TOWARD A BETTER UNDERSTANDING OF BINDING THEORY

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1. Introduction

Atomism and Binding is a collection of articles on binding and reference, which were selected on the basis of the talks given at a workshop with the same title as the book. Anyone who noticed this title could not fail to ask what the term *Atomism* means. According to the Preface of this book, this term is meant to describe a modular approach to language. It says that

“the approach of this early work [=the early work of generative grammar] gave rise to the factorization of linguistic objects in terms of subsystems of the linguistic model. Subsequent revisions of this type paved the way to an *atomic* theory of language. The general procedure by which a model is built out of various relatively independent submodules is referred to by the term *Atomism*.” (p. i–ii)

In this review article, I concentrate on the following two points for discussion due to the limitation of space, taking up only relevant articles and putting them under critical scrutiny: (i) the development of Bind-

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ing Theory in the Minimalist Program, and (ii) the proper characterization of obviation conditions such as Binding Conditions B and C. I hope the discussion developed in this paper will help to clarify what is an appropriate factorization of the facts of binding and reference and what are the proper atomic notions or subsystems to explain them in an optimal way.

2. Minimalism and Binding

Freidin's paper (Binding Theory on Minimalist Assumptions) discusses "the effects of minimalist assumptions on the standard version of Binding Theory" (p. 141) and concludes that "minimalist assumptions lead to a radical revision of the standard theory." (ibid.) In this section, I want to examine what constitutes the basis of this conclusion in a rather critical way, since I am rather skeptical about it; that is, I am not sure if the revision is really radical and even doubt how much revision is made after the picture of the minimalist conceptions has begun to take shape. My review of this paper will take a somewhat unusual form in that the examination will not be directed to Freidin's main claims and arguments but rather to his presuppositions about the Minimalist Program. My main point comes down to questioning the following presupposition he seems to take for granted: conceptual necessity is a precondition to something belonging to the Minimalist Program.

First of all, it has been widely received as a well-established fact that the central conceptions of the Minimalist Program have had a crucial impact on the issue of which level(s) of representation the binding conditions apply at. Under "the minimalist assumption that theoretical constructs must meet a criterion of conceptual necessity" (p. 142), it follows that the binding conditions must apply to an interface level of representation that is indispensable as a bridge between the computational system of human language C_{HL} and other cognitive systems. Given the two interface levels postulated in the Minimalist Program—Phonetic Form (PF) and Logical Form (LF)—, it is natural to consider that LF is the one at which the binding conditions apply, since they are involved in the interpretations of anaphors, pronouns and names. This conception led to reconsideration of arguments that the binding conditions apply at a level of representation other than LF. Note, however, that this itself does not establish that the standard theory of binding conditions has gained any substantial revision. As Freidin himself

notes that “the optimal situation given the minimalist perspective is when empirical arguments support conceptual arguments,” (p. 143) we need to investigate whether the reconsideration in question has led to any better empirical consequences or at least to maintaining as good an empirical coverage as before. I do not think I can agree with Freidin’s view that we should have “the preference for conceptual arguments over empirical arguments, which lies at the heart of the Minimalist Program.” (fn. 2) This way of thinking might be a good strategy or a useful guideline for developing a theory in the Minimalist Program, but I believe this should not be confused with a real evaluation of a theory; that is, empirical arguments should at least be given the same weight as conceptual arguments.

With this in mind, let us consider a concrete argument, one given by Chomsky (1981) to the effect that Binding Theory C (BT(C)) must apply at S-structure. Let us consider the following examples:

- (1) a. Which book that John_i read did he_i like?
 b. *He_i liked every book that John_i read.

The contrast between (1a) and (1b) with respect to the acceptability of coreference indicated in these sentences is straightforwardly accounted for by assuming that BT(C) applies at S-structure; in (1b), the pronoun *he* c-commands *John*, hence inducing a BT(C) violation, whereas in (1a), *he* does not c-command *John*, hence satisfying this binding condition. What if we assume that BT(C) applies at LF? At the time when Chomsky (1981) proposed the *Lectures on Government and Binding* (LGB) framework, several movement rules were assumed to apply in the LF component to derive structures appropriate for semantic interpretation. One typical instance of such a rule is Quantifier Raising (QR), which raises quantifier phrases (QPs) typically to sentence-peripheral position to mark their scope. (1b), for instance, has the following LF representation after QR applies to the QP *every book that John read*:

- (2) [_{TP} [every book that John_i read]_j] [_{TP} he_i liked *t_j*]

Notice that if BT(C) applies to this LF representation, it will wrongly allow *he* to be coreferential to *John*. Hence, this binding condition must apply at S-structure, not at LF, as Chomsky (1981) argues.

Given this fact, the path taken by Chomsky (1993) was to maintain, following the spirit of the Minimalist Program, that BT(C) applies at LF and to question the status of QR. Notice that if we can dispense with QR entirely, Chomsky’s (1981) argument will go away and no

apparent problem will arise even if we assume that BT(C) applies at LF. This way of approaching the problem in question may be natural if we take into consideration Chomsky's (1993, 1995) other assumption that movement is triggered by morphological requirements such as agreement and Case, so that QR would be an extraneous movement rule if it existed in C_{HL} . It seems to me, however, to be still controversial what kind of movement exists in C_{HL} . In Abe (2000a, b), I argue that not only morphologically-driven movement but also scope-driven movement should be admitted even under the minimalist framework. Fox (2000) provides ample evidence of the need for QR (or Quantifier Lowering). Given this situation, it seems to be far from decisive whether the path taken by Chomsky (1993) is the right one to pursue. Freidin notes that "Chomsky allows that the empirical properties of language might force the postulation of constructs that depart from the criterion of conceptual necessity." (fn. 2) It might be the case that the postulation of S-structure is one such case. In that case, it may be regarded as an instance of language imperfection in the Minimalist Program and we should raise the question of how such an imperfection has emerged in C_{HL} , a different path worth pursuing. Either way, I do not think it correct to draw any conclusion based solely upon the criterion of conceptual necessity. True, the minimalist conceptions should put into question the assumption that binding conditions apply at a level of representation other than LF, thus leading to reconsideration of the relevant parts of C_{HL} . But this is just one natural path we are expected to take given the minimalist conceptions. We should bear in mind the possibility that this path might turn out to be empirically unjustifiable, and hence should be abandoned.

Admitting the necessity of QR, a compromise claim is made by Hornstein and Weinberg (1990), according to which only minimal parts of QPs need to undergo QR to mark scope. Under this assumption, (1b), for instance, has the following LF representation:

(3) $[_{TP} \text{ every book}_j [_{TP} \text{ he}_i \text{ liked } t_j [_{\text{that}} \text{ John}_i \text{ read}]]]$

where only the *every book* part of the whole QP undergoes QR. This will allow us to assume that BT(C) applies at LF, since in (3), *he* c-commands *John*, hence violating this condition. This solution works well technically, but it is not free from problems. Note that QR is originally motivated to derive an LF representation appropriate for semantic interpretation. Thus, QR should represent an operator-variable chain for a QP that serves to read off its scope-taking position, its

variable position and what is its restrictive clause to determine the domain to which quantification applies. Such a semantic “read-off” procedure will be transparent if we assume an LF representation such as (2) for sentence (1b), but some complications will be required in mapping an LF representation such as (3) into the right interpretation of (1b); in particular, the restrictive relative clause should be interpreted as modifying *every book* as part of its restrictive clause, not as modifying its variable as part of the nuclear scope of the QP. This may indicate that applying QR to only a core portion of a QP does not serve the end of semantic interpretation fully, though it serves to indicate the scope of a QP. Now one might claim, as one of the reviewers in fact does, that this only shows that we need to provide more elaborate semantic devices necessary to give appropriate interpretations to the syntactic representations obtained at LF. This might be true, but notice that it may lead one to question the status of QR; that is, why do we need to have a sort of division of labor between syntactic and semantic components in such a way that QR is involved in only marking the scope of a QP? Thus, under Hornstein and Weinberg’s (1990) approach, the status of QR is somewhat unclear.

Freidin himself notes a similar problem with respect to the standard minimalist account of the argument-adjunct asymmetry in the reconstruction effects of BT(C). Compare the following examples:

- (4) a. [How many pictures of Alice] did she really like *t*?
 b. [How many pictures that Alice bought] did she really like *t*?

The standard observation is that when a name is c-commanded by a pronoun underlyingly and a movement rule applies to a phrase containing the name in such a way that the c-command relation in question does not hold any more, the coreference between the name and the pronoun is possible if the name is embedded within a relative clause, as in (4b), but it is prohibited if the name is embedded within an argument phrase or clause, as in (4a).¹ Assuming the copy theory of movement, the sentences in (4) should have the following representations after movement takes place:

¹ See Saito (1991) for a different generalization with respect to the reconstruction effects of BT(C).

- (5) a. [How many pictures of Alice] did she really like [how many pictures of Alice]
 b. [How many pictures that Alice bought] did she really like [how many pictures that Alice bought]

Given the assumption that BT(C) applies at LF, a “trimming rule” is required to delete the redundant parts of the chains in such a way that in (5b) the coreference in question is possible, but not in (5a). Thus, the trimming rule should derive the following LF representations:

- (6) a. [How many x] did she really like [x pictures of Alice]
 b. [How many x that Alice bought] did she really like [x pictures]

In (6a), the pronoun *she* c-commands *Alice*, and hence BT(C) correctly excludes coreference between the two NPs. On top of that, this LF representation can be given the correct interpretation: what is the number x such that x is the number of pictures of Alice? Freidin conjectures that “taking [6a] as a model, [4b] would presumably appear at LF as [6b].” (p. 145) In this representation, the pronoun *she* does not c-command *Alice*, and hence BT(C) does not preclude the coreference between the two NPs. However, the problem with (6b) is, as Freidin correctly points out, “that x is a variable ranging over integers whereas the relative clause modifies *pictures* not an integer.” (ibid.)² Again, one might claim that we can supply some elaborate semantic devices to overcome this problem. In that case, one may be led to question the status of the trimming rule; that is, what is this rule for? It looks as if this rule was invented only to accommodate the reconstruction effects of BT(C).

This shows, as far as I can see, that the assumption that the binding conditions apply at LF does not give rise to any better empirical consequence with respect to the reconstruction effects of BT(C). Thus, I do not think we have seen any substantial progress in understanding

² This statement of Freidin’s is somewhat misleading. One of the reviewers pointed out that, strictly, it is not integers but rather objects that x must range over, so that the semantic interpretation of (6b) is something like the following: “what is the number n such that n gives the cardinality of x where x is the set/plurality of pictures that Alice bought that she likes.” Despite this flaw, Freidin’s objection still holds; that is, the relative clause should modify *pictures* as constituting the restrictive clause of the QP whose domain x ranges over.

such reconstruction effects, given the “minimalist assumptions.”³

Note in passing that the copy theory has been considered to be a new device replacing the trace theory, one that was produced from considerations of the minimalist conceptions; that is, C_{HL} should not include anything other than those elements picked up from the lexicon, so that such an artifact as a trace should be excluded (this is called the inclusiveness condition; see below for relevant discussion). Though the copy theory is well-motivated in this sense in the Minimalist Program, Freidin’s arguments given above show, quite convincingly I think, that the copy theory does not play any better role than the trace theory in explaining the reconstruction effects of BT(C). Freidin claims that “limiting the application of binding principles to LF representations appears to require the adoption of the copy theory of movement transformations,” (p. 144) but given the above arguments, it is not clear at all that the adoption of the copy theory is needed to account for the reconstruction effects of BT(C). It seems that Barss’s (1986) notion of chain binding together with trace theory does as good a job as the copy theory.

There is a case in Japanese that raises a problem more sharply for the assumption that BT(C) applies at LF; that is the case of so-called radical reconstruction in Japanese first discussed by Saito (1989). Saito (1989) argues that “scrambling differs from other types of A’-movement such as English topicalization and *wh*-movement, in that it does not establish a semantically significant operator-variable relation.” Let us first compare the following examples:

- (7) a. *Mary thinks that [the man that bought what]_i, John knows who likes t_i .

³ As one of the reviewers suggests, I should mention Lebeaux’s (1988, 1991) work on the reconstruction effects of BT(C), according to which the contrast between (4a) and (4b) with respect to the possibility of coreference is accounted for by assuming (i) that BT(C) applies at each stage of derivation and (ii) that adjuncts, unlike complements, are allowed to be inserted countercyclically into a phrase that has already undergone movement. I must leave aside the issue of how such a derivational approach to binding theory is assessed under the Minimalist Program. See Epstein et al. (1998) for relevant discussion. Such an approach may be recast with no substantial change into a phase-based approach; see Chomsky (2001).

- b. ?*dono hon-o_i* [*Mary-ga* [*John-ga t_i* *tosyokan-kara*
 which book-Acc -Nom -Nom library-from
karidasita ka] *siritagatteiru* (*koto*)
 checked out Q want-to-know fact
 'Which book_i, Mary wants to know Q John checked out
t_i from the library.'

Saito attributes the ungrammaticality of (7a) to the Proper Binding Condition (PBC), which requires that traces be bound. If we assume that an in-situ *wh*-phrase moves to a Spec-CP at LF to take scope, then *what* in (7a) must be lowered to the Spec-CP that is occupied by *who*, and as a result, the trace left behind by *what* is unbound. In (7b), in contrast, the *wh*-phrase *dono hon-o* 'which book' can be scrambled out of the embedded interrogative clause in which it takes scope. If it is moved to the Spec-CP of this embedded clause at LF, the trace left behind by this movement should violate the PBC. Given this fact, Saito proposes that scrambling can be freely undone in the LF component due to its nature as non-operator movement, which sharply contrasts with topicalization in English; the latter makes the topicalized phrase an operator, so that its movement cannot be undone in the LF component, as shown in the ungrammaticality of (7a). Under this proposal, the scrambled phrase *dono hon-o* in (7b) can be moved back to its original position, and as a result, the LF representation of (7b) induces no violation of the PBC.

Now let us consider the following examples, taken from Saito (1986):

- (8) a. **Kare_i-wa* [*Mary-ga* [*John_i-nituite-no dono hon*]-o
 he-Top -Nom -about-Gen which book-Acc
yonda ka] *siritagatteiru*.
 read Q want-to-know
 'He_i wants to know which book about John_i Mary read.'
 b. ?[*John_i-nituite-no dono hon*]-o_j *kare_i-wa* [*Mary-ga t_j* *yonda ka*] *siritagatteiru*.

(8a) is a BT(C) violation in the intended reading indicated by indices. Given Saito's (1989) proposal, the embedded object *John-nituite-no dono hon-o* 'which book about John' in (8b), which is scrambled out of the embedded interrogative clause, should be moved back to its original position at LF to satisfy the PBC, but then this yields an LF representation in which *kare* 'he' c-commands *John*, which should induce a violation of BT(C) if this latter condition applies at LF. Thus, the acceptability of (8b) may suggest that BT(C) must apply at a level of

representation other than LF, most likely at S-structure.

In short, the issue of at which level(s) of representation the binding conditions must apply is not settled yet under the Minimalist Program. I do not think it is the right attitude to just assume, as Freidin seems to do, that the minimalist conceptions require LF to be the only level of representation in which interpretive conditions such as binding conditions can apply. This is not the only path we can take under the Minimalist Program. We should keep a wider range of possibilities in mind to construct an optimal theory of binding.

Let us next consider the formulation of the binding conditions. In the standard theory, indices are used to define the notions of 'bound' or 'free.' In the formulation of the standard binding theory, given below,

- (9) a. An anaphor must be bound in D.
- b. A pronoun cannot be bound in D.
- c. An r-expression cannot be bound.

'bound' is defined as coindexed and c-commanded, and is interpreted as 'coreferential' while 'not bound' or 'free' is interpreted as disjoint in reference. In the spirit of the minimalist conceptions, however, Chomsky (1995) hypothesizes "that outputs consist of nothing beyond properties of items of the lexicon (lexical features); in other words, that the interface levels consist of nothing more than arrangements of lexical features" (p. 225); this is called the inclusiveness condition. Given this, Freidin refers to the alternative proposed in Chomsky and Lasnik (1993) as one compatible with this condition, since it involves replacing indexing procedures with interpretive procedures, as shown below:

- (10) a. If α is an anaphor, interpret it as coreferential with a c-commanding phrase in D.
- b. If α is a pronoun, interpret it as disjoint from every c-commanding phrase in D.
- c. If α is an r-expression, interpret it as disjoint from every c-commanding phrase.

Notice that this alternative is not essentially different from that given in (9), and as Chomsky (1995) puts it, "consideration of this nature can be invoked only within a fairly disciplined minimalist approach." (fn. 7) In other words, nothing significant is obtained from a binding theoretic perspective in reformulating the standard theory of the binding principles given in (9) into those given in (10). Again, we need empirical considerations to motivate such a reformulation, and as far as I can

tell, there does not seem to be any empirical argument to support the reformulated version of the binding principles. Hence, we are still waiting for the optimal situation in which empirical arguments support conceptual arguments.

At the same time, we should keep in mind the possibility of postulating theoretical constructs that depart from a minimalist condition such as inclusiveness; such a condition should not be treated as an inviolable maxim. Relating to this point, it is a pity that the inclusiveness condition seems to have suffocated the lively debates with respect to whether anaphoric relations should be represented by an indexing device or by a linking device. In Abe (1993), for example, I argued that linking theory is superior to indexing theory in dealing with a wide variety of strong crossover cases whereas it does not account well for cases of disjoint reference between pronouns and names and among names. Unfortunately, such considerations, though important, have often been left aside in minimalist approaches to binding.⁴

In conclusion, I fail to concur with Freidin in his last remark that “from the preceding discussion of binding theory on minimalist assumptions it would seem that ... the ground is certainly shifting so that our perspective appears to be undergoing a significant change.” (p. 152) Rather, I am more sympathetic with the remark given in the Preface that “the exact status of Binding theory within the Minimalist program remains somewhat unclear.” (p. xiv) It seems to me that we are still searching for an optimal way of approaching the problem of how the substantial arrays of empirical and theoretical findings in binding theory meet the minimalist criteria.

3. Obviation Conditions

In this section, I want to examine what is the most appropriate way of characterizing obviation conditions such as Binding Theory B

⁴ One of the reviewers pointed out that the debate in question is not eliminated but rather the minimalist perspective forces it to be shifted out of the syntax and into the interpretive component. I agree that this is a natural reasoning, given the “minimalist assumptions,” but we have not found anything at all about whether such a shift is justifiable. Hence, I cannot agree with the reviewer in claiming that such a shift is mandatory under the Minimalist Program.

(BT(B)) and BT(C). Several papers in this book address this issue, revising the original formulation of binding conditions into a more accurate and ramified one. Since Reinhart's (1983) important work on binding, one of the central issues in this area has been whether BT(B) and BT(C) should regulate bound variable anaphora and coreference in a unified way. Reinhart (1983) claims that these binding conditions apply only to cases of bound variable anaphora and that coreference is constrained not by grammatical principles but by pragmatic strategies. This has been supported by the fact that BT(B) is strictly observed in cases of bound variable anaphora whereas it is not always observed in cases of coreference in many languages. Hoji's paper in this book (Sloppy Identity and Principle B) demonstrates that this line of reasoning is supported by Japanese data such as the following:

- (11) a. *(Sono kaigi-no dookoo-o
 that meeting-Gen development-Acc
 sagurootositeita) tyoosain-wa
 was:trying:to:spy:on investigator-Top
 [[Toyota to Nissan]_i-ga [soko_i-o suisensuru]-no-o
 and -Nom it-Acc recommend -Acc
 mite odoroit_a.
 saw:and was:surprised
 'The investigator (who was trying to spy on the develop-
 ment of that meeting) was surprised to see [[each of
 Toyota and Nissan]_i recommend it_i].'
 b. (Sono kaigi-no dookoo-o sagurootositeita) tyoosain-wa
 [Toyota_i-ga asoko_i-o suisensuru]-no-o mite odoroit_a.
 'The investigator (who was trying to spy on the develop-
 ment of that meeting) was surprised to see [[Toyota_i re-
 commend it_i].'

Soko 'it' in (11a) is a singular-denoting element and when it takes a plural NP as its antecedent, it serves as a bound variable of the singularly distributed operator which ranges over the entities denoted by its antecedent. Since it is bound by its antecedent *Toyota to Nissan* in its local domain, it induces a BT(B) violation, as expected. (11b) is the same as (11a) except that the embedded subject *Toyota to Nissan* is replaced by *Toyota* and *soko* is replaced by *asoko*. Here, it is coreference that holds between *asoko* and its antecedent *Toyota* and a BT(B) violation is not observed, unlike in the case of bound variable anaphora, illustrated in (11a).

The above data, if they are real, clearly support Reinhart's (1983) dichotomy between bound variable anaphora and coreference with respect to the application of BT(B). Hoji, however, makes two further claims that are different from Reinhart's original one. One is that BT(B) is not a condition on bound variable anaphora but rather a condition on the establishment of Formal Dependency (FD) in Fiengo and May's (1994) sense. Fiengo and May motivate the notion of FD by arguing, contrary to the claim made by Reinhart (1983), that a referential relation that establishes a sloppy identity reading cannot be reduced to bound variable anaphora. Hoji makes this point on the basis of the fact that in sloppy identity contexts, BT(B) effects are generally observed in Japanese and that even though *kare* 'he' cannot be construed as a bound variable, it observes this principle in sloppy identity contexts. Hoji provides the following data:

- (12) a. Bill_i-ga kare_i-o suisensita.
 -Nom he-Acc recommended
 'Bill_i recommended him_i.'
- b. Mary-ga John-ni yori mo sakini Bill-ni kare-o
 -Nom -Dat than early -Dat he-Acc
 suisens-aseta.
 recommend-caused
 'Mary made Bill(-Dat) recommend him earlier than John(-Dat).'
- c. Mary-ga John-ni yori mo sakini Bill-ni [kare-no hon]-o
 suisens-aseta.
 'Mary made Bill(-Dat) recommend his book earlier than John(-Dat).'

(12a) (which seems to me to be far from perfect; see below) shows that *kare* does not exhibit BT(B) effects even if it enters into a coreference relation with its antecedent in its local domain. (12b, c) are cases of what Hoji calls comparative ellipsis, which he claims provides a reliable syntactic context for sloppy identity readings. He reports that in (12b), the sloppy identity reading in which Mary made Bill recommend Bill earlier than Mary made John recommend John is highly marginal or impossible, whereas a parallel reading is available in (12c). Naturally, he attributes this contrast in the availability of the sloppy identity readings to BT(B) effects. Given the well-known fact that *kare* cannot function as a bound variable, Hoji concludes that BT(B) is not a condition on bound variable anaphora, but rather a condition on FD that

establishes not only bound variable anaphora but also other referentially dependent relations such as those inducing sloppy identity readings. In this way, Hoji argues for the need of the notion of FD independently of operator-variable relations. Note that this argument relies crucially on his factual claim that *kare* can be involved in a referential relation that induces a sloppy identity reading, as shown in (12c). I am not sure about the reliability of the judgments of the relevant data; personally, I am more comfortable with Nakayama's (1982) factual claim that *kare* cannot give rise to a sloppy identity reading. Thus, it seems to me that more evidence will be needed to establish that BT(B) is a condition on FD rather than on bound variable anaphora.

The second important point Hoji makes is that FD is not a transitive relation and hence it is properly represented by linking rather than indexing. Hoji provides the following example:

- (13) (Sono kaigi-no dookoo-o sagurootositeita)
 that meeting-Gen development-Acc was:trying:to:spy:on
 tyoosain-wa [Toyota to Nissan]_i-ga [soko_i-ga
 investigator-Top and -Nom it-Nom
 soko_i-o suisensita to] happyoosuru no-o
 it-Acc recommended that announce -Acc
 mite odoroitā.
 saw:and was:surprised
 'The investigator (who was trying to spy on the development
 of that meeting) was surprised to see [each of Toyota and
 Nissan]_i announce that it_i had recommended it_i.'

Compare this sentence with the unacceptable sentence (11a). Hoji notes that given the coindexation-based view of BT(B), (13) should be ruled out by this principle for the same reason as (11a), since *soko* in object position is locally bound by *soko* in subject position. If BT(B) is a condition on FD and FD is represented by linking, on the other hand, the acceptability of (13) is, as Hoji claims, "not unexpected since both occurrences of *soko* can Formally Depend upon (the trace of) *Toyota to Nissan* 'Toyota and Nissan,' and such Formal Dependencies are not locally established." (p. 211) Though this is an important claim if it is true, again the presented data seem to be dubious in that they may not show what Hoji intends to show. I agree that (13) is an acceptable sentence with the intended reading, but this may be due to the peculiar property of the repetition of names or pronouns. It seems to be the case that when the same name or pronoun is repeated in a

local context, the sentence is much more acceptable than a parallel sentence which involves the combination of a noun and a pronoun. Let us consider the following examples:

- (14) a. John-ga John-o suisensite, Mary-ga
 -Nom -Acc recommended:and -Nom
 Mary-o suisensita.
 -Acc recommended
 'John recommended John and Mary recommended Mary.'
- b. Kare-ga kare-o suisensite, kanozyo-ga kanozyo-o suisensita.
 'He recommended him and she recommended her.'
- c. ??John-ga kare-o suisensite, Mary-ga kanozyo-o suisensita.
 'John recommended him and Mary recommended her.'

Given this fact, it is natural to conjecture that the same repetition effects may contribute to the acceptability of (13). This is supported by the fact that when *soko* in subject position is replaced by *Toyota to Nissan*, the sentence becomes as degraded as (11a). Compare the following examples:

- (15) a. [Toyota to Nissan]_i-wa [soko_i-ga soko_i-o
 and -Top it -Nom it-Acc
 suisensita to] happyoosita.
 recommended that announced
 'Each of Toyota and Nissan announced that it had recommended it.'
- b. *[Toyota to Nissan]_i-wa [[Toyota to Nissan]_i-ga soko_i-o
 suisensita to] happyoosita.
 'Each of Toyota and Nissan announced that Toyota and Nissan had recommended it.'

According to Hoji's claim, (15b) should not induce a violation of BT(B), since *soko* can Formally Depend upon not the embedded subject but the matrix subject and hence the FD in question is not established in a local domain. Thus, given the unacceptability of (15b), we may be led to the conclusion that is opposite to what Hoji has reached; that is, that FDs are in fact transitive relations and are more properly represented by indexing. The acceptability of (15a) would then be attributed to the peculiar property of repetition of names and pronouns that somehow diminishes BT(B) effects.

Though I have argued that Hoji's argument for the relevance of FD

in the application of BT(B) is rather weak, the data presented in his paper still support Reinhart's (1983) position in that the application of BT(B) is sensitive to the dichotomy between two kinds of referential relations; bound variable anaphora (or FD) and coreference. Demirdache's paper (Condition C) also supports Reinhart's position by showing that in St'át'imcets (ST'), BT(C) is strictly observed in bound variable anaphora, but not in coreference. Demirdache shows that this language exhibits Strong Crossover Effects (SCO) in sentences such as the following (where only the English translations are provided):

- (16) a. Who_i t_i knows pro_{i/j} loves Wany?
 b. Who_i does pro_{i/j} know t_i loves Wany?
 c. *They_i were looking for all the children_i.
 d. *They_i said she was looking for all the men_i.

Given this pattern of facts, Demirdache concludes "that A'-traces created by either *wh*-movement or QR are subject to the classic version of Condition C: they must be A-free." (p. 61). Demirdache also shows that in ST', the domain in which BT(C) applies in cases of coreference anaphora is restricted to a local domain, as illustrated below (again, only the English translations are provided here):

- (17) a. *He_i helped Bucky_i.
 b. S/he_{i/j} said that Wany_i saw the man_j.

From this observation, Demirdache claims that this pattern of facts supports the binding theory proposed by Reinhart and Reuland (1993) (R&R) in the following three respects: "First, there is no Condition C. Second, it [= BT(B)] is not formulated in terms of c-command and, thus, does not distinguish **pro_i loves Sam_i* from **Sam_i loves pro_i*. Third, its domain is the domain D since it is the domain of the co-arguments of a predicate." (p. 64) The fact that there is no BT(C) explains the acceptability of (17b). R&R's binding theory treats the unacceptability of (17a) as a violation of BT(B), since *he_i* and *Bucky_i* are co-arguments but not reflexive marked.

One important consequence of the above claims is that SCO is not a violation of BT(C) any more, since there is no such condition. In Section 6 of her paper, Demirdache proposes an independent condition on bound variable anaphora (BVA):

- (18) An A'-trace must be locally A'-bound.

Demirdache notes that this dissociation of SCO from typical instances of the classical BT(C) lends support to Reinhart's (1983) position that "the Grammar only regulates BVA." (p. 64) I want to point out here

that this also supports the approaches to SCO taken by Higginbotham (1983), Barss (1986) and Abe (1993), all of which treat SCO as involving different constraints from classical cases of BT(C) violation, explaining SCO by a condition on chains represented by linking theory.

Another consequence worth mentioning is that the facts given in (17) weaken the validity of Reinhart's (1983) proposal that coreference, unlike bound variable anaphora, is regulated by pragmatic rules. Demirdache points out that "this proposal fails to explain the difference between English and ST': we expect coreference in ST' to be governed by the same pragmatic rule and, thus, anaphora in [17b] to be equally bad in English and ST'." (p. 67)

There is one potential problem, however, that comes to mind in Demirdache's conclusions, which is concerned with the status of BT(B). Demirdache says that "once we assume R&R's Binding Theory together with Reinhart's proposal that the Grammar only governs BVA, the restricted domain of Condition C in ST' is the *null* hypothesis." (p. 67) By the word 'null hypothesis,' Demirdache seems to intend that the condition on BVA given in (18) and the R&R's version of BT(B) that is formulated in terms of co-arguments of a predicate are universal conditions and hence even an exotic language such as ST', which does not show typical BT(C) effects, is expected to observe these conditions. As for the Condition C effects not observed in ST', Demirdache says in the Introduction that she supports a 'universalist' approach to anaphora taken by Safir (1996) by showing that "both Condition C effects and cross linguistic variation in the domain of Condition C are determined by semantic properties of noun phrases." (p. 51).

In Section 7 and the following sections, Demirdache addresses the difference between English and ST' with respect to BT(C) effects, correlating the anaphoric properties of DPs in ST' with those of focused expressions in English. Demirdache refers to Tancredi (1995) in the observation that "whenever disjointness requirements are overridden, at least one of the two NPs must be focused," (p. 76) providing the following example:

(19) Who does Oscar_i love?

I know he_i loves OSCAR_i, but does he_i love anyone else?

In order to correlate this fact with the absence of BT(C) effects in ST', Demirdache argues first that DPs in ST' lack quantificational force. In particular, she takes up Matthewson's (1996) claim that "no determiner in ST' triggers the presupposition that the descriptive content of a DP

is part of the common ground of discourse.” (p. 69) From this fact, she jumps to the conclusion that “the *descriptive content* of a DP in ST’ is, thus, *part of the main assertion* of a sentence: *the focus*.” (p. 78) There is a gap to be filled in this reasoning, however; it presupposes that new information means focus, but the focus that is involved in the overriding BT(C) effects is clearly used in a more restricted sense; witness the fact that even when the antecedent of a pronoun is an indefinite DP, which is standardly taken as constituting part of the main assertion of a sentence, this does not override BT(C) effects in English. Putting this difficulty aside, notice that the overriding effects in question range over not only cases of BT(C) violation in long distance coreference but also those where the two NPs that enter into coreference are co-arguments of a predicate, as illustrated in (19). Given the acceptability of this sentence, Demirdache will, as far as I can see, expect that a sentence such as that given in (17a) should also be acceptable. On the other hand, if she took R&R’s version of Condition B to be an inviolable principle, then she would predict that (19) should be ruled out by this condition. Further, Tancredi (1994) and Hoji (this volume) observe that typical cases of BT(B) violation can also be overridden by focus, as shown below:⁵

(20) John_i recommended HIM_i.

I think Demirdache should have presented the ST’ counterparts of such data. Again, the situation seems to be close to contradiction: BT(B) would dictate that the ST’ counterpart of (20) should be ungrammatical, whereas the fact that BT(B) effects can be overridden by focus would lead to the conclusion that ‘inherently focused’ DPs in ST’ are immune to BT(B) violation.⁶

⁵ Demirdache herself notices this fact (cf. fn. 26), but does not seem to notice the problem I pointed out in the text. Honestly, I don’t think I have understood all her discussions developed in her paper. I hope I have not misunderstood her arguments in raising the problem at stake.

⁶ According to Tancredi (1994), the overriding effects of BT(B) violation are also observed when a pronoun functions as a bound variable, as shown below:

(i) Every professor_i admires HIM_i.

This is also a good case that should be examined in ST’. See Hoji (this volume) for the contrary claim that when bound variable anaphora is involved, BT(B) violation cannot be overridden by focus.

Given this situation, let us investigate in some detail how BT(B) and BT(C) are overridden by focus effects to see if the problem mentioned above is real. Tancredi (1994) addresses the issue of such overriding effects, proposing an alternative to the classical BT(B) and BT(C) in terms of focus chain. A *focus chain* is defined as a sequence of expressions $a_1, \dots, a_n$ such that (i) for all i, j , such that $i < j$, a_i precedes a_j ; (ii) a_1 is not deaccented; and (iii) for all i such that $2 \leq i \leq n$, a_i is deaccented and its deaccenting is licensed by a_1 . The relevant principles are given below:

(21) Focus Principle 1 (FP1)

For all pairs of expressions x, y , if x and y are both immediate constituents of the same domain D , then x and y cannot be elements of the same focus chain.

(22) Focus Principle 2 (FP2)

All deaccented expressions must be contained in some well-formed focus chain.

(23) Focus Principle 3 (FP3) (= Tancredi's (1994) FP5)

No expression can head more than one focus chain.

Given FPs 1 and 2, we can account for the following contrast with respect to BT(B) effects:⁷

- (24) a. * $John_i$ recommended *him* _{i} .
b. $John_i$ recommended *HIM* _{i} .

According to FP2, *John* and *him* in (24a) must constitute a focus chain, but this violates FP1. In (24b), in contrast, *John* and *HIM* do not constitute a focus chain by definition and hence are free to corefer. Let us consider the following examples:

- (25) a. If anyone likes *OSCAR* _{i} , *HE* _{i} HATES *him* _{i} .
b. *If anyone likes *OSCAR* _{i} , *he* _{i} HATES *him* _{i} .

The acceptability of (25a) is accounted for by assuming that *him* can select *OSCAR*, not *HE*, as its licensing focused NP, forming a focus chain with it. According to FP3, *he* and *him* in (25b) are both licensed by *OSCAR*, forming a single chain with it, and hence this violates FP1. The present system also accounts for cases that show the overriding effects of BT(C). Let us consider (19), which is repeated here with

⁷ Here and below, I am following Tancredi's notations, according to which a focused NP is represented in capital letters and a deaccented NP in small italics.

modifications using the above notations:

- (26) Who does OSCAR_i love?

I know *he*_i loves OSCAR_i, but does *he*_i love anyone else?

In this dialogue, both occurrences of *he* can take *OSCAR* in the question sentence as their licenser, forming a 3-member focus chain with it, thereby satisfying FP2.⁸

Given this system of obviation conditions in terms of focus chain, it is natural to consider that it can be extended to deal with the question of why Japanese does not exhibit typical obviation condition effects, as shown in (12a), repeated below:

- (27) Bill_i-ga *kare*_i-o suisensita.

'Bill recommended him.'

It is often claimed that *kare* 'he' is not a pure pronoun but has more content to it and that it is a null pronoun that corresponds to a pure pronoun. Let us suppose that *kare* is a focused pronoun when not used deictically and that null pronouns are special cases of deaccented expressions. Given this, let us compare (27) with the following sentence, in which *kare* is omitted:

- (28) Bill_i-ga $\emptyset$ _i suisensita.

Though it requires a delicate judgment, this sentence does not seem to have the reading in which Bill recommended Bill. This is expected under the present hypothesis, since in (28), the null pronoun must constitute a focus chain with *Bill* according to FP2, but this violates FP1. In (27), in contrast, no focus principle prevents *Bill* and *kare* from coreferring. This approach is further supported by the fact that the Japanese translations of the sentences given in (25) and (26) show the same pattern of acceptability when focused pronouns are translated into *kare* and deaccented pronouns are translated into null pronouns, as shown below:

⁸ Under the present system, a typical instance of BT(C) violation such as the following is treated as a violation of FP2 when it is uttered out of the blue, since deaccented expressions must take preceding NPs as their licensers to form focus chains with them.

(i) *He*_i thinks that Mary likes JOHN_i.

This account, however, does not seem to cover cases of backward anaphora, such as the following:

(ii) a. Before *he*_i goes to school, JOHN_i usually drops by a convenience store.
b. *His*_i mother likes JOHN_i.

- (29) a. Dareka-ga Oscar_i-o sukida tositemo, kare_i-wa $\emptyset_i$
 someone-Nom -Acc like though he-Top
 kiratteiru.
 hate
 'If anyone likes OSCAR, HE hates *him*.'
- b. *Dareka-ga Oscar_i-o sukida tositemo, $\emptyset_i$ $\emptyset_i$ kiratteiru.
 'If anyone likes OSCAR, *he* hates *him*.'
- (30) A: Oscar-wa dare-o aisiteiru no.
 -Top who-Acc love Q
 B: [$\emptyset_i$ Oscar_i-o aisiteiru] koto-wa sitteiru ga, $\emptyset_i$
 -Acc love fact-Top know but
 hoka-no dareka-o aisiteiru no.
 other-Gen someone-Acc love Q
 'Who does OSCAR love? I know *he* loves OSCAR,
 but does *he* love anyone else?'

In (29a), the empty object can take *Oscar* as its licenser, forming a focus chain with it, and hence does not violate FP1. In (29b), both the empty subject and object must form a single focus chain with their licenser *Oscar*, according to FP3, hence violating FP1. In (30), the first occurrence of the empty subject can take *Oscar* in the question sentence as its licenser, forming a focus chain with it, and hence satisfies FP2.

It is tempting to apply this approach to cases in ST' in which BT(C) effects are suppressed, given Demirdache's (this volume) remark that "whereas in English, the destressed vs. stressed distinction serves to identify focus, in ST", it is the null vs. overt argument distinction which serves to identify focus." (p. 79) Thus, the acceptability of (17b), repeated below, appears to be accounted for by assuming that in ST', overt pronouns function as focused NPs.

- (31) S/he_{i/j} said that Wany_i saw the man_j.

However, this account would wrongly predict that (17a), repeated below, should also be acceptable.

- (32) *He_i helped Bucky_i.

Furthermore, the Japanese counterpart of (31) is unacceptable:

- (33) a. *Kare_i-wa [Wany-ga soño otoko_i-o mita to] itta.
 he-Top -Nom that man-Acc saw Comp said
 'He said that Wany saw the man.'
- b. *Kanozoy_i-wa [Wany_i-ga sono otoko-o mita to] itta.
 'She said that Wany saw the man.'

Thus, though Tancredi's (1994) theory of obviation conditions work well with BT(B) effects when extended to a language such as Japanese in which focus is assumed to be indicated in the null vs. overt distinction, it does not quite reach cases of BT(C) effects, shown in Japanese and ST'; see also fn. 8.⁹ Returning to Demirdache's points, recall that

⁹ One of the reviewers suggested that the unacceptability of the sentences in (33) may be due to some independent discourse principle that prohibits a focused pronoun from appearing prior to an informationally more loaded name when they are coreferential. The need for such a discourse principle is indicated by the fact that when the focused pronouns in (33) are embedded within other NPs, so that they do not c-command their antecedents, the resulting sentences are still unacceptable, as shown below:

- (i) a. *Kare_i-no haha-wa [Wany-ga sono otoko_i-o mita to] itta.
 he-Gen mother-Top -Nom that man-Acc saw Comp said
 'His mother said that Wany saw the man.'
 b. *Kanozo_i-no haha-wa [Wany_i-ga sono otoko-o mita to] itta.
 'Her mother said that Wany saw the man.'

Note, however, that even if our present analysis is supplemented by such a discourse principle, it still leaves the ST' facts given in (31) and (32) unexplained. Furthermore, the reviewer pointed out that given such a discourse principle, it is expected that the sentences in (33) will improve if they are embedded within a context that includes *Wany* or *sono otoko* 'that man.' It does not seem to me that this expectation is borne out:

- (ii) a. Sono otoko_i-o sitteirukai. *Kare_i-wa [Wany-ga sono
 that man-Acc know-Q he-Top -Nom that
 otoko_i-o mita to] itta.
 man-Acc saw Comp said
 'Do you know that man_i? He_i said that Wany saw the man_i.'
 b. Wany_i-o sitteirukai. *Kanozo_i-wa [Wany_i-ga sono otoko-o mita to]
 itta.
 'Do you know Wany_i? She_i said that Wany_i saw the man.'

Interestingly, when the sentences in (i) are embedded within the same context, they in fact improve, as shown below:

- (iii) a. Sono otoko_i-o sitteirukai. ?Kare_i-no haha-wa [Wany-ga
 that man-Acc know-Q he-Gen mother-Top -Nom
 sono otoko_i-o mita to] itta.
 that man-Acc saw Comp said
 'Do you know that man_i? His_i mother said that Wany saw the
 man_i.'
 b. Wany_i-o sitteirukai. Kanozo_i-no haha-wa [Wany_i-ga sono otoko-o
 mita to] itta.
 'Do you know Wany_i? Her_i mother said that Wany_i saw the man.'

This may suggest that we still need Condition C and that this condition must be parameterized in order to accommodate the ST' facts given in (31) and (32). I must leave further examination for future research.

she exploits R&R's version of BT(B) to account for the unacceptability of (32) whereas she mentions Tancredi's (1994, 1995) work to suggest that the acceptability of (31) is related to focus effects. As discussed above in some detail, however, to maintain both positions would lead to near contradiction: while Demirdache takes R&R's BT(B) as seemingly inviolable, Tancredi claims that BT(B) and (C) effects can be overridden by certain patterns of focus, and the above discussion shows that such overriding effects would apply to (31) and (32) equally.

Let us finally discuss Berman and Hestvik's paper (Split Antecedents, Noncoreference, and DRT), which addresses the question of what is the relevant semantic notion for characterizing the BT(B) effects, disjoint reference or noncoreference. It has been assumed since Lasnik's (1976) pioneering work that disjoint reference is the right notion to constrain the referential relations between pronouns and names and among names. Berman and Hestvik challenge this assumption. Following Seely's (1993) observation with respect to cases of split antecedents, they note that in the following sentences, *John* and *Mary* can corefer with *them*:

- (34) a. John wants [Mary to represent them].
- b. John asked Mary_i [PRO_i to represent them].

They also note that in (35) below, *John* and *Mary* cannot corefer with *them*:

- (35) *John told Mary about them.

These split antecedent facts, if they are real, will constitute counterexamples to Lasnik's claim that the obviation conditions should be characterized in terms of disjoint reference.

Based upon these facts, Seely (1993) proposes that the classical syntactic notion of binding should be replaced by *exhaustive binding*. Assuming that an index is represented as a set of integers, BT(B) is reformulated as below:

- (36) a. X is *exhaustively bound* iff every syntactically dependent member of the index of X is c-commanded by its antecedent; X is free otherwise.
- b. A member M of the index of X is *syntactically dependent* if M is identical with a member of the index of an intrasentential NP; we refer to that NP as the antecedent of M.
- c. BT(B): A pronoun must be free (i.e. not exhaustively bound) in its binding domain.

Given this formulation, *them* in (35) is exhaustively bound by *John* and *Mary* in its binding domain, the intended reading hence being excluded, whereas *them* in (34) is not exhaustively bound by its antecedents in its binding domain, the intended reading hence being allowed.

Berman and Hestvik provide two kinds of examples to show that the above formulation of BT(B) is inaccurate. One case is illustrated in examples where pronouns are in anaphoric relations with split antecedents and one of the antecedents does not appear in the same sentence as the pronouns do, as shown below:

- (37) *Bill and Mary* were asked to appear before the committee.
But *Bill* fell ill and had to be excused. John said that *Mary*
represented *them*.

Seely's version of BT(B) would predict that in this utterance, *them* cannot refer to *Bill and Mary*, since, given that the last sentence has the following representation for the intended reading,

- (38) John said that *Mary*_[ji] represented *them*_[ji, j]
only the *i*-index of *them* is syntactically dependent on *Mary* and is c-commanded by it, hence exhaustively bound in the binding domain of *them*. To this type of counterexample, Berman and Hestvik point out, correctly I think, that "Seely's theory could easily be repaired by removing the requirement that only sentence internal antecedents may suspend the disjoint reference condition." (p. 7) However, they provide another type of counterexample that is "more telling evidence against Seely's version of BT(B)," (ibid.) which involves inclusive reference, as illustrated below:

- (39) John_[ji] and *Mary*_[ji] were charged with a crime. Since *Mary*_[ji]
is a lawyer, [*they*_[ji, j] wanted *her*_[ji] to represent *them*_[ji, j]].
Notice that in (39), the reference of *her* is a proper subset of that of *they*. Seely agrees with Lasnik in judging that such an inclusive reference case is impossible. This is predicted under Seely's formulation of BT(B), since the *j*-index of *her* is syntactically dependent on that of *they* and hence this pronoun is exhaustively bound in its binding domain. Berman and Hestvik challenge this observation, claiming that cases of inclusive reference are acceptable, given a suitable context, as shown in (39). To this type of counterexample, Berman and Hestvik note again that "one might try to continue amending the analysis along the same lines, by further altering the domain of application of disjoint reference." (p. 8) Though they do not pursue this line, it seems to be worth exploring. We will, then, be naturally led to reformulate Seely's

original formulation as something like the following:

- (40) a. A pronoun is exhaustively bound iff for each integer *i* of its index, there is a c-commanding NP whose index includes *i* and does not include any integer that is not a member of that pronoun.
- b. BT(B): A pronoun must be free (i.e. not exhaustively bound) in its binding domain.

Given this formulation, split antecedents are allowed for pronouns unless all antecedents are within their binding domains, as in (35). Further, inclusive reference cases such as (39) are allowed, since an NP overlapping in reference with a pronoun has an integer other than that of the pronoun, hence according to (40a), it does not exhaustively bind the pronoun.

One may claim that this formulation is simpler than Seely's original formulation in that it dispenses with the specification of an intrasentential NP that serves as a candidate for exhaustive binders. Further, it seems too hard to tell whether such a reformulation gives rise to any complication or conceptual unnaturalness as a result of accommodating inclusive reference cases. Hence, the data provided as counterexamples to Seely's formulation of BT(B), as given in (37) and (39), seem to be accommodated by a simple amendment of Seely's BT(B). Despite this, Berman and Hestvik seem to take the facts given in (37) and (39) to support a discourse-based approach to anaphoric relations. In their paper, they intend to show this, adopting Discourse Representation Theory (DRT), but whether they succeed is not at all clear.

It is true that some pragmatic theory such as DRT is independently motivated to account, for instance, for the fact, as noted by Berman and Hestvik, that "*them* in [41a] can only be understood as coreferential (and crucially not partially overlapping in reference) with *the men*, while the reference of *him* in [41b] cannot be resolved, making the sentence infelicitous in this minimal context [i.e., when uttered out of the blue]." (p. 9)

- (41) a. The men said Mary likes them.
- b. The men said Mary likes him.

It is obvious that this itself does not establish that a discourse-based approach to the BT(B) effects is preferred. Berman and Hestvik adopt Kamp and Reyle's (1993) proposal of incorporating the effects of BT(B) into the DRT construction rule for pronouns, since they say "this is appealing on the grounds of conceptual simplicity and theoretic-

cal economy: since BT(B) regulates the anaphoric aspect of the interpretation of pronouns, it is natural that its effect should be part of the operation that yields the semantic representation of pronouns." (p. 17) It should be noted, however, that incorporation or unification does not always imply conceptual simplicity or theoretical economy, since it can be only apparent. As far as I understand, the main task of DRT for anaphoric relations is to resolve the reference of anaphoric elements such as *them* and *him* in (41) in terms of discourse representation structures which are incrementally constructed as a series of sentences are uttered. Thus, the necessary information for such a resolution ranges intersententially. The BT(B) effects, on the other hand, can be captured intrasententially, as shown in (40). This may be taken to instantiate a case of the division of labor between sentence grammar and discourse grammar, hence supporting the position that BT(B) is an independent grammatical principle. Thus, it does not seem that the conceptual argument counts in the case at issue.

Berman and Hestvik make an interesting claim with respect to the way split antecedents are involved in the BT(B) effects. They propose that since split antecedents do not constitute a single syntactic constituent, a single entity that consists of the referents of these antecedents becomes available only through a rule called Summation at the discourse level. Given that BT(B) is incorporated into a DRT-based principle in such a way that only an entity that already exists at the syntactic level functions as a potential binder for a pronoun, it follows that this version of BT(B) never excludes cases where pronouns take split antecedents. But, as Berman and Hestvik themselves notice, this is not the right characterization of BT(B), as shown clearly in (35) and the following sentence:

- (42) *Bill_{|ij|} and Mary_{|jj|} said that they_{|i, j|} told Fred_{|k|} about themselves_{|i, j, k|}.

This clearly indicates that split antecedents are active at the syntactic level as if they made up the 'sum' and that BT(B) should prohibit a case in which a pronoun is c-commanded in its local domain by the NPs whose sum is coreferential to that pronoun. Toward the end of the paper, Berman and Hestvik remark, "that split antecedents should be subject to this constraint [= BT(B)] strongly supports a nonsyntactic aspect, since these do not constitute a single syntactic constituent." (p. 26) That this is not the case seems to be obvious from the above discussion.

In short, there does not seem to be any reason to prefer an approach that incorporates BT(B) into a discourse-based theory of anaphora, given the facts concerning split antecedents. Rather, there is at least an equally plausible approach to them that takes BT(B) as an independent grammatical principle.

REFERENCES

- Abe, Jun (1993) *Binding Conditions and Scrambling without A/A' Distinction*, Doctoral dissertation, University of Connecticut.
- Abe, Jun (2000a) "On the Displacement Property of Language and Minimality," ms., Nagoya University.
- Abe, Jun (2000b) "Plurality and Reciprocity: Support for QR," ms., Nagoya University.
- Barss, Andy (1986) *Chains and Anaphoric Dependence*, Doctoral dissertation, MIT.
- Chomsky, Noam (1981) *Lectures on Government and Binding*, Foris, Dordrecht.
- Chomsky, Noam (1993) "Minimalist Program for Linguistic Theory," *View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, ed. by Ken Hale and Samuel J. Keyser, 1-52, MIT Press, Cambridge, MA.
- Chomsky, Noam (1995) "Categories and Transformations," *The Minimalist Program*, by Noam Chomsky, MIT Press, Cambridge, MA.
- Chomsky, Noam (2001) "Beyond Explanatory Adequacy," *MIT Occasional Papers in Linguistics 20*.
- Chomsky, Noam and Howard Lasnik (1993) "The Theory of Principles and Parameters," *Syntax: An International Handbook of Contemporary Research*, ed. by Joachim Jacobs, Arnim von Stechow, Wolfgang Sternefeld and Theo Vennemann, Walter de Gruyter, Berlin.
- Epstein, Samuel D., Erich M. Groat, Ruriko Kawashima and Hisatsugu Kitahara (1998) *A Derivational Approach to Syntactic Relations*, Oxford University Press, Oxford.
- Fiengo, Robert and Robert May (1994) *Indices and Identity*, MIT Press, Cambridge, MA.
- Fox, Danny (2000) *Economy and Semantic Interpretation*, MIT Press, Cambridge, MA.
- Higginbotham, James (1983) "Logical Form, Binding, and Nominals," *Linguistic Inquiry* 14, 395-420.
- Kamp, Hans and Uwe Reyle (1993) *From Discourse to Logic*, Kluwer, Dordrecht.
- Hornstein Nobert and Amy Weinberg (1990) "The Necessity of LF," *The Lin-*

guistic Review 7, 129–167.

- Lasnik, Howard (1976) "Remarks on Coreference," *Linguistic Analysis* 2, 1–22.
- Lebeaux, David (1988) *Language Acquisition and the Form of Grammar*, Doctoral dissertation, University of Massachusetts, Amherst.
- Lebeaux, David (1991) "Relative Clauses, Licensing, and the Nature of the Derivation," *Perspectives on Phrase Structure: Heads and Licensing*, ed. by Susan Rothstein, 209–239, Academic Press, San Diego.
- Matthewson, Lisa (1996) *Determiner Systems and Quantificational Strategies: Evidence from Salish*, Doctoral dissertation, University of British Columbia.
- Nakayama, Shigeko (1982) *On English and Japanese Pronouns*, M.A. Thesis, University of Tokyo.
- Reinhart, Tanya (1983) *Anaphora and Semantic Interpretation*, Croom Helm, London.
- Reinhart, Tanya and Eric Reuland (1993) "Reflexivity," *Linguistic Inquiry* 24, 657–720.
- Safir, Ken (1996) "Semantic Atoms of Anaphora," *Natural Language and Linguistic Theory* 14, 545–589.
- Saito, Mamoru (1986) "LF Effects of Scrambling," a talk given at Princeton Workshop on Comparative Grammar.
- Saito, Mamoru (1989) "Scrambling as Semantically Vacuous A'-Movement," *Alternative Conceptions of Phrase Structure*, ed. by Mark A. Baltin and Anthony S. Kroch, 182–200, University of Chicago Press, Chicago.
- Saito, Mamoru (1991) "Extraposition and Parasitic Gaps," *Interdisciplinary Approaches to Language: Essays in Honor of S.-Y. Kuroda*, ed. by Carol Georgopoulos and Roberta Ishihara, 467–486, Kluwer Academic Publishers, Dordrecht.
- Seely, T. Daniel (1993) "Binding Plural Pronominals," *CLS* 29, 305–317.
- Tancredi, Christopher (1994) "Toward Eliminating Binding Theory," ms., Yokohama National University.
- Tancredi, Christopher (1995) "Intricacies of Identity," ms., Yokohama National University.

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