* proposed in Chomsky 1995). Technically, we may assume that CP-recursion is performed by allowing the C-head to target its own maximal projection (cf. Watanabe 1992)¹². Moreover, I want to propose that adverb effect adverbials, being non-referential linguistic expressions (in the sense that they do not denote discourse entities), undergo a kind of *default* realization in the left periphery: the C-head to which they are related contains neither non-interpretable features (as is the case with the Top-head involved in the standard cases of English topicalization) nor interpretable features (as I will argue to be the case in CLLD). My hypothesis is that CP-recursion is limited to this kind of 'minimal' C-heads, which do not contain any of the syntactic features (relevant either to the syntactic computation or to the interpretive interface) that are typically realized in the left-periphery. In other words, the fact that non-referential adverbials do not induce intervention effects on wh-movement can be traced back to the distinct syntactic status of these adverbials in the left-periphery and more particularly to the fact that their interpretation does not involve the activation of any formal (either interpretable or non-interpretable) feature within the Comp-system.

Given this analysis of the absence of potential RM-violations with adverb effect adverbials, the question arises whether it can be legitimately extended to the absence of RM-effects with CLLD-constructions. Empirically, it is easy to see that all violations which have been analyzed in terms of intervention effects brought about by an intervening topic simply do not arise with Italian CLLD.¹³ This is shortly

12. Subtle theoretical questions arise concerning the justification of intermediate movement of the wh-phrase to the C-layer that undergoes recursion. The answer might be quite different depending on whether one assumes that wh-movement is motivated by feature-checking (Chomsky 1995) or by Antisymmetry requirements at the phonological interface (Kayne 1994, Moro 2000). I will not discuss this important issue here.
13. The situation is arguably different in other Romance languages, such as Catalan, where an intervening topic may give rise to strong island effects. The contrast is shown in (i) (Catalan) and (ii) Italian:

exemplified by the well-formedness of the Italian counterparts of (19) (multiple topicalization), (20) (intervention effects of a topic on subsequent topicalization) and (23) (blocking effect of an intervening topic on wh-movement), which are given below:

- (27) a. Ho detto che, quel libro, a me Marcello lo ha dato.
I have said that that book to me Marcello it has given
'I said that, that book, to me Marcello has given.'
- b. Il denaro, io penso che, a Marcello, Teo lo abbia dato.
the money I think that to Marcello Teo it has-SUBJ given
'The money I think that, to Marcello, Teo has given.'
- c. Che cosa pensi che, per Marcello, Teo debba comprare?
what do you think that for Marcello Teo should-SUBJ buy
'What do you think that, for Marcello, Teo should buy?'

Since topic-phrases in Italian CLLD appear to behave as topicalized adverb effect adverbials in English, one might propose that Romance topics constitute a generalization of the syntactic structure that has been argued to be relevant for a particular case of adverb-preposing in English. The reason why the sentences in (27) are perfectly acceptable would be that the dislocated topics are generated in positions related to *default* C-heads in the left-periphery. More precisely, the fact that C is not endowed with non-interpretable PRED-features which trigger movement to spec-of-CP and turn spec-of-CP into a non-L-related checking position (that is, an A'-position) paves the way to CP-recursion, yielding an equidistance effect and voiding RM-violations. In principle, this analysis seems to be compatible with the semantics of pronominal clitics for which I argued in the previous sections: it is the presence of the λ -abstracts induced by the syntax of cliticization that makes recourse to formal features such as PRED, activating the C-system, completely redundant, and allows the dislocated topic to be realized in a syntactically inert CP-layer (the only requirement being the realization of the topic-phrase in a convenient structural position in order for it to count as the argument of the λ -abstract).

Although conceptually feasible, this analysis is clearly wrong. It predicts that dislocated topics in CLLD not only allow subsequent wh-movement but also void that-trace effects, as a consequence of CP-recursion. The prediction cannot be checked for Italian (where that-trace effects are notoriously absent) but can be checked for French (cf. Rizzi 1997, from which the following examples are drawn):

-
- (i) *Com creus que, de Cuba, en parla Chomsky?
'How do you believe that Chomsky talks about Cuba?'
- (ii) Come credi che, di Cuba, Chomsky parli, nel suo libro?
'How do you believe that Chomsky talks about Cuba (in his book)?'

Here, I will concentrate on Italian CLLD, postponing a detailed investigation of the comparative facts to a future occasion.

- (28) a. *?Voici l'homme que je crois qui, ton livre, t pourrait l'acheter.
 here is the man that I believe that your book could it buy
 'Here is the man that I believe that, your book, could buy.'
- (28) b. Voici l'homme que je crois qui, l'année prochaine, t pourra
 'Here is the man that I believe that next year could
 nous aider.
 help us.'

If dislocated topics in CLLD were uniformly analyzed as English adverb effect adverbials, the contrast between (28a) and (28b) would be completely unpredicted. In fact, the grammaticality of (28b) suggests that the proposed parallelism partially goes through, since Romance adverb-preposing actually dissolves that-trace effects¹⁴. However, the ungrammaticality of (28a) also clearly indicates that object-referring topics in CLLD cannot be assigned the same analysis as English preposed adverbials¹⁵.

To summarize the analysis so far: topics in Italian CLLD exhibit a dissociation of the cluster of properties that I have argued to be relevant for adverb effect adverbials in English topicalization. Italian topics do not block wh-movement over the topic (they do not trigger any RM-violation) but clearly give rise to that-trace effects.

The presence of that-trace effects suggests that there is no CP-recursion in CLLD. A way to derive this result consists in hypothesizing that the feature-endowment proper to the C-head to which the topic is related extends beyond the presence of mere categorial features. Let us thus suppose that Italian topics are related to a *Topic-head* that involves the realization of some interpretable feature. This is sufficient to exclude the presence of a suitable landing site for intermediate wh-movement: even if the Top-head undergoes recursion, its spec is not allowed to

14. Of course, temporal adverbs such as *next year* in (28b) contrast with adverb effect adverbials in that the former, contrary to the latter, are easily analysed as object-referring expressions. However, this does not constitute a problem for a uniform syntactic analysis of topics. Below, we will see that even object-referring expressions can undergo default syntactic realization in the left-periphery (triggering CP-recursion), provided they are syntactically unrelated to the argument position of the predicate in which they are canonically realized. The possibility of realizing a topic in a default CP-layer depends on whether the semantic role associated with the topic has undergone canonical syntactic realization.
15. One might try to avoid this conclusion by proposing that the ungrammaticality of (28a) is not due to a proper government violation concerning the subject-trace, that is, that it does not represent a that-trace effect. However, I do not see how this line of analysis could be successful, given the minimal pair in (i)-(ii), that is, the substantial grammatical improvement detected when the wh-trace is not in subject-position (cf. Rizzi 1997):

- (i) *?Voici l'homme que je crois que, ton livre, t pourrait l'acheter
 here is the man that I believe that your book could buy
- (ii) ?Je ne sais pas à qui, ton livre, je pourrais le donner
 I do not know to whom your book I could give

host a phrase that encodes formal features incompatible with those realized in Top (*wh*-features are in fact related to the Focus-position, cf. Rizzi 1997). The correct result follows: the absence of a legitimate intermediate landing site for the *wh*-phrase brings about the absence of Agr-on-C; as a consequence, the subject *wh*-trace will not be properly governed (explaining the degraded status of 28a). However, we do not expect the topic to block *wh*-movement. Being interpretable, the formal feature realized in the Topic-head needs not be erased. As a consequence, spec-of-Top will not qualify as an A'-position (under the fairly plausible identification of A'-positions with non-L-related checking positions) and the topic-phrase filling it will not interfere with *wh*-movement under Relativized Minimality. To put it more effectively, the absence of intervention effects follows from the fact that the realization of Italian topics does not involve syntactic operations of feature-checking. In English, topics are linked to Topic-heads which involve the realization of the non-interpretable feature PRED, triggering checking, to the effect that the interference between *wh*-phrases and topics is predicted under Relativized Minimality (both topics and *wh*-phrases fill A'-positions). Although topics are interpreted in essentially the same way in English topicalization and Italian CLLD (they are argument of a λ -abstract), they deeply differ in syntactic behavior as a consequence of the different way in which λ -abstraction is syntactically encoded. In English, the λ -operator corresponds to a formal feature – PRED – which enters checking configurations and yields A'-interveners, whereas in Romance the λ -abstracts are created – without syntactic activation of the Comp-system – as the result of the proposed semantics of cliticization.

The next natural question concerns the status of the interpretable feature – let us call it TOP – which is arguably realized in the Top-head related to topic-phrases in CLLD. If there is an interpretable feature in Top, we expect it to affect the interpretation of the topic-phrase in its spec. I would like to propose that there is in fact a largely disregarded interpretive generalization concerning the realization of topics in Italian CLLD: the legitimate topics are exactly those quantified phrases which warrant a collective interpretation of the pronoun contained in the same clause (cf. Kamp and Reyle 1993: 345-356). In order to see this, consider the paradigm in (29) and (30) below:

- (29) a. *Pochi avvocati, (li) ho incontrati ieri.
few lawyers (them) I have met yesterday
- b. Pochi avvocati hanno assunto una segretaria che apprezzano.
few lawyers hired a secretary who they like
(*collective)
- (30) a. Alcuni avvocati, li ho incontrati ieri.
some lawyers them I have met yesterday
- b. Alcuni avvocati hanno assunto una segretaria che apprezzano.
some lawyers hired a secretary who they like
(ok collective)

As can be seen, there is an interesting correlation between the acceptability of a generalized quantifier as a topic in CLLD and the acceptability of collective intrasentential anaphora with the very same generalized quantifier. In (29b) the pronoun cannot easily refer to a small set of lawyers as its antecedent, it can only be interpreted as an individual variable distributing over this small set of lawyers: significantly, *few lawyers* is not admitted as a dislocated topic in CLLD, as shown in (29a). The correlation goes the other way round in (30): *some lawyers* is a legitimate topic in CLLD, as shown in (30a), and is able to provide a collective antecedent for the pronoun in (30b). To put it shortly, it seems that a quantified phrase can be correctly licensed as a topic only when it is able to provide a (non-atomic) discourse-entity. This is exactly how the contrast between (29b) and (30b) would be represented in Discourse Representation Theory: *some lawyers*, contrary to *few lawyers*, introduces a (non-atomic) discourse referent in the main Discourse Representation Structure. This analysis of the facts is corroborated by the behavior of bare quantifiers, whose inability to provide discourse antecedents is witnessed by the fact that they are not only incompatible with collective intrasentential anaphora, but are also incompatible with intersentential anaphora, as shown by cases as (11) above, repeated here as (31):

- (31) #Non é ancora arrivato *nessuno*. Eppure *gli* avevo detto (*loro*) di essere puntuale/i
 'Nobody has arrived, yet. And I had told *him/them* to be on time!'

Bare quantifiers are completely excluded as topics in Italian CLLD, as shown in (32), with the important exception of the existential bare quantifier *qualcuno/qualcosa*, which will be discussed in the final section of this paper (cf. Cinque 1990):

- (32) a. *Nessuno, (lo) ho visto.
 nobody (him) I have seen
 b. *Tutto, (lo) ho fatto.
 everything (it) I have done

If the conditions governing topicalization in CLLD were essentially those governing semantic composition (that is, the combination of the λ -abstract with a linguistic expression of a suitable logical type), we should not expect the sentences in (32) to be ungrammatical. In fact, the generalized quantifiers *nobody* and *everything* (type $\langle\langle e, t \rangle, t \rangle$) should successfully combine with the λ -abstract (type $\langle e, t \rangle$). The fact that they are unsuited as topics confirms that there is more to topichood than mere semantic composition: the topic must refer to a discourse entity.¹⁶ Let us thus

16. In Catalan bare quantifiers are regularly licensed with a resumptive clitic. In fact, Catalan requires the resumptive clitic in virtually all instances of CLLD. Although I intend to postpone a full discussion of these comparative issues to a future occasion, I would like to emphasize that what these

hypothesize that this is the content of the interpretable feature TOP realized on the Top-head. In purely semantic terms, TOP constrains semantic composition: the ‘argument’ of the λ -abstract cannot be a second-order predicate (a generalized quantifier of type $\langle\langle e, t \rangle, t \rangle$).¹⁷ In terms of discourse-theory and pragmatics, TOP paves the way for the interpretation of topics in terms of the *aboutness* relation (cf. Reinhart 1981). Last but not least, it is worth emphasizing that this interpretation of TOP as enforcing the presence of discourse-referring constituents is fully compatible with, and in fact supports, the analysis of the diachronic phenomena discussed in section 2.2. above: we have seen that object clitics developed from pronominal forms that were originally used to mark syntactic constituents as referring to *familiar discourse entities*.

Let me briefly summarize the content of this section. In English topicalization, topic positions are non-L-related checking positions. As such, they are expected to give rise to interference effects with *wh*-movement. In Italian CLLD, the topic is simply the argument of the λ -abstract encoded by means of cliticization: the topic-position is inert for the sake of the syntactic computation and is thus not expected to interfere with *wh*-movement under Relativized Minimality. In this way, we have provided an answer to question (17c) of section 3.1 (why topics give rise to different intervention effects in different languages?). We have also introduced a principled bipartition, within the Comp-system, between syntactically active positions (where non-interpretable features are realized) and syntactically inert positions (where interpretable features are realized). Given this analysis, we may simply propose that only syntactically active positions have to fill designated slots between Force and Finiteness, whereas inert positions are in a way extra-syntactic (this provides an answer to question (17b)). Finally, we have seen that recursion is a rather pervasive property of the C-system: the problem is rather to find a principled account for the cases where recursion is impossible. This we have done: the C-heads which cannot undergo recursion are those endowed with non-interpretable features that trigger checking, that is, the syntactically active heads in the left-periphery (this provides an answer to question (17a)).

facts seem to suggest is that the feature endowment of TOP does not constrain semantic composition in Catalan, contrary to what happens in Italian. This clearly entails that there is nothing special to be said about *qualcuno/qualcosa* in Catalan (cf. Section 3.3): *qualcuno/qualcosa* are simply allowed as generalized quantifiers, independently of the definite or indefinite interpretation they may receive.

17. The argument of the λ -abstract can be an object-referring expression, as in (i), or a property-referring expression, as in (ii):

- (i) [_{TOP} e] [lo vedo]
 (ii) [_{TOP} e] [Gianni lo è]

As pointed out by A. Moro, the analysis endorsed in the present contribution can effectively deal with the cases in (ii): if *lo* simply encodes λ -abstraction, all one has to do is allow λ -abstraction over properties. Conversely, if *lo* is a saturating expression, (ii) is left unaccounted for and has to be dealt with as a distinct case, since one does not want to say that the verb BE is saturated by *lo*.

3.3. *Some speculations on the distribution of clitic resumption*

As is well-known, there is an important generalization concerning the distribution of resumptive clitics in Italian CLLD that should be accounted for: resumptive clitics are optional, except with direct objects. As exemplification, consider the following minimal pair (drawn from Cinque 1990):

(33) a. Di questa faccenda, non (ne) voglio più parlare.
 of this matter not (of-it) I want anymore to speak
 'About this matter, I don't want to speak anymore.'

(33) b. Gianni, *(lo) vedrò domani.
 Gianni (him) I will see tomorrow
 'Gianni, I will see tomorrow.'

The traditional explanation for this distribution (Cinque 1990, Rizzi 1997) adopts the view that resumptive clitics are inserted whenever there is no empty category available. More precisely, it is assumed that the empty category in (33b) cannot qualify as a variable, since the condition in (34) is not satisfied (given that this condition applies only to empty NP-types, there is an empty variable in (33a)):

(34) Variable =_{def} [_{NP} e] in A-position locally A'-bound and operator bound
 Operator =_{def} bare quantifiers, wh-phrases and null NPs in spec-CP

This analysis is clearly incompatible with the view of Italian CLLD that I have proposed in the present contribution, whose basic insight is that there is no *syntactic* dependency between the dislocated topic and the argument position to which the topic is related. Moreover, the traditional analysis has conceptual and empirical problems. Conceptually, it has a highly stipulative flavor and it is based on an old-fashioned functional theory of empty categories which is too theory-bound to satisfy the present standards of explanatory adequacy. Empirically, it leads to wrong predictions. Both sentences in (35) should be grammatical, given that the empty category in object position qualifies as a variable (*nessuno* and *tutto* are bare quantifiers).¹⁸

18. That the sentences in (35) should be grammatical is clearly confirmed by the fact that the theory explains the ungrammaticality of their counterparts with a resumptive object clitics, given below as (i) and (ii), by means of the assumption that clitics do not qualify as variables (we should then expect that (i) and (ii) license an empty category in object position as a variable):

(i) *Nessuno, lo ho visto

(ii) *Tutto, lo ho fatto

The reason why the data in (35) have not been interpreted as decisive evidence against the traditional analysis of clitic resumption has probably to do with the fact that the prediction is fulfilled with existential bare quantifiers, that is, indefinites like *qualcuno* 'someone' and *qualcosa* 'something', as shown in (iii)-(iv) below. The dubious idealization that was implicitly proposed is that we

(35) a. *Nessuno, ho visto.
nobody I have seen

(35) b. *Tutto, ho fatto.
everything I have done

Moreover, the theory does not predict any contrast between (36) and (37): since the empty category is a PP, for which the proposed typology of empty categories and definition of variable are taken to be irrelevant, we expect the empty category to qualify as a variable both in (36) and in (37). It is a fact, however, that (37) is quite more degraded than (36):

(36) A Gianni, ho parlato ieri.
to Gianni I have spoken yesterday

(37) *?A nessuno, ho parlato ieri.
to nobody I have spoken yesterday

Given these shortcomings of the traditional theory, I will try, in the last few pages of this contribution, to sketch the main lines of a radically alternative analysis of clitic resumption, based on the results of the previous sections. My starting point is a set of data reported in Rizzi 1997 as an observation due to Laezingler, showing that the realization of the resumptive clitic in contexts where the clitic is optional triggers a that-trace effect (which is virtually absent when there is no resumptive clitic). The relevant minimal pair is given in (38) below:

(38) a. ?*Je me demande qui, au Pape, t oserait lui parler
I wonder who to the pope would dare to him to talk
ainsi.
in this way

(38) b. ?Je me demande qui, au Pape, t oserait parler ainsi.
I wonder who to the pope would dare to talk in this way

Under the analysis developed in section 3.2, the absence of that-trace effects in (38b) should be related to the possibility of CP-recursion: what is required in order to license the subject wh-trace is an extra CP-layer which provides a suit-

should concentrate on the well-formedness of (iii)-(iv) and put (35) into the background, so to speak. I will come back to (iii)-(iv) later in this section.

(iii) Qualcuno, ho visto
Someone, (I) have seen

(iv) Qualcosa, ho fatto
Something, (I) have done

able intermediate landing site for the wh-trace, triggering Agr-on-C. On the other hand, I have linked the possibility of CP-recursion to the realization of the topic-phrase in a non-designated CP-layer, headed by a default C. The consequence is rather straightforward: it must be the case that the PP-topic in (38b) is not related to a Topic-head. In other words, preposed topics without a resumptive clitic have the same status as adverb effect adverbials in English.

How do we have to interpret this conclusion? Remember that clitic resumption is compulsory only with direct objects (that is, only object clitics are obligatory in CLLD). This suggests that indirect objects can be realized in positions that do not correspond to their canonical syntactic realization, provided there are *semantic* mechanisms able to 'reconstruct' them into their canonical position. In (38b) the indirect object position is left unsaturated, and the predicate so created combines with the PP-topic in the left-periphery. This syntactic structure corresponds with a semantic representation which is semantically equivalent, *under λ -conversion*, to the syntactic structure which has the indirect object in its canonical position. The difference between (38a) and (38b) is that the λ -abstract is syntactically encoded in (38a) (via the semantics of cliticization), whilst it is just a convenient notational device used to represent the fact that the indirect object position is left unsaturated in (38b). The use of the resumptive clitic in (38a) reflects the choice of discharging the theta-role proper to the indirect argument into the canonical indirect object position. The absence of the resumptive clitic in (38b) reflects the choice of realizing this theta-role in a non-designated position in the left-periphery, which is connected to the canonical indirect object position through the purely interpretive rule of λ -conversion.

If we adopt this perspective, the obligatory presence of resumptive clitics with direct objects, as in (33b), is likely to have its source in the more restrictive constraints on the syntactic realization of the object theta-role. Object theta-roles, contrary to the theta-roles canonically associated with indirect arguments and inherent case, need be directly discharged into a designated syntactic position: the resumptive clitic simply satisfies this requirement. More particularly, I would like to adopt the following condition on the mapping of lexical representations into syntactic structures:

- (39) The object theta-role must be *canonically* discharged in syntax, unless it is associated, in the semantics, with an indefinite interpretation.

What (39) is intended to capture is the descriptive generalization according to which argument dropping alternations involving the direct object are constrained by a rule of 'indefinite NP-deletion', as shown by the fact that the missing object in (40b) must be interpreted as a non-specific indefinite:¹⁹

19. A fully-fledged empirical justification of the condition in (39) would require an extensive discussion of argument dropping in transitive/intransitive and ditransitive/transitive alternations (cf. especially Pustejovsky 1995 and the references cited there), and of the relationship between these phenomena and the realization of direct and indirect objects in non-canonical syntactic positions. I

- (40) a. The woman ate her meal quickly.
 b. The woman ate quickly.

If the presence of resumptive object clitics is motivated by the need of complying with the projection condition in (39), we should expect resumptive clitics to be absent when the object theta-role is assigned a non-specific indefinite interpretation.²⁰ This is exactly what we find. The only bare quantifiers that can be naturally realized as dislocated topics in CLLD are existential bare quantifiers like *qualcuno* ‘someone’ and *qualcosa* ‘something’ (cf. fn. 12), as witnessed by the well-formedness of the sentences in (41):

- (41) a. Qualcuno, ho visto.
 someone I have seen
 b. Qualcosa, ho fatto.
 something I have done

In these cases, the direct object can be realized in a non-canonical position under (39), since it is associated with a default existential interpretation. The link between the dislocated bare object and the canonical object position can thus be established in the semantics, via λ -conversion. In other words, the syntactic structure assigned to the sentences in (41) is exactly the same structure assigned to sentences like (38b), involving PP-preposing. In this way, we can explain the ‘deviant’ syntactic behavior of existential bare quantifiers in CLLD while fully retaining the hypothesis, which I have defended in the previous section, that generalized quantifiers do not qualify as admissible topics in CLLD, quite independently from clitic-resumption.²¹

will not attempt this analysis here. I will limit myself to emphasizing that there are several indications that argument dropping and non-canonical realization of indirect objects is less constrained than argument dropping and non-canonical realization of direct objects. Pustejovsky 1995 observes, for instance, that even in cases where the indirect object cannot be dropped, as in (ii) below, dropping can arguably be rescued in the semantics (via the interaction of the semantics of the verb with the semantics of the complement), witness the well-formedness of (iv):

- (i) John mailed a book to his brother
 (ii) *John mailed a book
 (iii) John mailed a letter to his brother
 (iv) John mailed a letter

20. A reviewer takes the obligatoriness of *en/ne* in CLLD to be in contradiction with the expectation that indefinite constituents not be resumed. However, it should be pointed out that the prediction holds only for constraints that discharge the object theta-role, and this is arguably not the case for the constituents that are resumed by *en/ne*.
21. In Catalan and Spanish, as emphasized in the previous section, these complications are not needed: in these languages, TOP does not constrain composition and allows thus λ -abstracts to combine with generalized quantifiers of the kind of *nessuno*, *qualcuno*, etc. The result is that bare quantifiers are generally licensed with a resumptive pronoun.

Before closing this section, let me briefly consider another interesting consequence of the present analysis. Sensitivity to strong islands is not dependent on the presence of resumptive clitics in CLLD. This is shown in (42):

- (42) *A Marcello, ho invitato solo le persone che (gli) piacciono.
to Marcello I invited only the persons that (to-him) appeal

Since I have proposed that the construal without the resumptive clitic does not involve *syntactic* encoding of a λ -operator binding a variable (semantic binding), it would be awkward to regard the violation in (42) as a consequence of the constraints on semantic binding (i.e. scope assignment to the λ -operator). In this case, it seems more natural to regard strong islands as a constraint on λ -conversion, that is, on the purely semantic procedure by means of which we ‘reconstruct’ the dislocated topic into its canonical position. This supports in fact the hypothesis that the constraints on semantic binding should be simply identified with the constraints on the extra-syntactic rule of λ -conversion. To put it more effectively: since island effects constrain complex predicate formation in the semantics, we expect them to be insensitive to the choice between syntactic pre-encoding of λ -abstraction (constructions with resumptive clitics) and use of λ -abstraction in the interpretive component (constructions without resumptive clitics).

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