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 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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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 Bill to him on Tuesday.

b * Mary talked about him to Bill 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:

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\(^1\) 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 himself to Bill 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:  

**Bind High (BH)**

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

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*:

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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) John$_1$ talked to Bill$_2$ about himself$_{1/2}$ on Tuesday.

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

(9) About himself$_{1/2}$, John$_1$ talked frequently to Bill$_2$.

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. 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.

Supposing this to be the case, (9) will have the following LF:

\[
[CP \[PP \text{about himself}\] \[TP \text{John} \[vP \[PP \text{about himself}\] \text{talked frequently to Bill} \[PP \text{about himself}\]]]]
\]

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:

\[
\]

(11)

a. About him$_{1/2}$, John$_1$ talked frequently to Bill$_2$ every Tuesday. (Cond. B)
b. About Bill$_1$, Mary talked frequently to him$_{1}$ every Tuesday. (Cond. C)
c. To him$_{1/2}$, John$_1$ talked frequently about Bill$_2$ every Tuesday. (Cond. B)
d. To Bill$_2$, 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.

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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

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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.

(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 himself/*herself 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. (19), for example, cannot have a suicidal reading:

(19) * Whose father did John meet t before he killed e?

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.

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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:

\[(21)\]

\[\begin{align*}
  a & \text{ John}_1 \text{ talked about himself}_{1\#2} \text{ to Bill}_2. \\
  b & \text{ about himself}_{1\#2}, \text{ John}_1 \text{ talked to Bill}_1.
\end{align*}\]

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 herself\(_1\) next to Sarah\(_1\).

A similar problem arises in (21b): if himself is a logophor, it is unclear why topicalizing [\(PP \text{ about himself}\)] 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 Bill\textsubscript{1} about himself\textsubscript{1}.

b Mary talked to Bill\textsubscript{1} about him\textsubscript{1}. (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.\textsuperscript{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 Bill\textsubscript{1} about himself\textsubscript{1}, but will it do any good?

b ?* I know that Mary talked to Bill\textsubscript{1} about him\textsubscript{1}, 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-adjointed 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 Bill\textsubscript{1} about him\textsubscript{1}. (Good for R&R, bad for me.)

b * John\textsubscript{1} talked to Mary about him\textsubscript{1}.

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

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

(28) John\textsubscript{1} talked to Mary\textsubscript{1} about themselves\textsubscript{\{1,2\}}.

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

(25)

a * John\textsubscript{1} loves him\textsubscript{1}.

b As for John\textsubscript{1}, everyone loves him – even John\textsubscript{1} loves him\textsubscript{1}. 


It is tempting to contrast (28) with a superficially minimal pair where the order of to and about is reversed:\footnote{This is not a comparison that Büiring makes.}

(29) * John\textsubscript{1} talked about Mary\textsubscript{1} to themselves\textsubscript{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)
\begin{align*}
a & \quad * \text{John}_1 \text{ showed Mary}_2 \text{ themselves}_\{1,2\} \text{ in the mirror}. \\
b & \quad \text{John}_1 \text{ talked to Mary}_2 \text{ about themselves}_\{1,2\}.
\end{align*}

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.

\section*{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:

\textbf{Condition A:}  \\
An anaphor must be coindexed with a less oblique coargument, if there is one.

\textbf{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)
\begin{align*}
a & \quad \text{Mary talked to John}_1 \text{ about himself}_1. \\
b & \quad * \text{Mary talked about John}_1 \text{ to himself}_1.
\end{align*}
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 himself$_{1}$ to John$_{2}$.

If we add Condition C into the mix$^{13}$ 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$_{1}$.*, John$_{1}$ talks frequently to Bill$_{2}$.

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 constituents$^{14}$ 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.

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$^{13}$ 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?

References


