

Reconstruction and English PPs*

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1 Overview

- An analysis of the binding possibilities in the context “talk to ___ about ___” that appeals to reconstruction of vP-internal movements.
- A proposal that reconstruction is more restricted for Condition A than for Conditions B and C.
- An analysis of the effects of PP topicalization on binding possibilities.
- An analysis of the Kearney paradigm.
- A comparison of the analysis of *about* presented here with some of the alternatives to be found in the literature.

2 The paradigm for “talk to ___ about ___”

In the case where the complement of either *to* or *about* is an r-expression and the complement of the other is a pronoun or anaphor, there are eight possible structures, taking into the account the optionality in the order of *to* and *about*:

(1)

- a Mary talked to Bill₁ about himself₁ on Tuesday.
- b * Mary talked to himself₁ about Bill₁ on Tuesday.
- c * Mary talked to Bill₁ about him₁ on Tuesday.
- d * Mary talked to him₁ about Bill₁ on Tuesday.
- e * Mary talked about Bill₁ to himself₁ on Tuesday.
- f * Mary talked about himself₁ to Bill₁ on Tuesday.

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g * Mary talked about Bill₁ to him₁ on Tuesday.

h * Mary talked about him₁ to Bill₁ on Tuesday.

As indicated, only one of these possibilities allows for a binding relation between the complements of the PPs. There is one obvious generalization:

(2) Nothing can bind out of an *about* PP.

I will assume that (2) holds simply because the structure of *about* prevents its complement from c-commanding anything else in the clause. Binding out of the *to* PP is permitted in (1a), suggesting that the following generalization holds for whatever reason:

(3) For the purposes of c-command, *to* is invisible.

The truth of (3) has sometimes been taken to argue against formulations of binding in terms of c-command, but though this is a tempting conclusion, it is probably mistaken. For one thing, the blocking effects of other prepositions (e.g. *about*) suggest that c-command is at play in at least some cases. Furthermore, van Riemsdijk and Williams (1986) note that c-command out of *to* PPs seems to be conditioned on the proximity of *to* and the verb:

(4)

a Who did you talk to *t* about himself?

b ?? To whom did you talk *t* about himself?

c ?? To these people he talked *t* about themselves.

These data suggest that it may be reanalysis of the preposition with the verb that permits c-command out of *to* PPs (Hornstein and Weinberg 1981). If we are not concerned to account for (4), an alternative to reanalysis is Kayne's *Prepositions as Probes* approach (Kayne 2005, ch.5; Kayne 2002).¹ Though it is not obvious how exactly to account for the invisibility of *to* for c-command, there is nothing to be gained by abandoning c-command altogether. Somehow, *about* blocks binding relations and *to* doesn't. Either there is some deep explanation for this fact (such as Kayne's analysis), or it is just something that must be stipulated.

Taken together, the generalizations in (2) and (3) go some way towards accounting for the data in (1), but (1g) and (1h), repeated in (5), remain problematic:

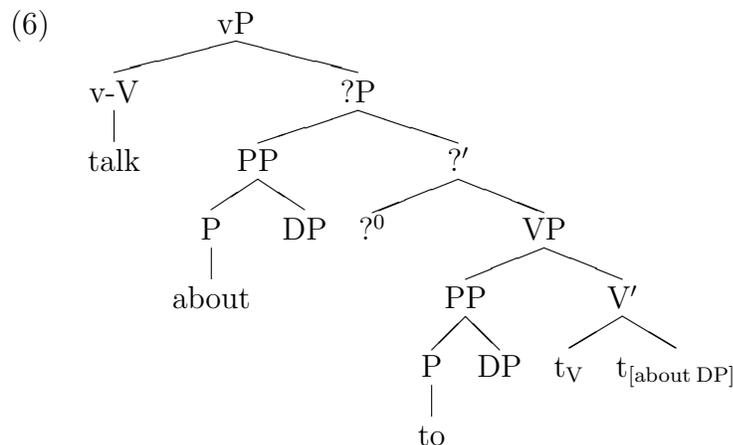
(5)

a * Mary talked about Bill₁ to him₁ on Tuesday.

b * Mary talked about him₁ to Bill₁ on Tuesday.

Assuming that [_{PP} *to* DP] doesn't c-command [_{PP} *about* DP], there is no c-command relation in either direction between *Bill* and *him* in either (5a) or (5b), so it is puzzling that coreference is blocked. One possibility is that the order [*about* ... *to*] results from movement of the *about* PP to a higher vP-internal position, leaving a copy which is c-commanded by the *to* PP:

¹ Kayne assumes that that some PPs are still classic constituents; *about* would presumably be one such.



In (6), reconstruction of the *about* PP places it in a position where it is c-commanded by the complement of the *to* PP, leading to Condition C and Condition B violations in (5a) and (5b) respectively. This implies that reconstruction must be obligatory in order to force Condition B/C violations. But if reconstruction is obligatory, it is hard to explain why (1f), repeated in (7), should not be grammatical:

(7) * Mary talked about himself₁ to Bill₁ on Tuesday.

I will argue that (7) is out because of a difference in the behavior of licensing and anti-licensing binding conditions with respect to reconstruction. The difference is captured by the following principle:²

Bind High (BH)

For any DP Δ and the set of copies $C(\Delta)$ that contain it, a licensing binding condition (i.e. Condition A) applies only to the highest copy in $C(\Delta)$ that could in principle satisfy the condition; an anti-licensing binding condition (i.e. Condition B or C) applies to every copy in $C(\Delta)$.

The notion of “in principle” could be formalized in terms of BT-compatibility (Chomsky 1986b, 171).

With BH in place, let us reconsider the problematic cases. In (6), the complement of the highest copy of the *about* PP is not c-commanded by the complement of *to* (even if *to* is invisible to c-command), so binding is blocked in (7). All copies are visible to Conditions B and C, so the examples in (5) are still ruled out. The analysis now accounts for all of the cases in (1), assuming one or other of the explanations I have discussed for the invisibility of *to* to c-command.

3 Topicalization

In sentences such as (8), the reflexive may be bound either by *John* or by *Bill*:

² This is similar in some respects to the Minimality Condition on Reconstruction of Kuno (2004). Going by Kuno’s abstract, the MCR is specific to scrambling and does not incorporate the “in principle” qualification. Nonetheless, if both Bind High and the MCR turn out to be correct, it is possible that they could be unified. BH also resembles a minimality condition on reconstruction proposed in Munn (1994), as will be discussed in §4.

(8) John₁ talked to Bill₂ about himself_{1/2} on Tuesday.

Topicalization of the *about* PP forces the reflexive to be bound by *John*:

(9) About himself_{1/*2}, John₁ talked frequently to Bill₂.

Lakoff (1968) argues for a reconstruction-based account of these and other constructions. Reinhart (1981, 612) proposes a definition of c-command under which *himself* within [Spec,CP] is c-commanded by *John*, thus accounting for the binding facts on the basis of surface structure constituency.³ The preceding analysis suggests that reconstruction might be the way to go. Assuming that the *about* PP ends up somewhere in the region of [Spec,CP], most phase-based theories of locality would require it to move to the vP edge before proceeding to its surface position.⁴ Supposing this to be the case, (9) will have the following LF:

(10) [_{CP} [_{PP} about himself] [_{TP} John [_{vP} [_{PP} **about himself**] talked frequently to Bill [_{PP} about himself]]]]

The highest copy of *himself* cannot in principle satisfy Condition A since it has no local c-commanding potential antecedent. The next highest copy (shown in bold) does have a local c-commanding potential antecedent (*John*), so BH forces Condition A to be evaluated with respect to this copy. The copy in question is above *Bill*, so *himself* cannot be bound by *Bill*. In contrast, the highest copy of the reflexive in (8) is below both *John* and *Bill*, and so can be bound by either of these.

When pronouns or r-expressions are contained in the topicalized PP, BH predicts that there should be total reconstruction with respect to Condition B/C. This prediction seems to be borne out:⁵

(11)

a About him_{*1/*2}, John₁ talked frequently to Bill₂ every Tuesday. (*Cond. B*)

b About Bill₁, Mary talked frequently to him_{*1} every Tuesday. (*Cond. C*)

c To him_{*1/*2}, John₁ talked frequently about Bill₂ every Tuesday. (*Cond. B*)

d To Bill₂, Mary talked frequently about him_{*2} every Tuesday. (*Cond. C*)

For some speakers, coreference between *him* and *Bill* is not as bad in (11a) as it is in (11) (though it is still degraded). It may be that these speakers are able to right-adjoin *about* to vP, so that *him* is not c-commanded by *Bill* at any stage in the derivation. More on this at the end of §5.1.

³ There is no possibility of reconstruction in Reinhart's system, so surface c-command relations fully determine binding possibilities, explaining why *himself* cannot take *Bill* as its antecedent.

⁴ This is true even given the rather relaxed formulation of the Phase Impenetrability Condition in Chomsky (2001), since this formulation only permits single-step movement from within the complement of v to the CP phase as far as [Spec,TP]. The *Barriers* system of Chomsky (1986a) would also require intermediate movement to the vP edge (then VP edge).

⁵ Care must be taken to read the initial PPs as topics and not as appositives.

Topicalization of some PP adjuncts leads to apparent reconstruction paradoxes. For example, the lack of a Condition C violation in (12a) suggests that the PP is base-generated in a high position, or that it does not reconstruct; but the possibility of variable binding in (12b) suggests that reconstruction has taken place:

(12)

a In John₁'s office he₁ is a dictator.

b In his₁ office everyone₁ feels at home.

As noted by Lakoff (1968) and Reinhart (1981, 623), there is a different class of PPs (possibly arguments rather than adjuncts) which do seem to reconstruct for Condition C:

(13) * On John₁'s desk he₁ placed a report.

Fronting of these PPs tends to sound a little artificial, but to the extent that it is acceptable it behaves in an orderly fashion. Just as the Condition C violation in (13) suggests that the PP reconstructs to a vP-internal position, so does the possibility of Condition A binding in (14):

(14) In each other's₁ offices the rival executives₁ planted bugs.

To account for the apparent paradox in (12), I will assume that PP adjuncts of the relevant kind may either be base-generated in a position above the subject or raised from a vP-internal position.

4 Is Condition A an “anywhere” principle?

BH goes against the view that anaphoric binding is opportunistic and may apply at any stage in the derivation (equivalently: the view that reconstruction is total with respect to Condition A). Most of the evidence in support of this view involves *picture* NPs in constructions such as the following:

(15)

a Which pictures of himself did John see?

b Pictures of himself worry John.

Now that the logophoric/exempt analysis of *picture* NPs is well-established,⁶ data such as (15) have much less force than they did in the past. Nonetheless, it has been argued that *picture* NP reflexives must be reconstructed in some cases, even if logophoric interpretations are also available (Fox and Nissenbaum 2004). Examples such as (15) are easily reconciled with BH, since in each case the highest copy of the anaphor has no potential binder, permitting reconstruction to the highest position below the highest potential binder (*John*). Similarly, BH is consistent with the contrast observed by Fox and Nissenbaum between (16a) and (16b):⁷

⁶ Pollard and Sag (1992), Reinhart and Reuland (1993), Reuland (2001), Runner, Sussman, and Tanenhaus (2002), etc. See Ross (1970) for an interesting alternative to the standard exempt/logophoric analysis.

⁷ I assume that in cases such as the following, the reflexive is a logophor: “I asked Bill which pictures of each other₁ the boys₁ liked *t*.”

(16)

- a * I asked John and Mary if Bill liked pictures of each other.
 b I asked John and Mary [which pictures of each other] Bill liked *t*.

(16b) is interesting as an overt example of an anaphor being bound while contained in an A' edge position ([Spec,CP]). This is a reasonably good overt analogue of the configuration in (9), where an anaphor is bound while contained in [Spec,vP].

An interesting side effect of BH is that it offers an explanation for the Kearney paradigm (Kearney 1983, Chomsky 1986a) which does not depend on treating parasitic gaps as essentially different from traces. The Kearney paradigm is illustrated in (17):

(17) Which books about himself₁/*herself₂ did John file *t* before Mary read *e*?

The standard explanation for the contrast between *himself* and *herself* in (17) is that the *wh*-phrase cannot reconstruct to the position of *e* (since *e* is a parasitic gap and not a *wh*-trace). If both gaps are in fact traces (copies), the structure of (17) is as follows:

(18) [_{CP} [Which books about __self] did [_{TP} John [_{vP} [**wh...self**] [_{vP} file [wh...self] before Mary read [wh...self]]]]]

If reconstruction is free, there is no reason why the reflexive should not be bound in the copy of the *wh*-phrase that is the complement of *read*. If, on the other hand, reconstruction is limited by BH, then Condition A will only look at the copy in [Spec,vP], explaining why *John* is the only possible binder. Note that this account is not sensitive to the relative height of the direct object and the *before* adjunct – it depends only on the assumption that *before* is vP-internal. Further evidence that BH is responsible for the effect in (17) is that fact that for Principle C, reconstruction applies to both gaps in analogous structures.⁸ (19), for example, cannot have a suicidal reading:

(19) * Whose₁ father did John meet *t*₁ before he₁ killed *e*₁?

Thus, the apparent reconstruction paradox presented by (17) and (19) is explained.

Kearney's observation extends to subject parasitic gaps:

(20) Which pictures of himself/*herself did [[John's attempt to destroy *t*] ultimately prevent Mary from seeing *e*]

This example shows that it is not always the “real” gap that is the reconstruction site, casting doubt on the standard explanation of the Kearney paradigm. It is also helpful in sharpening the notion of “highest copy” used in the definition of BH. In (20), the parasitic and “real” gaps do not enter into a c-command relation, so neither is higher than the other in this sense. It may be that copies are ordered by feature specification rather than by c-command, so that the highest copy is the copy with the greatest number of checked/assigned features.⁹

⁸ Williams (1990)

⁹ Hornstein (2001, 214) makes a similar proposal. On his account, only one copy in a chain may receive Case, and Case-marked copies alone are exempt from deletion.

In (20), the copy at t has one more theta-role than the copy at e , so it is the higher of the two copies. However, it is not obvious how to extend this account to cases of EPP-driven movement to the edge. Descriptively, it seems that BH requires a moved element to “retrace its steps” in left-to-right order until it reaches a suitable configuration. Munn (1994, 405-407) reaches a similar conclusion.¹⁰ This makes sense from a processing point of view. It seems reasonable to assume that the parser attempts to find antecedents for anaphors as soon as possible. Normally, this will be possible as soon as an anaphor is reached. In those exceptional cases where an anaphor has been moved to the left of its antecedent, the parser will stop postulating reconstruction sites as soon as it has reconstructed the anaphor to a position where it has a potential antecedent.

In the logophoric age, the status of the Kearney paradigm as a reconstruction effect of any sort is controversial (see for example Levine and Hukari 2005, 45-61). In my view, the contrasts in (16) and (17) are too strong to be attributed to a violation of the constraints on logophoric coreference, but I will not argue this point here. In the absence of such an argument, it must be admitted that the BH account of the Kearney paradigm is more of a curiosity than a genuine result.

5 Alternative accounts of “talk to ___ about ___”

5.1 Reflexives in “about” PPs as logophors

Reinhart and Reuland (1993, 716) argue that reflexives in *about* PPs are logophors. This explains why these reflexives can be bound by antecedents within *to* PPs despite the apparent lack of c-command – the reflexives are not really bound under Condition A at all, but are merely coreferential with their antecedents. The following cases are problematic for R&R’s account:

(21)

a John₁ talked about himself_{1/*2} to Bill₂.

b about himself_{1/*2}, John₁ talked to Bill₁.

In (21a), coreference between *himself* and *Bill* is blocked, despite the fact (pointed out by Minkoff 2004) that logophors do not generally have to follow their antecedents:

(22) They saw that picture of herself₁ next to Sarah₁.

A similar problem arises in (21b): if *himself* is a logophor, it is unclear why topicalizing [_{PP} about himself] should prevent *himself* from taking *Bill* as its antecedent, given that in (21a) this is possible. It seems that there are structural restrictions on the reference of *about* PP reflexives which are not explained under the logophoric account. Indeed, in other structures, the complement of *to* is not a suitable logophoric antecedent:

¹⁰ Munn’s minimality condition on reconstruction is a principle that applies to operator/variable chains in virtue of their status as such. In this respect it contrasts with BH, which says nothing about operator/variable chains per se.

- (23) John talked excitedly to Mary. Pictures of (himself/*herself) were going to appear in the paper.

In support of their analysis, R&R note that there is some degree of noncomplementarity between pronouns and reflexives in *about* PPs:

(24)

- a Mary talked to Bill₁ about himself₁.
 b Mary talked to Bill₁ about him₁. (*R&R's judgment, not mine.*)

In my view, these judgments are largely artifacts of the sentence-final stress on *him/himself*. Stressed pronouns can trigger focus interpretations, which are known to lead to Condition B/C obviation effects.¹¹ If the adjunct “on Tuesday” is appended to (24a/b), a reasonably clear preference emerges for (24a) over (24b). A stronger effect can be observed if the entire clause is embedded in such a way that it is less natural to stress the pronoun/reflexive:

(26)

- a I know that Mary talked to Bill₁ about himself₁, but will it do any good?
 b ?* I know that Mary talked to Bill₁ about him₁, but will it do any good?

To the extent that (24b) is grammatical, we might appeal to the possibility of the *about* PP being right-adjoined in a high position where it *c*-commands the *to* PP. In such a structure, *Bill* and *him* would not be in a *c*-command relation, permitting the pronoun to be coreferential with *Bill* without incurring a Condition B violation. Though this seems a rather *ad-hoc* analysis at first blush, it is in fact quite strongly supported by the following contrast:

(27)

- a % Mary talked to Bill₁ about him₁. (*Good for R&R, bad for me.*)
 b * John₁ talked to Mary about him₁.

The contrast in (27) is explained if there is no possible adjunction site for *about* which is not *c*-commanded by the subject.

According to Buring (2005, 233), further evidence for the logophoric analysis of *about* PP reflexives is their compatibility with split antecedents:

- (28) John₁ talked to Mary₁ about themselves_{1,2}.

¹¹ As seen for example in the contrast between (25a) and (25b):

(25)

- a * John₁ loves him₁.
 b As for John₁, everyone loves him – even John₁ loves him₁.

It is tempting to contrast (28) with a superficially minimal pair where the order of *to* and *about* is reversed:¹²

(29) * John₁ talked about Mary₁ to themselves_{1,2}.

However, under the preceding analysis, (29) is a Condition A violation, so the contrast between (28) and (29) tells us nothing about whether reflexives in *to* PPs accept split antecedents. There is also a semantic/pragmatic infelicity in (29) – it is quite strange to talk to a set of people that is a proper superset of {yourself}.

It seems to be true that reflexives within *about* PPs are more permissive with regard to long-range antecedents and extra-sentential antecedents than other locally bound reflexives. For example, most speakers find a contrast between (30a) and (30b):

(30)

a * John₁ showed Mary₂ themselves_{1,2} in the mirror.

b John₁ talked to Mary₂ about themselves_{1,2}.

Such facts remain unexplained if these reflexives are bound under Principle A. Nonetheless, the balance of the evidence considered in this section is in favour of an at-least-partially-syntactic treatment of anaphors within *about* PPs.

5.2 Binding theories based on “obliqueness” hierarchies

Pollard and Sag (1992) argue for a binding theory stated in terms of an obliqueness hierarchy of grammatical functions. They assume the following hierarchy:

(31) SUBJECT < PRIMARY OBJ < SECOND OBJ < OTHER COMPLEMENTS

For the particular case of *talk*, P&S assume that the *to* PP is less oblique than the *about* PP. They formulate Conditions A and B in terms of obliqueness:

Condition A:

An anaphor must be coindexed with a less oblique coargument, if there is one.

Condition B:

A pronoun must not be coindexed with a less oblique argument.

As P&S point out, obliqueness will not always correlate with surface order. The contrast in (32), for example, follows from the fact that whatever the relative surface order of *about* and *to*, *about* is always more oblique:

(32)

a Mary talked to John₁ about himself₁.

b * Mary talked about John₁ to himself₁.

¹² This is not a comparison that Büring makes.

In addition to Condition A, P&S (p. 266) tentatively propose a linear precedence constraint on anaphoric binding in order to rule out examples such as the following:

(33) * Mary talked about himself₁ to John₂.

If we add Condition C into the mix¹³ in addition to the linear precedence constraint and the binding principles that P&S explicitly formulate, then P&S successfully account for the entire paradigm in (1). However, the linear precedence constraint is massively redundant when paired with the obliqueness constraint, and breaks down in cases of topicalization:

(34) about himself_{1,*2}, John₁ talks frequently to Bill₂.

It is difficult to see why precedence should apply in (33) but not in (34). Moreover, the fact that *himself* cannot be bound by *Bill* is not predicted by the obliqueness-based Condition A. In general, the P&S binding theory (as developed in Pollard and Sag 1994, ch. 6) treats A'-moved constituents¹⁴ as if they were in their base positions, predicting full reconstruction effects in (34), contrary to the facts.

The preceding criticism rests on the assumption that topicalized constituents are directly associated with a gap in the verb's ARG-ST list (i.e. on the assumption that topicalization is a filler/gap dependency or "unbounded dependency"). If this turns out not to be the case, the reflexive in the *about* PP may qualify as "exempt", since it has no coarguments. However, if the reflexive is not associated with a gap, the Condition B/C effects seen in (11) would no longer be predicted, so there would be little gain in empirical coverage overall. To my knowledge, most treatments of English topicalization within HPSG have treated it as a filler/gap construction; in particular, the analysis defended in Levine and Hukari (2005, 10-25, 204-213). However, Pollard and Sag (1994, 165-166) speculate that topicalization may be a "weak" form of unbounded dependency, where the filler shares only some of its structure with the gap. Depending on the precise implementation, this might be sufficient to give reflexives in topicalized PPs exempt status. Again, the problem would then be to explain the Condition B/C effects.

6 Conclusions

I have argued that:

- Conditions B and C apply to all copies of a DP, whereas Condition A applies only to the highest copy that could in principle satisfy the condition.
- Short movements internal to vP can have detectable reconstruction effects.
- The vP edge is a reconstruction site for movements to [Spec,CP] from within the complement of v.

¹³ For example, as defined in Pollard and Sag (1994, ch. 6).

¹⁴ I.e. constituents associated with a gap lower in the structure – there is no A/A' distinction in HSPG as such.

- As a general rule, prepositions do “count” for c-command. A few prepositions are invisible to c-command, but only when in a local configuration with a verb.

The following questions arise:

- I have assumed that anaphors can be bound when contained in an A' position ([Spec,vP] is presumably an A' position; the status of outer specifiers of T is less clear). Does this cause any problems?
- Is there any sense in which variable binding patterns with anaphoric binding with regard to BH?
- As we have seen, Subject parasitic gap constructions suggest that “highest copy” cannot be defined in terms of c-command. Remnant movement can also create configurations where it is not obvious which of a set of copies is the highest. Are there any actually occurring structures where this would be an issue?

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