

New views on reflexivity: Delay effects in Romance¹

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Abstract

In this contribution, we intend to offer an interesting exemplification of the kind of positive interaction that may arise between acquisition studies and linguistic theory. Starting from a full range of comparative studies showing the presence of a delay in the acquisition of the interpretive properties of non-reflexive pronominals and the absence of such a delay in languages where clitic pronominals are involved, we argue that this range of effects is elegantly derived from a general constraint on extra-lexical operations of valency-reduction, turning relations into one-place predicates. This analysis leads to a sort of cross-modular (re)interpretation of Principle B of Binding Theory and to a radically new analysis of the relation between (semantic) binding and coreference. Another important consequence of the proposed analysis is that it supports the view of Romance clitics as morphosyntactically encoding a lexical operation of reflexivization. In the second part of this article, we show that this analysis explains some intriguing and so far poorly understood asymmetries between reflexive and non-reflexive clitics arising within the domain of complex predicate constructions in Romance.

1. This contribution is the product of a long-term fruitful collaboration between the two authors, who have worked together on all the issues discussed in the paper. As far as legal requirements are concerned, S. Baauw takes responsibility for Part 1 and D. Delfitto for Part 2. S. Baauw is supported by the project *Comparative Psycholinguistics*, which is funded by the Netherlands Organization of Scientific Research (NWO). We thank Sergey Avrutin, Joke de Lange, Esther Ruijgndijk, Nada Vasic, Shalom Zuckerman and two anonymous reviewers for their useful comments and discussion.

1. Cross-modular Principle B and the acquisition of pronominal clitics

1.1. Introduction: The data and the issues

Young children between 3 and 7 years old are reported to often allow pronouns to corefer with local c-commanding antecedents (1a), although they do not seem to have much trouble with rejecting non-local antecedents for reflexive pronouns (1b) (Chien and Wexler 1990, among others).

- (1) a. *The boy touched him.* (around 50% adult-like)
 b. *The boy touched himself.* (almost 100% adult-like)

Although this phenomenon, which has come to be known as the *Delay of Principle B Effect* (DPBE), has been attested for a variety of languages, including Dutch (Philip and Coopmans 1996), English (Chien and Wexler 1990), Icelandic (Sigurjónsdóttir 1992) and Russian (Avrutin 1994), it is not universal. The DPBE has not been found in the acquisition of Romance languages such as Italian (McKee 1992), French (Jakubowicz 1993; Hamann, Kowalski and Philip 1997), Catalan (Escobar and Gavarró 1999) and Spanish (Padilla 1990; Baauw, Escobar and Philip 1997), using constructions similar to (1a), as illustrated for Spanish by (2)²

- (2) *La niña la señala.*
 the girl her points-at
 'The girl is pointing at her.' (90% adult-like: Baauw, Escobar & Philip 1997)

The absence of a DPBE in Romance has been related to the fact that Romance weak pronouns like Spanish *la* in (2) are *clitics*, unlike English pronouns such as *him* in (1a).³ Therefore we will call this absence of a DPBE the *Clitic Exemption Effect* (CEE).⁴

2. The DPBE is also absent in a Germanic language like Norwegian (Hestvik and Philip 1997), in Greek (Varlokosta 2000) and a non-Indo-European language such as Hungarian (Margócsy 2000).

3. Needless to say, Romance children performed highly adultlike on reflexives, just like their English and Dutch peers, both in simple transitive structures (ia) and in the more complex ECM constructions (ib) (Baauw 2002; Baauw and Cuetos 2003; McKee 1992).

- (i) a. *La niña se señala*
 the girl SE points-at
 b. *La niña se ve bailar*
 the girl SE sees dance

4. Most studies on the development of pronominal anaphora reported in this paper were carried out with a Truth Value Judgment Task (Crain and Thornton 1998), with the exception of

Interestingly, if the local subject is a quantifier, even English speaking children perform highly adult-like (Chien & Wexler 1990):

- (3) *Every boy touched him.* (85% adult-like)

Since quantifiers only allow bound-variable representations, children's highly adult-like performance on constructions like (3) suggests that they do not have problems with *binding*, but with *coreference* (Grodzinsky and Reinhart 1993). Children know and obey the binding principles, but allow coreference between co-arguments much more often than adults.⁵ In the adult language coreference

Padilla (1990), who used an Act-Out Task.

In the TVJT children are presented pictures and input sentences (phrased as statements or as questions). Children's task was to judge whether the input sentence described the content of the picture. The TVJT is often presented as a guessing game, in which one of the experimenters, who does not see the picture, pretends to "guess" what happens in it. For example, one of the experimenters presents to the child a picture representing a girl who is drying herself, and a mother standing next to her. After giving some details of the picture (mentioning the participants of the action), the second experimenter tries to guess what happens in the picture (reading the question from the back of the picture, which is not visible to the child): "Mmm . . . a girl and a mother. Is the girl drying her?" The child tells the guesser whether he was right or wrong. If the child says yes, this means that she is able to interpret the pronoun as coreferential with the local subject. A no response shows that she correctly rejects this interpretation. A TVJT consists of trials eliciting a yes-response in adults (adult meaning of the sentences matches the content of the picture) and trials eliciting a no-response in adults. The results reported in this paper carried out with a TVJT are all percent no-responses on trials eliciting no-responses in adults.

In the Act-Out Task, the child is asked to act out the content of the input sentence (usually using dolls).

5. As one reviewer notes, not all experimental studies revealed better performance on sentences containing quantified subjects. The Dutch children tested by Philip and Coopmans (1996), especially the six-year-olds, performed better on quantified subjects, such as (ia) than on non-quantified subjects (ib), but were still far from adultlike. The Dutch children tested by Drozd and Koster (1999) did not show any difference at all in performance between sentences with quantified and sentences with non-quantified subjects.

- (i) a. *Iedere cowboy knijpt hem.*
 every cowboy pinches him
 b. *De cowboy knijpt hem.*
 the cowboy pinches him

The same was found for the Russian children tested by Avrutin and Wexler (1992). Several proposals have been developed to explain the absence of any contrast in performance or the weak contrast in performance between sentences with quantified and non-quantified subject. Avrutin and Wexler (1992), Philip and Coopmans (1996) and Drozd and Koster (1999) suggested that Dutch and Russian children's non-adultlike performance on quantified subject sentences was due to semantic properties of the Dutch and Russian quantifiers used, which showed subtle differences with English *every*. Alternatively, the non-adultlike performance may be due to the fact that the experiments described above always used d-linked quantifiers (Avrutin, personal communication September 2004). D-linked quantifiers involve discourse

between co-arguments is limited to specific discourse contexts, like the ones in (4):

- (4)
- a. *Do you know what Mary and John have in common? Mary admires him and John admires him too.*
 - b. *Zelda's husband is him (pointing context).*
 - c. A. *Is this speaker Zelda?*
B. *How can you doubt it? She praises her to the sky. No competing candidate would do that.*
 - d. *Everybody hates Lucifer. Only HE HIMSELF pities him / Even HE HIMSELF hates him.*

In the first part of this paper we will deal with the following issues: (i) why does the DPBE show up in the acquisition of some languages (i.e., why do children have problems with coreference)?, and (ii) why do Romance children not show a DPBE (i.e., why do they not allow non-adult-like coreference between co-arguments)? In answering these two questions, we will develop some general hypotheses concerning the structures involving non-reflexive pronominal clitics and the notions of reflexive predicate and reflexive marking.

In the second part of this contribution, we will work at a further elucidation of these notions, by studying their application to an empirical domain where they are more likely to give rise to serious difficulties, that is, the behavior of Romance reflexive clitics within complex predicate structures. Hopefully, this contribution will be able to provide an original confirmation of the pervasiveness of the notion of reflexivity for the analysis of pronominalization and cliticization phenomena. Last but not least, the two parts of this contribution, taken together, are purported to show that there is a significant convergence between the conclusions and results arrived at in acquisition research and in theoretically-oriented syntactic investigation.

1.2. *Binding and coreference*

1.2.1. *Binding and the creation of reflexive predicates.* With respect to binding we will adopt the following assumptions:

presuppositions, unlike "pure quantifiers". This additional factor might bring about a complication for young children. In fact, Avrutin (1998) showed that children (and agrammatic Broca aphasics) showed considerably more problems with the interpretation of d-linked wh-elements (*which man*) than with non-d-linked wh-elements (*who*). In any case, as far as the interpretation of pronouns is concerned, the experimental results show that whenever a difference shows up between quantified and non-quantified subject sentences, this difference is always in the same direction: children perform better on quantified subject sentences than on non-quantified subject sentences.

- (5) a. A NP α semantically binds pronoun β iff β and the trace of α are bound by the same λ operator (Heim and Kratzer 1998).
 b. When binding holds between two arguments of a predicate, a reflexive predicate will be created, as a matter of definition.

If configuration (5a) is created by QR of the subject *she* in (6a), the result is a logical form like (6b).

- (6) a. *She praises her to the sky.*
 b. $[\lambda x: x \text{ praises } x \text{ to the sky}] (\text{she})$

However, the interpretation of (6a) as a reflexive predicate (6b) leads to ungrammaticality. We propose that this is due to a constraint on the realization of reflexive predicates, namely Principle B of Reinhart and Reuland's (1993) version of binding theory:

- (7) *Reinhart and Reuland's Binding Theory (R&R 1993)*
 Principle B: A reflexively interpreted semantic predicate must be reflexive-marked.

At this point, an important issue arises concerning the derivation of (7) from some more general property of language (see especially Reuland 2001). We propose to reinterpret Principle B as an interface filter that prohibits arity reduction in syntax (as well as in discourse representations related to other cognitive modules, as we will see in Section 2.2). In a nutshell, this boils down to establishing that a *relation* (i.e., a two-place predicate) cannot be reduced to a *property* (i.e., a one-place predicate) as a result of the operations performed within the computational system (*narrow syntax*) underlying human language, or in the course of the interpretation process, unless it is already marked as a property *in the lexicon*: $*\lambda x\lambda y (xRy) \rightarrow \lambda x (xRx)$.⁶ It follows that (8) is excluded under the interpretation " $[\lambda x (xLx)] (\text{John})$ ", since this interpretation entails that the *relation* "love" (i.e. $\lambda x\lambda y (xLy)$) would have to be converted into a *property*.

6. Verbs like English *wash* and Dutch *wassen* in (i) are examples of verbs that have been reflexively marked in the lexicon (= marked as a property). In Dutch, the object position of such verbs is occupied by the SE anaphor *zich* (Everaert 1986). In English the object is left unexpressed.

- (i) a. *Jan wast zich.*
 b. *John is washing.* (= John is washing himself)

This process of reflexive marking is lexically restricted. In Dutch, for instance, a verb like *zien* 'see' does not allow reflexive marking in the lexicon:

- (ii) **Jan ziet zich.*
 John sees SE

(8) *John loves him.*

On the basis of recent comparative studies (see Reuland 2001 and the references cited there), relations can get a reflexive-like interpretation with the help of *SELF-anaphors* and *body-part* reflexives. We adopt the view that *SELF* and *body-part* reflexives are used to prevent a full reflexive predicate from being created in syntax (cf. Reuland 2001).

(9) *John loves himself.*

(9) is grammatical, because the predicate has the form “ $x R f(x)$ ”, with the referent of $f(x)$ quite close to, but not identified with the referent of x (see also Postma 1997).

1.2.2. Coreference and the creation of reflexive predicates. In the case of coreference between an object pronoun and a local subject, the object pronoun is interpreted as a free variable. Free variables are interpreted by means of *assignment functions*, whose value is determined by discourse and pragmatic factors. Informally, we might say that free variables pick out their antecedent from discourse. We assume, following Heim (1998), that the assignment function corresponds to a *hidden definite description*, which Heim calls “file card” or ‘guise’. *Guises* establish relations between free variables and discourse referents. If the referent identified by the guise of the object pronoun and the referent identified by the guise of the subject turn out to be the same individual, we say that the subject and the object *corefer*.

Coreference between co-arguments, however, is generally excluded, except in the sort of contexts mentioned in (4). In Reinhart (1983) and Grodzinsky and Reinhart (1993) it was argued that the ungrammaticality of coreference in cases like (8) is not due to any principle of grammar (such as Principle B, modulo a certain interpretation of (co)indexation) but to *Rule I*, a constraint at the syntax/pragmatics interface which rules out coreference as less economical than the bound-variable reading whenever coreference and binding do not yield a distinguishable interpretation.⁷ We will not follow this approach, since it has serious shortcomings. First of all, the notion of “distinguishable interpretation” involves comparison among distinct representations produced by different cognitive modules (cf. Schlenker (to appear) for a recent discussion of this point in terms of the opposition between *global* and *denotational* economy). Second, the notion of “distinguishable interpretation” is itself ambiguous, since it

7. Arguably, coreference does yield an interpretation distinguishable from binding in the cases under (4): the second sentence of (4a), for instance, is not about self-admiration (bound variable reading of *him*), but about the property “ $\lambda x (x \text{ admires John})$ ” (coreference of *John* and *him*).

cannot be defined truth-conditionally (after all, the two readings of (8) corresponding to the bound variable construal and to the coreference construal are truth-conditionally equivalent). “Interpretation”, as used in Reinhart’s formulation of *Rule I*, refers thus to subtle non-truth-conditional differences in meaning within the pragmatic component. An intriguing but effective exemplification of the kind of difficulties yielded by Reinhart’s formulation of *Rule I* is the impossibility to get the strict reading in (8a) (we are indebted to G. Longobardi for drawing our attention to this point): according to Reinhart’s approach, (10a) should be fine under the strict reading.

(10) a. *John loves him and Eric does too.*

Here is why. First of all, Reinhart’s analysis entails that the availability of the strict reading of (10b) depends on the application of *Rule I*.

(10) b. *John loves his mother and Eric does too.*

The reason is that in (10b) the *strict reading* of *his* is based on its interpretation as a free variable (coreference), while the *sloppy reading* depends on the interpretation of *his* as a bound variable (binding). This means that in (10b) binding and coreference lead to distinguishable interpretations (the sloppy and strict reading, respectively), to the effect that *Rule I* will admit the strict (= coreference) reading. Now, here is the problem for Reinhart’s approach. If the strict reading is licensed by the fact that it represents a coreference construal with a distinguishable interpretation with respect to the bound variable construal, it is puzzling why this construal is not licensed in (10a), avoiding a Principle B violation and rescuing (10a) as a grammatical sentence. Given that (10a) is clearly unacceptable under any construal according to which the pronoun and its antecedent end up as covalued, we are led to the conclusion that the possibility of coreference in (10b) cannot depend on the application of *Rule I*, since the same effects would then hold for (10a), contrary to the facts. Rather, we have to assume that coreference is freely available in sentences like (10b) (this is actually what Heim (1998) explicitly assumes on the grounds of similar considerations). The fact that coreference, just like binding, is unavailable in (10a) seems to suggest that constraints on coreference of the kind of *Rule I* exclusively apply in contexts where binding produces Principle B violations (that is, where binding creates *reflexive* predicates). This introduces an important shift of perspective that is somehow implied by the present contribution: the conditions on coreference do not concern *binding domains* but rather (quite more restrictively!) *reflexive domains*.⁸ This provides an important conceptual moti-

8. See Heim (1998) and Reinhart (1998) for further discussion on the non-trivial implications of *Rule I*.

Louise. This is not the case in (12a), where coreference is realized by means of two different guises. Although “the woman with blue eyes” (F) and “the woman with blond hair” (G) refer to the same individual ‘z’ in the real world, this need not be the case in some arbitrary world w_n , where F and G might in fact refer to two *different* female individuals (for instance, Mary and Louise). The predicate P will thus not end up covalued in the world w_n . We reach the conclusion that when the interpretation procedure involves a single guise, the predicate P is necessarily interpreted as *intensionally* equivalent to a reflexive predicate of the form $\lambda x (xP'x)$. If the interpretation procedure involves two distinguishable guises, the equivalence between the binary predicate P and the reflexive predicate P' will be only *extensional* (in the sense that it may actually not extend beyond the real world). Given this situation, it seems natural to propose that both interpretive procedures involve a violation of Principle B (that is, the prohibition that an originally binary predicate be interpreted as a property). However, for the reasons just discussed, the *degree* of the violation is arguably different in the case where covaluation is realized by means of a single guise and in the case where it is achieved by using two distinct guises, exemplified by some of the discourse fragments in (4). The two kinds of violation we have in mind are given in (13):⁹

- (13) a. If a predicate is *intensionally* reflexive (12b), this will lead to a strong principle B violation.
 b. If a predicate is *extensionally* reflexive (12a), this will lead to a milder Principle B violation.

The fact that (12a) still represents a Principle B violation (although a ‘weaker’ kind of violation) explains why many of the cases of coreference listed under (4) sound rather ‘marked’. In fact, some speakers may even find them unacceptable.¹⁰

9. Some technical qualifications are needed here. Strictly speaking, coreference is not able to give rise to reflexive predicates, since the latter are defined as in (5b) in the main text (in terms of two instances of a variable bound by the same λ -operator). What we really mean is that coreference may give rise to interpretations that are truth-conditionally undistinguishable from the interpretation of reflexive predicates (this happens whenever one single guise is involved). Mild reflexivity corresponds to the case in which the reading produced by coreference is truth-conditionally equivalent to that produced by a reflexive predicate only in some specific contexts of interpretation (for instance, in the real world). The *rationale* behind this proposal is that we have to rule out all the interpretive mechanisms that are responsible for readings that are equivalent to interpreting a *relation* as a *property* in absence of (explicit) morphosyntactic marking. From a slightly different perspective, what we are proposing is that Principle B does not apply to the class of interpretations induced by a certain logical representation (involving variables bound by a lambda-operator): it rather applies to ALL interpretations that are logically equivalent to the interpretation induced by (semantic) binding.

10. Heim (1998) notes that some of the examples of (4), like (4a, d) are more marked than others,

1.3. Language acquisition

As briefly discussed in Chapter 1, Dutch and English speaking children exhibit a DPBE in constructions such as (14), while Spanish children almost always reject coreference between the pronoun and the local subject.

- (14) a. *John touched him.* (roughly 50% adult like)
 b. *El niño le dibujó.* (90% adult-like)
 ‘The boy drew him.’

In this section we will show how the DPBE can be accounted for and why the Delay does not show up in the acquisition of the Romance languages.

1.3.1. *The DPBE.* English children’s highly adult-like performance on sentences with quantified antecedents (see (3)) clearly shows that children do not have problems with binding. Instead, they appear to allow coreference of co-arguments in contexts where adults disallow this.

Recall from Section 2. that in the adult language coreference among co-arguments of P involves the creation of a *mildly* reflexive predicate P’ (this happens whenever the co-arguments of P are interpreted by means of distinct guises). However, as we have seen, this kind of coreference is pragmatically constrained in the adult language. It is possible only in cases where the discourse provides an extra guise for the pronoun, as is arguably the case in the contexts listed under (4).¹¹ The hypothesis that we would like to put forward

like (4b, c). We suggest that the extent to which a case of coreference is judged as ‘marked’ depends on whether the different guises involved can be kept distinct on discourse grounds.

11. A detailed analysis of the discourse mechanisms that govern the assignment of guises to argument DPs fairly exceeds the limits of this contribution. However, we would like to provide the reader with a clear idea of the line of research that underlies our claim that *Oscar-sentences* (that is, the kind of structures exemplified in (4)) exactly correspond to the structures where pronoun and antecedent are assigned *distinct* guises. Suppose that the general condition on the assignment of guises is that whereas proper nouns may introduce *new* guises in discourse, pronouns can only inherit guises from nouns or be associated with *deictic* guises (‘the person I am pointing at’). This seems to be enough, in the sense that showing that two guises are involved is now a trivial task for some of the structures in (4). In fact, this is the case with (4b) and (4c). In (4b), the first guise is introduced by the DP *Zelda’s husband*, and the second guise is assigned through pointing. As for (4c), it is clear that the two pronoun occurrences can inherit distinct guises from different DPs provided by the context (*this speaker* and *Zelda*). The problematic cases are (4a) and (4d). For (4a), it might be claimed that the pronoun inherits its guise from the first occurrence of *John*. If we assume that distinct occurrences of a proper name referring to the same individual can optionally be associated with distinct guises, the conclusion that *him* and the second instance of *John* may be linked to different guises becomes a trivial one. The real trouble is thus with (4d). Here we have two pronoun occurrences (none of which is interpreted deictically) with only one accessible DP-antecedent. However, it should be noticed that coreference is allowed here only under a focused reading of the first

is that these pragmatic constraints do not apply to children and that this is the source of the DPBE. The question is now: why should children allow coreference in cases where the context does not provide an extra guise for the pronoun? The answer that we would like to propose is inspired by Avrutin (2004).

According to Avrutin's approach, children have very early command of the syntactic principles of their language. However, due to their immature processing capacity, they often, fail to *use* syntax to structure information. Instead, they will often resort to extra-syntactic means to structure information. Following Heim (1983), Avrutin proposes that it is functional categories, such as D and T, that allow lexical categories (or projections) such as NP and VP to be associated with a representation in discourse/information structure, by introducing so-called file cards – Individual file cards in the case of NPs, and Event file cards in the case of VPs. However, there are contexts in which functional categories (such as T and D) can be omitted, leading to the use of Root Infinitives (15a) or article omission (15b).

- (15) a. *Maria vertelde Peter een mop. Hij lachen.* [Dutch]
 Mary told Peter a joke he laugh-inf
- b. Q: *Wie heb je gisteren gesproken?*
 Who have you yesterday spoken
- A. *Oh, meisje van school.* [Dutch]
 Oh, girl from school

occurrence of the pronoun (*he* must get narrow focus by means of a marked application of the nuclear stress assignment rule). We would like to propose that narrow focus on the pronoun is used here in order to signal that the guise inherited from the DP-antecedent must be changed. This is not as stipulative as it might seem at first sight, since focus is generally used to introduce new material into the discourse. The new information is, in the case under scrutiny, a new guise. A direct objection to this move might be that narrow focus in (4d) is actually triggered by the semantics of *only* and *even*. Since there is at least another independent factor triggering narrow focus in (4d), there is no strong evidence that focus correlates with the introduction of a new guise. We acknowledge that this is indeed the case with (4d), but we also think that it is relatively easy to find *Oscar-sentences* where it becomes evident that narrow focus is triggered by the presence of a coreference relation. Consider (i):

- (i) a. *It is not really true that everyone likes John.*
 b. *Bill does not like him.*
 c. *JOHN does not like him.*

Although the judgment is rather subtle, it is clear enough that the continuation of a. in b. (where no coreference is intended) does not have the subject DP in narrow focus, whilst this must be the case in the continuation c. (at least if what we intend is that *John* and *him* refer to the same person). We interpret contexts such as (i) as showing that narrow focus on a DP may be triggered by coreference (more exactly, in our terms, by the requirement that a distinct guise be introduced).

Avrutin proposes that in contexts such as (15) contextual conditions can take over the role of functional projections, introducing the relevant file cards, whereas normally the most economical option is file card introduction by syntactic means. Children differ from adults in the sense that the neural substrates supporting their syntactic computations are not fully developed. As a result, certain operations may require more resources than for a fully developed system, making alternative (context-based) strategies as economical as syntactic mechanisms.¹² Consequently, children will often, but not always, use root infinitives or omit articles in contexts in which adults would use T and D to introduce file cards.¹³

This approach can be extended to children's interpretation of pronouns. Pronouns are definite Ds. Unlike indefinite Ds, definite Ds are not able to introduce *new* file cards or guises; they can only *copy* existing ones (i.e., they refer to old information). This explains why (16b) is felicitous if it has been preceded by (16a), a construction with an indefinite NP, but not when it is uttered out of the blue.¹⁴

- (16) a. *I have a new colleague.*
 b. *He loves to play soccer.*

If the object pronoun *him* in (14a) copies the file card introduced by the subject *John*, the resulting reflexive interpretation will amount to a strong Principle B violation: both subject and object refer to the same individual through identical guises, a situation similar to (12b)). However, remember that there are linguistic contexts, such as those represented in (4a, c, d), allowing pronouns to be associated with guises that differ from the guise introduced by the local subject, though they have identical referential properties. In that case the resulting predicate will be *mildly reflexive*, leading to a *mild* Principle B violation. The different guise associated with the pronoun need not be provided by the linguistic context. Another possibility is that the object pronoun be associated with a guise provided by the visual context, a “deictic guise” in the sense of

12. Independent evidence for children's more limited processing capacity is provided by Tyler (1983), who tested children on the anaphoric interpretation of pronouns in an on-line experiment. Note also that if children missed certain grammatical knowledge they are predicted *always* to omit determiners and produce root infinitives, which is clearly not the case (except in the earliest stages of acquisition).

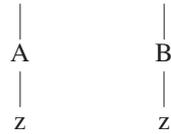
13. Note that this analysis predicts that syntactic principles devoid of interpretative effects, such as V2 in Germanic languages, should not give rise to problems in acquisition. This seems correct. For instance, Dutch children are known to produce many infinitive sentences (“Root Infinitives”). However, the infinitive verbs are correctly placed in sentence final position (Dutch being an OV language). When they produce finite verbs, they are correctly placed in the first or second position of the sentence (Wijnen 1994).

14. For a full discussion of these and related matters in the framework of Discourse Representation Theory (DRT), see especially Kamp and Reyle (1993).

Avrutin (1994). Normally, in order to use a deictic guise, adults require *pointing*, as in (4b). We propose that children may end up violating this constraint in their interpretation of sentences such as (14a). When adults have to consider a reflexive interpretation of (14a), in the absence of any special context such as (4), they will use the pronoun to introduce a copy of the guise associated with the local subject. Since the resulting reflexive predicate leads to a strong Principle B violation, adults will reject this reading. Children, on the other hand, often fail to use pronouns for file card copying, a syntactic way to interpret the pronoun, and may instead rely on the visual context, providing a deictic guise for the pronoun.¹⁵

Suppose now that the “deictic guise” associated with the pronoun and the guise associated with the local subject have the same referent. In that case a “mildly” reflexive predicate is created:

(17) John touched him.



(guise A = the male individual named John;

guise B = the male individual I am looking at (= the “deictic guise”))

If children are able to create *mildly reflexive predicates* by associating the pronoun with a new guise, introduced via the visual context, one might wonder why they do not rule in a coreference reading of (14a) 100 % of the time.

The analysis that we have put forward allows us to identify two possible sources for the roughly 50 % adult-like performance that we often find. Recall from the previous section that the creation of a mildly reflexive predicate leads to a “mild” principle B violation. This explains why speakers of English consider many of the examples listed under (4) not to be fully grammatical or to have some “special” status. When a sentence has an intermediate grammatical status, it is generally expected that some speakers will accept it, while others will reject it. The idea is that the same expectation should also apply to the behavior of children: after creating a mildly reflexive predicate, they will have to

15. Alternatively, one could argue that children lack the necessary knowledge to perform file card copying correctly. Note, however, that not only children show a DPBE. This effect has also been observed in agrammatic Broca aphasics, who are also known to have limited computational resources, but are no longer in the process of language acquisition (Grodzinsky, Wexler, Chien, Marakovitz and Solomon 1993). Note also that the similarities between children and agrammatics extend to other areas in which syntactic and extra-syntactic principles interact, such as the production and omission of articles and the use of finite and infinitive sentences (Baauw, De Roo and Avrutin 2002, among many others). We take this as support for a processing account of the DPBE.

decide whether a mild Principle B violation is enough to make a sentence like (14a) *false* under the coreferential interpretation. We suggest that they might decide either way. The second potential source for children's chance rate of adult-like performance is based on Avrutin's insight regarding the complementarity of syntactic and non-syntactic strategies. As we have seen above, Avrutin argues that children often fail to use functional elements to structure information, resorting to extra-syntactic strategies. However, sometimes they succeed in using syntactic strategies for information structuring. When this happens (by hypothesis in approximately the half of all cases) they will correctly use pronouns to introduce a copy of the guise introduced by the subject, and reject the resulting construal (coreference between the pronoun and its antecedent in all possible worlds) as a strong Principle B violation.

1.3.2. The CEE. If the source of the DPBE is basically non-linguistic, namely difficulties children have with the use of syntax (or of other syntax-related conditions, such as adult-like association of guises to categorically distinct linguistic elements) to structure information, why do Romance children not exhibit this effect? As has been suggested in Section 1.1, this developmental difference is related to the different nature of weak object pronouns in Germanic and Romance. Romance weak pronouns have been argued to be clitics, unlike English and Dutch object pronouns (McKee 1992; Cardinaletti and Starke 1995; Cardinaletti and Starke 1996; Baauw 2002; Gärtner and Steinbach 2003).

In order to be able to account for the CEE, we will first have to be more precise about what we understand under the term "pronominal clitic". In Baauw (2002) it is shown that not all "clitic-like" pronouns cause a CEE in young children: Dutch 4 and 5 year olds show a DPBE in constructions containing the weak object pronoun 'm ('him'). This suggests that a division between "syntactic clitics" and what we might call "PF clitics" or "regular weak pronouns" is useful (Zwicky 1977; Rizzi 1986). In fact, in Baauw (2002) it is argued, on the basis of cross-linguistic evidence, that whether the CEE shows up, depends on whether weak pronouns undergo movement to the functional domain:¹⁶

16. Dutch weak object pronouns have been argued to undergo movement to the functional domain (Zwart 1992; Cardinaletti 1992; 1994; Delfitto and Corver 1993). However, if we take scrambling in Dutch (which affects both NPs and pronouns) and "generalized object shift" (as in Icelandic) not to be the result of movement, but of base generation of objects in different positions inside the VP (Neeleman 1994; Bayer and Kornfilt 1994; Neeleman and Weerman 2001), the Dutch child will have very limited exposure to data that could lead him/her to conclude that Dutch weak pronouns involve (optional) movement to the functional domain. This is so because only in very limited cases do weak pronouns end up in positions that are inaccessible to DPs, and even when they do, they only do so optionally. This has led some authors, such as Gärtner and Steinbach (2003), to claim that clitic placement is a form

- (18) The CEE is the result of clitic movement.

The question is now: why should movement be relevant to the appearance of the CEE? In the account that we will present in this section, we will show that “moved clitics” give rise to a CEE because they are interpreted in a different way than VP-internal regular weak pronouns or strong pronouns: unlike strong pronouns and regular weak pronouns, clitics can never be interpreted as free variables. Since coreference crucially depends on the possibility for pronouns to be interpreted as free variables, and the DPBE derives from problems children have with the application of constraints on coreference, it follows that Romance children will not exhibit a DPBE in constructions with clitic pronouns (Baauw 2002; Baauw and Cuetos 2003).¹⁷ Our account of the CEE is based on the following two assumptions on “clitic movement”. First, we will assume that clitic movement is NP movement, in the sense of Sportiche (1992). This means that the object clitic heads a functional projection, which we will call FP (following Uriagereka 1995). A null element is generated in object position and is moved to [Spec, FP]. Second, we want to depart from the usual assumptions on NP-movement, and follow Neeleman & Weerman (2001) in their analysis of NP-movement as involving abstract displacement of an empty operator (on the model of the *easy-to-please* constructions), which gets interpreted in terms of λ -abstraction. Given these two assumptions, the CEE can be derived as follows.

When the null element moves from its argument position to [Spec, FP], a variable chain is created. The tail of a variable chain must be interpreted as a predicative trace, i.e., a variable bound by a λ -operator. In other words, abstract NP movement corresponds to *functional abstraction* in the semantics at the interface ((19) abstracts away from V-to-I movement):

of XP-scrambling, not fundamentally different from the scrambling that other definite DPs undergo. The microdistributional differences between reduced pronouns and full DPs can be explained by independently motivated principles of (morpho)-phonology and discourse structure. Therefore Dutch children will analyze weak pronouns as VP internal regular weak pronouns, which explains why they exhibit a DPBE (see Baauw 2002 and Baauw and Cuetos 2003).

17. This predicts that Romance children will exhibit a DPBE in constructions containing strong pronouns. This prediction is corroborated by a pilot study carried out by Berger (1999) among Italian speaking children. Italian speaking children appeared to allow coreference much more often in constructions containing strong pronouns, like *lui* (ia), than in constructions containing clitics, like *lo* in (ib).

- (i) a. *Il ragazzo sta indicando lui.*
 the boy is pointing-at him
 b. *Il ragazzo lo sta indicando.*
 the boy him_{cl} is pointing-at
 ‘The boy is pointing at him.’

- (19) a. $FP = \lambda x \lambda y (x \text{ señala } y)$
-
- b. *La niña la señala.*
the girl her points-at

When the external argument (*la niña*) is applied to this structure, this will inevitably result in a Principle B violation. Here is why. First, *la niña* undergoes QR (cf. Heim 1998). Under agreement of *la* and (the trace left by) *la niña* the two variables are identified ($x = y$), to the effect that (19) will lead to (20d) through the following derivation:

- (20) a. $[\lambda x \lambda y (x \text{ señala } y)] (x)$
(application of QR)
- b. $\lambda y (x \text{ señala } y)$
(λ -conversion applied to the external argument)

Spanish children, on the other hand, did not show a DPBE in constructions containing strong DO pronouns (Baauw 2002). However, unlike Italian strong DO pronouns, Spanish strong DO pronouns must be doubled by a clitic pronoun, and we take this fact to be responsible for the reported difference of behavior (see Baauw 2002, for an account).

- (ii) *El niño le dibujó a él.*
the boy him_{cl} drew [acc] him
'The boy drew him.' (83 % adult-like)

However, as one reviewer noted, this predicts that a DPBE should show up in constructions such as (iii), where the strong pronoun is the complement of a preposition:

- (iii) *El niño sueña con él.*
The boy dreams with him
'The boy is dreaming about him.'

In Spanish, the reflexive interpretation of (iii) is marginal. In fact, the adult control group accepted this interpretation only 28 % of the time. Spanish children, on the other hand, accepted this interpretation 58 % of the time. This might be interpreted as evidence for a DPBE. However, as Baauw (2002) argues, children's highly non-adultlike performance on similar sentences with quantified subjects shows that their acceptance of the reflexive interpretation of (iii) should not be interpreted as a "real" DPBE, but rather suggests that Spanish children can treat PPs as independent predicates (= reflexivity domains) to a wider extent than adults can.

- c. $\lambda x (x \text{ señala } x)$
(agreement: $x = y$)
- d. $[\lambda x (x \text{ señala } x)] (la \text{ niña}) \rightarrow$ Principle B violation

Since there is strong evidence that children know and obey Principle B (see the highly adult-like performance of English and Dutch speaking children on constructions containing quantifiers), Romance children will reject a reading of (19b) in which the object (*la*) and the local subject (*la niña*) refer to the same individual, which is in line with our experimental results. The reason is that covaluation can only be achieved through (20d), which amounts to a strong Principle B violation.¹⁸

However, if clitics encode functional abstraction (see Delfitto 2002b for further elaboration on this point), one may wonder how they can be allowed to give rise to intersentential coreference, as in (21), where *la* in the second sentence refers to *María* in the first sentence:

- (21) *Es imposible que María se haya ido al extranjero. Ayer la vi en casa.*
'It is impossible that *Maria* went abroad. Yesterday I saw *her* at home.'

We suggest that in contexts that force disjoint reference (22) (as well as in "Oscar sentences" (4); see below), an empty topic is generated as an argument of the λ -abstract created by the variable chain:¹⁹

- (22) a. $[_{\text{topic}} \text{ec}] \text{ Juan } la \text{ vio en casa.}$
ec John her_{cl} saw at home
'John saw her at home.'
b. $[\lambda x (\text{Juan vio } x)] (\text{ec})$

This structure is very similar to (23), a case of clitic left dislocation. However, unlike an overt (left dislocated) topic, the empty topic in (22) will never be able

18. Note that the cross-linguistic difference between Romance and Dutch/English with respect to the presence or absence of the DPBE extends to agrammatic Broca aphasia. Baauw and Cuetos (2003) and Ruigendijk, Baauw, Zuckerman, Vasic, de Lange and Avrutin (to appear) show that Spanish agrammatics, like Spanish children, but unlike English children and agrammatics, reject the reflexive interpretation of (19b).

19. For the sake of clarity, the derivation of an empty topic structure proceeds as follows, taking the FP as a starting point.

- (i) a. $\lambda x \lambda y (x \text{ vio en casa } y)$ (Juan)
- b. $\lambda y (\text{Juan vio en casa } y)$
(λ -conversion applied to the external argument)
- c. $\lambda y (\text{Juan vio en casa } y)$ (*Topic ec*)

to introduce a *new* discourse topic, since it lacks the necessary descriptive content. This explains why clitics generally refer to “old information” (*familiarity condition*).²⁰

- (23) a. [_{topic}A *María*] *Juan la vio en casa.*
 [_{topic}ACC. *María*] *John her_{cl} saw at home*
 b. [λx (*Juan vio x*)] (*María*)

So, the idea is that clitic constructions may be hidden clitic-left-dislocation constructions and that although clitics cannot be interpreted as free variables, the empty topic that functions as the argument of the λ -abstract *can* be interpreted as a free variable, as shown by (22).^{21,22} This gives rise to a potential problem for our approach to the CEE: if the empty topic can be interpreted as a free variable, why do Romance children not make use of an empty topic structure in order to get a *coreferential* reading of (19b)?

We propose that this follows naturally from economy considerations related to the syntactic derivation of clitic constructions. Concretely, the idea is that covaluation is established in the course of the interpretative analysis of the syntactic structure, i.e., as soon as the argument positions involved in the covaluation relation are taken into consideration by the bottom-up interpretative procedure. We assume that topics, including empty topics, are generated to the left of the subject. This means that if the subject and the object in (24) are to be covalued, this relation will be established between *la niña* ‘the girl’ and the object variable, represented as *y* in (24).

- (24) [_{Topic} *ec*] [*la niña señala y*]
 the girl points-at *y*

As we have extensively argued, in Romance the subject and the object cannot *corefer*, since *y*, being a predicative trace, cannot be interpreted as a free variable, which is a prerequisite for a *coreference* construal. Consequently, the

20. For an in-depth discussion of the relation between the semantics of cliticization proposed here and the comparative analysis of topic structures, see Delfitto (2002b).

21. Another possibility is that the empty topic is bound by an element in a higher clause, like in (i):

(i) *María creía que Pedro la quería.* (*María = la*)
 ‘*Mary* thought that Peter loved *her*.’

22. Note that historical data appear to support our view on the analysis of clitics as hidden left-dislocation constructions. Clitic-left-dislocation is already found in the first stages of the development of the Romance clitic system (Vincent 1997). Moreover, Vincent argues that “the origin of clitics is to be found in contexts involving pronominal resumption of focal and dislocated arguments” (Vincent 1997: 161).

covaluation relation between *la niña* and *y* needs to be established through binding, but this violates Principle B. Since children know and obey Principle B, they will reject the reflexive interpretation of the predicate. In other words, we propose that covaluation via binding, given a bottom-up interpretive procedure, necessarily takes precedence over covaluation via coreference. The point is that if we reject covaluation while interpreting the variable *y*, we are not allowed to reintroduce covaluation later on by means of a coreference construal involving the empty topic (this is somehow reminiscent of Reinhart's *Rule I*, but ties it to syntactic structure and not to abstract interpretation classes, a fact that we regard as a substantial conceptual advantage: denotational economy instead of global economy, in the sense of Schlenker (to appear)).

Note, finally, that the impossibility to establish a coreference relation between the empty topic and the subject is confirmed by adult judgments on the Romance counterparts of (4). With the exception of (4b), which is expressed through a strong pronoun, Spanish (and Italian) speakers seem to be more reluctant to accept local coreference than English speakers (25) (the same observation is made, concerning similar examples in French, by Schlenker (to appear)).

- (25) a. *¿Sabes lo que María y Juan tienen en común? María lo admira y Juan también lo admira.*
 'Do you know what Mary and John have in common? Mary admires him and John admires *him* too.'
- b. Q *¿Esta conferenciante es Zelda?*
 Is this speaker Zelda?
 A *¿Cómo lo puedes dudar? Ella la pone en el cielo. Ningún otro candidato haría eso.*
 How can you doubt it. *She* praises *her* to the sky. No competing candidate would do that.'
- c. *Todo el mundo odia a Lucifer. Hasta él (mismo) lo odia.*
 'Everybody hates Lucifer. Even *he* (himself) hates *him*.'

We take this as additional evidence for our claim that clitics in Romance are bound variables and that empty topics cannot be used for local coreference.²³

23. There is some variation in the judgments, though. We speculate that those speakers that accepted a coreference reading apply some sort of reconstruction operation, and interpret the empty topic in its corresponding VP-internal position, allowing it to be interpreted as a free variable. Apparently, this is a marked operation, and for that reason not easily available to children, at least not in the kind of contexts that was used in the experiments.

1.4. Summary of Section 1

In the first part of this contribution, we have tried to provide an account for the DPBE in languages such as Dutch and English and its absence in the Romance languages (CEE). We have argued that the DPBE is due to the fact that children's limited syntactic processing capacity leads them to create "mildly reflexive" predicates in contexts that are disallowed by adults (in the sense that adults have to resort, in these contexts, to a *syntax-based* interpretive strategy of guise-assignment that rules out the coreference construal in terms of a strong Principle B violation). Romance children too have a more limited processing capacity, but they do not display a DPBE in constructions containing clitic pronouns because (i) coreference in Romance is dependent on constructions involving bound variables and empty topics, and (ii) the syntactic position of empty topics (higher than the position of the variable they *semantically* bind) prevents them from establishing a *coreference* relation with the local subject.²⁴

More in general, we conclude that *coreference* can be as ungrammatical as binding, in the sense that coreference can lead, exactly as binding does, to a Principle B violation (*cross-modular Principle B*). In our view, the rationale for crossmodular Principle B is that reflexivity (intended as the class of interpretations in which at least two arguments of a predicate necessarily end up covalued in every possible world) must undergo morphosyntactic marking. Coreference (when achieved, as in our proposal, by means of guise-assignment) may yield a result which is truth-conditionally non-distinguishable from the reflexive interpretation achieved through binding. Morphosyntactic binding is thus required for these cases of coreference as well, which is the same as maintaining that

24. One reviewer remarked that our account of the DPBE in Dutch and English and the CEE in Romance does not explain the DPBE that shows up in ECM-sentences. Romance children (and Broca agrammatics) do show a DPBE in sentences such as (ia). In fact, in similar contexts Dutch children show a much stronger DPBE than in simple transitive sentences (ib) (Baauw, Escobar and Philip 1997; Baauw and Cuetos 2003; Philip and Coopmans 1996).

- (i) a. *La niña la ve bailar.*
 the girl her sees dance
 (60% adultlike performance)
- b. *Het jongetje ziet hem dansen.*
 the boy sees him dance
 (20% adult-like performance)

Although an extensive discussion of this DPBE exceeds the limits of this article, we would like to point out that ECM constructions differ from simple transitive sentences in the sense that according to Reinhart and Reuland (1993) the reflexive interpretation is not constrained by Principle B, but by an independent interface principle (Reuland 2001). We refer to Ruigendijk et al (to appear) for an account of the DPBE in ECM sentences, in both language acquisition and Broca aphasia, inspired by Reuland (2001).

Principle B (in Reinhart and Reuland's version) equally constrains binding and coreference. There are conceptual and empirical advantages: conceptually, we have replaced global economy (brought about by Reinhart's version of Rule I) with local economy (whereby comparison does not exceed a single module); empirically, we hope to have been able to account for Heim's observation, discussed above, that the domain of application of Reinhart's Rule I is not binding but reflexivity.

2. Reflexive predicates and reflexive clitics

2.1. Introduction

In the second part of this contribution, we intend to provide independent evidence that the notions of reflexive predicate and reflexive marking, that have played a central role in the proposed reinterpretation of the DPBE effects, can be successfully put to work to explain the interaction between Romance reflexive *se/si* morphology and complex predicates, such as restructuring and causative predicates.

We interpret reflexive *se/si* as the morphosyntactic manifestation, within the extended projection of a given verb, of its reflexive interpretation. More precisely, clitic reflexive morphology expresses the information that the relevant lexical predicate has undergone a valency-reduction operation in the lexicon, in the sense of Reinhart (1996) (the operation applies to *relations* to yield *properties*, by identifying the arguments of the given predicate). As is well-known, viewing reflexive marking as lexical reduction raises the issue of the relation of reflexively-marked predicates to unaccusative predicates, since unaccusatives may be also assigned the logical format $\lambda x R(x,x)$, under specific assumptions (Chierchia 1989; Reinhart 1996). For Romance, we adopt the Marantz-Grimshaw analysis, according to which reflexive predicates are indeed unaccusatives, in the sense that it is the external argument to be reduced (for a recent discussion, see McGinnis 1998). At the same time, we should emphasize that we do not intend this identification to extend to the sorts of reflexive marking found in Dutch (argument *zich*) and Hebrew (reflexive verbal morphology), for which we adopt the negative conclusions reached in Reinhart (1996). The bulk of our argumentation is constituted by the claim that interpreting reflexive *se/si* as the morphosyntactic reflex of lexical reduction is not only empirically adequate for simple predicates but also leads to an adequate account of important asymmetries which arise with respect to non-reflexive object clitics in the case of complex predicates.

Given the issue posed by Romance reflexive *se/si* morphology, the theoretical alternatives we have to consider are essentially three: a. *se/si* is a SELF-

anaphor; b. *se/si* is a SE-anaphor; c. *se/si* is a reflexivizer (a piece of inflectional morphology manifesting reflexivity, that is, the morphosyntactic feature which encodes the application of the valency-reduction operation). Hypothesis a. is excluded under our proposal, since if SELF-anaphors are intended to change predicates of the form $R(x,x)$ into predicates of the form $R(x, f(x))$, this role is plausibly achieved as a function of their non-trivial internal structure (as is evident with the so-called body-part reflexives), which is clearly lacking in the case of Romance *se/si*. As for hypothesis b., which takes reflexive clitic morphology in Romance to have the same status as (long-distance) tonic reflexive SE in Italian and argument ZICH in Dutch, it would wrongly predict that sentences as simple as (26a) lead to a Principle B violation, since the interpretation of (26a) (indicated in (26b)) would involve arity-reduction without reflexive marking.

- (26) a. *Enrico si lava.*
 Enrico si-washes
 'Enrico is washing himself.'
 b. x is washing x

The only way out would be to propose that the verbal predicate is lexically marked as reflexive, a move for which there seems to be no independent evidence in Romance, contrary to what happens in Dutch, as we will see in a moment. On these grounds, we are naturally led to adopt hypothesis c.: *se/si* is a manifestation of a covert interpretable feature realized on the verbal predicate (*lavare* in (26a)) which encodes the application of the lexical operation of valency-reduction, which suppresses the external theta-role by identifying it with the internal one. As a consequence of this identification, both argument places will be bound by the same lambda-operator, yielding a reflexive predicate, by definition. Notice that there is wide consensus, in the literature, on the inflectional status of reflexive clitic morphology (cf. Cinque 1988; Dobrovie-Sorin 1998). In minimalist terms, our proposal can be straightforwardly interpreted as the claim that *se/si* realizes a reflexive feature in the extended projection of the lexical predicate (a position where this feature is not interpretable), which has to be checked and eliminated by the interpretable reflexive feature covertly realized on the lexical predicate.²⁵

25. The deeper motivation for this checking operation, involving the realization of a reflexive feature in a position where it is not interpretable, probably lies outside the grammatical system as such: it is just a way to express the information that the lexical predicate has undergone reduction and has to be interpreted reflexively (remember that the reflexive morphology is overtly realized on the verb in languages such as Hebrew)

2.2. *SE as a reflexivizer*

This analysis is independently supported by several observations. First, it predicts that every verbal predicate marked as reflexive will have the *se/si* morphology realized in its extended projection. In other words, the reflexive interpretation of a given predicate will be always manifested by the presence of the reflexive clitic. The prediction is borne out, as is exemplified in the Italian examples in (27)–(28): contrary to what happens with Dutch *zich*, there is no significant lexical restriction on the distribution of *se/si*:

- (27) a. *Jan wast zich.*
 John washes *zich*
 ‘Jan is washing himself.’
 b. ??*Jan bekritiseert / slaat zich.*
 John criticizes / beats *zich*
 ‘Jan is criticizing/beating himself.’
- (28) a. *Enrico si lava.*
 Enrico *si* washes
 ‘Enrico is washing himself.’
 b. *Enrico si critica / picchia.*
 Enrico *si* criticizes / beats
 ‘Enrico is criticizing/beating himself.’

The idea that reflexive marking necessarily involves the realization of *se/si* in Romance is directly confirmed by the unavailability of the reflexive interpretation of the subject infinitival in (29a), unless *se/si* morphology is added, as in (29c), contrary to what happens in (29b), the Dutch counterpart of (29a).²⁶

26. A subtle confirmation of the fact that reflexively marked predicates need overt morphological marking is provided by the contrast, in Italian, between the unaccusative verb in (i) and the reflexive verb in (ii) (see Burzio 1986: 399–411).

- (i) *Questo farà pentire Giovanni.*
 this will-make repent Giovanni
 ‘This will make Giovanni repent.’
- (ii) #*Maria farà accusare Giovanni*
 Maria will-make accuse Giovanni
 ‘Maria will make Giovanni accuse himself.’

As is well-known, realization of *si* on the embedded verb is forbidden, for Italian, in the sentential complements of causatives, as shown in (iii)–(iv), contrary to what happens in French, where the counterparts of (iii) and (iv) are fully grammatical (for the analysis, see the discussion about (48) in the main text).

- (29) a. **Lavare è sano.*
 wash is healthy
 ‘Washing oneself is healthy.’
 b. *Wassen is gezond.*
 wash is healthy
 ‘Washing oneself is healthy.’
 c. *Lavarsi è sano.*
 wash-si is healthy
 ‘Washing oneself is healthy.’

Another interesting kind of evidence stemming from acquisition data concerns the fact that Dutch children have been shown to exhibit a stronger DPBE effect in contexts where the predicate is arguably inherently reflexive, as is the case with *wassen* (cf. (27a) and (29b)). In the case of sentences like *Jan wast hem* ‘Jan is washing him’ a 20% adult-like performance is reported, whilst the adult-like score increases to the usual 50% in sentences such as *Jan slaat hem* ‘Jan is beating him’ (Philip and Coopmans 1996). Within the reflexivity framework, a natural interpretation of these facts is that Dutch kids (and adults) have not to deal with a Principle B violation where inherently reflexive predicates like *wassen* are involved, since the requirement on reflexive marking is (covertly) satisfied at the lexical level. Rather, what is arguably at stake is a chain-condition violation (the requirement that the foot of a chain not be constituted by a fully inflected DP). The poor performance of Dutch children can thus be related to the difficulty they have, at the relevant age, to reach solid conclusions as to the feature endowment of personal pronouns. What is relevant for us here is the fact that no such asymmetries have been found with Spanish children, which seem to perform the same with the predicates of the *wash*-class and of the *beat*-class (Baauw 2002: 193, Note 59). This suggests that they have uniformly to deal with Principle B and that inherent reflexive marking of predicates is not available to them. More explicitly, these acquisition data become rather transparent to interpretation if we assume that Spanish (Romance) chil-

(iii) **Questo farà pentirsi Giovanni.*
 this will-make repent Giovanni
 ‘This will make Giovanni repent.’

(iv) **Maria farà accusarsi Giovanni.*
 Maria will-make accuse-si Giovanni

From the point of view of the present discussion these facts are important in that they show that while unaccusative marking is dispensable (cf. the grammaticality of (i)), reflexive marking is not (cf. the ungrammaticality of (ii)). It is worth noticing that they also seem to indicate that a full assimilation of reflexivization and unaccusativity to the same lexical operation (‘reduction’ in Reinhart 1996) cannot be correct.

dren know that inherent reflexive marking requires overt manifestation of the *se/si* clitic morphology in their language.²⁷

Last but not least, another piece of evidence in favor of the proposed analysis of *se/si* is constituted by the facts that have traditionally supported an unaccusative analysis of reflexive/reciprocal *se* (Marantz 1984, Grimshaw 1982): remember that the unaccusative analysis directly supports the idea that *se/si* is a manifestation of a lexical operation of reduction of the external argument. As is well-known, the symmetry between reflexives and unaccusatives concerns both auxiliary selection and past participle agreement: the Italian examples in (30) show that reflexive clitics contrast with non-reflexive clitics in that they select *be*, whereas (31) shows that only reflexive clitics trigger participle agreement.²⁸

- (30) a. *I bambini si sono lavati.*
 the children *si* are washed-pl
 ‘The kids have washed themselves.’
 b. *I bambini li hanno lavati*
 the children them have washed-pl
 ‘The kids have washed them.’
- (31) a. *I bambini si sono letti il libro.*
 the children *si* are read-pl the book
 ‘The kids have read the book to each other.’
 b. *I bambini hanno loro letto il libro.*
 the children have them read the book
 ‘The kids have read the book to them.’

As emphasized above, we take these facts as decisive evidence in favor of the interpretation of predicates involving reflexive clitics as unaccusatives. We conclude that *se/si* is the manifestation, in the extended projection of the lexical predicate, of the morphosyntactic feature that encodes the semantic operation of reduction, consisting in the suppression of the external argument position by means of its identification with the internal one.

27. Note that recent experimental evidence on an elicited production experiment confirms the different status of Dutch *zich* and Spanish *se*. Whereas Spanish children were virtually adultlike in their production of *se*, Dutch children produced *zich* only half of the time in comparison with the adult controls. Dutch children’s performance on SELF-anaphors, on the other hand was almost adultlike. As argued by Baauw, Kuiper, Ruigendijk and Cuetos (2004), Dutch *zich* is problematic because it involves the creation of a syntactic dependency – an A-Chain – between *zich* and the local subject. Since, following Avrutin (1999) and Ruigendijk et al. (to appear), children often fail to use (narrow) syntax to establish referential dependencies, they often avoid the use of *zich*. Spanish *se*, on the other hand, is a reflexive-marker, and does not involve the creation of a dependency in narrow syntax.

28. See McGinnis (1998) for a more complete discussion of this set of data.

2.3. *SE and complex predicates*

Let us consider now the case of complex predicates, which represents an interesting potential challenge to the analysis we have advocated. The main question we have to address is how it is possible that the reflexive clitic morphology exhibits the same climbing effects as argument clitics. Or stated in different terms: the realization of a morpheme encoding the reflexive interpretation of the predicate α on a higher predicate β is clearly in need of some clarification. At first sight, it seems to support an argumental analysis of the reflexive clitic morphology.

2.3.1. *Restructuring predicates.* Let us start with restructuring predicates. As is well known, the reflexive clitic (on a par with pronominal clitics) can be realized both on the embedded and on the higher predicate, as is shown by the Spanish examples in (32). Realization of the clitic on the higher predicate is clitic climbing, which represents, together with long NP-movement and auxiliary *be* selection, one of the standard diagnostics for restructuring processes.

- (32) a. *Enrique no puede lavarse.*
 Enrique not can wash-*se*
 'Enrique cannot wash himself.'
 b. *Enrique no se puede lavar.*
 Enrique not *se* can wash
 'Enrique cannot wash himself.'

As convincingly shown in Burzio (1986), the infinitival clause always contains a subject. The nature of this subject depends on the raising or control nature of the restructuring verb involved, that is, on the possibility that it require a fully thematic external argument. That the control-raising distinction is preserved under restructuring is shown by the contrast in (33) (Roberts 1997: 432).

- (33) a. *Ci dovrebbe piovere dentro.*
 (it) there ought rain-inf inside
 'It ought to rain inside.'
 b. **Ci vorrebbe piovere dentro.*
 (it) there wants rain-inf inside
 'It wants to rain inside.'

As a result, (32a) and its Italian counterpart in (34a) receive the raising analysis shown in (34b).

- (34) a. *Enrico non può lavarsi*
 Enrico not can wash-*si*

- b. *Enrico_i non può t_i lavarsi t_i*
 Enrico not can wash-*si*

For a control sentence such as (35a), the syntactic structure will be as indicated in (35b).

- (35) a. *Enrico non vuole lavarsi*
 Enrico not want wash-*si*
 b. *Enrico non vuole PRO_i lavarsi t_i*
 Enrico not wants wash-*si*

Realization of the reflexive clitic on the embedded verb (encoding the information that both arguments of the verb have to be translated into variables bound by the same lambda-operator) will yield, modulo the non-thematic vs. thematic interpretation of the external subject *Enrico* respectively entailed by the structures (34b) and (35b), the two interpretations expressed by the logical representations in (36), clearly the correct empirical result.

- (36) a. It is not possible $[[\lambda x (x \text{ to-wash } x)] (\text{Enrico})]$
 b. Enrico wants $[[\lambda x (x \text{ to-wash } x)] (\text{PRO})]$

As already announced above, the real challenge is constituted by the possibility that the clitic encoding reflexivity be realized on the restructuring predicate, as in (32b). How can the clitic realized on the higher verb encode the reflexive interpretation of the embedded predicate, as is shown in (36)? The answer lies in the syntactic structure associated with restructuring contexts. In line with the traditional analysis, we propose that restructuring involves complex predicate formation. More specifically, we adopt the radical hypothesis put forward in Roberts (1997), according to which the embedded verb *syntactically* incorporates into the restructuring verb. In a nutshell, the idea is that the abstract syntactic representation associated with sentences like (32b) at the point of spell-out already involves verb incorporation syntactically, the latter being made opaque by the presence of an independent morphological constraint prohibiting the realization of words consisting of two or more independent morphological words. Under this constraint, the requirement that a head be realized in the highest position of its chain leads to the realization of the lexical verb in the AGRs-position of the embedded clause (Roberts 1997: 426). If we adopt this analysis, we can further propose that the role of the reflexive clitic in (32b) (the restructuring context) is exactly the same as in (32a) (where restructuring does not apply). Namely, the reflexive clitic morphology may be interpreted as checking the interpretable reflexive feature realized on the lexical verb. The reason why the clitic surfaces in the higher position is that the lexical verb climbs to the higher predicate via incorporation, leading to complex predicate

formation.²⁹ The properties of the complex predicate will be inherited from the properties of the constituent verbs, modulo general syntactic conditions such as Baker's "Case frame preservation principle", roughly establishing that a complex head of category α cannot have more properties than those allowed, within a given language, for simple lexical items of the same category. In the case under scrutiny here, this will entail that the reflexive feature originally realized on the lexical verb will be finally interpreted as applying to the complex verb created by incorporation. This means in turn that all the arguments of the complex predicate will be translated into variables bound by the same lambda-operator. Sentences like (32b) will be associated with logical representations having the form of (37).

$$(37) \quad \lambda x (x \text{ V}_{\text{restr}} x \text{ V}_{\text{lex}} x)$$

If the restructuring context is a raising structure, the final interpretive result will be exactly that instantiated in (36a), since the first instance of bound variable in (37) corresponds to a non-thematic position. When the restructuring context involves a control verb, as in (38a), the result will be instantiations of (37) of the form of (38b), which can be easily shown to be truth-conditionally equivalent to (36b) by applying lambda-conversion.³⁰

- (38) a. *Enrico non si vuole lavare.*
 Enrico not *si* wants wash
 'Enrico does not want to wash himself.'
 b. $[\lambda x (x \text{ wants } x \text{ to-wash } x)]$ (Enrico)

29. Notice that the reflexive clitic, being morphologically defective, can be realized as a morphological unit with the restructuring verb (contrary to what happens to the reflexive verb, which must be spelled out in the lower Agr-S position).

30. A further observation is in point here. It is well-known that the realization of the reflexive morphology on the higher verb is blocked by the presence of intervening heads, on a par with the behavior of non-reflexive clitics, as is shown in (i).

- (i) a. **Non lo sa se lavare.*
 not it he-knows whether wash-inf
 'He does not know whether he has to wash it.'
 b. **Non si sa se lavare.*
 not si he-knows whether wash-inf
 'He does not know whether he has to wash himself.'

We should emphasize that this does not provide any argument against the dissociation between reflexive and non-reflexive clitics proposed here. All we need to assume is Roberts' proposal that the intervening head (the complementizer in (i)) blocks V-raising, that is, incorporation of the lexical verb into the restructuring verb. Checking of the *si*-feature cannot take place and the structure/interpretation discussed above are simply ruled out.

We conclude that the presence of climbing effects with reflexive clitics in restructuring contexts does not constitute a problem for the proposal that reflexive morphology is the morphosyntactic reflex of a process of valency-reduction. In restructuring context, the reflexive feature is realized on the lexical verb, as in the simple cases. However, it is checked in the extended projection of the superordinate clause and is interpreted as a property of a complex predicate as a consequence of the proposed process of (phonologically covert) incorporation.

2.3.2. *Causative predicates.* Let us consider now causative predicates. The basic fact about causatives is that reflexive/reciprocal *si* obligatorily climbs to the matrix predicate, as shown in (39)–(40) for Italian and Spanish, respectively.

- (39) *Enrico si è fatto lavare* / **Enrico ha/e' fatto lavarsi.*
 Enrico *si-is* made wash / Enrico has/is made wash-*si*
 'Enrico made someone wash him.'
- (40) *Enrique se hizo lavar* / (*)*Enrique hizo lavarse.*
 Enrique *se-made* wash / Enrique made wash-*se*

This fact is uncontroversial in Italian, whilst clitics are reported as optionally occurring on the infinitive in some varieties of Spanish, as seems to be (marginally) the case with *y* and *en* in French.³¹ In what follows, we will take obligatory climbing to be the core case in Romance, without discussing the exceptions to the core rule (including the variation attested in Romance concerning the compulsory or optional deletion of the in situ reflexive in cases like Spanish *Lo hizo levantar(se)* 'She made him stand up' and its Italian counterpart *Lo ha fatto alzare* (**alzarsi*)). For Romance causatives, we basically adopt the analysis put forward in Guasti (1993), according to which the lexical verb overtly incorporates into the causative one, with successive overt excorporation of the latter. Notice that the theoretical difficulties connected with *excorporation* can be avoided if we extend to causatives the analysis proposed by Roberts for restructuring verbs, according to which the lexical verb is syntactically realized in the surface position of the causative by incorporating into it, but is spelled out in a lower position as a consequence of the independent morphological constraint on the realization of complex words. However, for the sake of our analysis, nothing hinges on the choice between these two theoretical alternatives. The general idea is that Romance analytical causatives diverge from the synthetic causatives found in polysynthetic languages only via independent morphological constraints on the realization of complex words, and not in the fact that causatives (affixes and words) are assumed to morphologically select

31. See especially Guasti (1993: Chapter 3)

the lexical verb, triggering compulsory incorporation (hence obligatory clitic climbing). There is in fact convincing evidence that causative complements are VPs (they are incompatible with the occurrence of sentential negation and auxiliaries; Guasti 1993: 36–40). As with restructuring verbs, V-to-V movement creates a complex predicate, whose syntactic properties are inherited from the properties of its constituent parts. More precisely, the causative verb (for instance, *fare* in Italian) is apparently able to assign accusative case and dative case (the latter in conjunction with a sort of beneficiary theta-role), witness sentences like (41) below (Guasti 1993: 97).

- (41) *Enrico ha fatto un regalo a Maria.*
 Enrico has made a present to Maria
 ‘Enrico gave a present to Maria.’

In contexts where the causative complement involves a transitive verb, the complex verb created by incorporation will be able to assign accusative only once, to the effect that the dative is resorted to in order to express the agent role of the embedded verb (which tends to exhibit, not surprisingly, a sort of additional *beneficiary* interpretation). The result is the argument structure of causatives indicated in (42).

- (42) FARE LAVARE: X fa lavare Y(theme) a Z(agent)
 made to-wash: X makes to-wash Y(theme) to-Z(agent)

We can say that as the result of the competition for accusative case, the embedded subject is realized by means of a marked case-assignment procedure. In fact, it is well known that there exists, in Romance, an alternative way to express the embedded agent-role, by using some sort of *by*-phrase (the so-called *faire-par* construction). Burzio (1986) has convincingly shown that the two available case-assignment procedures present an important asymmetry: the dative phrase is an argument of the complex predicate, whilst the *by*-phrase is an adjunct, which is not part of the argument structure. The evidence concerns the fact that the causee can act as an anaphor binder when it is expressed as a dative phrase, but not when it is constituted by a *by*-phrase. This is shown in the examples below.

- (43) a. *Con le minacce fecero accusare se stessi ai*
 with the threats they-made accuse themselves to-the
soldati.
 soldiers
 ‘With threats they made the soldiers accuse themselves.’

- b. **Con le minacce fecero accusare se stessi*
 with the threats they-made accuse themselves
dai soldati.
 by-the soldiers
 ‘With threats they made the soldiers accuse themselves.’

A further consequence of Burzio’s analysis is that structures where the causee is omitted (that is, there is no oblique argument) can be considered as instances of the *faire-par* construction.

With this all in mind, we are now in a condition to understand some major asymmetries in the behavior of reflexive and non-reflexive clitics. First, notice that with non-reflexive clitics the agent role of the embedded verb is indifferently expressed by a dative or a *by*-phrase, as shown in (44a) for Italian.

- (44) a. *Enrico lo ha fatto criticare a Maria / da Maria.*
 Enrico him has made criticize a Mary / da Mary
 ‘Enrico made maria criticize him.’

However, expression of the embedded agent role by means of a dative phrase becomes completely unacceptable in the contexts where the reflexive clitic morphology is used, as indicated in (44b).

- (44) b. *Enrico si è fatto criticare *a Maria / da Maria.*
 Enrico si is made criticize a Maria / da Maria
 ‘Enrico made Maria criticize him.’

If *si* is the morphosyntactic manifestation of the fact that the lexical verb is reflexively marked, the facts in (44) directly follow. Here is why. As a result of the compulsory verb incorporation process, the reflexive interpretation will be transmitted to the complex predicate. This entails that all the argument positions present in the argument structure exemplified by (42) have to be translated into variables bound by the same lambda-operator. Of course, this is impossible if two of these positions are instantiated by two different DPs, with distinct reference, as is the case in (44b) when the dative phrase is used. On the other hand, we have seen that using the *by*-phrase option amounts to abstracting away from the external role of the embedded verb: in this case, the argument positions to be equated are those corresponding to capital letters in “X makes to-criticize Y”, with the argument position Z of (42) being simply put out of the picture and its content being optionally expressed by the *by*-phrase.

This analysis is strongly confirmed by another important asymmetry between reflexive and non-reflexive clitics in causative constructions: whereas object clitics can pronominalize both the external and the internal argument of the embedded verb, *si* cannot reflexivize the external argument. This is shown in (45) and (46) below.

- (45) a. *Enrico lo ha fatto lavare.*
 Enrico him has made wash-inf
 b. 'Enrico made (someone) wash him (= a person different from Enrico).'
- (46) a. *Enrico si è fatto lavare.*
 Enrico si-is made wash-inf
 b. 'Enrico made (someone) wash him (= Enrico).'
- c. *'Enrico made himself wash someone (or something)'

As we can see, the interpretation (46c), which would simply be the obvious counterpart of (45c) if reflexive clitics had the same status as pronominal clitics, is completely unavailable. Remember that Burzio showed that causatives without the oblique argument (as is the case with (46a)) are instances of the *faire-par* construction, where the embedded agent role is not realized as an argument but (possibly) as an adjunct. This entails that when the complex predicate in (46a) is reflexivized as a result of the compulsory incorporation process, the argument positions to be equated can be only the external argument of the causative and the internal argument of the embedded verb: this is in fact the only legitimate interpretation, to be found in (46b).

Taken together, the facts just reviewed suggest an unaccusative analysis of reflexive causatives, which is further confirmed by the usual diagnostics (auxiliary *be* selection and past participle agreement). In sentences like (46a) the lexical subject is thematically interpreted as the internal argument of the embedded verb, and may in fact be assumed to undergo the same sort of movement that has been proposed for the raising class of restructuring verbs (cf. (34)). A theta-criterion violation is avoided by the fact that the complex predicate, ending up reflexively marked, is interpreted as involving equation of the external theta-role to the internal one: λx (x made to-wash x). One of the obvious implications of this analysis is that the operation of reduction, which creates reflexive predicates by suppressing one (or more) theta-roles, is not exclusively a lexical operation applying to simple lexical items, but is instead a general interpretive procedure which may apply to (complex) *reflexively marked* predicates at extra-lexical levels.

Notice further that the non-interpretable reflexive feature on *si* is checked and eliminated by the interpreted reflexive feature originally realized on the lexical verb, with raising to the causative verb position made available by incorporation. That is precisely what we have assumed for restructuring and extension to causatives seems rather natural. There is in fact some subtle confirmation of the hypothesis that the reflexive feature is realized on the embedded predicate. It has to do with the observation that the reflexive clitic morphology

is also incompatible with causative constructions involving *intransitive* verbs, in sharp contrast with non-reflexive clitics and SELF-anaphors:

- (47) a. **Enrico si fa cantare.*
 Enrico *si*-makes sing
 'Enrico makes himself sing.'
 b. *Enrico lo fa cantare.*
 Enrico him makes sing
 'Enrico makes him sing.'
 c. *Enrico fa cantare se stesso.*
 Enrico makes sing himself
 'Enrico makes himself sing.'

At first sight, the ungrammaticality of (47a) is unexpected. After all, we might propose that *si* reflexivizes the complex predicate by identifying the external position of the embedded verb with the external position of the causative verb. However, at a deeper reflection the trouble might just consist in the fact that the embedded verb has been drawn from the lexicon as reflexively marked, that is, as devoid of the external theta-role, which has been equated to the internal one. In other words, (47a) necessarily presupposes the reflexivization of an intransitive verb, which is of course impossible. The specular effect of what is involved in (47a) can be found in the ungrammatical (48a), with the structure indicated in (48b) and the interpretation (48c). Notice that (48a) is in sharp contrast with the grammatical (49a), to be examined below.³²

- (48) a. **Enrico non ha mai fatto insultarsi in quel modo.*
 Enrico not has ever made insult-*si* in that way
 b. *Enrico non ha mai fatto* [_{pro_i} *insultarsi* _{t_i} *in quel modo*]
 c. Enrico never made people to insult each other in that way.
 (49) a. *Enrico non ha mai visto insultarsi in quel modo.*
 Enrico not has ever seen insult-*si* in that way
 b. *Enrico non ha mai visto* [_{pro_i} *insultarsi* _{t_i} *in quel modo*]
 c. Enrico has never seen people to insult each other in that way

32. It should be noticed that the French counterpart of (48a) is fully grammatical. This fact is not a problem for our analysis, since Guasti (1993) convincingly shows that the comparative variation as to the possibility for the reflexive clitic to be realized on the embedded verb depends on the different categorial status of the sentential complement of causatives (VP in Italian and a projection containing functional layers in French). This categorial difference correlates with the fact that the French counterpart of (48a) does not involve incorporation of the embedded verb into the causative (for a discussion of the relevant evidence, see Guasti 1993: 65). In other words, there is no complex predicate formation in French (hence no reflexivization process involving the subject of the causative verb).

The trouble about (48a) is that the incorporation process is compulsory with Italian causatives. This entails that the reflexive interpretation of the embedded predicate necessarily should extend to the complex predicate. In other words, the complex predicate in (48a) is reflexively marked without receiving a reflexive interpretation: the subject of the causative is referentially distinct from the internal argument of the embedded verb.

2.3.3. *ECM constructions.* The last case to be considered here is ECM constructions involving perception verbs. In Romance, reflexive/reciprocal *se/si* optionally climbs to the matrix predicate. Even here, we adopt the analysis put forward in Guasti (1993), according to which there are two possible complements of perception verbs, AGRsP and VP. The two cases are exemplified in (50) below for Italian:

- (50) a. **L'ho sentita* [AGRsP *Enrico cantare*]
 it I-have heard Enrico sing-inf
 'I heard Enrico sing it.'
- b. *L'ho sentita* [VP *cantare da Enrico*]
 I it have heard sing-inf by Enrico
 'I heard Enrico sing it.'

Clitic climbing applies only with VP-complements and constitutes a diagnostic for incorporation of the embedded verb into the perception verb. Extending this analysis to the cases involving reflexive clitic morphology, we conclude that the structures where the reflexive clitic is realized on the embedded predicate are structures where no incorporation takes place. If *si* encodes reduction, as we have proposed across the second section of this paper, the two argument positions to be identified will be thus the argument positions of the embedded verb. This is exactly what we find when we consider the interpretation of the relevant structures, as shown in (51) ((51b) is the structure with generic *pro* in object position).

- (51) a. *Non ho mai visto* [*Enrico_i criticarsi t_i in quel modo*]
 not I-have ever seen Enrico criticize-si in that way
 'I've never seen Enrico criticize himself in that way'
- b. *Non ho mai visto* [*pro_i criticarsi t_i in quel modo*]
 not I-have ever seen criticize-si in that way
 'I've never seen people criticize each other in that way'

Similarly, we can argue that realizing the reflexive clitic on the higher predicate means that the structure (50b) has been used (that is, verb incorporation has taken place). If this is the case, the subject of the embedded verb will be turned into an adjunct and the two argument positions to be identified for the sake of reflexivization will correspond with the subject of the perception verb and the object of the embedded verb. This is exactly what we find in one of the two possible interpretations of the relevant structure, as indicated in (52).

- (52) *Enrico_i si è visto criticare t_i*
 Enrico *si-is* seen criticize-inf
 'Enrico saw somebody criticize him (= Enrico).'

However, there is another (perhaps less salient) interpretation, which can be linked to the structure in (53).

- (53) *Enrico_i si è visto [t_i criticare pro]*
 Enrico *si-is* seen criticize-inf
 'Enrico saw himself criticize somebody.'

At first sight, this represents a problem for our analysis, since we have repeatedly seen that the subject position of the embedded predicate is irrelevant for the reflexivization of the complex predicate. However, the point is that there is no complex predicate formation in (53). This is a structure where the object of the embedded verb is generic *pro* and the subject of the AGRsP complement raises to the subject position of the perception verb. The peculiarity of perception verbs is that they give rise to ECM-structures: the perception verb can assign (or check) accusative case across the AGRsP boundary (*Ho visto Enrico cantare* 'I saw Enrico sing'). The presence of a AGRsP-complement entails that verb incorporation cannot apply, in accordance with the assumption above. In other words, the reflexive clitic on the higher verb cannot encode reflexivization of the complex predicate. What is encoded, then? Well, consider that exceptional case marking creates in fact a syntactic dependency between two positions that were originally thematically unrelated. We propose that this syntactic dependency (establishing a link between two distinct thematic domains) permits the creation of a predicate "X saw Y", which is accessible to reflexivization: the reflexive clitic realized on the perception verb identifies the external role of the higher predicate with the external role of the embedded predicate, corresponding to the exceptional case position: λx (x saw x criticize *pro*). This kind of predicate formation is correctly excluded for restructuring and causative predicates: apart from other relevant differences, these verbs simply do not have ECM properties.³³

33. The existence of a predicate X saw Y in ECM constructions is confirmed by Rizzi (1990). He

We conclude that the analysis of perception verb structure supports the proposed analysis of reflexive clitics as inflectional affixes that encode the semantic operation of *reduction*.

3. Conclusion

In this contribution, we have proposed an account of the delay in the acquisition of Principle B (DPBE) that is based on Reinhart and Reuland's 1993 insight that Principle B constrains the licensing of reflexive predicates. We have actually revised and extended this insight by proposing that the requirement on reflexive marking is better understood as a general prohibition on extra-lexical interpretive procedures that turn *relations* into *properties*. In this way, Principle B is viewed as a condition that holds cross-modularly and affects interpretation within the information structure/discourse component. On one side, this confirms the centrality of set-theoretical computations and constraints on these computations within the language design (see especially Delfitto 2003b). On the other side, as we have seen, the consequences for the analysis of the relation between binding and coreference are far from trivial.

The absence of DPBE effects with Romance clitics has been explained by analyzing clitic constructions as involving empty NP-movement (Sportiche 1992), and by relating (this kind of) NP-movement to λ -abstraction (Delfitto 2002b). This boils down to proposing that clitics simply mark the unsaturated positions of a predicate, and are therefore incompatible with procedures based

argues that there is an important interpretative difference between the ECM construction (ia) and its finite counterpart (ib).

- (i) a. *Ho visto [Gianni lavare la macchina].*
'I saw [Gianni wash the car].'
b. *Ho visto [che Gianni ha lavato la macchina].*
'I saw [that Gianni washed the car].'

Unlike (ib), (ia) implies "direct perception", in the sense that it would be false if the subject of the root clause didn't actually see Gianni involved in a car-washing event. There is no such implication in (ib), since (ib) could be true if the subject of the root clause didn't see Gianni at all, but realized that he washed the car in an indirect way, for instance, as an inference from the fact that the floor of his garage is wet. Stated differently, we could say that in ECM constructions X saw [Y wash his car] implies X saw Y. Rizzi accounts for this property of ECM constructions by arguing that the internal argument role assigned by the perception verb (theme) is simultaneously fulfilled by both the complement IP and its subject (as a consequence of the perception verbs ability to govern both the IP and the embedded subject, and the agreement relation that exists between the embedded subject and the embedded INFL). These considerations are clearly fully compatible with the familiar hypothesis that the infinitival complement of perception verbs expresses an event and not a proposition (cf. Delfitto 2003a).

on pronominal coreference. The absence of DPBE effects follows from the fact that the coreference construal cannot be available for Romance children using clitic constructions.

In the second part of this paper, we have proposed that Romance reflexive clitics have a non-argument status and are in fact used to signal an operation of reflexivization (to be interpreted in terms of theta-role reduction, as in Reinhart 1996). In particular, we have concentrated on complex predicate constructions, where interpreting reflexive clitics as “reflexivizers” gives rise to a number of non-trivial issues. It is our claim that the syntax and semantics of these constructions provide important evidence in favor of the relevance of the notions of “reflexive predicate” and “reflexive-marking” for a proper understanding of reference and anaphora in natural language.

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