

# ON THE NON-EXISTENCE OF DISJOINT REFERENCE PRINCIPLES

Luigi Burzio

The Johns Hopkins University - Baltimore

## 0. Introduction<sup>1</sup>

In this discussion, I will attempt to show that the familiar statements in (1) are not independent principles of the binding theory (BT), but merely empirical generalizations.

- |                   |             |                      |
|-------------------|-------------|----------------------|
| (1) A. an anaphor | must be     | <i>locally bound</i> |
| B. a pronoun      | must not be | <i>locally bound</i> |
| C. an R-expr.     | must not be | bound                |

I will claim that, to the extent that they are empirically correct, A, B, C of (1) derive from the single principle in (2).

## 2. Morphological Economy (ME)

A bound NP must be maximally underspecified

The intended effect of (2) is that of forcing selection of the highest possible element in the hierarchy in (3).

- (3) a. anaphor  
b. pronoun  
c. R-expression

This hierarchy holds wrt the notion of underspecification of (2), because we take anaphors to be underlyingly featureless, and hence less specified than pronouns, which in turn are less specified than R-expressions. Here I will not justify in detail the notion that anaphors are underlyingly featureless. In part this notion relates to the fact noted below that in many languages reflexives are invariant<sup>2</sup>.

The principle in (2), in conjunction with (3), will have the proper empirical effects, once we further add the postulate in (4), in which we understand the notion "local" in the same way as "locally" of (1).

(4) An antecedent-anaphor relation must be local

On the view that anaphors are underlyingly featureless, the locality of (4) can be regarded as a property of feature transmission, or of agreement mechanisms in general<sup>5</sup>. Note that this approach can provide a natural account of the well-known fact that, in contrast to pronouns, anaphors do not take "split" antecedents. The reason is that agreement mechanisms function in general only between two positions. Consider now how the typical effects of A, B, C, illustrated in (5), will follow from (2), (3), (4).

- (5) a. John<sub>i</sub> thought that [\*c John<sub>i</sub> / he<sub>i</sub> / \*<sub>A</sub> himself, should leave<sub>i</sub>]  
b. John<sub>i</sub> saw \*c John<sub>i</sub> / \*<sub>B</sub> him<sub>i</sub> / himself<sub>i</sub>

In (5a), *John* violates (2) since the pronoun is available, and *himself* violates (4) since locality does not obtain. In (5b) both *John* and *him* violate (2) since locality obtains and the reflexive is thus possible.

Presuming adequate justification for (3) and (4), the principle in (2) will have clear conceptual advantages over (1), which merely states, but does not explain, the syntactic characteristics of each of the three classes of NPs. Here, I will, however, concentrate on empirical differences. I will present three sets of facts, each leading to the conclusion that principles B and C do not exist as independent principles.

### 1.1 Locally-bound Pronouns

The first set of facts concerns the well attested existence of both locally bound pronouns and bound R-expressions, contrary to B and C, respectively. I begin by considering that, if one surveys the typology of reflexives cross-linguistically, one finds three major cases. One is the case of reflexives which are inflected, in the sense that they agree (in person, gender and number) with their antecedent, like English (object) reflexives. The other is the case of reflexives which are not inflected in the above sense, such as Russian *sebjä*. The third is the case of languages that have no reflexives, like Old English and West Flemish. This third case is actually instantiated by many more languages, if one considers specific subseries. Thus, many Italian dialects, e.g. Piedmontese, lack stressed (i.e. non-clitic) reflexives, and many languages, including modern English and the Romance languages, lack possessive reflexives.

Invariant reflexives (the second case) are subject to what we will call "Proper Antecedent Constraints" (PAC). One of these, holding quite generally, is that the antecedent be a subject. This is illustrated by (6).

- (6) (\*object) *Russian* (Timberlake (1979))
- a. On<sub>i</sub> už<sub>e</sub> rasskazal mne o sebe<sub>i</sub> vse,...  
 he already tell me about self all  
 "He<sub>i</sub> had already told me everything about himself<sub>i</sub>.."
- b. \*...ja... stal rassprašivat' xudožnika<sub>i</sub> o samom sebe  
 I start question artist about emph. self  
 "...I... began to question the artist<sub>i</sub> about himself<sub>i</sub>;"

A further constraint, holding for example in the Romance languages, is that the antecedent be other than first or second person, thus, either third, or impersonal. This is illustrated in (7).

- (7) (\*1st, 2nd) *Italian*
- a. Lui<sub>i</sub> si<sub>i</sub> vede  
 he self sees  
 "He sees himself"
- b. \*Io<sub>i</sub> si<sub>i</sub> vedo  
 I self see

A constraint additional to that of (7), is instantiated by Danish possessives, which exclude also third person plural antecedents, as in (8).

- (8) (\*3rd pl.) *Danish* (Pica (1984))
- a. Jørgen<sub>i</sub> elsker sin<sub>i</sub> kone  
 Jørgen loves self's wife
- b. \*De<sub>i</sub> elsker sine<sub>i</sub> koner  
 they love self's wives

Yet another case, that of French stressed object *soi*, excludes all "personal" antecedents, thus third person as well, being limited to impersonal ones, as shown in (9).

- (9) (\*3rd) *French*
- a. On<sub>i</sub> n'aime que soi<sub>i</sub>  
 one loves only self
- b. \*Jean<sub>i</sub> n'aime que soi<sub>i</sub>  
 Jean loves only self

The overall configuration of data can be tabulated as in (10), in which we see that English reflexives have no PAC, and in which, for the sake of exposition, we give non-existent reflexives as reflexives that are impossible with all antecedents.

The underscored asterisks in (10) are the ones that correspond to examples (6)-(9). Although we will not attempt to characterize the subject antecedent constraint, we note that the range of variation within category II can be

(10)	antecedent:	obj.	1st 2nd	3rd pl	3rd sg	imp.
<b>I. INFLECTED REFLEXIVES</b>						
English and others: objects						
<b>II. INVARIANT REFLEXIVES</b>						
a. Russian, Indoeuropean: objects						
		*				
b. Romance (=most of Western Indoeuropean): objects						
		*	*			
c. Danish: possessives						
		*	*	*		
d. French: stressed object <i>soi</i>						
		*	*	*	*	
<b>III. NO REFLEXIVES</b>						
West Flemish, Old English: objects						
		*	*	*	*	*
Piedmont, and others: stressed series						
Mod. English and others: possessives						

naturally understood as a set of different options for antecedent-reflexive agreement. Since the reflexive is invariant, it will not generally match its antecedent in features. We will then say that it only "pseudo-agrees" with it. Thus, (10,II) will reflect different parametric choices of pseudo-agreement. We regard the choice as being increasingly "costly" going from right to left in (10), that is, as the feature content of the antecedent becomes more "marked", in some relevant sense in which first and second person are more marked than third, and third plural is more marked than singular<sup>4</sup>. That the rightmost column is the least costly for pseudo-agreement is clear from the fact that impersonals are generally featureless, just like reflexives, so that actual

agreement, rather than pseudo-agreement is possible in this case. While we refer to Burzio (1989c) for a more adequate discussion, here we can establish this isomorphism of reflexives and impersonals summarily, by noting that reflexives and impersonals, or "arbitrariness", are often the same element, witness impersonal/reflexive *si* of Italian and other Romance counterparts, controlled/arbitrary "PRO", and the analogous duplicity of Italian possessive *proprio* (Giorgi (1984)), and of Russian possessives (Rappaport (1986))<sup>5</sup>. Subject orientation and the cost of pseudo-agreement are thus the factors behind the unavailability of reflexives in II., and - we may presume - III. of (10)<sup>6</sup>.

Note now that a locally bound pronoun is possible whenever the reflexive is not, i.e. for each of the asterisks in (10).

This is shown in (11)<sup>7</sup>.

- (11) a. (object) *Russian* (Timberlake (1979))  
 ...ja... stal rassprašivat' xudožnika; o nem; samom  
 I start question artist about him emph.  
 "...I...began to question the artist; about himself;"
- b. (1st, 2nd) *Italian*  
 Io; mi; vedo  
 I me see  
 "I; see myself;"
- c. (3rd pl.) *Danish* (Pica (1984))  
 De; elsker deres; koner  
 they love their wives
- d. (3rd) *French* (Zribi-Hertz (1980))  
 Jean; n'aime que lui;  
 Jean only loves him  
 "Jean; only loves himself;"
- e. (any antecedent) *West Flemish* (Everaert (1986))  
 Hij; verweet hem;  
 he defends him  
 "He; defends himself;"

This distribution follows from (2) above without further comment, given either the appropriate PAC or the lack of reflexives. The reason is that (2) allows use of a lower element on the hierarchy in (3) whenever the next higher one defaults, for whatever reason.

Under (1), matters will be different. The first question that arises is whether the locally bound elements of (11) could be analyzed as anaphors. The answer to this is no. The reason is that the same feature analysis that yields the hierarchy in (3) will serve as a diagnostic to distinguish pronouns from anaphors. Although we will not illustrate this point here, the diagnostic reveals, as argued in Burzio (1989c), that the elements in (11) are indeed pronouns<sup>8</sup>. It is then clear that, in order to achieve empirical adequacy, the BT in (1) must be modified for each of the configurations of data in (10).

Let us consider principle A. The underscored portion in (1A) will have to be allowed to range over the spectrum in (12), each case thus accounting for its counterpart in (10). To simplify exposition, we will neglect III. of (10)<sup>9</sup>.

- (12) I.        locally bound
- II. a.    locally subject-bound
- b.    locally 3rd-person/impersonal-subject bound
- c.    locally 3rd-person/impersonal-singular-subject bound
- d.    locally impersonal-subject bound

One may now argue that (12) is minimally required, since any theory will need to have different versions of the principle for anaphors to account for the range of variation. If one then simply regarded the two underscored portions in (1A,B) as one and the same, each version of (12) would automatically go into principle B as well, and this would directly yield the desired complementarity of reflexives and pronouns, in each case<sup>10</sup>. However, this account would contain a fundamental error. The reason is that the different facts of (10) correlate with the morphology of the reflexives, not that of the pronouns. Thus, the presence of PAC is an exclusive characteristic of invariant reflexives. The latter constraints must be regarded as part of the BT, in so far as the binding principles must be able to differentiate between inflected and invariant reflexives, but they cannot in any reasonable sense be understood as part of a principle for pronouns. For the pronominal systems of I.-III. in (10) bear no relevant morphological distinction<sup>11</sup>.

The persistent complementarity of pronouns and reflexives over the configurations of (10), will therefore drive us to the conclusion that principle B of (1) does not exist, pronouns being simply the "residue", or the elsewhere case. This conclusion was to my knowledge first reached in Pica (1984), on the basis of essentially the same type of argument (see Appendix 1).

Before we turn to an analogous argument concerning principle C, we note some cases that are superficially problematic for (2) above. These are cases in which, instead of the usual complementarity, pronouns and anaphors exhibit overlapping distributions. We note in particular the cases in (13)-(15) (see also Appendix 3, 6).

(13) Chinese/Japanese subjects of S/NP

*Chinese* (Huang (1983))

- a. Zhangsan<sub>i</sub> shuo ziji<sub>i</sub>/ ta<sub>i</sub> hui lai  
"Zhangsan<sub>i</sub> said that self<sub>i</sub>/he<sub>i</sub> will come"
- b. Zhangsan<sub>i</sub> kanjian-le ziji<sub>i</sub>/ta<sub>i</sub> de shu  
"Zhangsan<sub>i</sub> saw self's<sub>i</sub>/his<sub>i</sub> books"

(14) Long Distance Anaphora<sup>12</sup>

*Icelandic* (Anderson (1986))

Jón<sub>i</sub> segir að María elski sig<sub>i</sub> / hann<sub>i</sub>  
Jón says that María loves self/him

(15) Object antecedents to Icelandic *sig*

*Icelandic* (Anderson (1986))

Ég sendi Haraldi<sub>i</sub> föt á sig<sub>i</sub>/hann<sub>i</sub>  
I send Harald clothes for self/him

It is obvious that all of these facts can be accounted for by a system like (1), at least in a descriptive sense. Thus, for example, (15) can be captured by building the subject antecedent qualification (of (12II. a)) only in B ("a pronoun must not be locally *subject* bound") and not in A. In contrast, (2) would seem to yield complementarity by necessity, and exclude overlaps. Yet there is a very natural way to account for (13)-(15) under (2) as well. This consists of appealing to the notion of "cost". Beginning with (15), we suppose that *sig* can take an object antecedent only as a costly option, as is congruous with the fact that this behavior is exceptional for invariant reflexives (witness (10II.)). The pronoun will follow if we suppose that the cost of violating (2), i.e. "morphological economy" is comparable. The other two cases will be rather similar. Thus, in Burzio (1989a,b) I argue that (contrary to existing proposals) long distance anaphora is not immune to the usual locality conditions, only more weakly sensitive to it. If so, then, in (14) the reflexive is costly because it violates locality (SSC), hence non exclusion of the pronoun. In the same work I claim that the effect in (13a) is roughly an NIC type effect, only weaker for languages that do not have verb agreement, like Chinese and Japanese<sup>13</sup>. The effect carries over to the NPs in (13b) because they are exactly parallel to the Ss of (13a): their subject is Case marked by the head of the complement, which does not agree with it. The foregoing is not intended as a full-fledged analysis, but only as an indication of how (2) above can in principle account for distributional overlaps (see Burzio (1989a,b) for more extensive discussion).

## 1.2 Bound R-expressions

We now turn to principle C, considering the bound R-expression of (16).

- (16) Japanese (Kuno (1988))  
Hanako<sub>i</sub> ga Makiko ni Hanako<sub>i</sub> no  
Hanako nom. Makiko dat. Hanako gen.  
atarasii kateikyoosi o syookaisite kureta  
new tutor acc. introducing gave  
"Hanako<sub>i</sub> introduced Hanako<sub>i</sub>'s new tutor to Makiko"

According to Kuno (1988), occurrence of a bound R-expression as in (16) is related to the fact that "Japanese lacks authentic personal pronouns" (ch. 2, p. 32). From our point of view, we may translate Kuno's observation into the notion that use of pronouns in Japanese is "costly", in a way that will offset a violation of the ME principle in (2), just like use of the reflexive in any of (13)-(15). Note that a bound pronoun (*kanozyo* "she") is also possible in (16), thus yielding an overlap parallel to those of (13)-(15)<sup>14</sup>.

Can these facts be accounted for under (1)? It is obvious that empirical adequacy can be achieved by building the factual generalizations into the principles. Thus, we could say that, for Japanese, principle C is optional. But, again, this would be a mistake conceptually. For it is not R-expressions which are peculiar in Japanese, but rather pronouns, as Kuno states.

We must now note that, as Kuno (1988) points out, in contrast to (16), R-expressions can never be bound by pronouns, as (17) shows<sup>15</sup>.

- (17) Japanese (Kuno (1988))  
\*Kanozyo<sub>i</sub> Makiko ni Hanako<sub>i</sub> no  
she nom. Makiko dat. Hanako gen.  
atarasii kateikyoosi o syookaisite kureta  
new tutor acc. introducing gave  
"She<sub>i</sub> introduced Hanako<sub>i</sub>'s new tutor to Makiko"

From the point of view of (1), the question is why should principle C be relaxed in (16), but not in (17). As for our approach, it could perhaps face a similar question, in which case (17) will be neutral wrt our main point. However, (17) seems to have a rather natural solution within our proposed system. Unlike (16), which trades morphological economy for the sake of avoiding the pronoun, (17) both violates morphological economy, and incurs the cost associated with the pronoun, whence its ungrammaticality<sup>16</sup>.

To conclude this section, our first argument is therefore that principle B



does not exist because the distribution of pronouns depends on factors which, while idiosyncratic and complex, must be construed as properties of the reflexives, not of the pronoun. Correspondingly, principle C does not exist, because the distribution of R-expressions depends on peculiarities of the pronouns.

## 2. Binding at Different Levels

Our second argument concerns the application of the (presumed) principles of the BT at different levels of representation. Belletti and Rizzi (1988) (henceforth "BR") note that a certain asymmetry must be postulated between principle A and the other two principles. Specifically, only principle A seems to be free to apply either before or after movement rules. Thus consider (18a,b) (from BR).

(18) a.  $\overbrace{\text{They}_i \text{ seem to each other}_i} \left[ t \text{ to be intelligent} \right]$

b.  $\left[ \text{Which pictures of himself}_i \right] \text{ do you think that Bill}_i \text{ likes } t \text{ best?}$

In (18a), the anaphor *each other* is C-commanded by its antecedent *they* only after the diagrammed movement has occurred. In (18b), on the other hand, the anaphor *himself* is C-commanded by its antecedent only *before* the movement. While BR assume that the two different levels involved in (18a,b) are S- and D-structure respectively, I will assume following a somewhat different tradition that, while the anaphor of (18a) is properly bound at S-structure, the one of (18b) is properly bound at LF; after reconstruction of the moved phrase into the trace position. Justification for this difference, inconsequential for BR's analysis of psychological verbs, will be somewhat implicit in what follows<sup>17</sup>. As BR note, the phenomenon of (18b) extends to cases that involve NP-, rather than Wh-movement, such as those in (19).

(19) a.  $\left[ \text{I propri}_i \text{ genitori} \right] \text{ gli}_i \text{ sembrano } \left[ t \text{ i pi\`u simpatici} \right]$

his own parents to-him seem the nicest

"His own parents seem to him the nicest ones"

b.  $\left[ \text{Queste spiacevoli voci su di s\`e}_i \right] \text{ gli}_i \text{ sono state fatte commentare } t$   
nel corso della conferenza stampa

these unpleasant rumors about himself him have been made to  
discuss during the press conference

"He was asked to discuss these unpleasant rumors about himself during the press conference"

In (19a) the anaphor is the possessive adjective *proprio*, contained in the "raised" phrase. In (19b), the anaphor is *sé*, contained in a phrase that has been moved from embedded object position under passivization of the whole "causative" construction. Its antecedent is the subject of the infinitival, which surfaces as dative *gli* (see BR and references for details).

In light of these facts one would thus have to conclude that principle A may apply either before or after reconstruction.

As BR note, the other two principles seem to have a rather different mode of application. Thus, in (20), principle C seems to be *required* before reconstruction (i.e. at S-structure), in contrast with the above optionality of A.

(20) (C before rec.)

He<sub>i</sub> seems to { \*Bill<sub>i</sub>'s } sister [t to be the best]  
                   { his<sub>i</sub> } }

Furthermore, application *after* reconstruction seems to be required as well, as shown by (21) (adapted from BR, like (20)).

(21) (C after rec.)

a. Mary, [ { \*John<sub>i</sub>'s } picture of whom] he<sub>i</sub> likes t  
                   { his<sub>i</sub> } }

b. [Which pictures of { ??John<sub>i</sub> } ] did he<sub>i</sub> like t?  
                                   { him<sub>i</sub> } }

Note, however, that (22) may seem to call the latter conclusion into question.

(22) [Which picture that John<sub>i</sub> saw] did he<sub>i</sub> like t?

We will preserve the idea that C must apply after reconstruction, and take the difference between (21a) and (22), as well as that between (21a) and (21b), to indicate that the reconstruction process is "shallow", in the sense that an element may fail to be reconstructed to an extent proportional to its depth of embedding into the moved phrase. Note that the only alternative to this would be to postulate that the principles giving disjoint reference in (20) (before rec.) are different from the ones at work in (21) (after rec.). This would be analogous to the system of Kuno (1988), where two different rules of disjoint reference are postulated, one cyclic (=our application after rec.), the other post-cyclic

(=our application before rec.), in contrast to only one (cyclic) principle of coreference. Whichever account one chooses, what is clear from the facts is that there is a difference between coreference and disjoint reference principles, with single application of the former, at either level, versus multiple applications of the latter, at both levels. We will, however, assume the former account, and conclude that (the same) principle C applies both before and after reconstruction.

Principle B appears to have the same property. Thus, (23) shows that application after reconstruction is necessary.

(23) (B after rec.)

About  $\left\{ \begin{array}{l} *him_i \\ himself_j \end{array} \right\}$ , John<sub>i</sub> never talks *t*

As noted in Kuno (1988), the fronted position in (23) is relevant to the BT, given cases like (24), suggesting C before reconstruction.

(24) (C before rec.)

Him,  $\left\{ \begin{array}{l} *John_i's \\ his_i \end{array} \right\}$  mother hates *t*

To the extent that it is testable, B seems to be required before reconstruction as well, thus just like C. In this connection, we consider the Italian causative construction in (25a), contrasting with (25b).

(25) a. (B before rec.)

Gianni<sub>i</sub> ha fatto accusare  $\left\{ \begin{array}{l} *lui_i \\ se-stesso_i \end{array} \right\}$  a Maria

Gianni made accuse  $\left\{ \begin{array}{l} *him \\ himself \end{array} \right\}$  to Maria

"Gianni<sub>i</sub> made Maria accuse him<sub>i</sub>"

b. Gianni<sub>i</sub> ha sentito Maria accusare lui<sub>i</sub>  
 "Gianni heard Maria accuse him"

Following Kayne (1975), in Burzio (1986) I have argued that, at D-structure, (25a) is analogous to (25b). The same will be true after reconstruction. Principle B can then only yield the facts of (25a) if it applies before reconstruction.

Why should then be the case that A applies either before or after reconstruction, while B and C *must* apply at both levels? If these are all

independent principles, we have a rather curious divergence. On the other hand, if they are merely different reflexes of one principle, such as the principle of morphological economy, the facts follow immediately. For, under the latter view, the effects of B and C are simply what is left, or the residue of A, where A is itself an effect of morphological economy. Thus consider the observed distribution of A, as stated in (26).

(26) A before or A after

Now consider its "residue", i.e. its negation, as in (27 a), equivalent to (27b).

- (27) a. not [A before or A after]  
b. not-A before and not-A after

But if the conjunction of B, C is merely the residue of A, i.e. "not-A", then (27b) equals (28).

(28) B, C before and B, C after

And of course (28) is precisely what we observed. Our view is then that there is a single principle of ME, imposing anaphor under local binding, and pronoun under non local binding. Since reconstruction is available, ME will (obligatorily) take advantage of it. Thus, fulfilment of ME may obtain either before or after reconstruction, as in (18), (19), the grammatical variants of (20), (21), (23), (24), (25). For the same reason, violations of ME are ruled out at both levels, as in the ungrammatical variants of (20), (21), (23), (24), (25).

### 3. Implicit Arguments

Our last point concerns the fact that "implicit" arguments are not amenable to reflexive interpretation. Rizzi (1986) argues that, in contrast to its Italian counterpart, the unexpressed object of (29a) is truly implicit, i.e. not syntactically represented, since it cannot function as an antecedent, as in (29b).

- (29) a. This leads \_\_\_ to the following conclusion  
b. \*This leads \_\_\_<sub>i</sub> [PRO<sub>i</sub> to conclude what follows]

However, Bouchard (1987) notes further that, curiously, the same type of argument seems to be "active" wrt principle B, since coreferential interpretation is not possible in cases like (30a), otherwise grammatical as in (30b).

- (30) a. \*[PRO<sub>i</sub> to caution \_\_\_<sub>i</sub> against avalanches] is a safe practice in this area  
 b. This sign cautions \_\_\_ against avalanches

Once again, we would seem to have an unexplained difference between coreference principles, which fail as in (29b), and disjoint reference principles, that succeed as in (30a). The effect of (30a) seems to be quite general for implicit arguments, as shown by (31).

- (31) a. *Italian* (Burzio (1986))  
 Gli studenti fanno \_\_\_ lavorare molto  
 the students make work much  
 "The students<sub>i</sub> make one/ \*the students<sub>i</sub> work a lot"  
 b. (Williams (1985))  
 Mary promised \_\_\_ to eat less  
 "Mary<sub>i</sub> promised someone/ \*Mary<sub>i</sub> ..."  
 c. (Baker, Johnson and Roberts (1987))<sup>18</sup>  
 John was shaved  
 "John<sub>i</sub> was shaved by someone/ \*by John<sub>i</sub>"

The effect of (29b) is also quite general, so far as is testable, as shown in (32)<sup>19</sup>.

- (32) a. *Italian*  
 \*Questa cura dimagrante farà \_\_\_<sub>i</sub> ammirare se stessi<sub>i</sub>  
 this diet will make (one) admire oneself  
 b. \*Confessors are told about oneself

If coreference and disjoint reference are due to independent principles as in (1), there will be two possibilities, both puzzling. One is that, as mentioned above, there is once again an unexplained asymmetry between A and B. The other is that the disjoint reference of (30a), (31) is unrelated to the more standard one of (33).

- (33) \*John<sub>i</sub> sees him<sub>i</sub>

However, if disjoint reference is simply failure to establish coreference as we are presuming, then the facts follow. While in (33) coreference fails to be established, because of (2), which would require the use of the reflexive, in (30a) it fails to be established because there is no argument - the same reason excluding (29b), (32)<sup>20</sup>.

#### 4. Conclusion

We have argued that the "disjoint reference" effect for pronouns is always exactly coextensive with the availability of anaphors, and have considered in particular the cases in (34).

- (34) a. Cases in which anaphors are constrained by the type of antecedent.
- b. Cases in which interpretation may occur at different levels of representation.
- c. Cases of syntactically unexpressed arguments

We have analogously argued that the "disjoint reference" effect for R-expressions is always coextensive with the availability of either anaphors or pronouns. In this connection we have considered cases in which pronouns are subject to language-specific restrictions, and the cases in (34b).

This state of affairs follows automatically if at the core of the binding theory is a principle that ranks anaphors, pronouns, and R-expressions on a hierarchy of preference in that order, but remains unexplained if each category is subject to an independent principle.

## APPENDIX

### 1. Relation to Other Proposals

The system in (3) bears some resemblance to other proposals, in particular one of Reinhart (1986). It differs in that we define binding in the standard sense, as coindexation with a C-commanding antecedent, whereas Reinhart associates binding uniquely with bound variable interpretation. Thus, the ambiguity of (i) as in (ii) derives in Reinhart's system from the option of interpreting *his* as either bound or not, despite the fact that coreference and C-command obtain unambiguously.

- (i) Only John<sub>i</sub> read his<sub>i</sub> book
- (ii) a. No one else<sub>j</sub> read his<sub>j</sub> book (bound)
- b. No one else read John's book (not bound)

Reinhart's system is designed to account for the fact that - in general - anaphors, which we know must be bound, only allow the bound variable reading. The price for obtaining this result is that disjoint reference of pronouns and R-expressions can now no longer be due to binding. Hence, Reinhart attributes it to a "pragmatic" principle, whose intended effect is that of imposing the same hierarchy of preference as in our (3). In connection with Reinhart's system I would like to make three points. The first is that the (three) arguments of the main text support the hierarchy in (3) over the standard view regardless of what principles underlie the hierarchy, and are thus neutral between my "Morphological Economy" and Reinhart's pragmatic principle. The second point is that I find it less than clear how Reinhart's principle, stated in (iii), would work.

- (iii) "When a syntactic structure you are using allows bound-anaphora interpretation, then use it if you intend your expressions to corefer, unless you have some reasons to avoid bound anaphora (p. 143)"

For consider (i), which is not a case of binding if interpreted as in (iib). This must be because the "unless" clause of (iii) has been invoked. But then, the free availability of the "unless" clause will make the principle in (iii) vacuous. Thus, (iv a,b) ought to be grammatical under the (non-vbl) reading parallel to (iib).

- (iv) a. \*Only John<sub>i</sub> saw him<sub>i</sub>
- b. \*Only he<sub>j</sub> thought that John<sub>i</sub> would win

Note that a similar problem may seem to arise within my approach. For if the intended interpretation of, e.g., (iv a) is the non-variable one, then the anaphor ought not to be available, and the pronoun ought to be allowed by default. The problem is overcome by supposing as in the main text that the choice among the members of (3) is determined only by coreference (more precisely binding), and not by further aspects of the interpretation, which must be seen as incidental. This provision is not available to Reinhart's system.

The third comment is that I believe that the principles controlling bound-variable interpretation are different from what Reinhart and indeed most researchers suppose, and separate anaphors from pronouns only partially and somewhat fortuitously. Thus consider (vi a,b), and their respective non variable interpretation in (vii a,b).

- (vi) a. Only I recognized myself in the picture
- b. Only John opened his eyes
- (vii) a. ?No one else recognized me in the picture
- b. \*No one else opened John's eyes

At least for me, (viia) is marginally possible, despite the reflexive, while (viib) is quite impossible despite the pronoun. What I take (viib) to indicate is that the "non-variable" side of the ambiguity obtains only if it is semantically congruous with the other side, thus not in (vib), where the semantics of opening someone (else)'s eyes is sharply distinct from that of opening one's own. I think the reason for the general asymmetry between reflexives and pronouns is that in general reflexives involve local coreference, which tends to have distinctive semantics. Thus, I find it plausible to suppose that in "Only John likes himself", the non-variable interpretation is not favored because to like someone else is semantically distinct from liking oneself. Non local binding relations on the other hand do not give rise to "distinctive" semantics because of the lesser compositional role that a more deeply embedded element will play. This predicts that long distance reflexives should allow the non-variable reading, despite the fact that they are still required to be bound. So far as I know, this is true.

My proposal is also similar to that of Pica (1984), who argues against principle B in favor of an "Avoid Pronoun" principle. The system in (2), (3) in fact subsumes Pica's "Avoid Pronoun", generalizing it to "Avoid R-expression" as well. I believe that cases that have traditionally been taken to support the independent existence of an "Avoid Pronoun" principle, such as the obviation effect in (viii), can also be accounted for under (3).

- (viii) Gianni; vuole che lui\*, parta  
Gianni wants that he leave



(viii) will be excluded under (3), provided that one assumes that the PRO of (ix) is an anaphor (as in Borer (1988)) and that infinitives and subjunctives function as non-distinct wrt (3).

(ix) Gianni<sub>i</sub> vuole PRO<sub>i</sub> partire  
Gianni wants to leave

For relevant facts and discussion, see Farkas (1988), Sells (1988), as well as Calabrese (1989), who makes the important observation that in languages in which the option in (ix) is not available the effect in (viii) does not obtain, as the above suggestion predicts.

## 2. On English Reflexives

Superficially, English reflexives do not bear out the "featureless" characterization of anaphors, based on the invariance of reflexives in other languages, since they are overtly inflected. As such, they challenge the principle of Morphological Economy. While I am aware of this obvious difficulty, in the main text I have pursued the intuition that the featureless character of reflexives in many languages cannot be incidental to their anaphoric character. Note that if it is challenged by English reflexives, the principle of Morphological Economy is in any event supported by the other complementarity between pronouns and R-expressions.

I foresee two possibilities to deal with English reflexives from the proposed perspective. One is to say that in *himself* what counts for morphological economy is the argument, presumably *self*, and thus not the pronominal element *him*. Two questions would then arise. One is how can *self* meet the definition of anaphor despite the fact that it is inflected for number. The other is why does the combination pronoun-anaphor result in an anaphor rather than a pronoun. In answer to the first question I will suggest that inflection for number may not be incompatible with anaphoric status after all. There are other cases of reflexives inflected only for number, e.g. Japanese *zibun*. This slightly weakens the morphological distinction between reflexives and pronouns of the main text, but does not falsify it. The answer to the second question is that we in fact know that a pronoun in non-argument position will not have pronominal, but rather anaphoric behavior, thus predicting the anaphoric behavior of the combination in question. We know this from the case of "emphatic" pronouns of Burzio (1986), from the behavior of *l'uno* in the reciprocal construction analyzed in Belletti (1982), and from the cases cited by Pica (discussion, LSA meeting) of languages in which reflexives have the form "pronoun-pronoun", the second instance presumably adjoined, hence not

in argument position. I discuss why pronouns should take on anaphoric behavior when not in argument position in Burzio (1989a).

The second way to handle English reflexives is to suppose that the operative principle is actually not one of "morphological" economy, but rather one of "referential" economy, i.e. "(when the reference can be inherited) choose the element with the weakest independent reference". Then, the invariant reflexives will be non-referential because they are featureless, and the English-type for whatever reason, possibly a different one. However, if the reason is that the element *self* is (quasi) invariant, then the second alternative will be non-distinct from the first.

Note that other principles sometimes proposed, such as "avoid ambiguity", or "aim for specificity" do not seem plausible candidates to yield the hierarchy in (3). R-expressions are maximally unambiguous and specific, and yet are at the bottom of the hierarchy. Furthermore, reflexives can in principle be more ambiguous than pronouns when they are not inflected and can function long-distance, but are still at the top (except as in (14)).

### 3. Non-complementary Distribution of Pronouns and Reflexives

The literature reports other cases, beside those in (13)-(15), in which pronouns and reflexives do not stand in exact complementarity. D. Pesetsky (LSA meeting) cites (i).

(i) Bill<sub>i</sub> found a picture of him<sub>i</sub>/ himself<sub>i</sub>

Here, I think it is useful to turn the question around, and ask whether the standard version of the BT can provide an account of these overlaps. It is clear that it can describe them, which is less clear for the system I am proposing. But the real question, however, is whether it can explain them. Here, the only account of (i) I am aware of is the one that postulates an optional PRO subject of the NP (Chomsky (1986b)), which will work under my approach just as well. One must not be lured by the greater descriptive power of the standard formulation, which is only attained at the cost of failing to explain the fundamental generalization, i.e. the complementarity of pronouns and reflexives. So, overlaps are really irrelevant, unless one wishes to use them to reject the above generalization. For any theory that can account for (real, not just apparent) overlaps, will likely fail to account for that generalization. Note, however, that there is a very specific reason why the standard version has the above weakness due to the independence of the three principles. The reason is the theory of PRO. My paper has overcome the weakness, but only by ignoring the problem of PRO. In sum, I think the correct counterargument does not come from the overlaps, but rather from the PRO-theorem, which my

formulation cannot produce. Here I can only say that I believe there are independent reasons for rejecting the PRO-theorem, a discussion of which, however, goes beyond the scope of this article.

#### 4. The Role of Reconstruction

The second of my three arguments relies on the notion of LF reconstruction, in disregard of possible alternatives, such as D-structure interpretation, Barss - style linkage or other similar approaches. My account of the facts will carry over under the alternatives only to the extent that they have the same empirical effects as reconstruction over the relevant examples. In contrast, the problem for the standard formulation - in the form of an unexplained asymmetry between A and the other two principles - will persist no matter what alternative is chosen, being essentially factual.

There is actually a way to partially solve that problem, which however does not have to do with alternatives to reconstruction, but rather with a possible reinterpretation of the notion "bound" to mean "bound anywhere" (i.e. at any level). Under this hypothesis, the three principles of (1) would effectively read as in (i).

- (i) A. An anaphor must be locally bound anywhere
- B. A pronoun must *not* be locally bound *anywhere* (=nowhere)
- C. An R-expression must *not* be bound *anywhere* (=nowhere)

The observed difference between, say, A and B wrt different levels would now reduce to the usual complementarity, due to the fact that the principle for pronouns is the negation of the one for anaphors. This would still be a problem for the standard formulation, but no longer an independent one, just the usual one of unexplained complementarity.

#### 5. Partial Coreference

The facts in (i), analogous to those in Chomsky (1981, 285), may seem problematic for the proposed approach.

- (i) a. \*We wanted myself to win
- b. ??We wanted me to win
- c. We wanted Mary to call me

The reason is that, given the ungrammaticality of the reflexive in (ia), the pronoun in (ib) ought to be grammatical under the usual default principle. What the facts in (i) indicate is that local coreference implies identity of

reference, while the same is not true of non-local coreference. In Burzio (1989a) I argue, as briefly mentioned in the main text above, that locality conditions on anaphora are actually conditions on agreement, anaphors inheriting their features from their antecedents by agreement. The facts of (i) will be accounted for if we slightly extend this view to suppose that agreement is at work not only with anaphors, but in all local binding relations. To put it slightly differently, we may suppose that a bound NP will always "try" to agree with its antecedent, but that this will be possible and enforced only locally. (ia,b) will thus be ungrammatical because agreement is enforced but fails to be satisfied. The difference between (ia) and (ib) can be accounted for by supposing that partial coreference implies binding only weakly. Thus, to the extent that there can be non binding, no agreement will be enforced and the pronoun in (ib) will be grammatical. This option is not available to the anaphor in (ia), which must always be bound by (i.e. agree with) an antecedent.

## 6. Null Anaphora

If one supposed that empty categories (ec's) are unspecified for morphological features, the main text approach may seem to predict that they should be anaphors. While this prediction would be correct for certain types of ec's, it would plainly be incorrect for others, notably null pronouns for example in Japanese. We must note here that there are other reasons for not assimilating ec's to featureless anaphors. Ec's never exhibit "pseudo-agreement" effects. I.e. we know of no language where either trace or PRO is limited for instance to third person antecedents. We must therefore suppose that the morphological analysis of anaphors of the main text does not extend to ec's, whose exact characterization within this approach will remain unclear at this point.

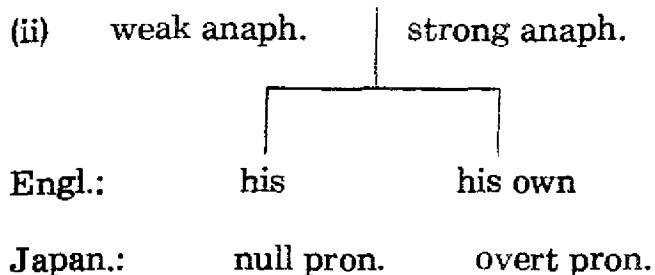
In connection with Japanese null pronouns, we note that their general availability (in contrast to the limited one of overt pronouns) will not make the incorrect prediction that the bound R-expression of e.g. (16) should be excluded. The reason is the peculiar interpretive properties of null pronouns. To see this, consider the principles that determine the choice between *his* and *his own* in (i).

- (i) a. John<sub>i</sub> was getting on ?? his<sub>i</sub> / his own<sub>i</sub> nerves
- b. John<sub>i</sub> lost his<sub>i</sub>/ ?? his own<sub>i</sub> cool

Contexts in which the coreference relation is semantically odd or unlikely require *his own*, whereas contexts in which coreference is inherent in the semantics exclude *his own*, requiring *his* (Zribi-Hertz (1980), Bouchard (1983)). Let us refer to the type of coreference relation that requires *his* in (i) as "weak"

anaphora, and to the type that requires *his own* as "strong". In many cases weak and strong anaphora alternate freely, as in "John read his/ his own book", but it is clear from (i) that they are not synonymous.

Kuno (1988) characterizes null Japanese pronouns as subject to the conditions typical of weak anaphora (i.e. coreferential relations transparent from the semantics), unlike overt pronouns. This suggests that null and overt pronouns are on separate interpretive "tracks", like *his* and *his own*, and schematically as in (ii).



The main text discussion of Japanese consistently concerns the right hand track, where the default of the overt pronoun will permit the bound R-expression. The options on the other track are irrelevant to the principle in (2), because they are not semantically equivalent. For the same reason, pronoun *his* occurs in "John<sub>i</sub> read his<sub>i</sub> book" despite the availability of anaphor *his own* (Higginbotham (1986, fn. 28)). In contrast, Russian possessive *svoj* does exclude the corresponding pronoun (Timberlake (1979)), because, not being a strong form, it is on the same track.

We find it unclear what principles control null versus pronominal anaphora in (iii), (iv), despite Pesetsky's (LSA meeting) very insightful discussion, but in light of the above we have little reason to suppose the principle in (2) is at work.

(iii) Has the mayor resigned?

a. I don't know  $\emptyset$ / \*it

b. They haven't announced \* $\emptyset$ / it yet

(v) The world is round, and even the ancient Greeks knew \* $\emptyset$ /it

## NOTES

1. This work was presented at the 1988 winter meeting of the LSA in New Orleans, LA, in the form of a colloquium. I am very grateful to William Ladusaw, David Pesetsky, and Craig Roberts, for acting as discussants and contributing valuable insights. In the Appendix, I address separately a number of questions, most of which were raised in the discussants' comments. A

slightly different variant of this work was presented at the 1989 "Incontro di Grammatica Generativa" in Bologna, under the title "Sulla Natura dei Principi B e C". I wish to thank both the New Orleans and the Bologna audience for helpful comments and criticism, and in particular P. Pica, K. Safir, and G. Longobardi.

2. For detailed discussion, see Burzio (1989c). See also Appendix 2.

3. For a discussion of the nature of the locality conditions, see Burzio (1989b).

4. R. Kayne, (p.c.) notes that there are other attested configurations beside those of the text. In particular, there is one intermediate between IIa. and IIb., in which first person plural is included along with third person, both numbers (as in Piedmontese and other Romance languages).

5. Note that the text account relying on featurelessness plus pseudo-agreement is superior to the alternative thesis that invariant reflexives have features and are ambiguous (in as many ways as there are empty boxes on each line of (10)). There are several reasons for this. One is that, unlike the alternative, featurelessness sheds light on the anaphoric behavior. Another is that featurelessness accounts for the systematic lexical identity of reflexives and impersonals, unlike the alternative (see Burzio (1989c) for relevant discussion). A third reason is that pseudo-agreement can more naturally than the alternative express the notion of increasing cost going right to left in (10) - a notion which is supported not only by the arrangement of data in (10), but also by long distance anaphora. For the options which we characterize as more costly are indeed more strongly excluded in long distance anaphora (see Timberlake (1979, fn. 8)).

6. There are systematic differences among subclasses wrt cost. Thus, clitics often have costlier options than non clitics. For example, French has pattern IIId. for stressed objects, but IIb. for clitics. Piedmontese has III. for stressed objects, but the intermediate IIa/b. of the note 4 for clitics. In contrast, possessives typically have less costly options than objects. Thus Danish has IIc. for possessives, but IIb. for objects, like most Romance languages, which have III. for possessives, like English. Russian has IIa. for objects, but alternates IIa. and IIb. with possessives (Timberlake (1979)). These differences obviously call for an explanation, which, however, we will not attempt to provide here.

7. To our knowledge, the earliest indication that languages other than English may violate principle B, is given in Zribi-Hertz (1980), who cited cases like (11d).

8. One might suggest that the notion of anaphor which plays a role in the BT is somewhat different from the notion of anaphor based on morphological content. Specifically, one might say that a morphological pronoun may become a "functional" anaphor (i.e. anaphor wrt the BT) to fill in gaps in the paradigm of anaphors. But we would find this quite unsatisfactory. First, note that the "subject antecedent" constraint does not give rise to any gap in the paradigm of reflexives (cf. Russian), yet it does result in locally bound pronouns. Secondly, if extended to the observations of 1.2 below, this type of solution would lead to the curious conclusion that any Japanese R-expression can be a functional pronoun.

9. The disjunction in (12) could be abbreviated as in (i)

(i) locally ((3rd person (sing.)/) impersonal) subject bound

10. To accommodate formally the case of III. in (10), one may perhaps formulate A as "An anaphor must not be", yielding, by negation, "A pronoun must be" (i.e. without any constraint) for B. The point is academic, given the text.

11. The fact that the presence of PAC is predictable from the morphology of reflexives implies that the latter is not due to a "parameter" of the BT as suggested in Manzini and Wexler (1987).

12. Long distance anaphora is another of the peculiarities of class II. in (10). Note that in certain instances the distribution of pronouns is complementary even to that of long distance anaphors, for example in infinitival complements in Icelandic (see Burzio (1989b and reff.)). This fact will further confirm the non independence of the principle for pronouns.

13. Note that equating violations of ME with (for example) violations of the SSC does not imply that cases like (i) should have the same status as cases of long distance anaphora.

(i) \*John<sub>i</sub> sees him<sub>i</sub>

For in each of the reflexive cases in (13)-(15) ME succeeds, offsetting violations of some other principle. In (i) it fails, and nothing offsets that violation.

14. Note that, because of (13), R-expressions in Japanese will thus overlap not only with pronouns, but also with anaphors.

15. See also Chomsky (1986, 207, fn. 27, and reff.) concerning similar facts in Thai.

16. Note that in the configuration "pronoun<sub>i</sub>...pronoun<sub>i</sub>", which is apparently grammatical, consecutive uses of the pronoun must not add to cost, or the latter should have the status of (17), rather than (16).

17. For a defense of reconstruction against interpretation at different levels, see Burzio (1986, 204-208), Chomsky (1981, 145 n. 79, 346 n. 10).

18. Baker, Johnson and Roberts argue that (31c) shows that the passive morpheme is a non "implicit" argument. They note that (31c) contrasts minimally with (i), which both lacks the passive morpheme and allows reflexive interpretation.

(i) John shaved

However, we note that this account does not predict the ungrammaticality of (32b) below, or the facts of (31a,b). We will thus assume instead that the verb *shave* of (i) has an independent lexical entry, involving no object argument, rather than an implicit argument.

19. Chomsky (1986b, 119) cites acceptable examples like (i).

(i) Damaging testimony is sometimes given about oneself

We find this particular type of example is a bit suspect, however, since the phrase "about NP" is plausibly a dependent of the noun *testimony*, rather than of the verb *give*, compare "...give a pen about NP", in which case the "PRO" subject of the noun is the likely antecedent. Cases like (ii) will be immune to this criticism.

(ii) The gun should never be pointed at oneself

Still, even cases like (ii) are much less felicitous in the absence of a modal like *should*, which incidentally must receive a "root", i.e. non epistemic, reading if the reflexive is present. All of this suggests that the primary generalization is indeed captured by (32b).

20. The text discussion does not immediately account for the fact, noted in Williams (198) cases like (31b) seem to yield the difference typical of principles B and C as in (i).

(i) ...she promised \_\_\_<sub>i</sub> that he<sub>i</sub>/ \*the doctor<sub>i</sub> would not see her again till she was really sic.

We find that the effect carries over, to various degrees, to the other cases in (30b) and (i) shown by (ii).

- (ii) a. The note cautioned \_\_\_<sub>i</sub> that he<sub>i</sub>/ \*John<sub>i</sub> would meet stiff resistance  
b. Maria ha fatto \_\_\_<sub>i</sub> dire che ?? lui<sub>i</sub>/ \*Gianni<sub>i</sub> sarebbe tornato subito  
Maria made say that he Gianni would be right back  
c. John was told (by \_\_\_<sub>i</sub>) that ?she<sub>i</sub>/ \*Mary<sub>i</sub> hated him

However, the same effect seems to occur in other cases, in which principles B,C would not be relevant, as in (iii).

(iii) (concerning him<sub>i</sub>) he<sub>i</sub>/ \*John<sub>i</sub> is a fool

The behavior of epithets (cf. Chomsky (1986, 79f.) also seems to place (i) with (iii), as shown (iv).

- (iv) a. Mary promised? \_\_\_<sub>i</sub>/ \*him<sub>i</sub> that the insurance would fully reimburse the bastard<sub>i</sub>  
b. (concerning him<sub>i</sub>) Mary still loves the bastard<sub>i</sub>.

## REFERENCES

- Anderson, S. (1986) "The Typology of Anaphoric Dependencies: Icelandic (and Other) Reflexives", in Hellan, L. and K. Koch Christensen, eds., (1986).  
Baker, M., K. Johnson, and I. Roberts (1987) "Passive Arguments Raised", ms. Mc Gill, UC Irvine, Geneva.  
Belletti, A. (1982) "On the Anaphoric Status of the Reciprocal Construction in Italian", *The Linguistic Review* 2.2.  
Belletti, A. and L. Rizzi (1988) "Psych-Verbs and  $\theta$ -Theory", *Natural Language and Linguistic Theory*, 6.3.  
Bouchard, D. (1983) *On the Content of Empty Categories*, Foris, Dordrecht.  
Bouchard, D. (1987) "Null Objects", paper presented at LSRL XVII, Rutgers University.  
Borer, H. (1988) "Anaphoric AGR", ms UC Irvine.  
Burzio, L. (1986) *Italian Syntax: a Government-Binding Approach*. Reidel, Dordrecht.  
Burzio, L. (1989a) "Work in Progress", ms, Harvard.  
Burzio, L. (1989b) "The Role of the Antecedent in Anaphoric Relations", paper presented at the Second Princeton Workshop on Comparative Grammar.  
Burzio, L. (1989c) "On the Morphology of Reflexives and Impersonals", to



- appear in *Proceedings of LSRL XIX*, John Benjamins, Amsterdam.
- Calabrese, A. (1989) "The Lack of Infinitival Clauses in Salentino: A Synchronic and Diachronic Analysis", paper presented at LSRL XIX, OSU.
- Chomsky, N. (1981) *Lectures on Government and Binding*. Foris, Dordrecht.
- Chomsky, N. (1986a) *Barriers*, MIT Press.
- Chomsky, N. (1986) *Knowledge of Language: Its Nature, Origin and Use*. Praeger, New York.
- Everaert, M. (1986) *The Syntax of Reflexivization*. Foris, Dordrecht.
- Farkas, D. (1988) "On Obviation", paper presented at the LSA Winter Meeting, New Orleans.
- Giorgi, A. (1984) "Towards a Theory of Long Distance Anaphors: a GB Approach", *The Linguistic Review*, 3.
- Giorgi, A. and G. Longobardi (forthcoming) *The Syntax of Noun Phrases*. Cambridge University Press.
- Higginbotham, J. (1985) "On Semantics", *Linguistic Inquiry* 16.4.
- Huang, J. (1983) "A Note on the Binding Theory", *Linguistic Inquiry*, 14.3.
- Kayne, R. (1975) *French Syntax*. MIT Press.
- Manzini, M.R., and K. Wexler (1987) "Parameters, Binding Theory and Learnability", *Linguistic Inquiry*, 18.3.
- Pica, P. (1984) "Liage et Contiguité", *Recherches sur L'Anaphore*, J.C. Milner ed., Paris VII.
- Rappaport, G.C. (1986) "On Anaphor Binding in Russian", *Natural Language and Linguistic Theory*, 4.
- Reinhart, T. (1986) "Center and Periphery in the Grammar of Anaphora", in B. Lust (ed.) *Studies in the Acquisition of Anaphora*, I. Reidel, Dordrecht.
- Rizzi, L. (1986) "Null Objects in Italian and the Theory of *pro*", *Linguistic Inquiry*, 17.3.
- Sells, P. (1988) "Disjoint Reference into Gerunds", paper presented at the LSA Winter Meeting, New Orleans.
- Timberlake, A. (1979) "Reflexivization and the Cycle in Russian", *Linguistic Inquiry*, 10.1.
- Williams, E. (1985) "PRO and the Subject of NP", *Natural Language and Linguistic Theory*, 3.
- Zribi-Hertz, A. (1980) "Coréférences et pronoms réfléchis: notes sur le contraste *lui/lui-même* en français", *Linguisticae Investigationes* IV: 1.