

## CONDITION A AND SCOPE

## RECONSTRUCTION

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It is well known that in certain environments the scope of a moved quantifier phrase can be determined at either its premovement position (“scope reconstruction”) or its postmovement position (“surface scope”). Thus, the familiar ambiguity of (1) results from two choices for the scope of the moved QP. Under scope reconstruction, the scope of the moved existential QP is the sister of the premovement position (i.e., the sister of *t*, [to win the lottery]), while under surface scope, it is the sister of the postmovement position (i.e., [is likely *t* to win the lottery]). The two scope possibilities yield different semantic interpretations, corresponding to the paraphrases in (2).

- (1) Someone from New York is likely *t* to win the lottery.
- (2) a. It is likely that there will be someone from New York who wins the lottery.  
b. There is someone from New York who is likely to win the lottery.

The ambiguity of (3) is commonly analyzed in similar terms, once it is realized that the moved *wh*-phrase involves pied-piping of an existential quantifier. This existential quantifier (*n*-many people, with *n* a degree variable bound by the *wh*-operator) has two possible scopes ([John is likely to hire *t*], [to hire *t*]), leading to two interpretations, corresponding to the two paraphrases in (4).

- (3) How many people is John likely to hire *t*?
- (4) a. What is the number *n* such that John is likely to hire *n* many people?  
b. What is the number *n* such that there are *n* many people that John is likely to hire?

While the existence of the phenomenon is hardly in doubt, the underlying mechanism is very much in contention. Two kinds of approaches have been pursued. Under one approach, which we can call *syntactic reconstruction*, these ambiguities result from the availability of two different syntactic representations (henceforth *logical forms*, *LFs*). The choice of scope for the QP under this approach is determined directly by its position in the LF: specifically, the QP takes its sister as its scope. This entails that scope reconstruction requires LFs in which the QP does not appear in its surface position but rather occupies a premovement position.

- (5) *Syntactic reconstruction*
- a. is likely [[someone from New York] [to win the lottery]]  
b. *wh*<sub>1</sub> [John is likely [[*n*<sub>1</sub> many people]<sub>2</sub> [to hire *t*<sub>2</sub>]]]

The alternative approach, which we will call *semantic reconstruction*, assumes that QPs are always interpreted in their postmovement posi-

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tions. The choice between scope reconstruction and surface scope under this approach is determined by the semantic types of various constituents (traces, in versions of the approach that assume their existence, or alternatively, various predicates<sup>1</sup>).

An argument in favor of syntactic reconstruction has been presented based on a correlation between scope reconstruction and Condition C of the binding theory. This correlation was claimed to follow under syntactic but not semantic reconstruction. (See Lebeaux 1990, Heycock 1995, Sportiche 1996, 2001, Romero 1997, Fox 1999, 2000.) The argument, however, has been challenged by Sharvit (1999) and Sternefeld (2001), who attempt to derive the correlation under semantic reconstruction.<sup>2</sup> It is therefore important to find additional empirical considerations that might distinguish between the two approaches.

The goal of this squib is to argue, building partially on previous literature, that Condition A of the binding theory can serve as an additional testing ground for syntactic versus semantic reconstruction. To set the stage, consider a configuration such as (6a) in which Condition A is violated because NP<sub>1</sub> is too distant from the anaphor to serve as its antecedent (e.g., (6b)).

- (6) a. \*[ ... NP<sub>1</sub> ... [*Local binding domain* ... [NP<sub>2</sub> ... *anaphor*<sub>1</sub> ... ] ... ] ]  
 b. \*I asked [John and Mary]<sub>1</sub> if Bill liked [NP<sub>2</sub> pictures of each other<sub>1</sub>].

It is well known that movement of NP<sub>2</sub> can change this state of affairs.

- (7) a. [ ... NP<sub>1</sub> ... [NP<sub>2</sub> ... *anaphor*<sub>1</sub> ... ] ... [*Local binding domain* ... *t*<sub>2</sub> ... ] ]  
 b. I asked [John and Mary]<sub>1</sub> [NP<sub>2</sub> which pictures of each other<sub>1</sub>] Bill liked *t*<sub>2</sub>.

With this background in mind, we can spell out a clear prediction made by the syntactic approach to reconstruction: under the scope-reconstructed interpretation of a sentence with a surface representation like (7a), Condition A should be violated, since the LF would actually fit the scheme shown in (6a) and not that in (7a).<sup>3</sup> Therefore, (8) should hold if the syntactic approach to reconstruction is correct.

<sup>1</sup> See, among others, Sternefeld 2001 for an example of the first version, and Jacobson 1999, 2000 for the latter.

<sup>2</sup> Sharvit and Sternefeld appeal to Reinhart's (1983) theory of Condition C, under which semantic scope (specifically, the option for variable binding) determines whether or not Condition C is violated. However, see Fox 2000: 150n for questions raised by this kind of proposal.

<sup>3</sup> This prediction is made under the assumption that the binding theory constrains LFs. If the prediction is correct, that assumption will be supported (along with syntactic reconstruction). Independent evidence for the assumption, based on the discovery of environments in which covert movement feeds Condition A, is reported in Fox 2000:196–199 and Nissenbaum 2000:143–148.

(8) *Prediction under syntactic reconstruction*

In the structural configuration (7a), scope reconstruction should be impossible.

This prediction is made by the syntactic approach to reconstruction but, as far as we can see, not by the semantic approach.<sup>4</sup> If it can be verified, we would therefore have an argument in favor of syntactic reconstruction.<sup>5</sup>

**1 Preliminary Evidence: Chomsky 1993**

Consider the contrast in (9), based on Chomsky 1993.<sup>6</sup>

- (9) a. I asked John and Mary which pictures of each other Bill liked.  
 b. \*I asked John and Mary which pictures of each other Bill took.

Chomsky accounts for this contrast under the assumption that *take a picture* is an idiom and therefore the *wh*-phrase must be reconstructed (an option that is available to him given that traces are copies). So we might take the contrast in (9) as preliminary evidence that the prediction in (8) is correct. However, Chomsky's account of the contrast has been challenged. Most recently, Runner (2002) argues that the interpretation of the idiom in (9b) does not require reconstruction and that therefore Condition A is not a valid test of LF structure. (Among the arguments is the availability of antecedent-contained deletion constructions: *John took every picture that Bill did.*) We think that Runner's critique warrants close attention. But this is beyond the scope of this squib. Instead, we would like to present evidence for (8) that is not subject to Runner's objections. To the extent that the evidence is real, it will argue that whether or not Runner is right about (9), Condition A is sensitive to LF structure and can be used to support the syntactic view of reconstruction.<sup>7</sup>

<sup>4</sup> If Condition A receives its standard syntactic definition, (8) is not predicted under semantic reconstruction. However, one might wonder whether there is a way to derive (8) in a system that assumes semantic reconstruction by modifying Condition A. At the moment, we cannot think of a natural way to achieve this result. Note that Jacobson (2000:128) assumes, following Pollard and Sag (1992) and Reinhart and Reuland (1993), that the anaphors in (7) are not subject to the relevant condition on anaphor binding. See section 3 below.

<sup>5</sup> Sportiche (2001) argues that the prediction does not hold (although for other reasons he assumes the syntactic approach to reconstruction). We respond to his arguments in section 3.

<sup>6</sup> Chomsky uses examples in which the antecedent for the reflexive is the matrix subject.

(i) John and Mary asked which pictures of each other Bill took.

We have found that some speakers feel the contrast in (9) to be sharper. This is possibly related to the discussion in section 3.

<sup>7</sup> Another challenge to Chomsky's account of the contrast in (9) was raised by Safir (1999) and Sportiche (2001). We discuss that challenge in section 2.

## 2 New Evidence

Consider the prediction of syntactic reconstruction, (8), in the case of *how-many* questions such as (3). In particular, consider the following example:

- (10) I asked the boys<sub>1</sub> how many pictures of each other<sub>1</sub> Mary is likely to see.

Syntactic reconstruction predicts that this sentence should not be ambiguous in the way that (3) is. In particular, the scope-reconstructed interpretation should be impossible.

- (11) a. I asked the boys<sub>1</sub>  
           *wh*<sub>2</sub> [[*n*<sub>2</sub> many pictures of each other<sub>1</sub>]<sub>3</sub>  
           [*Local binding domain* Mary is likely [to see *t*<sub>3</sub>]]]  
           I asked (each of) the boys what is the number *n* such  
           that there are *n* pictures of the other boys and Mary is  
           likely to see those pictures.
- b. \*I asked the boys<sub>1</sub>  
           *wh*<sub>2</sub> [*Local binding domain* Mary is likely  
           [[*n*<sub>2</sub> many pictures of each other<sub>1</sub>]<sub>3</sub> [to see *t*<sub>3</sub>]]]  
           I asked (each of) the boys what is the number *n* such  
           that Mary is likely to see *n* pictures of the other boys?

In order to see whether the prediction is correct, one needs to know how to tease apart the two potential interpretations. The most straightforward way is to consider various scenarios for which the two sentences would have different truth values. We think that this strategy can be employed and would yield the predicted results. However, the strategy is fairly involved and we will try to bypass it here, building on a paradigm developed by Heycock (1995) in a different context. Consider (12).

- (12) How many ideas is John likely to have?

Of the two potential interpretations, (12) has only the scope-reconstructed interpretation (13a). Surface scope (paraphrased in (13b) is incompatible with the semantics of the VP of creation [have ideas]: surface scope presupposes the (possible) existence at time *t* of ideas that John is going to have (i.e., bring into existence) at some time later than *t*.

- (13) a. What is the number *n* such that John is likely to have  
           *n* ideas?  
       b. #What is the number *n* such that there are *n* ideas and  
           John is likely to have those ideas?

In light of the fact that such sentences force scope reconstruction, they can provide the basis for a more robust test of the prediction stated in (8). Consider what happens when we add, to the reconstructing QP, an anaphor that can be bound only in the raised position to satisfy

Condition A. The (a) examples in both (14) and (15) serve as relevant test cases.

- (14) a. I asked John how many ideas about himself Mary is likely to {hear about/\*have}.  
 b. I asked John how many ideas about him Mary is likely to have.
- (15) a. I asked the boys how many jokes about each other Mary is likely to {retell/\*invent}.  
 b. I asked the boys how many jokes about them Mary is likely to invent.

In both of the (a) examples, an ordinary (noncreation) predicate in the embedded clause is shown alongside a creation predicate for comparison. We believe that the predicted contrasts hold rather sharply. The (b) examples serve as controls, showing that when Condition A is not a factor (since the reflexives are replaced with pronouns), the scope-reconstructed interpretation forced by creation predicates is available.<sup>8</sup>

This seems to be a reasonable argument in favor of syntactic reconstruction. Syntactic reconstruction predicts that reconstruction should be impossible in the (7a) configuration. The status of the unacceptable versions of (14a) and (15a) follows under Heycock's (1995) assumption that creation verbs force reconstruction. However, an alternative explanation is proposed for the relevant facts by Safir (1999), which we will present with a slightly different implementation. Specifically, the explanation builds on the suggestion that NPs have internal PRO subjects and that subjects of creation verbs obligatorily bind this PRO.<sup>9</sup> If this suggestion is correct, the status of the sentences in (14) and (15) would be explained independently of whether there is reconstruction (along the lines of Huang's (1993) explanation for obligatory reconstruction effects in predicate fronting). This is shown by the following potential LFs in which there is no syntactic reconstruction; Condition A is violated just in case the PRO subject internal to the moved NP is obligatorily controlled by the subject of the embedded verb (i.e., just in case the embedded verb is a creation verb).

<sup>8</sup> We would also like to see whether the prediction in (8) holds in cases of A-movement. The judgments, though subtle, seem to us to go in the right direction.

- (i) Kunstler warned his clients that many unpleasant rumors about them are expected by the judge to be concocted in the coming months.  
 (ii) Kunstler warned his clients that many unpleasant rumors about each other are expected by the judge to be {made public/?concocted} in the coming months.

<sup>9</sup> See Chomsky 1986, Williams 1985, 1987, Higginbotham 1983. Safir (1999) actually assumes a version of this proposal in which the NP-internal subject is a trace rather than PRO.

- (16) a. \*I asked John [how many PRO<sub>1</sub> ideas about himself]  
Mary<sub>1</sub> is likely to have.  
b. I asked John [how many (PRO<sub>2</sub>) ideas about himself]  
Mary<sub>1</sub> is likely to hear about.

We would therefore like to have tests for syntactic reconstruction that are not subject to this confound. One such test is based on *there* constructions, which are subject to the definiteness effect. This effect requires that a weak NP be present in the LF within the c-command domain of the expletive. As Heim (1987) and Frampton (1991) have argued, this yields obligatory reconstruction in *how-many* questions of the sort in (17b) (compare with (17a)).

- (17) a. How many books does Mary think are in the library?  
b. How many books does Mary think there are in the library?

Under the syntactic approach to reconstruction, (17a) is ambiguous because it corresponds to two legitimate LFs, shown in (18). (17b), on the other hand, has only one legitimate LF (as shown in (19)); the surface scope LF is blocked because it violates the definiteness effect.

(18) *Two LFs for (17a)*

LF<sub>1</sub>: [*wh*]<sub>1</sub> Mary thinks [[*n*<sub>1</sub> many books] are in the library]  
What is the number *n* such that Mary thinks there are *n* many books in the library?

LF<sub>2</sub>: [*wh* many books]<sub>1</sub> Mary thinks [*t*<sub>1</sub> are in the library]  
What is the number *n* such that there are *n* many books and Mary thinks those books are in the library?

(19) *Only one LF for (17b)* (LF<sub>2</sub> violates the definiteness effect)

LF<sub>1</sub>: [*wh*]<sub>1</sub> Mary thinks [there are [*t*<sub>1</sub> many books] in the library]  
What is the number *n* such that Mary thinks there are *n* many books in the library?

\*LF<sub>2</sub>: [*wh* many books]<sub>1</sub> Mary thinks [there are *t*<sub>1</sub> in the library]  
What is the number *n* such that there are *n* many books and Mary thinks those books are in the library?

This reasoning yields another test for the prediction in (8), which seems to be verified.

- (20) a. I asked John how many books about him Mary thinks there are in the library.  
b. I asked John how many books about himself Mary thinks {are in the library/\*there are in the library}.

In (20a), Condition A is not at stake and the reconstruction needed to satisfy the definiteness effect is available. In (20b), by contrast, Condition A blocks reconstruction and therefore the variant that is subject to the definiteness effect (the one with an expletive) is unacceptable. The alternative explanation for the facts in (14) and (15) is not available

for the facts in (20). These facts therefore provide an argument for syntactic reconstruction.

A second argument in favor of syntactic reconstruction can be made by combining anaphors and ordinary bound variables in a way that would yield a conflict if the syntactic approach to reconstruction is correct. Specifically, consider a structure in which scope reconstruction is forced by embedding, in a moved NP, a pronoun that can be interpreted as a bound variable only in the premovement position. If the syntactic approach to reconstruction is correct, the required (scope-reconstructed) LF should not allow, in the same NP, an anaphor that can be bound only in the moved position (by a matrix antecedent).

Consider (21a), in the two versions given.<sup>10</sup> In this sentence, scope reconstruction is required for variable binding. Under syntactic reconstruction, it is predicted that Condition A should be violated in the variant that contains an anaphor. In other words, the fact that only the variant with the pronoun is acceptable is predicted.

- (21) His aides should have explained to President Clinton<sub>1</sub> . . .  
 a. . . . [what kinds of pictures of {him<sub>1</sub>/\*himself<sub>1</sub>} and her<sub>2</sub> baby] no mother<sub>2</sub> wants to see.  
 b. . . . [what kinds of pictures of himself<sub>1</sub> and her<sub>2</sub> baby] Mrs. Jones<sub>2</sub> wants to see.

Consider next (21b). Here, the R-expression *Mrs. Jones* replaces the quantifier in the embedded clause, obviating the need for variable binding. Consequently, scope reconstruction is not required and Condition A can be satisfied.

### 3 A Potential Confound: Logophoric Uses of Reflexives and Reciprocals

In sections 1 and 2, we have presented various arguments that scope reconstruction can have consequences for Condition A, which we took as evidence for the syntactic approach to reconstruction. In this section, we would like to discuss conflicting evidence presented by Brody (1995) and Sportiche (2001). Consider (22) (Sportiche's (92)).

- (22) a. How many songs about each other did John and Mary say Bill should compose?  
 b. John and Mary wonder how many songs about each other Bill should compose.

In these examples, a creation verb in the embedded clause forces scope reconstruction, which apparently has no consequences for Condition A. This fact conflicts with the data we presented in sections 1 and 2, and in particular with examples (14) and (15). This conflict does not seem to be the result of interspeaker variations in judgment; our infor-

<sup>10</sup> We thank Alan Munn (personal communication) for suggesting this paradigm as an improvement over one in an earlier draft.

mants agree with the judgments Sportiche reports for (22) as well as with the judgments we indicated for (14) and (15). We would therefore like to understand the difference between the two cases.

An obvious structural difference between (14) and (15) on the one hand and (22) on the other is that in the latter, but not in the former, the antecedent for the anaphor is a subject.<sup>11</sup> Evidence that this is a relevant difference emerges when we compare (22) with (23).

- (23) a. \*How many songs about each other did you tell John and Mary Bill should compose?  
 b. \*I told John and Mary how many songs about each other Bill should compose.

We do not fully understand the source of this difference, but we would like to make a tentative proposal and a corroborating observation. Consider the hypothesis advanced by Reinhart and Reuland (1993) and Pollard and Sag (1992) that anaphors are not subject to the binding theory when they are arguments of (subjectless) nominal predicates. Instead, they are subject to various discourse conditions on logophoricity (we will call this hypothesis the *logophoricity hypothesis*). Under this hypothesis, an anaphor that is exempt from the binding theory (a logophor) is licensed only if it refers to a sufficiently salient individual (or is bound by an NP that quantifies over such individuals). We will call this condition the *Logophor-Licensing Condition*. A precise definition of salience has not been provided in the literature, but notions like ‘‘subject of consciousness’’ and ‘‘point of view’’ have been argued to be relevant.

This hypothesis could account for Sportiche’s facts, but not, it seems to us, for the correlations discussed in sections 1 and 2. So we would like to consider a modified version of the logophoricity hypothesis. In particular, assume that anaphors in argument positions of subjectless NPs are optionally (but not obligatorily) exempt from the binding theory. An anaphor in the relevant position (inside a subjectless NP) can therefore be licensed in two ways: either by the binding theory (Condition A) or by logophor licensing.

This can account for all the data we have looked at, if we assume that subjects (but not objects) of predicates like *say*, *believe*, *ask*, and *tell* refer to individuals that are salient enough for anaphors to corefer with, thereby satisfying the Logophor-Licensing Condition (see Yang 1991). This assumption fits with the general property of these predicates that their complement clauses express propositions that (in possible-worlds semantics) are evaluated at worlds characterized with appeal to the perspective/point of view of the subject argument (and not the object). (For example, *John told Mary that S* expresses a proposition that is true if and only if *S* is true in every world compatible with

<sup>11</sup> The example discussed by Brody (1995:134) is like Sportiche’s (and unlike our (14)/(15)) in having the matrix subject as the binder of the anaphor. See also footnote 6.



what John said to Mary; no requirement exists concerning Mary's attitudes—for example, whether or not she understood.)

Consider again examples like (22), the cases discussed by Brody and Sportiche, in which scope reconstruction appeared to have no consequences for Condition A. These cases can now be accounted for even under the syntactic approach to reconstruction. While it is true that reconstruction yields an LF in which the anaphor is too distant from its antecedent for Condition A to be satisfied, the anaphor is an argument of a subjectless NP and can also be licensed by the Logophor-Licensing Condition. This condition is met, since the anaphor is co-indexed with the matrix subject, which (by the assumption stated in the previous paragraph) is salient in the relevant respect.

The argument for syntactic reconstruction based on the cases in section 2 still holds. Those cases are similar in that syntactic reconstruction yields structures in which the antecedents are too distant for Condition A to be satisfied. However, in these cases, no loophole is provided by the Logophor-Licensing Condition, since the ostensible antecedent (the object rather than the subject) is not salient by the relevant criteria.<sup>12</sup>

The following observation corroborates the claim that examples like (22) are irrelevant to the discussion of scope reconstruction and Condition A. Consider (24)–(25), in which there is no movement (hence, reconstruction is not at issue). Long-distance binding of the anaphor is much more natural in the (a) examples than in the (b) examples.<sup>13</sup>

- (24) a. ?John and Mary think Bill should compose five songs about each other.  
 b. \*I told John and Mary that Bill would compose five songs about each other.
- (25) a. ?John and Mary wonder whether Bill composed any songs about each other.  
 b. \*I asked John and Mary whether Bill composed any songs about each other.

This contrast, too, follows from our modified version of logophoricity. The reciprocals in (24)–(25) are patently too distant from their antecedents for Condition A to be met. However, they are eligible for logophor licensing. The Logophor-Licensing Condition is satisfied in the

<sup>12</sup> It is of course predicted that if there are predicates whose semantics appeal to the attitude of the object argument rather than the subject, the Logophor-Licensing Condition would be satisfied regardless of scope reconstruction. This seems to us to be the case.

(i) Bill's behavior told John and Mary how many songs about each other he is likely to compose. (*cf.* \*Bill told John and Mary how many songs about each other he is likely to compose.)

<sup>13</sup> We thank two anonymous reviewers for pointing out the importance of this comparison.

(a) but not the (b) examples given the assumption that subjects (and not objects) are suitable referents for logophors.<sup>14</sup>

If this reasoning is correct, we have identified a potential source of noise for our experiment, namely, the fact that anaphors can be licensed by a condition other than Condition A. We have argued that this condition can be factored out and that when it is, the predictions made by the syntactic approach to reconstruction are verified.

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<sup>14</sup> In cases where the object but not the subject is the attitude holder (see footnote 12), the predicted pattern similarly emerges for logophor licensing without movement.

(i) ?Bill's behavior told John and Mary that he would compose several songs about each other. (*cf.* \*Bill told John and Mary that he would compose several songs about each other.)

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CONSCIOUSNESS, BACKWARD  
COREFERENCE, AND  
LOGOPHORICITY  
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Contrasts like those between the (a) and (b) sentences of (1)–(7) suggest that Self-anaphors are subject to a coreference requirement that operates in addition to binding theory.<sup>1</sup>

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<sup>1</sup> I have found that a minority of speakers do not fully accept (4a) and (7a), and that a few speakers do not fully accept any of the (a) cases in (1)–(7); however, everyone I have consulted agrees that, throughout all these examples, the (a) cases are markedly better than the (b) cases. I believe that any slight degradedness, in any of these cases, is due to factors outside the scope of this squib.