

Reconstruction and minimalism

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0. Introduction

The phenomenon of reconstruction involves the interpretation of an NP in a position different from the one it occupies at the surface, but which it can be argued to have occupied at a different level of representation.¹ The copy theory of movement, according to which movement involves the leaving of a copy in the source position of the movement (Chomsky 1993), sheds an interesting new light on reconstruction phenomena. In this theory, moved NPs simultaneously occur in two different positions, so that it should not come as a surprise that they can be interpreted in either of these two positions. Chomsky (1993) presents an analysis of reconstruction in terms of the copy theory of movement. I shall argue that this analysis is unable to explain an existing asymmetry between Condition A on the one hand and Conditions B and C on the other with respect to the obligatoriness of the reconstruction process. I shall present an alternative analysis, according to which this asymmetry is only apparent. Finally, I shall propose an explanation for the contrasting behaviour of A-movement and A'-movement with respect to reconstruction.

1. An asymmetry between Condition A and Conditions B/C

As far as Condition A is concerned, reconstruction seems at first sight to be optional. For example, in (1) either *John* or *Bill* can function as the antecedent for *himself* (Barss 1986).

- (1) John_i wondered [which picture of himself_{ij}] [Bill_j saw *t*].

On the other hand, replacing *himself* by an R-expression or a pronoun makes reconstruction obligatory, i.e. the moved NP has to be interpreted in the trace position, yielding a condition B/C violation.

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- (2) a *John wondered [which picture of Tom_i] [he_i liked *t*].
 b *John wondered [which picture of him_i] [Bill_i took *t*].
 c *John wondered [what attitude about him_i] [Bill_i had *t*].

Various solutions to this problem could be envisaged. One could, for example, propose to derive this asymmetry by making anaphors subject to different rules from pronouns and R-expressions, as proposed in Chomsky (1993) (cf. below for discussion). Alternatively, one could suggest that the various binding principles apply at different levels: thus Condition A could be met at any level for a sentence to be grammatical, whereas a violation of Conditions B or C at any level makes a sentence ungrammatical (cf. Belletti and Rizzi 1988).

In this paper, I shall take another tack and argue that the asymmetry is only apparent, and that reconstruction is always obligatory. Example (1) with binding by the matrix subject *John* is potentially problematic in such an approach: I shall present evidence to the effect that in that interpretation, *himself* is not an anaphor. To see this, consider the contrast in (3).

- (3) a John thought that pictures of himself were on sale.
 b Jan dacht dat er foto's van ?*zichzelf/hemzelf te koop waren.²

The English form *himself* has two possible translations in Dutch: one is the form *zichzelf*, which is a pure anaphor, and the other *hemzelf*, which I shall call an emphatic pronoun, or logophor. The distinction surfaces in (3b), an example which concerns locality, but also with properties like split antecedence (4), c-command (5), obligatoriness (6), and sloppy identity (7) (see (8) through (11) below for an English translation of these examples).

- (4) Jan_i liet Piet_j foto's van *zichzelf_{i+j}/henzelf_{i+j} ophangen.
 (5) a Jans campagne vereist een hoop foto's van *zichzelf/hemzelf.
 b Ik heb met Jan over *zichzelf/hemzelf gepraat.
 c een boek van Jan over ?*zichzelf/hemzelf
 (6) *Spreker A*: Jan wijst op de problemen van zijn collega's, maar heeft hij dat probleem dan opgelost?
Spreker B: Nee, dat probleem speelt *zichzelf/hemzelf duidelijk ook parten.
 (7) Jan kocht een foto van zichzelf/hemzelf, en Piet ook.

² The example (3b) is marginally acceptable with *zichzelf*; this possibility must be attributed to the fact that the noun *picture* can have a pronominal empty category as a subject, which can be interpreted as coreferential with the matrix subject. This empty category also affects the interpretation in cases involving reconstruction, which is why the judgments indicated are never absolute, but should always be taken as contrastive.

n (7), the variant with *hemzelf* permits both the strict and the sloppy reading, whereas the variant with *zichzelf* is unambiguously sloppy. In English both forms are available as well, but they receive the same expression, *himself*. This already appears from (3), and it is further illustrated in the following examples, which are the English equivalents of (4) through (7).

- (8) John_i made Bill_j hang up pictures of themselves_{i+j}
- (9) a John_i's campaign requires a lot of pictures of himself_i
 b I talked with John_i about himself_i
 c a book by John_i about himself_i
- (10) Speaker A: John points out his colleagues' problems, but does he have
 that problem sorted out?
 Speaker B: No, the problem clearly bothers himself too
- (11) John bought a picture of himself, and Bill too³

The insight that there exist two variants of *himself* is not new; one usually distinguishes anaphoric *himself* from so-called *picture noun himself* (cf. Ross 1970, Helke 1979, Lebeaux 1984, 1985, Manzini 1983, Reinhart and Reuland 1991, etc.; Bickerton 1987 and McCay 1991 discuss what I take to be the nominative variant of logophoric *himself*, to wit *he himself*). A point of discussion is how to account for the distinction. Authors like Lebeaux and Manzini assume that both types of *himself* are subject to Condition A of the Binding Theory (henceforth BT(A)), which is consequently made somewhat less stringent in their theories. Others, such as Reinhart and Reuland, claim that only anaphoric *himself* (i.e. the equivalent of *zichzelf*) is subject to BT(A). The emphatic pronoun *himself/hemzelf*, on the other hand, is a logophor, i.e. an element subject to discourse conditions. In Vanden Wyngaerd (1994), I have argued in favour of the latter position, and I refer the reader to that work for more detailed discussion of this issue, in particular of the distribution of anaphoric and logophoric *himself*, c.q. *zichzelf/hemzelf*. Suffice it to say that the status of examples with picture nouns used in the reconstruction discussion is uncontroversial in this respect.

If we look at the reconstruction data with this insight, the facts indeed seem to suggest that reconstruction is always obligatory.

- (12) a Piet_i vraagt zich af wat voor foto van zichzelf_{i+j} Jan_j gekocht heeft
 b Piet_i vraagt zich af wat voor foto van hemzelf_{ij} Jan_j gekocht heeft
 'Piet wonders what picture of himself Jan bought'

³ The availability of the strict reading with English *himself* is a subject of controversy in the literature. While Lebeaux (1984:255) claims that it is absent, authors like Sag (1976:140) and Sells (1986:441) do judge the strict reading available; cf. also Vanden Wyngaerd (1994:230-234) for discussion and examples.

The crucial fact is (12a), which shows that matrix binding has a marginal status (comparable to (3b) with *zichzelf*). It is also possible to construct an example in which embedded binding is excluded.

- (13) ?*Piet vraagt zich af welke foto van zichzelf ik gekocht heb.
 'Piet wonders what picture of himself I bought'

In such a case, the entire sentence is marginal. The embedded pronoun *ik* 'I' is ruled out as an antecedent because of a feature clash, and matrix binding is equally impossible, by assumption. In sum, reconstruction is always obligatory, and matrix binding in an example like (1) results from the possibility of interpreting *himself* as a logophor rather than an anaphor.

2. Self-cliticisation

In this section I want to go into the analysis that has been proposed by Chomsky (1993) to account for the contrast between (1) and (2), and which reduces the difference between anaphors and pronouns/R-expressions to the rule of *self-cliticisation*, which applies only to anaphors. The matrix binding reading of (1) results from cliticisation from Spec,CP to the matrix V *wondered*, whereas the other reading, with binding by the embedded subject, results from cliticisation from the base position of the anaphor to the embedded V *liked* (cf. Chomsky 1993 and below for details). This gives the informal representations in (14), to be modified below.

- (14) a John_i self_i-wondered [[which pictures of *t_i*] [Bill liked *t_i*].
 b John wondered [[which pictures of *t_j*] [Bill_j self_j-liked *t_j*].

This rule of *self-cliticisation* is suspect, however. It might be deemed possible to take place from Spec,CP, as in (14a), but independent evidence suggests that subextraction out of Spec,IP is impossible (cf. also Kayne 1984).

- (15) *Who_i do you think [that [[pictures of *t_i*] were on sale]?

Such subextraction would, however, be needed to account for an example like (3a), which would look as in (16).

- (16) John self_i-thought [that [[pictures of *t_i*] were on sale].

The case of cliticisation from Spec,IP is also relevant in the context of reconstruction phenomena, as Barss (1986) shows. He observes that multiple binding

possibilities also exist in experiencer verb contexts. It is well-known that these permit a binding asymmetry, witness (17).

- (17) Pictures of herself_i annoy Mary_i

In the light of the analysis of *himself* proposed above, one might wonder if this binding asymmetry is real, or whether it also reduces to the logophoric use of *herself* in (17). The Dutch evidence suggests that, at least in generic sentences, the binding asymmetry is indeed real.⁴

- (18) Foto's van zichzelf/haarzelf irriteren Marie altijd
'Pictures of self/herself always annoy Marie'

What Barss observes is that, if such sentences are embedded, there is a choice between matrix and embedded binding.

- (19) Lucie_i thinks that pictures of herself_{ij} annoy Mary_j

But the matrix binding reading of this example would indeed require subextraction from Spec,IP in a *self*-cliticisation analysis. In the present analysis, the matrix binding reading results from the logophoric reading of the English *self*-form, an analysis which is confirmed by the Dutch evidence.

- (20) a Lucy_i denkt dat foto's van haarzelf_{ij} Marie_j altijd irriteren.
b Lucy_i denkt dat foto's van zichzelf_{ij} Marie_j altijd irriteren.
(21) ?*Lucy denkt dat foto's van zichzelf mij altijd irriteren.

There is another important problem for the rule of *self*-cliticisation, which concerns multiple reconstruction sites. In order to see the problem, it is necessary to go into some of the details of Chomsky's analysis. Consider the derivation of (1) is somewhat more detail, in (22) through (24).

- (22) John wondered [_{wh} which picture of himself] [Bill saw [_{wh} which picture of himself]]
(23) a John_i self_i-wondered [_{wh} which picture of *t_i*] [Bill saw [_{wh} which picture of himself]]

⁴ In nongeneric sentences, examples with asymmetric binding become rather marginal with *zichzelf*.

(i) Die foto van ?*zichzelf/hemzelf_i heeft Clinton_i duidelijk geïrriteerd
'That picture of (him)self clearly annoyed Clinton'

This might suggest a new perspective on examples with binding asymmetries, according to which the phenomenon would be related to genericity. Limitations of space prevent me from investigating this issue in full here.

- b John wondered [_{wh} which picture of himself] [Bill_j self_j-saw [_{wh} which picture of *t_j*]]
- (24) a John self_i-wondered [which *x*, *x* a picture of *t_i*] [Bill saw *x*]
- b *John self_i-wondered [which *x*] [Bill saw [*x* picture of *t_i*]]
- c *John wondered [which *x*, *x* a picture of *t_j*] [Bill self_j-saw *x*]
- d John wondered [which *x*] [Bill self_j-saw [*x* picture of *t_j*]]

First, a copy of the moved category is created in the target position of the movement: this is shown in (22). Next, *self*-cliticisation applies, yielding either (23a) or (23b). In order to have a legitimate LF structure, however, one needs to create an operator-variable structure. Starting from (23), there are two possibilities, yielding a total of four derivations; one can either have (i) an operator with a restriction and a bare variable *x* ((24a) and (24c)), or (ii) a bare operator and a variable which is smaller than the category moved, and which consequently carries some additional material with it (*x picture of NP*): I shall refer to these as complex variables (cf. (24b) and (24d)). Only two of the derivations in (24) are legitimate, the starred variants being ruled out because the *self*-clitic cannot be properly connected to its trace.

Before pointing out the problem of this analysis, I want to go into the question how it accounts for the difference between obligatory and nonobligatory reconstruction. A case with obligatory reconstruction, like (2) above, involves the derivational steps in (25) and (26).

- (25) John wondered [_{wh} which picture of Tom] [he liked [_{wh} which picture of Tom]].
- (26) a John wondered [which *x*, *x* a picture of Tom] [he liked *x*].
- b John wondered [which *x*] [he liked [*x* picture of Tom]].

The derivation in (26a) is grammatical for binding theory purposes with *Tom* and *he* coreferent, but this result contradicts empirical fact. Hence (26a) must be ruled out; Chomsky therefore introduces a preference principle, which requires reconstruction to take place where possible. In (26) there is a choice, and the preference principle prefers the ungrammatical derivation (26b) over the grammatical one in (26a).

Turning to (1) again, the preference principle ought to exclude the nonreconstructing derivation (24a) as well, because there is an alternative, reconstructing, derivation, (24d). This is undesirable as matrix binding is possible in Chomsky's analysis. How, then, is the effect of the preference principle, which requires reconstruction, suspended in the case of (1)? According to Chomsky, there is no real choice between two alternatives, which there was in the case of (2). From (23a) one can only derive (24a); the other option, (24b), leads to a crash. The same goes for (23b), which gives rise to (24c) and (24d), of which only (24d) converges. There is, in other words, no real choice between reconstruc-

tion and nonreconstruction, according to Chomsky. The argument only goes through, however, if one considers only one step in the derivation, i.e. the step leading from (23) to (24). Should one start out from (22), there would of course be a choice and the preference principle would require reconstruction (i.e. (24d) would be the only derivation). It will be clear that this is a highly stipulative solution. An example from Brody (1993) moreover shows that it is untenable.

- (27) Mary_i wondered which claim that pictures of herself_i disturbed Bill,
he_{*,j/k} made

For BT(A) one needs an operator with a restriction in the target position of the movement (and consequently a bare variable in the source position), but the Condition C effect between the name *Bill* and the pronoun requires a complex variable in the source position (i.e. *x claim that pictures of NP disturbed Bill*). These contradictory requirements cannot be met in Chomsky's theory; within the theory defended here, there is of course no problem at all, reconstruction being obligatory in all cases.

3. Multiple reconstruction sites

We now have the necessary background to illustrate the problem that arises for Chomsky's analysis when the *wh*-NP is in a matrix Spec,CP, and there are multiple reconstruction sites. An example is given in (28), which displays an ambiguity with respect to binding possibilities reminiscent of (1).

- (28) [Which picture of himself_{*t_j*}] did John_{*i*} think [*t'* [Fred_{*j*} liked *t*]]?
 (29) a [Which *x*] John_{*i*} thought [Fred_{*j*} self_{*j*}-liked [*x* picture of *t_j*]]?
 b *[Which *x*, *x* a picture of *t_i*] John_{*i*} self_{*i*}-thought [Fred_{*j*} liked *x*]?
 c *[Which *x*] John_{*i*} self_{*i*}-thought [Fred_{*j*} liked [*x* picture of *t_i*]]?

The derivation yielding the embedded binding reading (i.e. with *Fred* as antecedent), given in (29a), is unproblematic. But any attempt to make *John* function as the antecedent of *himself* is doomed to failure. In (29b) the trace of *self*-cliticisation has no c-commanding antecedent, and in (29c) the antecedent is too remote. What would be needed, is a complex variable in the intermediate Spec,CP position, but that is semantically impossible. This argument is again rather problematic for Chomsky's analysis; at the same time, the impossibility of reconstructing into an intermediate Spec,CP position is a good result from the point of view of the theory defended here, as the Dutch evidence shows that this is indeed impossible. Consider (30), which is the Dutch equivalent of (28) with *hemzelf* and *zichzelf*, respectively.

- (30) a Wat voor foto's van hemzelf_{ij} dacht Jan_i dat Fred_j leuk vond?
 b Wat voor foto's van zichzelf_{*,ij} dacht Jan_i dat Fred_j leuk vond?
 (31) ?*Wat voor foto's van zichzelf dacht Jan dat ik leuk vond?
 'Which pictures of himself did John think I liked?'

A potential problem arises for the analysis defended here: Barss and Chomsky note an effect of obligatory reconstruction with *wh*-moved predicates.

- (32) *John_i wonders how proud of himself_i Mary became *t*

It is unclear to me why this case is bad under the logophoric construal of *himself*; still, its Dutch counterpart with *hemzelf* is equally marginal.

- (33) ?*Jan_i vraagt zich af hoe trots op hemzelf_i Marie *t* is⁵

Conditions on logophors possibly explain the marginal status of these sentences.

4. Idioms

Chomsky has a strong argument for his analysis, which concerns idioms. The observation is that the binding possibilities in cases of optional reconstruction (cf. (1)) correlate with the distinction idiomatic-nonidiomatic.

- (34) John wondered [which picture of himself] [Bill took *t*].

If *John* is the antecedent of *himself*, only the nonidiomatic reading is permitted, if *Bill* is the antecedent, the idiomatic one is also possible. Chomsky's analysis of this is that idiom interpretation is only possible if *take ... picture* is present as a unit at LF. Returning to (24), and mentally replacing the verb *saw* by *took*, one sees that the idiom forms a unit in (24d), with binding by *Bill*, but not in (24a), with binding by *John*. It is not clear, however, if this analysis can be made to work. Consider the representation (24b) and the one from which it is derived through LF rules subextracting *which* out of the moved constituent, (23a); both representations are repeated here for convenience.

⁵ An anonymous reviewer finds (33) acceptable, given a proper (contrastive) context, with emphasis on *himself*; while I agree with this observation, it would seem to me that this type of context also makes the English analogue in (32) acceptable. The question that remains, then, is why the contrastive context need not be invoked in the other reconstruction examples.

- (23) a John_i self_i-wondered [_{wh} which picture of *t_i*] [Bill took [_{wh} which picture of himself]]
 (24) b *John self_i-wondered [which *x*] [Bill saw [*x* picture of *t_i*]]

The representation in (24b) would couple matrix binding and idiomatic interpretation, a case to be ruled out according to Chomsky. Although it is indeed likely that the trace of *self*-cliticisation cannot be connected to its antecedent in (24b), it is far less likely that there should be a trace of cliticisation at all in that representation. When comparing (24b) to its derivational ancestor (23a), one sees that in (23a) there is a copy of *himself* in the source position of the movement, which has been replaced by a trace in (24b). This replacement cannot be the result of *self*-cliticisation, however, as there would then have to be a *self*-clitic attached to the lower verb. The appearance of a trace of *self*-cliticisation in (23a) is therefore wholly unmotivated, and the violation that allegedly arises need not arise at all. There would consequently be a converging representation that couples matrix binding with idiomatic interpretation.

Chomsky's analysis furthermore runs into insurmountable problems on taking into consideration the case of A-movement. This does not permit reconstruction, as the examples in (35) indicate.⁶

- (35) a *I seem to him_i to like John_i.
 b [The claim that John_i was asleep] seems to him_i [_{IP} *t* to be correct].

The absence of a Condition C effect in (35b) would indicate that there is no copy left in the trace position in the case of A-movement. If that is true, idiom chunks should never be able to undergo A-movement, which is however incorrect, as Chomsky himself notes.

- (36) Several pictures were taken *t*.

Can the analysis presented here account for the claimed correlation between idiom interpretation and binding possibilities? For example, is the idiomatic reading excluded in cases of matrix binding? This to me does not seem to be the case.

⁶ Apart from being incompatible with the minimalist framework, a theory that would hope to explain the asymmetry between conditions A and B/C with respect to reconstruction in terms of the different levels at which these conditions apply, also faces the difficulty of explaining the absence of any condition C effect with A-movement, i.e. the acceptability of (35b).

- (37) Jan_i vroeg zich af
- a welke verhalen over hemzelf_i Marie verteld had.
 - b welke opinies over hemzelf_i Marie had.
 - c welke foto's van hemzelf_i Marie genomen had.
 - d welke gevoelens voor hemzelf_i Marie had.
- (38) John_i wondered
- a which stories about himself_i Mary had told.
 - b what opinions/attitudes about himself_i Mary had.
 - c which pictures of himself_i Mary had taken.
 - d what feelings for himself_i Mary had.

The conclusion is that the analysis is not only untenable, but also that the facts upon which it is based are not very robust.

5. Conclusion

Summarizing, I have argued that the process called reconstruction does not involve any factor of optionality. Apparent cases of binding in the target position of the movement involve the logophor *himself* or *hemzelf*. Two questions arise at this point: (i) how does one account for the obligatoriness of reconstruction, and (ii) what explains the contrast between A-movement and A'-movement with respect to reconstruction? I should like to suggest that the notion of visibility plays a role here. Visibility for the binding theory is determined by Case. I shall furthermore take over from Chomsky (1993) the copy theory of movement, and the assumption that the binding theory applies at LF.

- (39) a [*The claim that John_i was asleep*] seems to him_i [_{IP} [*the claim that John_i was asleep*] to be correct].
- b (Piet_k vraagt zich af) [*welke foto van zichzelf_{k/i}/Jan_i*] hij_{j/i} [*welke foto van zichzelf_{k/i}/Jan_i*] kocht?

A copy is invisible for the binding theory if it is not in a Case position. With A-movement, as in (39a), only the copy in the target position is visible, as indicated by the italics; hence the absence of a Condition C violation. With A'-movement, on the other hand, only the copy in the source position is visible. The representations in (39) are the final LF configurations, i.e. no operator-variable structures are formed, both with A-movement and A'-movement. The mapping to PF involves the deletion of either of the two copies.

References

- Barss, A. (1986) *Chains and anaphoric dependence*, PhD Dissertation, MIT, Cambridge, Massachusetts.
- Belletti, A. and L. Rizzi (1988) 'Psych-verbs and θ -theory', *Natural Language and Linguistic Theory* 6, 291-352.
- Bickerton, D. (1987) 'He himself: Anaphor, pronoun, or..?', *Linguistic Inquiry* 18, 345-348.
- Brody, M. (1993) 'Lexico-logical form--a radically minimalist theory', ms., University College, London.
- Chomsky, N. (1993) 'A minimalist program for linguistic theory', in K. Hale and S. Keyser, eds., *The view from building 20*, MIT Press, Cambridge, Massachusetts.
- Helke, M. (1979) *The grammar of English reflexives*, Garland, New York.
- Kayne, R. (1984) *Connectedness and binary branching*, Foris, Dordrecht.
- Lebeaux, D. (1984) 'Anaphoric binding and the definition of PRO', *NELS* 14, 253-274.
- Lebeaux, D. (1985) 'Locality and anaphoric binding', *The Linguistic Review* 4, 343-363.
- Manzini, M. (1983) 'On control and control theory', *Linguistic Inquiry* 14, 421-446.
- McCay, T. (1991) 'Undiscovering an anaphor', *Linguistic Inquiry* 22, 368-373.
- Reinhart, T. and E. Reuland (1991) 'Anaphors and logophors: An argument structure perspective', in J. Koster and E. Reuland, eds., *Long-distance anaphora*, Cambridge University Press, Cambridge.
- Ross, J. (1970) 'On declarative sentences', in R. Jacobs and P. Rosenbaum, eds., *Readings in English transformational grammar*, Ginn, Waltham, Massachusetts.
- Sag, I. (1976) *Deletion and logical form*, PhD Dissertation, MIT, Cambridge, Massachusetts.
- Sells, P. (1986) 'Coreference and bound anaphora: A restatement of the facts', *NELS* 16, 434-446.
- Wyngaerd, G. Vanden (1994) *PRO-legomena. Distribution and reference of infinitival subjects*, Mouton de Gruyter, Berlin.