"On the interaction between antecedent-government and binding : the case of long-distance reflexivization"

Pierre Pica

c. *Hij$_i$ heeft de klas aan zich$_i$ onderworpen
d. ??Hij$_i$ komt voor zich$_i$ op

It must be noted that in all these examples the verb phrase contains two internal arguments: [$_{VP}$ NP PP]. (vi) is no exception as it is an ergative construction. One might argue for a small clause analysis of these constructions but there is no clear motivation to do so. Alternatively, the analysis proposed in the text for (82) might hold in these cases as well.

24. As Grimshaw & Rosen (1988) note, the choice of verbs in the experiments in which condition B is violated is important; they include verbs like *wash, dress*, etc. These verbs can often be used intransitively in English with a reflexive interpretation (cf. Zubizarreta (1987)) and are precisely the class of verbs which, in Dutch, allow *zich* in object position.

5 *On the interaction between antecedent-government and binding: the case of long-distance reflexivization*

Pierre Pica

1 Introduction

It is a well-known fact that the various proposals aiming at a universal treatment of reflexives across languages formulated in the framework of generative grammar, or related frameworks, face counterexamples. This is particularly striking in the case of a rich variety of languages where the anaphoric relation between the reflexive pronoun and its antecedent does not seem to obey the locality conditions which have been formulated to account for the behaviour of reflexives in languages such as English.

This remains true whether these conditions are expressed in terms of specified subject – or its corresponding notion in the framework of Chomsky (1981) and Chomsky (1986a) – in terms of Tense (see the propositional island constraint of Chomsky (1977)), of Case (as in Chomsky (1980)), or in terms of generalized SUBJECT (a notion which expresses apparent similarities between subject NPs and the element Agr of the verbal inflection, as in Chomsky (1981)).[1]

This point can be illustrated by a sentence such as (1) in Icelandic, whose grammaticality contrasts with the ungrammaticality of its direct apparent translation in English since the reflexive *sig* refers to the matrix subject *Jón*, in apparent violation of all formulations of the binding theory:

(1) Jón$_i$ sagði þeim [að María elski (subj) sig$_i$]
Jón told them [that Maria love 3sg self]

The type of reflexive which undergoes long-distance reflexivization is moreover subject to a strict subject-orientation requirement, as illustrated by the Danish sentence (2):

(2) *jeg fortæller Gertrude$_i$ om sig$_i$
I told Gertrude about 3sg self

The type of reflexive illustrated by *sig* in (1) and (2) has therefore been the subject of very extensive studies in the literature, where two main attitudes can be distinguished:

(a) It is claimed that elements such as *sig* are not reflexives, but rather exhibit some pronominal properties, similar to those of so-called logophoric pronouns (see, among others, Maling (1982, 1984), Sells (1987), and (for a different point of view) Koopman & Sportiche (1989)).
(b) It is claimed that, although elements such as *sig* are reflexives, they do not obey the usual conditions on binding; that is, that (1) and (2) illustrate a marked phenomenon.

Many variants of this last attitude can be again distinguished, and it is sometimes claimed that reflexives of the type illustrated in (1) and (2)

(i) do not fall within the scope of core grammar (cf., among others, Chomsky (1982)), and, from a different point of view, Kuno (1987);
(ii) must be treated in terms of a parametric approach (cf., among many others, Yang (1983), or Manzini & Wexler (1987));
(iii) provide evidence for the need of specific devices such as

- a level of lexical structure (cf., among others, Mohanan (1982), Kiparsky (forthcoming))
- a thematic hierarchy (cf. Giorgi (1984))
- a notion of predicate complex (cf. Hellan (1986a) and the lexical–functional grammar (LFG) literature in general, where the very similar notion of sentence nucleus is developed).

One should keep in mind, however, that the various analyses that have been proposed to account for the phenomenon illustrated in (1) and (2) have led to the paradoxical situation that the following fact has been forgotten [mentioned by Faltz (1977) – eds.]:

We never find long-distance binding (across a specified subject) of a reciprocal, or of a clearly non-mono-morphemic reflexive (see note 2 below) – even in languages where long-distance binding of reflexives can overtly be observed (see Pica (1985, 1987), and the references mentioned there). This point can, for example, be illustrated by the contrast between (1) and (3) in Icelandic:

(3) *þeir$_i$ sagði [að María elski (subj) hvorn annan$_i$]
they said [that Maria love each other]

2 On the distinction between mono-morphemic and non-mono-morphemic anaphors[2]

Such a situation – and the fact that reciprocal expressions and non-mono-morphemic anaphors (in the sense of Pica (1985)) are never restricted to subject orientation[3] – suggests, in our opinion, that the binding principles do not vary as much as one could believe they do in the prima-facie violations of the specified subject constraint (SSC) exhibited by long-distance reflexives.

This state of affairs is the main motivation of the analysis proposed in Pica (1987) (developing ideas formulated in Pica (1985)), where it is claimed that the kind of binding exhibited in (1) and (2) belongs to the core of the grammar. We proposed, more specifically, that in an example such as (1), the apparent violation of the SSC of the mono-morphemic reflexive – or its equivalent in terms of governing category or complete functional complex – is due to a cyclic movement (from Infl to Infl) at the level of logical form.

The analysis we had in mind was based on the hypothesis according to which anaphors could be divided in two ways – whether they could be analysed as heads (like, for example, *sig* in Icelandic, or *soi* in French), or as maximal projections (like, for example, *himself* in English).

It was presupposed that all anaphors move – either at the level of logical form or at S-structure – but that only X° anaphors can escape the SSC by an LF cyclic head-to-head movement through Comp. XP anaphors could not make use of such an escape hatch and were consequently subject to more severe locality conditions.

This way of looking at things amounts to saying that the asymmetry between anaphors which undergo long-distance reflexivization and anaphors which are subject to stricter locality requirements can be reduced to the effect of Emonds's structure preserving constraint (cf. Pica (1987) note 9).

The hypothesis according to which the structure preserving constraint applies at the level of logical form has recently been challenged, explicitly or implicitly (see, among others, Chomsky (1988a), Stowell (1987)). It seems indeed reasonable to assume that while the projection principle or the θ-criterion holds at all levels of representation, X′ theory does not hold at LF, which is neither directly nor indirectly projected from the lexicon (see also note 4 below).

While our leading idea of a cyclic movement of the reflexive from Infl to Infl has been shown to account for the behaviour of reflexives in various languages (see,

with reference to Chinese, and among others, Battistella (1987) and Cole, Hermon & Sung (forthcoming)), we intend to show in the present chapter that, while this main idea is on the right track, the asymmetry between long-distance reflexives and reflexives which do not allow long-distance reflexivization does not follow from the status of the reflexives with respect to X′ theory.

We claim that it follows instead from the well-known asymmetries between arguments, adjuncts and X° elements with respect to extraction, in a theory in which reflexives move in order to be governed by their antecedents, along the lines (of the leading idea) of Chomsky (1986a), according to which all anaphors are clitic-like elements at LF. In particular, it will be shown that the nature of long-distance reflexivization provides evidence for a theory according to which binding theory applies to the trace of the reflexive only (and not to the reflexive–antecedent relation *per se*), contrary to what is suggested in Pica (1987).

The theory we develop contradicts recent proposals according to which binding theory overlaps with the theory of antecedent-government (developed in, among others, Huang (1982), Lasnik & Saito (1984) and Chomsky (1986b)), to which it can be reduced (see also Manzini in chapter 10).

These proposals seem at first glance to be supported by sentences such as (4) in English, which involves NP-movement at S-structure (and where, in Chomsky's terms, NP-movement crosses at least two barriers (VP and CP) (cf. Chomsky (1986b)):

(4) *John [$_{VP}$ seems [$_{CP}$ that [$_{IP}$ Mary considers [*e* to be intelligent]]]]

We intend to show, however, that, paradoxically, long-distance reflexivization provides an argument for a theory in which binding facts are not entirely derivable from antecedent-government, but rather derive from the interaction of antecedent-government and binding theories.

We shall also see that the subject orientation of certain reflexives derives in a natural way from the interaction of these two theories with the θ-criterion.

If our analysis is on the right track, the linguistic variation observed across languages can be reduced entirely to the respective lexical properties of the different reflexives and is not the result of the setting of different values of a parameter – in the traditional sense of this notion.

3 On the argument-like character of long-distance reflexives

Our analysis of long-distance reflexives, to be developed below, can be summarized in the following way:

(a) Clitics can be divided into two types, whether they cliticize onto Infl at S-structure or at LF.

(b) Reflexives such as *sig* cliticize onto Infl at LF.

(c) A reflexive clitic or – more precisely – its trace can escape the SSC (or whatever the precise formulation of the binding condition on anaphors turns out to be) through an escape hatch such as the C position of Comp (CP).[4]

(a) is partly reminiscent of Huang's analysis of some apparent contrasts between the behaviour of *wh*-words in Chinese and English. We shall see below that (c) is the result of quite complex mechanisms involving (among other mechanisms) raising of Infl to C. We shall see also that the interaction of (b) with some general principles on chain formation enables us to derive the strict subject orientation of *sig*.

Our analysis of long-distance reflexivization in terms of cyclic movement amounts to saying that (1) in Icelandic exhibits at LF properties very similar to those of 'clitic climbing' that can be overtly observed in some languages. This last phenomenon is illustrated by (5) in Italian, where the clitic *si* in the main clause is 'associated with' the object position *e* of the verb *vedere* of the embedded infinitive clause:

(5) Gianni si vuole [vedere *e*]
Gianni 3sg self (cl) wants [to see]

This is so because this manner of looking at things implies that the relationship of *sig* to *Jón* in (1) is established through an LF cyclic movement from Infl to Infl, through C, as illustrated in (6), the representation of (1):

(6) Jón Infl sagði [$_{CP}$ [C [$_{IP}$ María Infl elski sig]]]

We assume, following Pica (1987), that the C-position is only available for movement when it is not lexically filled. This is the case when the C-position is not filled at S-structure, or when the complementizer deletes at LF – according to a general principle of interpretation which asserts that only complementizers associated with tensed (indicative) inflections remain present at LF (see Pica (1987) and, for a different suggestion, section 6 below). We can then account for the fact that in languages which make use of lexical inflection and of lexical complementizers, long-distance reflexivization (of the type described above) cannot, in a very general way, take place when the reflexive is embedded in a clause whose inflection is indicative. This is illustrated by the contrast between (1) and (7) in Icelandic, where the embedded clause is in the indicative mood:

(7) *Jón$_i$ veit [að María elskar (ind) sig$_i$]
Jón knows [that Maria loves 3sg self]

The essence of this hypothesis, in which the reflexive moves at LF, seems also to be supported by the following Icelandic sentence (adapted from Maling), where the reflexive contained in the adverbial clause cannot refer to the subject of the matrix clause to which it is attached, but can however refer to the subject of the higher clause:

(8) Jón$_i$ Infl$_1$ sagði [að Gertrude$_j$ Infl$_2$ væri (subj) glöd [ef María Infl$_3$
Jón said [that Gertrude would be happy [if Maria
bydi (subj) sér$_{i/*j}$]]
invited 3sg self (= Jón)]]

This shows that *sér* can only move from Infl to Infl if the most prominent Infl c-commands the lowest Infl – a general state of affairs in the case of movement.

Our analysis is also supported by the treatment of overt long clitic movement (at S-structure) developed in Kayne (1989a), who – along the lines of note 11 of Pica (1987) – shows that overt clitic movement at S-structure is derived through cyclic head-to-head movement of an X° element, though not in the same way we advocate for clitic climbing at the level of logical form.

Note that, as expected under the 'C-deletion hypothesis', clitic climbing at S-structure is ungrammatical when the C-position of the embedded infinitive is lexically filled at that level, as illustrated by (9) in Italian, from Rizzi (1982):

(9) *non li so [se [fare *e*]]
(I) neg them (cl) know [if [to do]]

As noted by Kayne (1989a: (15)), the ungrammaticality of (9) in Italian parallels the ungrammaticality of (10), in which the mood of the embedded clause is subjunctive. This is expected under our own analysis, since the C-position of the subjunctive clause is, in our terms, still present at S-structure in (10), which, in our terms, contrasts with (1) in Icelandic:

(10) *Gianni li vuole [che Maria veda (subj) *e*]
Gianni them (cl) wants [that Mary see]

4 Some differences between clitic climbing at S-structure and clitic climbing at LF

We do of course find some differences between, in our terms, clitic movement at S-structure and clitic movement at LF, but these differences seem reducible to the

effect of general principles. We know, for example, that long overt clitic climbing at S-structure is restricted to '*pro*-drop languages', while what is, in our terms, clitic climbing at LF is not. Kayne points out that the absence of overt clitic climbing at S-structure in non-*pro*-drop languages can be derived from the theory of barriers, developed in Chomsky (1986b), according to which all maximal projections are potential barriers for antecedent-government.

This theory accounts for the ungrammaticality of (11) and (12) in French, where the trace of the object clitic is not bound within its first maximal projection (VP):

(11) *Jean a promis [de les bien faire *e*]
Jean has promised [to them (cl) well do *e*]
(12) *Jean se veut [voir *e*]
Jean 3sg self (cl) wants [see *e*]

Kayne suggests that the fact that VP does not act as a barrier in a *pro*-drop language can be reduced to the effect of the general principle, according to which barrierhood can be overcome by a process of L-marking (see Chomsky (1986b)).

That is, VP is not a barrier in *pro*-drop languages, because the rich character of Infl enables that element to L-mark the VP.

This hypothesis accounts for the contrast between (11) and (12) in French on the one hand, and (13) and (5) in Italian on the other,

(13) Gianni ha promesso [de farli bene *e*]
Gianni has promised [to do them (cl) well *e*]

where V adjoins to Infl after clitic movement, as indicated by the fact that V appears before the clitic (see Kayne (1989a)). The fact that VP is a barrier for clitic movement at S-structure clearly indicates that the part of the object NP which moves at this level is an X° – presumably a D°, in terms of Abney (1987). This is confirmed by the ungrammaticality of the following sentence in French (from Kayne (1989a)), and its equivalent (15) in Italian, which show that overt clitic climbing is blocked by the intervening head *ne* (see also, on the status of *ne*, Pollock (1989)):

(14) *Jean l'a fait [ne pas manger *e* par l'enfant]
Jean it (cl) has made [NEG eat *e* by the child]
(15) *Gianni l'ha fatto [non mangiare dal bambino]

The ungrammaticality of (14) and (15) shows indeed that the original trace of the X°-moved element cannot be γ-marked since X° are not arguments (see Lasnik & Saito (1984), Chomsky (1986b), Chomsky (1988a)). Long-distance reflexivization is however clearly not sensitive to the presence of an intervening head, and is not

restricted to *pro*-drop languages, as illustrated by the French sentence (16), where the behaviour of *soi* is reminiscent of the behaviour of *sig* in Icelandic:

(16) On$_i$ souhaite toujours [que les gens ne disent (subj) pas du mal de soi$_i$]
one wishes always [that people do not slander 3sg self]

This state of affairs can be reduced, in terms of the present framework, to the fact that reflexives of this kind are argument XPs (or, more precisely, that the part which moves is both an XP and an argument – presumably an NP – *contra* Pica (1987)). We can say that *soi* or *sig* can consequently adjoin to VP (or to V) at LF – γ-marking its original trace, which is then antecedent-governed – since intermediate traces delete in the case of movement of an argument (see Chomsky (1988a)). As a consequence, XP argument reflexives are not sensitive to the presence of intervening heads.

Note that the distinction between X°-clitics, which cliticize at S-structure, and XP clitics, which cliticize at LF (see however note 4), allows us furthermore to explain another distinction between overt clitic climbing at S-structure and, in our terms, clitic climbing at LF.

It is well-known that all standard cases of overt clitic climbing at S-structure are cases of subject control. As noted by Kayne (1989a), this is consistent with the idea that, once the X°-clitic has adjoined to Infl, it is the whole complex (Infl (cl Infl)) which moves to C, and then to the higher Infl, in such a way that the matrix and embedded subjects end up being coindexed. Comparable Infl-to-(C-to)-Infl movement in object control structures, however, would coindex two Infl whose respective subjects are themselves not essentially coindexed.

The fact that the X°-clitic cannot be extracted alone from the complex (Infl (cl Infl)) follows from Baker's prohibition against traces dominated by a zero-level category (see Baker (1988)). It is tempting (as suggested by Chomsky (class lectures)) to reduce this constraint to a derived effect by antecedent-government, that is, to the fact that such a trace could not be properly antecedent-governed. This can be done if we assume that X°-elements are not arguments and cannot consequently γ-mark their original traces. Intermediate traces cannot delete and are then subject to antecedent-government, which subsumes Baker's constraint on traces dominated by a zero-level element.

The existence of long-distance reflexivization in object control structures and in structures involving subjunctive complements clearly indicates – in these terms – that Infl does not move along with the long-distance XP-reflexive. That is, the whole complex (Infl (*sig* Infl)) does not move to the upper Infl after *sig* has adjoined to Infl.

We can reduce this fact (from which 'long-distance reflexivization' derives) to

the argumenthood of reflexives such as *sig*: intermediate traces of argument XPs at LF can delete and are consequently not subject to Baker's constraint, nor to the head constraint, as illustrated by (16) above.

5 On the interaction between binding and antecedent-government

The 'Infl-to-Infl' analysis developed in the preceding sections raises the following question: why is extraction of a reflexive such as *sig* impossible from a tensed sentence, as illustrated by (7) above?

That is, why does (3) (above) contrast with (17), which is of course perfectly grammatical:

(17) Who did he say that Mary loves *e*?

We assumed in Pica (1987) that the ungrammaticality of (3) derives from a conspiracy between the SSC and the structure preserving constraint which forced movement of the long-distance reflexive through Comp, in a theory where the SSC applies also to the reflexive itself. Yet, we saw earlier that there are reasons to doubt that Emonds's constraint should apply at LF. It is furthermore dubious that the theory of binding applies to the anaphoric relation which holds between the reflexive and its antecedent if this relation is expressed in terms of government. In addition, our 1987 analysis leaves open the two following questions:

(i) Point (c) seems to imply that the Comp position should be incorporated into the definition of the specified subject condition.
Why should this be the case if the SSC is expressed in terms of governing category (as in Chomsky (1981)) or in terms of complete functional complex (as in Chomsky (1986b))?

(ii) Why should it be impossible for a reflexive like *sig* or *himself* – whether Comp is incorporated into the definition of the SSC or not – to adjoin to an embedded IP or C (whatever the character of the embedded IP might be with respect to [±Tense]), and then undergo further movement to the upper clause?

We want to suggest that the answers to these questions follow from the interaction of antecedent-government, which applies to all non-deletable traces, and binding theory, which applies to the original traces of all types of reflexives – which, as we shall see, all move at LF – since these traces are identified as anaphors. Our new proposal suggests that the C-position does not need to be incorporated into the definition of the SSC itself – *contra* Pica (1987). Let's first analyse the case of long-distance reflexivization.

5.1 On some similarities between long-distance reflexivization and switch reference

Note that, in the case of a mono-morphemic reflexive like *sig* in Icelandic or *soi* in French, the reflexive could adjoin directly to IP and move further, but that, in our terms, the embedded original trace would not be bound by any of the intermediate traces which we assume must delete, since the reflexive is an argument, as discussed in the previous section.

The corresponding sentence would consequently be ruled out by the SSC or its reformulation in terms of Complete Functional Complex.

We want to suggest (*contra* Huang & Tang (chapter 13)) that a long-distance reflexive must consequently move to Infl (or, more precisely, to Agr and then to Infl, if the general structure assumed in Pollock (1989) is on the right track). We assume further that such a reflexive can transmit its index to Infl and (adopting in another context the leading idea of Borer (1989)) that the whole complex (Infl (Infl (Agr (Agr *sig*)))) moves to C at LF if that position is empty, as is the case with infinitives and subjunctive clauses, whose complementizers delete at this level of representation (or, alternatively, in the case of subjunctive clauses, that Agr moves to C, whose complementizer cliticizes on the main verb at LF, as suggested to me by J. Uriagereka).

It is thus the trace of Infl which, according to this analysis, binds the original trace of the reflexive.

Note incidentally that the hypothesis according to which the C-position of subjunctive clauses is empty at LF is supported by Pollock's analysis in which French embedded subjunctives do allow a small *pro* in subject position. This empty pronoun is, in our terms, licensed by Agr in C – as illustrated by the following contrast in French, where (19) is ruled out because the trace is not properly governed (see Pollock (1986)) and cannot be supplemented by a small *pro*:

(18) Il faudrait que *pro* viennent (subj) plus de linguistes à nos réunions
it would be better that come more linguists to our meetings

(19) *Il dit que *e* viennent (ind) plus de linguistes à nos réunions
he says that come more linguists to our meetings

We believe that the same hypothesis can account for the fact – observed in subjunctives – that the subject pronoun of the embedded clause cannot corefer with the subject of the main clause (see, among others, Ruwet (1984), Picallo (1985)), as illustrated in (20) in French. This fact is reminiscent of the switch-reference phenomenon overtly marked in many other languages:[5]

(20) Ils_i souhaitent qu'$\text{ils}_{*i/j}$ partent
they wish that they leave

We shall say, in the terms of the present analysis, that at LF, Agr moves in the C position of the embedded clause and extends the governing category of the embedded subject (which enters into disjoint reference with the main subject).

Coming back to the analysis of long-distance reflexives, we see that movement of Infl to C (and thus of the reflexive to Infl) is necessary for the binding of the trace of the reflexive in its CFC when the reflexive is an argument.[6] The same point is also illustrated by the fact that in (8) – repeated as (21) – *sig* (which satisfies antecedent-government in the adverbial clause) could not move directly from Infl_3 to Infl_1 if the embedded clause were indicative. In other words, *sig* could not move from Infl_3 to Infl_1 if Agr of the adverbial clause could not move to C.

(21) Jón_i Infl_1 sagði [að Gertrude_j Infl_2 væri (subj) glöd [ef María Infl_3
Jón said [that Gertrude would be happy [if Maria
bydi (subj) $\text{sér}_{i/*j}$]]
invited 3sg self (= Jón)]]

We see that under this analysis both movement of *sig* to Infl_3 and of Infl_3 to C are two necessary conditions for long-distance reflexivization. These two conditions are both required by the SSC: the former, because direct adjunction of *sig* to IP, or of *sig* to a constituent of IP, would lead to a violation of SSC – assuming that reference to the C-position of Comp in the definition of the CFC is not possible, *contra* Pica (1987); the second condition, because it creates the necessary antecedent for the original trace of the argument reflexive.

This analysis excludes direct movement of the reflexive in the upper Infl in sentences like (1). It entails that long-distance reflexivization is achieved through a cyclic movement of a reflexive, under the assumption that this reflexive is an argument and can consequently move alone, stranding the complex (I (Agr I)) in C.

One question remains unanswered: why is it impossible for a reflexive such as *sig* to refer to an object NP when it is in its adjoined position to VP or to V (see note 4 below)?

We shall assume that the so-called 'subject orientation' of the reflexive follows from the fact that the coindexation of the reflexive with an object antecedent would indirectly imply coindexing of the object antecedent with the trace of the reflexive and the reflexive itself, resulting in a violation of Rizzi's chain algorithm, hence in a violation of the θ-criterion (see Rizzi (1985)).[7]

5.2 The case of clause-bound reflexives

5.2.1 The case of X°-reflexives

The analysis developed in the preceding sections can be extended in a straightfor-

ward way to the connected form of *soi, se*, which cliticizes at S-structure in French. *Se* cannot be long-distance bound when it is embedded in a subjunctive clause, as illustrated in (22):

(22) *Paul$_i$ souhaite [que Jean se$_i$ photographie (subj) *e*]
Paul wishes [that Jean 3sg self (cl) photograph *e*]

This is natural under the assumption that *se* – which undergoes overt clitic movement – is an X° (which adjoins to V in a non-*pro*-drop language, along the lines of Kayne (1989a)) and is, as such, subject to the requirement that all (non-deletable) traces should be antecedent-governed. The same requirement rules out the S-structures (23) and (24) below, which are reminiscent of (11) and (12) above:

(23) *Paul se souhaite [que Jean photographie *e*]
Paul 3sg self (cl) wishes [that Jean photograph *e*]
(24) *Paul se veut [photographier *e*]
Paul 3sg self (cl) wants [to photograph *e*]

As expected under the present framework, the equivalent of (24), where the main subject is coindexed with the embedded subject, is nevertheless grammatical in a *pro*-drop language, as illustrated by the grammaticality of (5) above, repeated below as (25):

(25) Gianni si vuole [vedere *e*]
Gianni 3sg self (cl) wants [to see]

Note that our analysis predicts the ungrammaticality of the French sentence (26), where the cliticization of *se* is blocked by the presence of an intervening head (*ne*), and which is reminiscent of (14) above:

(26) *Jean s'est fait ne pas dessiner par l'enfant
Jean 3sg self (cl) has made NEG drawn by the child

5.2.2 On the adjunct-like character of the so-called non-mono-morphemic reflexives

Let us now turn to the more complex case of non-mono-morphemic reflexives of the *himself*-type in English.

We claimed in Pica (1987) that non-mono-morphemic reflexives such as *himself* were XP, and could not, as such, move through C, as a result of the structure preserving constraint. We saw above that this line of argument is questionable if the structure preserving constraint does not apply at LF.

Let us admit, slightly reformulating a hypothesis of Pica (1985), that it is the (possessive) specifier (in this case *him*), and not the whole 'reflexive' (in this case

himself),[8] which is the element subject to movement. Let us furthermore assume that this specifier, which agrees in gender and number with its antecedent, is in the internal specifier position of the relational noun *self*.

This amounts to saying that *him* of *himself* is very similar to *lui* in sentences like (27) in French,

(27) Il lui casse la main
he to-him (dat) breaks the hand

where we claim that *lui* originates in the specifier position of the relational noun *main*, from which it is assigned a θ-role (see Pica (forthcoming)). In the case of a reflexive such as *himself*, however, we assume that the specifier does not get a θ-role since it cannot θ-bind the open position associated with the head noun *self*. This noun blocks the coindexation internal to the NP (along the lines of Pica (1987) footnote (6)).

This point is, in our terms, illustrated by the lack of morphological uniformity (accusative or, more likely, dative in the case of *him* (of *himself*); genitive in the case of *my* (of *myself*)).

The anaphoric specifier – which we tentatively assume is an XP – acts as an adjunct XP since it does not get a θ-role. Let us assume (*contra* Pica (1987)) that such specifiers do also cliticize into Infl at the LF-level interpretation – a process which is reminiscent of the determinant cliticization illustrated in (27) above, and which can also overtly be observed in Galician, as illustrated by (28) from Uriagereka (in preparation):

(28) Vimo-lo Kremlin
we saw-the (cl) Kremlin

Note that the hypothesis according to which all 'reflexives' are clitic-like elements at the level of logical form gives us a straightforward explanation of the absence of long-distance reflexivization in the case of non-mono-morphemic reflexives. The intermediate traces of the reflexive's specifier, which is an adjunct, cannot delete and are thus subject to Baker's constraint.

This amounts to saying that the ungrammaticality of (29)

(29) *Peter$_i$ asks that you love (subj) himself$_i$

parallels the ungrammaticality of (22) and (23) above.

It is well known that reflexives of the *himself*-type are not strictly subject oriented, as illustrated by (30):

(30) I told Bent$_i$ about himself$_i$

This can now be reduced to the fact that *him* does not bear a θ-role: the coindexation of the specifier and its trace at LF with the object *Bent* is consequently not ruled out by the θ-criterion.

Although many details still need to be worked out, it seems to us that the leading ideas outlined above enable us to derive in a natural way the basic binding facts as well as the well-known relationship between long-distance binding and subject orientation. It also enables us to account for the absence of long-distance reciprocals if we assume that reciprocity always involves movement of an adjunct (see Pica (forthcoming) for the detail of the analysis, as well as for a treatment of some apparent counterexamples).

6 Some brief remarks on the so-called long-distance reflexive in English

The analysis sketched in the preceding sections, if it is on the right track, provides strong evidence for a level of logical form, to which the well-attested rule of move-α applies.

We believe that this analysis is corroborated by 'long-distance binding' of the type illustrated by sentence (31) in English:

(31) they$_i$ said [$_{CP}$ [$_C$ that [$_{IP}$ [$_{NP}$ pictures of themselves$_i$] are on sale]]]

Under a movement analysis, (31) contrasts with overt movement from a subject position (as illustrated in (32)), which is ruled out by subjacency (along the lines of Huang (1982)), since movement of the *wh*-word crosses at least two barriers (NP and IP):

(32) *who did you say [$_{CP}$ [$_C$ that [$_{IP}$ [$_{NP}$ pictures of *e*] are on sale]]]?

As expected under the *Barriers* framework, which we have been assuming throughout, the equivalent of (32) is however possible at LF, as illustrated by (33), where the argument *wh*-word moves, presumably to the specifier of NP, γ-marking the original trace:

(33) who thinks [$_{CP}$ [that [$_{NP}$ pictures of whom] are on sale]]?

But why should movement of an adjunct (such as the specifier of a non-mono-morphemic reflexive) out of a subject be possible in (31)?

Let's assume that the whole reflexive (in this case *themselves*) moves to the Spec of NP and, adopting in another context an analysis proposed for extraction from NP in Spanish by Torrego, that the whole reflexive moves to the specifier of CP, as illustrated in (34), where it is L-marked by a process of specifier–head agreement, along the lines of Chomsky (1986b: 26):

(34) they$_i$ said [$_{CP}$ themselves$_i$ [$_C$ that [$_{IP}$ pictures of *e* are on sale]]]

The adjunct anaphor *them* can now move out of NP and CP, which are both L-marked, to a position in which it will govern its antecedent, as in the simpler sentence (35):[9]

(35) they$_i$ like pictures of themselves$_i$

Note that our analysis, which amounts to saying that the element which is a reflexive (in the traditional sense) and the element subject to movement do not always correspond one to the other, enables us to suggest that the apparent linguistic diversity observed across languages can in fact be entirely reduced to the respective lexical properties of the different linguistic entities.

We believe that such a reduction of language variation to the effect of variation within the lexicon constitutes strong evidence in favour of the formulation of a universal grammar, and that it constitutes in itself a considerable support for the idea that the study of UG is part of the study of the human mind within the more general domain of cognitive sciences.

The analysis developed in the text shows moreover that, if the effect of the theory of antecedent-government and the theory of binding strongly overlap in the case of X° and adjunct reflexives, the behaviour of long-distance reflexives shows that neither of these theories can be reduced to the other, supporting the general idea of a modular organization of language.

Acknowledgements

This work was supported by the MIT Center for Cognitive Science under a grant from the A. P. Sloan Foundation's particular program in Cognitive Science.

Thanks for their help to L. Burzio, S. Bromberger, N. Chomsky, J. Frampton, S. Gutmann, K. Hale, R. Kayne, H. Lasnik, S. Iatridou, R. Larson, A. Hestvik, J. Higginbotham, E. Torrego, J. Uriagereka, L. Yafei and B. Zhiming, with whom I have been able to discuss several points related to the theory developed in this chapter.

Thanks also to all the participants of the Groningen round table on long-distance anaphora, where part of this work was presented and discussed.

Notes

1. Where the SSC is integrated in the notion of governing category (Chomsky (1981)) or in the notion of complete functional complex (Chomsky (1986a)).
2. As we shall see below, the distinction between mono-morphemic/non-mono-morphemic reflexives – which is reminiscent of the distinction between argumental and non-argumental reflexives of Pica (1985) – is to a certain extent misleading.

We shall see below that the right generalization is more complex and distinguishes adjunct reflexives and X°-reflexives from argument reflexives. Most mono-morphemic reflexives are arguments, although not all of them are, as illustrated by the case of the clitic *se* in French, which is an X°, as is shown in the text.

3. See, however, Herlofsky (1986), who shows that what has been considered subject orientation is, in many cases, the result of a third person orientation.
4. The formulation of (a–c) is actually oversimplified and should not hide the fact that movement at S-structure and movement at LF interact closely – as illustrated by the contrast between X°-clitics in French and in Italian, where this type of clitic adjoins to V at S-structure and moves together with V to Infl in French, while the same type of element can reach Infl at S-structure in Italian, if the analysis developed in Kayne (1989a) is on the right track. If Kayne's analysis is correct, it might indeed indicate that movement proceeds as far as possible at S-structure, until it is blocked, and might then proceed again at LF if no particular constraint blocks the operation at this new level of representation. This line of approach is supported by the fact that XP-clitics like *sig* do undergo a kind of cliticization (called object shift) at S-structure, as illustrated by the following contrast in Swedish, from Holmberg (1986):

(i) att Sara uppförde sig illa
that Sara behaved herself badly
(ii) Varför uppförde sig Sara illa?
why behaved herself Sara badly?

where we assume, following Holmberg, that V raises to C in (ii) and would like to propose that the reflexive adjoins to IP (after a first adjunction to VP), as illustrated in the representation (iii):

(iii) $[_{CP}$ varför $[_{C}$ uppförde $[\text{sig}_i$ $[_{IP}$ Sara INFL $[_{VP}$ e_i illa]]]]]?

Note that if the analysis developed in the text is on the right track, *sig* would have to be reconstructed in its base position to move up to Infl at LF – a movement which is ruled out at S-structure by the structure preserving constraint.

5. Note that the analysis developed in the text is not compatible with Borer's hypothesis according to which, in infinitives, Agr in C license a small *pro* (not PRO). Our analysis would lead us to expect such a pronoun always to be disjoint in reference from its controller in sentences like 'John wants to win', if 'John wants [[*pro* to win]]' were their grammatical representation.

   We could claim that the element Agr of an infinitive sentence is in general not able to license a *pro* (although inflected infinitives in Portuguese, whose subject enters into disjoint reference with the main subject, do – as pointed out to me by K. Hale), or alternatively, that non-inflected infinitives lack Agr entirely although they have an inflection node, as clearly indicated by the fact that they accept clitics.
6. Movement of Infl to C is also supported by the existence of overtly inflected complementizers (see Bennis & Haegeman (1984)).
7. See however, for an alternative analysis, Pica (forthcoming) where it is suggested that the contrast between subject-oriented reflexives and non-subject-oriented reflexives might derive from the interaction of the theory of antecedent-government with general principles of economy.

We also suggest that obligatory movement of INFL to C observed in the case of long-distance reflexivization could be linked to the syntax of reflexives itself, hereby indirectly suggesting that binding theory might be entirely reducible to antecedent-government, an obvious alternative to the analysis developed in this chapter.

8. The whole reflexive *himself* being, of course, the argument with respect to θ-theory.
9. Note that an intervening negation does not block movement of an adjunct reflexive at LF, as illustrated by the grammaticality of (i), which contrasts with (14) and (15) in the text:

   (i) he_i did not admire himself_i

   We shall tentatively assume that the negation raises at LF and does not induce any minimality effect with respect to the reflexive. We will come back to this point in Pica (forthcoming).