

Subject-oriented and non Subject-oriented Long-distance Anaphora: an integrated approach

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Abstract

We discuss data showing that, unlike other long-distance anaphors widely documented in the literature (e.g. *ziji* from Chinese, *caki* from Korean, *zibun*, from Japanese, etc.), the Portuguese *ele próprio* is not subject-oriented. This supports a reformulation of Principle Z, encompassing subject-oriented and non subject-oriented long-distance anaphora, which shows up as the fourth binding principle. The striking internal congruence of the resulting four principle based Binding Theory cogently makes it apparent that the binding symmetries are far more richer than the problematic single distributional symmetry between anaphors and pronouns that has been continuously assumed to hold by most of the research of the last three decades.

We also discuss how the data involving the Portuguese long-distance anaphor add to the growing evidence that the generalization assumed in mainstream GB approaches about the universal correlation between "simplex" anaphors, long-distance anaphora, subject-orientedness and intermediate blocking effects is most likely not to be empirically grounded.

1. Principle Z revisited

Long-distance anaphors have been a major focus of inquiry for mainstream three principle based theories of binding. Roughly, such items must get their interpretation from antecedents occurring either inside or outside the relevant local domain. This constraint is not accounted for by any of the three "classic" binding principles, set up mostly on the basis of empirical evidence from the English language - in HPSG terms: Principle A requires o-binding by an antecedent occurring *in the same local domain*; Principle B has to do with *o-freeness*; and Principle C concerns expressions with *non-dependent interpretation*.

Current analyses tackling this issue have proposed extra binding principles for coping with languages exhibiting this kind of unbounded obligatory o-binding phenomena. This is the case of Xue, Pollard and Sag's 1994 proposal concerning the Chinese expression *ziji*:

- (1) Zhangsan_i zhidao [Lisi_j renwei [Wangwu_k zui xihuan ziji_i /j/k]].
Zhangsan know Lisi think Wangwu most like self
'Zhangsan_i knows [that Lisi_j thinks [that Wangwu_k likes him_{i/j}/himself_k most]]'.

That proposal takes up a slightly revised version of Principle Z previously put forward by (Pollard and Sag 1992a). This principle states that "z-pronouns must be o-bound", where z-pronouns are expressions not identified in terms of the NP typology usually assumed.

1.1 Weakness However, Principle Z is too weak, as pointed out by the authors. Under this principle, ungrammatical constructions like (2), where the antecedent is not a subject, are incorrectly predicted as grammatical.

- (2) *Zhangsan cong Lisi_i chu tingshuo Wangwu bu xihuan ziji.
 Zhangsan from Lisi place hear Wangwu not like self
 'Zhangsan heard from Lisi_i Wangwu does not like him_i.'

In order to circumvent this undesired effect, as a "provisional solution", Xue, Pollard and Sag added a specific restriction which stipulates that "antecedents of z-pronouns should be subjects".

1.2 Restrictiveness This solution, though provisional, may be acceptable as long as one just takes into account evidence concerning *subject-oriented* long-distance anaphors, widely documented in the literature (for a synopsis vd. (Koster and Reuland 1991b):10). It will induce however incorrect predictions, if there exist languages with *non subject-oriented* long-distance anaphora.

Portuguese is a Romance language which presents such kind of phenomenon.

In Portuguese, *si próprio* ('he-DAT own') is the third person short-distance anaphor and *ele* ('he-NOM') is the third person pronoun. Their behavior as dependent reference expressions follows closely the behavior of English *himself* and *he*, respectively. As the data (3)-(7) illustrate, on a par with these two expressions, Portuguese has also the long-distance anaphor *ele próprio* ('he-NOM own')¹.

The contrast in (3) illustrates that, like short-distance anaphors, *ele próprio* is a dependent reference expression which requires an antecedent (with identical features of person, number and gender).

- (3) a. *A Diana gosta dele próprio.
 the-FEM Diana likes of_he own
 'Diana likes himself.'
 b. O Carlos_i gosta dele próprio_i.
 the-MASC Carlos likes of_he own
 'Carlos likes himself.'

Contrast (3)b./ (4)b., in turn, shows that *ele próprio* must be o-bound; while (4)a./b. illustrates again the parallelism between the short-distance anaphor and *ele próprio*, and (4)b./c. the difference between *ele próprio* and the pronoun with respect to the requirement of o-binding by the antecedent.

- (4) a. *[As pessoas que falaram com a Diana_i] gostam de si própria_i.
 the people that talked with the Diana like of_she-DAT own
 '[People who talked with Diana_i] like herself_i.'
 b. *[As pessoas que falaram com a Diana_i] gostam dela própria_i.
 the people that talked with the Diana like of_she-NOM own
 '[People who talked with Diana_i] like herself_i.'

- b. [As pessoas que falaram com a Diana_i] gostam dela_i.
 the people that talked with the Diana like of__{she}-NOM
 'People who talked with Diana_i] like her_i.'

The examples of (5) are designed to illustrate the long-distance properties of *ele próprio*.

- (5) a. O Pedro_i convenceu a Diana de [que o Carlos_j gosta dele próprio_{i/j}].
 the Pedro convinced the Diana of that the Carlos like of__{he} own
 'Pedro_i convinced Diana [that Carlos_j likes him_i/himself_j].'
 b. O João_i disse-me [que tu convenceste a Diana de [que o Carlos_j gosta dele próprio_{i/j}]].
 the João told me that you convinced the Diana of that the Carlos like of__{he} own
 'João_i told me [that you convinced Diana [that Carlos_j likes him_i/himself_j]].'

And the contrast of (6) is meant to reinforce the evidence for the long-distance anaphoric behavior of *ele próprio*, as it shows that, also when coindexed with an antecedent outside its local domain, *ele próprio* requires to be o-bound, contrarily to what happens with regards to pronouns²:

- (6) a. *[O apartamento que o Carlos ofereceu à Diana_i] mostra que ele pensa nela própria_i.
 the apartment that the Carlos offered to__{the} Diana shows that he thinks in__{she} own
 '[The apartment that Carlos offered to Diana_i] shows that he cares about herself_i.'
 b. [O apartamento que o Carlos ofereceu à Diana_i] mostra que ele pensa nela_j.
 the apartment that the Carlos offered to__{the} Diana shows that he thinks in__{she}
 '[The apartment that Carlos offered to Diana_i] shows that he cares about her_j.'

Having provided empirical evidence which shows that *ele próprio* is a long-distance anaphor³, we turn now to its distinctive feature of not being subject-oriented. Examples in (7) illustrate that this expression may have antecedents which are not subjects:

- (7) a. O Pedro descreveu a Maria_i a ela própria_i.
 the Pedro described the Maria to she own
 'Pedro described Maria to herself.'
 b. O Pedro convenceu a Diana_i de que o Carlos gosta dela própria_i.
 the Pedro convinced the Diana of that the Carlos like of__{she} own
 'Pedro convinced Diana_i that Carlos likes her_i.'
 c. O Pedro disse à Diana_i que o Carlos gosta dela própria_i.
 the Pedro said to__{the} Diana that the Carlos like of__{she} own
 'Pedro said to Diana_i that Carlos likes her_i.'

Notice further that, irrespective of the provisional extra stipulation proposed by Xue *et al.* concerning subject-orientedness, Principle Z still expresses too strong a constraint. It excludes grammatical constructions like the following, with *exempt long-distance anaphors*:

- (8) a. A Diana_i disse que o jornalista [que ela própria_i convidou] pagou a conta.
 the Diana said that the journalist she own invited paid the bill
 'Diana_i said that the journalist [she_i invited] paid the bill.'

- b. O jornalista [que viu a Diana_i] disse que ela própria_i pagou a conta.
the journalist who saw the Diana said that she own paid the bill
'The journalist [who saw Diana_i] said that she_i paid the bill.'
- c. [Se o Carlos_i gostasse da Diana], ele próprio_i lho diria.
if the Carlos like of_the Diana, he own CLIT:to_her_it tell
'[If Carlos_i liked Diana], he_i would tell it to her.'
- d. Ele próprio pagou a conta.
he own paid the bill
'He paid the bill.'

In the above examples the z-pronoun is not o-bound: in (8)a. the antecedent does not locally o-command it; in (8)b. and c. the antecedent does not o-command it at all; and in (8)d. *ele próprio* has no antecedent, in which case it seems to be able to support a deictic use. Still these examples are fully acceptable. Principle Z, with or without the stipulation about subject-orientedness, predicts all of them to be ungrammatical.

2 Principle Z revised

2.1 A new definition Given the data presented above, what is thus called for is an empirically adequate account of unbounded obligatory o-binding (both subject-oriented and non subject-oriented).

As to the excessive restrictiveness of Principle Z just pointed out, we propose to eliminate this shortcoming in two steps.

First, we remove the stipulation that long distance anaphors must be subject-oriented. Constructions like those of (7), where z-pronouns have antecedents which are not subjects, are not incorrectly ruled out as ungrammatical.

Second, we give the following formulation to the principle ruling long-distance anaphora:

- (9) Principle Z
A locally o-commanded z-pronoun must be o-bound.

Examples (8) are now correctly predicted to be grammatical as, in any of them, the z-pronoun is not locally o-commanded and, at the light of (9), it does not have to be o-bound⁴.

It is worth noting that definition (9) not only eliminates previous excessive restrictiveness of Principle Z, as it also accommodates facts which provide *new and independent motivation for the notion of exempt anaphor*, as put forward by (Pollard and Sag 1992b) on the basis of short distance anaphora.

2.2 Chinese long-distance exempt anaphors That the formulation of Principle Z proposed in (9) does not apply only to Portuguese and it is likely to have a general character can be highlighted, if we reappraise the data about Chinese available in the literature. Consider contrast (10), taken from (Xue *et al.* 1994):(11),(21).

- (10) a. [Zhangsan_i de xin] biaoming Lisi_j hai-le ziji_{*i/j}.
 Zhangsan DE letter indicate Lisi harm-ASP self
 '[Zhangsan's_i letter] indicates that Lisi_j harmed *him_i/himself_j.'
- b. [Zhangsan_i de hua] anshi [Lisi_j de xin] zai yingshe ziji_{?i/j}.
 Zhangsan DE speech imply Lisi DE letter ASP allude-to self
 '[Zhangsan's_i words] implied that [Lisi's_j letter] was alluding to him_{?i}/himself_j.'

Xue *et al.* explain this contrast on the basis of an analogy with the unlike-person blocking effect which holds in Chinese for long-distance anaphora. The impossibility of *ziji* being bound by *Zhangsan* in (10)a., but not in (10)b., is said to be, on a par with "...the unlike-person blocking,...a pragmatic or discourse processing effect of animate blocking".

We propose a different tentative explanation. We take the contrast of (10) as possible evidence showing that also in Chinese the requirement of o-binding only holds in case the z-pronoun is locally o-commanded. The point here is to understand that, just like *ziji* is [+animate] and requires a [+animate] antecedent, also its local o-commanders must be [+animate] in order to qualify as o-commander for the application of Principle Z. Therefore, at the light of Principle Z as stated in (9), in (10)a. the coindexing *Zhangsan/ziji* is ruled out because, as *ziji* is locally o-commanded by *Lisi*, the long-distance anaphor is required to be o-bound, constraint which is not satisfied. In (10)b., in turn, the coindexing with *Zhangsan* would be acceptable due to the fact that *ziji* is not locally o-commanded (by an [+animate] o-commander), which allows it to pick antecedents which do not o-command it.

An important consequence of this tentative solution seems to be that we can dispense with Xue *et al.*'s assumption that, on par with "syntactic *ziji*", ruled by Principle Z, there is a "discourse *ziji*", whose apparent distinctive feature would be its ability to allow subcommanding antecedents.

It will be interesting to check the adequacy of our hypothesis against further empirical evidence designed by linguists speaking Chinese and other languages, like Korean and Japanese, which have subject-oriented long-distance anaphors⁵. (Xue *et al.* 1994):(26) seems, though, to provide yet a further piece of evidence which supports our analysis. They present an example due to (Wang 1990) where *ziji* needs not to have an (o-commanding or subcommanding) antecedent:

- (11) Mama de shu ye bei ziji de pengyou touzoule.
 mother DE book also BEI self DE friend steal-ASP
 'Mother's_i book was also stolen by his_k friend.'

In (11) *ziji* is not o-commanded (by a local [+animate] o-commander) and, apparently, like *ele próprio* in (8)d., it seems to be able to support a deictic use in the absence of overtly available antecedents in the sentence.

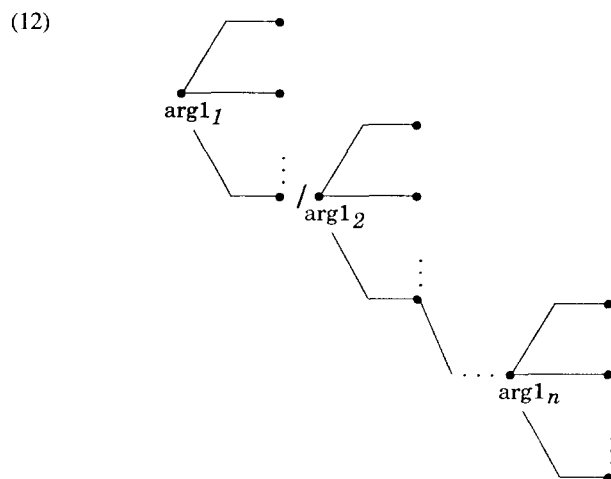
2.3 Dissociating long-distance and subject-orientedness Turning now to the weakness of Xue *et al.*'s Principle Z pointed out above in section 1.1, notice that the reformulation we propose does not provide a direct solution to this problem. (9) does not rule out constructions like (2), where subject-oriented z-pronouns, like *ziji*, are o-bound by antecedents which are not subjects.

We retain, nevertheless, Principle Z as stated in (9), and notice that the ill-formedness of such constructions can be explained on the basis of an *independent principled account*, without resorting to any specific, provisional or not, stipulation in order to assure subject-orientedness.

We adopt the proposal that *the obliqueness hierarchy relevant to Binding Theory may have a non-linear ordering*, independently motivated in (Branco 1996). This solution builds on (Manning and Sag 1995) proposal for dissociating argument structure (coded in the new ARG-S

feature) and grammatical relations (coded in the previous SUBCAT feature), and for checking binding principles in the former and subcategorization principles in the latter.

Following (Branco 1996), obliqueness hierarchies may be given a non-linear ordering where subjects are the only o-commanders of any other argument, both in single and multi-clausal constructions:



Accordingly, in languages with subject-orientedness, hence with non-linear obliqueness hierarchy in the ARG-S value plausibly by virtue of parametric choice, Principle Z as stated in (9) makes the correct predictions as only subjects can be the o-binders of any other argument.

2.4 A "new" integrated Theory of Binding We believe the merits of Principle Z we propose in (9) should be assessed not only in terms of its empirical adequacy but also in terms of its impact in the whole set up of Binding Theory.

Under our proposal, Principle Z naturally appears *not as a mere extra binding constraint, but as the fourth principle of Binding Theory*, on an equal footing with the three "classic" Principles A, B and C, given the striking "natural" cross symmetry between the four principles.

- (13)
- Princ. A: A locally o-commanded anaphor must be *locally o-bound*
 - Princ. Z: A locally o-commanded z-pronoun must be *o-bound*
 - Princ. B: A personal pronoun must be *locally o-free*
 - Princ. C: A nonpronoun must be *o-free*

Both anaphoric and non anaphoric expressions have now two binding principles ruling them, and the different senses in which the opposition local vs. non local should be taken seems to receive a more fine-tuned clarification: Principle Z shows up as the non local "variant" of Principle A, in the same sense that Principle C could have been taken as the non local "variant" of Principle B; but also Principle B may be taken as the non local "variant" of Principle A in the same sense that Principle C may be taken as the non local "variant" of Principle Z.

Consequently, by enlarging our sample of data to encompass both subject-oriented and non subject-oriented long-distance anaphors, it is a more empirically adequate analysis we obtain. But notably, it is a more integrated Binding Theory that one is led to, as well, we would like to incisively stress. And it is not unlikely that the overarching cross symmetry

between the four principles, now evident, reveals that the longstanding insistence of generative researchers on the assumed, but ever since problematic, single distributional symmetry between anaphors and pronouns has persistently channeled the bulk of the last three decades of research on binding into a deadlocked track.

3. About empirically ungrounded correlations

This insistence in taking the supposed distributional symmetry between (short-distance) anaphors and pronouns as the empirical touchstone which the Binding Theory should mostly account for has had its impact, both theoretically and methodologically, on the mainstream GB attempts to deal with long-distance anaphora. In accordance to the unique central role assigned to this distributional symmetry, the phenomena of long-distance anaphora has been taken in GB as being but a successive-cyclic association of short-distance links⁶. This way, the insistence in maintaining the focus of explanatory machinery on that supposed symmetry has had the side effect of delimiting a specific set of supposed empirical correlations which, in turn, are becoming the canonical empirical touchstone for the GB research on long-distance anaphora.

However different the several alternative GB proposals may be in their little details⁷, all they seem to share the common stance that the central facts to be accounted for in studying long-distance anaphora gravitate around the correlation between so called "simplex" anaphors, long-distance binding, subject-orientedness and binding blocking by intervening subjects. The methodological consensus around these correlations certainly owe much to the GB explanatory devices they are able support, which are in consonance with the conviction about the supposed primitive local nature of anaphora (and the supposed fundamental complementarity with regards the non-local nature of pronouns). In their essential aspects, the different accounts run like this: the "simplex" anaphors have some kind of deficit of inflectional morphology which must be supplemented by some kind of local link (e.g., movement, coindexing, binding, etc.) to the inflection of the local subject - this explains the subject-orientedness; links of the same sort between the subjects of the different clauses successively subordinated in the sentence may be connected - this explains the long-distance; the connection of the links is interrupted when there is a upwards subject which does not support the relevant kind of link - this explains the blocking of long-distance binding by intervening subjects.

Xue *et al.* have extensively discussed data from the Chinese language which strongly weaken the plausibility of such correlations, and they called the attention for the fact that the claimed universal character of these correlations is not likely to be empirically grounded.

First, they have shown that *there is no correlation between subject-orientedness and long-distance anaphoric binding*. Chinese *ta-ziji* is not a long-distance anaphor though it is subject-oriented (cf. (Xue *et al.* 1994):(6)):

- (14) Zhangsan_i songgei Lisi_j yizhang ta-ziji_{i/*j}. de xiangpian.
 Zhangsan give Lisi one-CLA he-self DE picture
 'Zhangsan_i gave Lisi_j a picture of himself_{i/*j}.'

Portuguese data strengthen this dissociation: *ele próprio*, in turn, is a long-distance anaphor and it is not subject-oriented (see (7) above). Accordingly, our option of separating the explanatory devices for long-distance anaphoric binding (cf. Principle Z in (9)) and for subject orientedness (cf. (Branco 1996)) seems thus to receive full empirical justification.

Second, (Xue *et al.* 1994):n.2 also refer data provided by (Progovac 1992) concerning the Russian anaphor *sebja* as supporting *the dissociation between "simplex" anaphors and long-distance properties*: *sebja* is a "simplex" anaphor, though it only allows short-distance binding. Once more, Portuguese data strengthen this other dissociation. *Ele próprio* by no means can be

considered a "simplex" anaphor: it is made up of two expressions *ele* ('he') and *próprio* ('own'), and bears a full fledged inflectional morphology which displays features of person, gender and number. Nevertheless, it allows long-distance binding.

Third, Xue *et al.* have shown that *there is no correlation between, on the one hand, "simplex" anaphors, subject-orientedness and long-distance, and on the other hand, binding blocking by intervening subjects.* Example (15), taken from (Xue *et al.* 1994):(15), shows that also non subject may block the binding of *ziji* by an upwards subject:

- (15) Zhangsan_i gaosu wo_j Lisi_k hen ziji_i/*_j/_k.
 Zhangsan tell me Lisi hate self
 'Zhangsan_i told me_j Lisi_k hates *him_i/*me_j/himself_k.'

Also in this case, the data from Portuguese reinforce the noticed dissociation: *ele próprio* is a long-distance anaphor but its binding by an antecedent is not ruled by any such kind of constraint concerning intervening antecedents with unlike inflectional features. This seems to suggest that, like what happens for the dissociation between binding principles and subject-orientedness, the binding blocking effects should most likely to be taken as extraneous to the core of Binding Theory and accounted for by other possibly independent explanatory device.

4. Conclusions

Data were presented which reinforce the claim that, as to long-distance anaphora, there is no correlation at least between the morphological simplicity of the anaphors and their long-distance properties, between long-distance properties and subject-orientedness, and between subject orientedness and binding blocking effects.

An integrated approach to both subject-oriented and non-subjected oriented long-distance anaphora was developed by means of the reformulation of Principle Z in articulation with the proposal of (Branco 1996) concerning non-linear obliqueness. This solution led to a significant reshuffling of our understanding of the internal congruence of Binding Theory, in general, and to a more fine-tuned characterization of the distinction local vs. non local for dependent reference expressions, in particular.

Endnotes

1 In Portuguese, a language without a system of overt morphological case, only clitics and pronouns present fossilized case distinctions.

2 It is worth noting that it is possible to construct contrasts where this constraint seems to be relaxed:

- (i) a. *[O apartamento que o Carlos ofereceu à Diana_j] mostra que ele pensa nela própria_i.
 the apartment that the Carlos offered to_the Diana shows that he thinks in_she own
 '[The apartment that Carlos offered to Diana_j] shows that he cares about herself_i.'

- b. [A recente dedicação da Diana_i ao seu trabalho] mostra que o Director acabou por falar com ela própria_i depois de a ter advertido através do Chefe de Secção.
 the recent dedication of_the Diana to_the her job shows that the Director ended_up by talking with she own after of CLIT.PRON have warned by_means of_the Chief of Section
 '[The recent dedication of Diana_i to her job] reveals that the Director ended up by talking to her_i, after having asked her Chief to warn her on his behalf.'

At present we are working on the hypothesis that contrasts like this may have to do with the other non anaphoric meaning of *próprio* ('own') and the conventional implicature associated to it. See also note 5.

3 Data collected in (3)-(6) present standard tests for checking the anaphoric nature of long-distance dependent reference expressions. As far as Portuguese is concerned, there is another test that can be done. As this language has direct object clitic doubling, one should check which kind of clitic, anaphoric or pronominal, the phrase containing *ele próprio* can double in short-distance anaphoric links.

- (i) a. O Pedro_i viu-se a si próprio_i no espelho.
 the Pedro saw-CLIT.ANAF to he-DAT own in_the mirror
 'Pedro_i saw himself_i in the mirror.'
- b. O Pedro_i viu-se a ele próprio_i no espelho.
 the Pedro saw-CLIT.ANAF to he-NOM own in_the mirror
 'Pedro_i saw himself_i in the mirror.'
- c. *[A mãe do Pedro_i] viu-se a ele próprio_i no espelho.
 the mother of_the Pedro saw-CLIT.ANAF to he-NOM own in_the mirror
 '[Pedro's_i mother] saw himself_i in the mirror.'
- (ii) a. [O pai da Diana_i] viu-a a ela_i no espelho.
 the father of_the Diana saw-CLIT.PRON to she in_the mirror
 '[Diana's_i father] saw her_i in the mirror.'
- b. [O pai da Diana_i] viu-a a ela própria_i no espelho.
 the father of_the Diana saw-CLIT.PRON to she own in_the mirror
 '[Diana's_i father] saw her_i in the mirror.'

The data show that *ele próprio* can double both kind of clitics. Interestingly, it is apparent that *ele próprio* assumes an anaphoric behavior, if it doubles anaphoric clitics (cf. contrast (i)a./b.), and that it assumes a pronominal behavior, if it doubles pronominal clitics (cf. (ii)b.).

Nevertheless, even when doubling pronominal clitics, if locally o-commanded, *ele próprio* seems to keep its inability to support deictic reference:

- (iii) a. O Pedro viu-a a ela no espelho.
 the Pedro saw-CLIT.PRON to she in_the mirror
 'Pedro saw her in the mirror.'
- b. *O Pedro viu-a a ela própria no espelho.
 the Pedro saw-CLIT.PRON to she own in_the mirror
 'Pedro saw herself in the mirror.'

4 Notice that o-command is not enough to impose the requirement of o-binding. In (8)a. and b., *ele próprio* is not locally o-commanded but it is o-commanded (non locally) by the matrix clause subject. Nevertheless, the z-pronoun accepts antecedents which do not o-bind it.

5 Among other contrastive analyses, it will be interesting to check whether in Chinese there is also some kind of gradual degradation of o-commanding requirements like the one that seems to occur in Portuguese - see note 2 above.

6 See Reinhart and Reuland (1993), Progovac (1992, 1993), Huang and Tang (1991), the papers collected in Koster and Reuland (1991a), and the references cited therein.

7 Some examples: for Reinhart and Reuland (1993) the anaphor undergoes head movement to local I at LF; for Progovac (1992, 1993) the movement is replaced by coindexation with the local Agr; for Huang and Tang (1991) there is no head movement but adjunction to the local IP.

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