

Attitude Phrases and a Puzzle of Reconstruction¹

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In this paper, I present some new sentences in which the subject NPs in their surface order occupy a position higher than an intensional operator but can only be interpreted as *de dicto*, missing the presumably available *de re* reading. I claim the lack of the *de re* reading is due to the presence of structurally higher attitude phrases, which are greedy world binders and will always bind the world variable of the NP below them. Further support for such claim comes from other base-generated attitude phrases, which also give rise to the same effects. The greediness of these attitude phrases is further confirmed from the lack of narrow scope *de re* reading. Then I show that the problem per se is not a matter of obligatory (syntactic) reconstruction by showing that the subject NPs still occupy their surface position with respect to binding. Evidences are also given from Brazilian Portuguese and Japanese to show that the topic-hood nature of the attitude phrases does not play a role in possible interpretations. The paradigm is thus consistent with the proposal here that attitude phrases are greedy world binders, which eliminate the potentially possible *de re* readings and give rise to the illusion of obligatory (syntactic) reconstruction.

0. Introduction

It is well known that an NP appearing below an intensional verb (such as *want*, *believe*, *seem*, etc) may be interpreted either as *de re* or *de dicto*². On the other hand, an NP appearing above an intensional verb may only be interpreted as *de re*. The contrast is shown in (1), as indicated by the available interpretation.

¹ Unless specified, the judgments of the sentences in the paper come from Jeff Bernath, Jonathan Bobaljik, Jean Crawford, Jon Gajewski, Diane Lillo-Martin, and William Snyder. I thank them for their native speakers' intuitions.

² A working definition for the *de re* / *de dicto* distinction is provided as below (excluding complicated cases such as the narrow scope *de re* reading).

a. A category *C* is interpreted *de re* in a sentence *S* if the extension of *C* satisfies the description for the speaker of *S*, but does not necessarily satisfy the description for the psychological subject of *S*.

b. A category *C* is interpreted *de dicto* with respect to an operator *O* in a sentence *S* if the extension of *C* satisfies the description of *C* under *O* for the psychological subject of *S*, but does not necessarily satisfy the description for the speaker of *S*.

- (1) a. Sue wants to marry a plumber. *de re / de dicto*
 b. There is a plumber that Sue wants to marry. *de re / *de dicto*

However, the above generalization does not always hold, as shown in (2). Here, the subject NP *a friend of his* occupies a position higher than the intensional verb *seem* and, yet, the *de re* reading is not available. Contrary to prediction, only the *de dicto* reading is possible.

- (2) To John_i, a friend of his_i seems to have been sick. **de re / de dicto*

From the comparison of (1a,b) we know that the *de dicto* reading is possible only when it appears below an intensional verb. Since the matrix subject NP in (2) undergoes raising from the embedded subject position, the reading in (2) seems to suggest that the NP *a friend of his*, for reasons unknown yet, needs to undergo obligatory reconstruction back to its base position below *seem*. This will explain why the *de dicto* reading is possible³. After reconstruction, the structure will look like the one in (3).

- (3) To John_i, seems [a friend of his_i] to have been sick.

Despite the seeming plausibility of (3), I will argue in this paper that the effect of (2) is not the result of obligatory reconstruction as in (3). Rather, the subject NP still occupies its surface position at the relevant level of representation. Specifically, I will argue that attitude phrases such as *to John* in (2) and (3) are greedy world binders in that they must bind the world variable of the NP that appears below them. The nature of being greedy world binders is the source for the availability of the *de dicto* reading and the absence of *de re* reading.

The organization of the paper is as follows. In section 2, I elaborate more why the case in (2) present a problem for the current analysis about reconstruction and pre-posing of PPs. In section 3, I provide an analysis that is consistent with the facts and give support evidences for it. In section 4, I give evidence from Brazilian Portuguese and Japanese to show that the problematic case in (2) is not related to the topic nature of the pre-posed PP. In section 5, I examine some possible alternatives to (2) and show that those other approaches cannot be maintained. Section 6 concludes the paper.

1. Why is it a problem?

1.1 Unexpected by the reconstruction theory

The example in (2) is not expected by current reconstruction theory, among which may be mentioned the syntactic reconstruction (SynR) approach and the semantic

³ The question of why the *de re* reading is not available is still mysterious, since we know from (1a) that it is generally possible when an NP appears below an intensional verb.

reconstruction (SemR) approach. The two approaches use different approaches to account for quantifier scope ambiguities, as shown in (4) and (5).

- (4) a. weil irgendeiner jedes Buch zu Hause gelesen hat $\exists > \forall, * \forall > \exists$
 since somebody every book at house read has
 ‘since somebody read every book at home’
 b. weil irgendein_i Buch jeder t_i zu Hause gelesen hat $\exists > \forall, \forall > \exists$
 since some book everybody at house read has
 ‘since everybody read some book at home’ [Frey 1989]

- (5) weil [irgendein Buch] jeder [irgendein Buch] zu Hause gelesen hat
 since some book everybody some book at house read has

Under the SynR approach (copy theory of movement), one can argue that the ambiguity of (4b) is expected since the sentence in (4b) will have the structure as in (5). In this structure the higher copy of *irgendein Buch* ‘some book’ c-commands *jeder* ‘everybody’ in one representation and *jeder* ‘everybody’ c-commands the lower copy of *irgendein Buch* ‘some book’ in the other representation. The ambiguity of (4b) is therefore accounted for directly, under the assumption that relative scope is defined in terms of c-command. This analysis is not available for (4a) since there is no overt movement, and QPs are interpreted in their surface position (assuming QR is not available in German). The rigid scope in (4a) is therefore also predicted.

The fact that *irgendein Buch* ‘some book’ in (4b) can be interpreted below the scope of *jeder* ‘everybody,’ as if it has never moved, has been referred to as reconstruction, or connectedness, in a more traditional term. The approach described above (the copy theory of movement) involves syntactic reconstruction, since in this theory the whole syntactic category is “reconstructed” into its base position. The lower copy can be thought of as the reconstructed element.

There is another approach, often termed semantic reconstruction, which tries to account for this syntax-semantics discrepancy without resorting to moving the whole category back. In other words, there is no reconstruction (copy) in syntax, but only in semantics, as stated below.

- (6) Semantic Reconstruction (Cresti (1995), Rullmann (1995), etc)
 Overtly fronted categories may bind Higher Type Traces (T) of GQ type $\langle\langle e, t \rangle, t \rangle$

In this approach, the (relevant part of the) tree of (4b) will look like (7).

- (7) $[_{TP} \langle \rangle \text{some book}_{\langle\langle e, t \rangle \rangle} [_{TP} \langle\langle e, t \rangle \rangle \lambda 3 [_{TP} \langle \rangle \text{everybody} [_{T'} \langle e, t \rangle \lambda 2 [_{VP} \langle \rangle \mathbf{T3}_{\langle\langle e, t \rangle \rangle} [_{VP} \langle e, t \rangle \lambda 1 [_{VP} \langle \rangle t2 [_{VP} \langle e, t \rangle \text{read } t1]]]]]]]]]]]$ (taken from Lechner (2007))

Under (this type of) semantic reconstruction approaches, overtly fronted categories may bind higher type traces, T3 in (7), but they don't have to. If they do leave a higher type trace, as in (7), *irgendein Buch* 'some book' will be interpreted in this higher type trace position, taking scope below *jeder* 'everybody.' When there is no such trace, *irgendein Buch* 'some book' is interpreted in its surface position, taking scope above *jeder* 'everybody.' This derives the scope ambiguity of (4b).

Despite their equal explanation power in dealing with quantifier scope ambiguities, it has been claimed by Lebeaux (1995), Romero (1998), and Fox (1999) that the SynR approach is on the right track, using examples like (8)-(10) below.

- (8) a. Two women seemed to me to have talked with every senator. $\exists > \forall, \forall > \exists$
 b. Two women seemed to each other to have talked with every senator. $\exists > \forall, * \forall > \exists$
- (9) a. A friend of his_i seemed to John_i to have been sick. *de dicto / de re*
 b. A friend of John_i seemed to him_i to have been sick. **de dicto / de re*
- (10) a. A group of relatives of theirs_i seemed to [Bill and John]_i to have been involved in an accident. *de dicto / de re*
 b. A group of relatives of each other_i seemed to [Bill and John]_i to have been involved in an accident. *de dicto / *de re*

In (8), even though both scope readings are possible in (8a), the need for an anaphor to be bound in the matrix clause (*each other* in (8b)) will force *two women* to stay in its surface position and cannot lower to its base position. As discussed in Lebeaux (1995), the absence of the 'every senator > two women' reading in (8b) indicates that the availability of such reading in (8a) is derived by moving *two women* back to its base position and by QRing *every senator* over *two women*, not by QRing *every senator* all the way over *two women* in its surface position. Otherwise, with such possibility, (8b) would be just as ambiguous as (8a). The contrast in meaning between (8a,b) shows that the need for anaphor binding may affect quantifier scope interactions.

Similar paradigm is found in (9). In (9a), the subject NP *a friend of his* may be interpreted as *de re* or *de dicto*, relative to the intensional operator *seem*. This is so because binding condition C is respected both in the surface position and the base position of the subject. In (9b), on the other hand, the subject NP *a friend of John* has to stay in its surface position, since there will be a binding condition C violation, if the subject reconstructed back to its base position. Interestingly, the *de dicto* reading is missing in (9b). Since the *de dicto* reading is possible only when the NP is below and bound by the intensional operator, but not above it, Romero (1998) and Fox (1999) took this as support for the syntactic reconstruction approach, since the need to avoid binding condition C violation forces the existence of the upper copy and thus the unavailability of the *de dicto*

reading. The examples in (10) may be explained by the same fashion, so I will not go into details here.

Note that it is in (9b) and (10b) where the SynR approach and the SemR approach make different predictions, since there is an issue with respect to binding theories. In (9a) and (10a), where binding theory is not at issue, both the SynR approach and the SemR approach predict that the *de re* and the *de dicto* reading should both be possible. This is why the sentence in (2), repeated here as (11), is problematic to the two approaches.

(11) To John_i, a friend of his_i seems to have been sick. **de re / de dicto*

In (11), the subject NP *a friend of his* occupies a position higher than the intensional verb *seem*. Since Binding Principle is not at issue here, the subject can stay in its surface position and does not have to reconstruct to its base position. (11) should be as ambiguous as (9a) and (10a). Yet, the sentence only allows the *de dicto* reading and not the *de re* reading, contrary to predictions.

1.2 Distinct behavior from other pre-posed PPs

The second problem that the sentence in (11) creates is that it does not behave like other pre-posed PPs, as shown in (12) below, discussed in Reinhart (1983).

(12) a. *Near Dan_i, he_i saw a snake. b. *He_i saw a snake near Dan_i.

(12b) is ungrammatical (under the co-indexation between *he* and *Dan*) because *Dan* is bound by *he*, violating Binding Condition C. (12a) shows that pre-posing of the PP does not rescue the sentence. This is consistent with Lebeaux's (1995) claim that Binding Condition C is an *everywhere* condition, a condition that must be satisfied in every level of representation. Therefore, *near Dan* in (12a) behaves as if it has never moved and has to reconstruct to its base position, just like (12b).

The pre-posing of the PP *to John* in (11), however, does not pattern alike with the pre-posing of *near Dan* in (12). If *to John*, just like *near Dan*, has to undergo reconstruction back to its base position, (11) would then look like (9a) and should be as ambiguous as (9a). This prediction is not borne out, as indicated by the meanings. The non-uniform behavior of PPs thus adds one more piece of support to the puzzling nature of (11).

2. Analysis and Supporting Evidence

2.1 Analysis

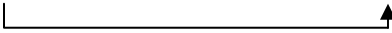
Having identified why the example in (11) poses a problem to the current reconstruction analysis and the treatment of PPs, in this section I will provide an analysis that is consistent with the facts and give supporting evidence to it.

I claim that attitude phrases such as *to John* are greedy world binders. In other words, the world variable of the NP below them can only be bound by these attitude

phrases and not by other world binders. The difference of greediness in world binding can be shown from the contrast between (13). As indicated, the *de re* reading is possible only in (13a,b) (for *a plumber* in (13a) and *a friend of her* in (13b)), which involves ordinary intensional verbs such as *want* and *believe*, but not in (13c) (*for a friend of his*), which involves attitude phrases such as *to John*.

- (13) a. Sue wants to marry a plumber. (=1a) *de re / de dicto*
 b. Sue believes that a friend of hers is sick. *de re / de dicto*
 c. To John, a friend of his seems to have been sick. **de re / de dicto*

These facts are accounted for straightforwardly under the dichotomy that *to John* (and other attitude phrases) belongs to the category of greedy world binders, while *want* and *believe* do not. Under such dichotomy, the meanings of (13a) and (13c) are represented in (14) and (15), respectively.

- (14) a. $\lambda w \forall w' [R_{\text{ACC-Sue}}(w)(\underline{w}') \rightarrow \exists x [\text{plumber}(x)(\underline{w}') \wedge \text{marry}(x)(\text{Sue})(w')]]$
 b. $\lambda w \exists x [\text{plumber}(x)(\underline{w}) \wedge \forall w' [R_{\text{ACC-Sue}}(w)(\underline{w}') \rightarrow \text{marry}(x)(\text{Sue})(w')]]$
- (15) a. $\lambda w \forall w' [R_{\text{ACC-John}}(w)(\underline{w}') \rightarrow \exists x [\text{friend-of-John}(x)(\underline{w}') \wedge \text{sick}(x)(w')]]$

 b. $*\lambda w \exists x [\text{friend-of-John}(x)(\underline{w}) \wedge \forall w' [R_{\text{ACC-Sue}}(w)(\underline{w}') \rightarrow \text{sick}(x)(w')]]$

As shown in (15a), the world variable on *a friend of his* (John), namely w' , is bound and thus the same as the worlds introduced by the attitude phrase *to John*. This obligatory binding of world variables captures the fact that the subject NP in (13c) can only be interpreted as *de dicto*. The *de re* reading, in which the world variable on the NP *a friend of John* is not bound by those introduced by *to John*, as shown in (15b), is thus not available. On the other hand, intensional verbs such as *want* are not greedy world binders. Therefore, they allow world variables of NPs to be bound by other world binders, resulting in the *de re* reading, as shown in (14b).

2.2 Supporting Evidences

It is proposed in section 3.1 that attitude phrases such as *to John* are greedy world binders in that they must bind the world variable of the NPs that appear below them. In this section, I will give supporting evidence to the claim.

The first piece of supporting evidence comes from (16). (16a) differs minimally from (11) in that the issue of co-indexation does not occur in (16a). The interpretation as indicated in (16a) shows that co-indexation does not play a role in the absence of the *de re* reading. (16b) shows that an NP appearing below an attitude phrase, even when it is definite, can only receive the *de dicto* reading.

- (16) a. To John, a friend of Mary seems to have been sick. **de re / de dicto*
 b. To John, the dean is in the office. **de re / de dicto*

The second piece of supporting evidence comes from the fact that other attitude phrases, whether they are moved or base-generated, also have similar effects in eliminating the *de re* reading, as shown in (17). This shows that the absence of the *de re* reading cannot be attributed to the special status of *to John* as in (11), since other (base-generated) attitude phrases also have similar effects.

- (17) a. For John, a friend of his seems to have been sick.
 b. From John's perspective, ...
 c. In John's opinion, ...
 d. In John's mind, ...
 e. According to John, ...
 f. From John's point of view, ...
- } **de re / de dicto*

Another piece of evidence for the proposal in section 3.1 comes from the absence of the *intermediate* reading. Note that if the proposed analysis here is on the right track, then we predict that not only (15b) is not possible, but that (18), as shown below, is also not possible. (18) differs minimally from (15a) in that the world variable on the NP *a friend of John* is not bound by the worlds introduced by *to John*, and has been called the non-specific *de re* reading (Fodor (1970)), or the narrow scope *de re* reading (von Stechow & Heim (2007)).

$$(18) \lambda w \forall w' [R_{ACC-John}(w)(\underline{w}') \rightarrow \exists x [\text{friend-of-John}(x)(\underline{w}) \wedge \text{sick}(x)(w')]]$$

This prediction is indeed borne out. Consider the following scenario: [John entered the bathroom. He saw a group of people. These people are basketball players, but John mistakenly believes that they are plumbers. Then he heard someone coughing. He didn't see who is coughing, but he believes that the coughing must be coming from one of these people.] The subjects were asked to judge whether the following sentences in (19) can be felicitously uttered in the scenario above.

- (19) a. John thinks that a basketball player is coughing.
 b. To John, a basketball player is coughing.
 c. In John's mind, a basketball player is coughing.

The judgments I got from native speakers seem to be pretty consistent: (19a) is possible under the scenario above, but (19b,c) are not possible. Note that the scenario above is good only under the narrow scope *de re* reading of *a basketball player*, but bad

under the wide scope *de re* and the *de dicto* reading of *a basketball player*. The reported judgments confirmed the claim that attitude phrases such as *to John* or *in John's mind* are greedy world binders and will eliminate all the possible readings except the *de dicto* reading, as in (19b,c). Ordinary intensional verbs, such as *think*, as in (19a), behave differently in that it is not a greedy world binder and allows the *de re* reading of *a basketball player*. The contrast in (19) is consistent with the proposed dichotomy.

One last piece of evidence to show that the proposal is on the right track comes from (20). As shown in (20), if other non-attitude phrases are used in replacement of the attitude phrase, the *de re* reading is available again. The contrast between (11) and (20) suggests that attitude phrases is the source for the absence of the *de re* reading.

- (20) a. On John_i's birthday, a friend of his_i seems to have been sick. *de re / de dicto*
 b. In John_i's house, a friend of his_i seems to have been sick. *de re / de dicto*

Given the evidence provided above, it is claimed in this section that attitude phrases are special and different from other ordinary intensional verbs and other PPs in that they are greedy world binders and must bind the world variables of the NP that occurs below them. In the next section, more evidence will be given from Brazilian Portuguese and Japanese.

3. Evidence from Brazilian Portuguese (BP) and Japanese⁴

One might argue that the movement of *to John* in (11) is a kind of topicalization, and it is the special nature of being a topic that contributes to the absence of the *de re* reading. In this section, I will examine similar constructions in Brazilian Portuguese (BP) and Japanese to show that the claim above does not hold. BP and Japanese are useful since these two languages have a clear way to distinguish topics from non-topic elements (such as focus elements). In BP, at least for some people, topics bear a special intonation⁵ while topics in Japanese are marked with *-wa*. The relevant examples in BP are provided in (21).

- (21) a. Um amigo dele parecia para o João ter estado em um acidente
 A friend of-him seemed to-the John have-INF been in a accident
 'A friend of his_i seemed to John_i to have been in an accident.' (?*de re/de dicto*)
 b. Para o João, um amigo dele parecia ter estado em um acidente
 to-the John, a friend of-him seemed have-INF been in a accident
 'To John_i, a friend of his_i seemed to have been in an accident.' (*de dicto/*de re*)

⁴ I thank Ana CP Bostos for the BP judgments and Koichi Ohtaki and Masahiko Takahashi for the Japanese judgments.

⁵ I use upper case letters to indicate that the NP is marked with topic intonation and lower case letters to mean that the NP is marked with normal intonation.

- c. PARA O JOÃO, um amigo dele parecia ter estado em um acidente
 to-the John, a friend of-him seemed have-INF been in a accident
 ‘To John_i, a friend of his_i seemed to have been in an accident.’ (de dicto/*de re)
- d. Para o João, um amigo da Maria parecia ter estado em um acidente
 to-the John, a friend of-the Mary seemed have-INF been in a accident
 ‘To John, a friend of Mary seemed to have been in an accident.’ (de dicto/*de re)

As shown in (21a), when the PP *para o João* ‘to John’ stays in its base position, the subject NP *um amigo dele* ‘a friend of his’ occupies a position above the intensional verb *parecia* ‘seemed’ and can be interpreted either as *de re* or *de dicto*. In (21b), the PP *para o João* has been pre-posed to sentence-initial position and, just like English, and the subject NP can only be interpreted as *de dicto*, but not *de re*. (21c) shows that whether or not the subject NP bears the topic intonation does not distinguish the meaning. (21d) shows that the same paradigm is still observed when co-reference is not at issue, consistent with the English facts.

Moreover, just like other non-moved attitude phrases in English, phrases such as *in John’s mind* in BP also show similar effects, as shown in (22) below.

- | | | |
|---|---|---------------------------|
| <p>(22) a. Na opinião do João, ...
 In-the opinion of-the John, ...
 b. De acordo com o João, ...
 Of accordance with the John, ...
 c. Na cabeça do João, ...
 In-the head of-the John, ...
 d. Do ponto-de-vista do João, ...
 Of-the point-of-view of-the John, ...
 e. Na perspectiva do João, ...
 In-the perspective of-the John, ...</p> | } | * <i>de re / de dicto</i> |
|---|---|---------------------------|

The examples in (21) and (22) pattern with the English examples in (11) and (17) in that they all have an attitude phrase at sentence-initial positions and they allow only the *de dicto* reading of the subject NP. Interestingly, Japanese also behaves like English and BP, as shown in (23) and (24).

- (23) a. Hitori-no kare-no tomodachi-ga John-ni(-wa) jiko-ni
 one-GEN he-GEN friend-NOM John-to(-top) accident-DAT
 at-ta to omoe-ta
 come.across-past that seem-past
 ‘A friend of his seemed to John to have been in an accident.’ *de re / de dicto*

- b. John-ni(-wa) Hitori-no kare-no tomodachi-ga jiko-ni
 John-to(-top) one-GEN he-GEN friend-NOM accident-DAT
 at-ta to omoe-ta
 come.across-past that seem-past
 ‘To John, a friend of his seemed to have been in an accident.’ **de re / de dicto*

- (24) a. John-kara sure-ba, ...
 John-from do-cond
 ‘From John’s point of view’
 b. John-no kokoro-no naka-de-wa, ...
 John-GEN mind-GEN inside-at-top
 ‘In John’s mind’
- } **de re / de dicto*

Just as BP uses intonation to mark topic phrases, Japanese uses a topic marker *-wa* to mark topics. As shown in (23a), both the *de re* and the *de dicto* readings are available when the PP *John-ni* ‘to John’ is not moved. However, as in (23b), the *de re* reading is no longer available once the PP has been moved to sentence-initial position. The optionality of the *-wa* marker in (23b) indicates that the topic-hood of the subject does not contribute to the absence of the *de re* reading. Similar to English and BP, other base-generated attitude phrases in Japanese also have the effect of eliminating the *de re* reading, as in (24).

To summarize, the pattern in BP and Japanese shows that it is not the topic-hood nature of the moved PP that contributes to the absence of *de re* reading. Rather, the absence of such reading should be attributed to the fact that the world variable of the NP is bound by the attitude phrases, which are greedy world binders. Having defending the proposals in this paper, in the next section I will examine some alternative analyses and show that those approaches cannot hold.

4. Rejection of Other Alternatives

As indicated in the beginning of the paper, the absence of the *de re* reading and the availability of the *de dicto* reading of the subject NP in (2) seem to suggest that, when there is an attitude phrase, the subject must undergo some kind of obligatory reconstruction back to its base position below *seem*. The relevant examples are provided below as (25).

- (25) a. In John_i’s mind, a friend of his_i seems to have been sick. **de re / de dicto*
 b. To John_i, a friend of his_i seems to have been sick. **de re / de dicto*

This alternative analysis, however, can be easily shown to be wrong, as in (26).

- (26) From John's point of view, every student_i seems to his_i advisor to have passed the general exam.

In (26), there is an attitude phrase *from John's point of view*. The subject NP *every student* still stays in its surface position and does not undergo obligatory reconstruction to its base position, since a variable binding relation can still be established between *every student* and *his advisor* in (26). Therefore, the above alternative cannot be maintained.

Another possible alternative is to claim that the attitude phrase (moved or base-generated) occupies a position in the tree where the *de re* reading of the NP is processed, as shown in the tree in (27). Since two phrases cannot occupy the same position, the *de re* reading is not possible. This will not only explain the absence of the *de re* reading, but also account for why attitude phrases behave differently from other PPs (since they occupy different positions in the tree).

- (27) 3
 near Dan 3
 to-phrase/de re 3
 seem

This alternative approach, however, cannot be maintained, either. From (1a), repeated here as (28), we know that an NP can be interpreted as *de re* even when it appears below an intensional verb. Therefore, the absence of the *de re* reading of an NP cannot be attributed solely to the unavailability of a position above the intensional verb. Rather, an approach that employs the mechanism of world variable binding must be adopted, as the one suggested in this paper.

- (28) Sue wants to marry a plumber. (= (1a)) *de re / de dicto*

The discuss above shows that the two alternative approaches, though appealing and reasonable, cannot be maintained.

5. Conclusion

In this paper, I present a new set of data that pose a challenge to the theory of reconstruction. It is shown that the existence of an attitude phrase at sentence-initial position (whether it is moved or base-generated) has the effect of eliminating the presumably available *de re* reading, even when the subject NP still appears higher than the intensional operator. This paradigm is not expected by either the SynR or the SemR approach. To solve the problem, I propose that attitude phrases such as *to John* or *in*

John's mind are greedy world binders in that they must bind the world variable of the NP that appears below them. I then use other non-attitude phrases and the unavailability of the narrow scope *de re* reading to support the above claim. I also examine similar paradigms from BP and Japanese to show that the topic-hood of the pre-posed PPs does not play a role in eliminating the *de re* reading. Moreover, two potential alternatives are examined and shown to be incorrect, giving support to our current proposal.

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