Adding Semantics to Safir's *The Syntax of Anaphora*

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1 Introduction

Ken Safir's *The Syntax of Anaphora* is a comprehensive reworking of the basic ideas of anaphora within a broadly Chomskyan linguistic framework. The central claim of the book is that the form of a referring expression is determined not through rigid binding conditions like Conditions A, B and C of Chomsky (1981) or of the predication-based approach of Reinhart and Reuland (1993) but rather is determined through a dependency-based competition among potential forms. Anaphors on Safir's account are taken to be more dependent that pronouns, which in turn are more dependent than R-expressions. In a given context, one expression A can be dependent on a c-commanding antecedent only if there is no expression B that is more dependent than A and that could be substituted in place of A to yield a convergent derivation with the same interpretation. This central idea is worked out in detail and applied to a wide range of binding phenomena. The book is laudable not only for its depth of analysis but also for the breadth of languages it covers. Detailed discussion of binding in English, French, German, Dutch, Norwegian, Swedish, Danish and Hindi is supplemented with supporting evidence and observations from another several dozen languages from a wide range of language families.

As is inevitable in a project of this magnitude, problems crop up throughout the book despite, or perhaps because of, the depth of coverage that Safir attains. However, the value of *The Syntax of Anaphora* lies not only in the specific proposal it makes for binding phenomena in particular languages but even more so in the mileage obtained from a small set of core universal principles and in the redirection of binding theory as a theory not of
absolute conditions and constraints but of competition among forms. Whether this new view of binding can ultimately be sustained only extended research will show. It is, however, clearly a new view of binding theory, and not merely a tweaking of older analyses. Safir has furthermore clearly done enough of the necessary groundwork supporting this view to make it an approach that anybody serious about issues related to binding will have to take into consideration. I have high expectations that this book will trigger a wealth of new insights into binding both from proponents of the theory and from its opponents.

In this paper, I will outline and illustrate the basics of Safir's specific proposal, putting aside many of the detailed considerations that went into its formulation and some of the less central pieces of the analysis as well. While much of the book deals with variation across languages, including in depth work on several European languages, I limit myself in this paper to discussion of those aspects of the analysis relevant to English. After outlining the analysis, I will then examine one of the recalcitrant ways that focus interferes with binding, and show that Safir's analysis does not account for these focus effects as it stands. I then consider two ways of supplementing Safir's analysis to deal with these effects, one syntactic and one semantic. I show that the syntactic approach leads to insuperable difficulties within the confines of Safir's basic analysis, but that the semantic approach makes such an account possible. Since no other analysis of binding known to me makes such an analysis possible, the possibility of developing such an account within Safir's general framework of assumptions constitutes strong support for the general approach. I conclude with some general remarks about Safir's innovative analysis, the problems it must overcome, and the promise it holds.

2 Safir's Basic Analysis

The leading idea that Safir formalizes in his analysis is the following: The form of a
dependent nominal is chosen through competition, in which the most dependent form that can convey a given interpretation wins, and any less dependent form is then blocked from having the same interpretation. To illustrate the basic idea, consider the following examples. (Here and throughout, *italics* are used to indicate intended anaphoric relations.)

(1) *No man* hates *himself* / *him* / *the man*.

The relevant interpretation is a bound variable interpretation, one which requires the object expression to be dependent on the subject quantifier. Both *him* and *himself* have derivations which produce such a dependent interpretation. For illustration, we can assume that *the man* does as well (see Schlenker 2005 for evidence). While all three expressions are in principle capable of producing a bound variable interpretation in (1), *himself* is more dependent than *him*, which in turn is more dependent than *the man*. This dependency hierarchy forms the basis for a competition in which the most dependent form that gives rise to a convergent derivation wins, and thereby blocks a dependent interpretation for the other two forms. Since *himself* gives rise to a convergent derivation, and since it is the most dependent form possible in this position, it out-competes both *him* and *the man*. These latter two expressions, then, are blocked from having a dependent interpretation in this sentence.

The basic explanation just illustrated is formalized as the Form-To-Interpretation-Principle, or FTIP:

(2) **Form-To-Interpretation Principle (FTIP)**

If

a) X c-commands position Y,

b) z is the lexical form or string that fills Y,

c) w is a single form more dependent than z, and

d) both w and z could support the same identity-dependent interpretation if Y were exhaustively dependent on X,

then (the referential value for) Y cannot be interpreted as identity dependent on X.
Let's step through the application of the FTIP to (1). X in this case corresponds to the subject position, filled by no man, and Y to the object position. There are three choices for z to be considered: \( z = \text{the man}, z = \text{him}, \) and \( z = \text{himself}. \) Given the hierarchy of dependency relations among these expressions, the first choice for \( z \) gives rise to (at least) two choices for \( w \), namely \( \text{him} \) and \( \text{himself}. \) Similarly, the second choice for \( z \) leads to \( w \) being \( \text{himself}. \) By assumption, all three expressions could support the same identity-dependent interpretation if placed in position Y, namely a bound variable interpretation. This means, however, that for \( z = \text{the man} \) and for \( z = \text{him} \) there is a more dependent form that can fill the role of \( w \), namely \( w = \text{himself}, \) that satisfies the condition in (d). The FTIP, then, blocks an identity dependent interpretation for both \( \text{the man} \) and for \( \text{him} \) in position Y, i.e. in object position in (1). Since a bound variable interpretation requires dependent identity for Safir, the absence of a bound variable interpretation for the pronoun and r-expression follows. Note that the competition formalized in the FTIP is restricted to positions c-commanded by a potential antecedent. This means that the competition in question does not affect cross-sentential anaphora or inter-sentential anaphora on a non-c-commanding antecedent.

Following a long tradition since Sag (1976) and Williams (1977), Safir admits of a distinction between bound variable interpretation and simple coreference. Formally, Safir takes the latter interpretation not to require dependent identity. In the example considered in (1), there was no referring antecedent to be potentially coreferent with, and hence the need to take such a distinction into account did not arise. However, in the following minimal variant of (1), the potential antecedent is referential, and hence the distinction becomes important.

(3) *John hates himself / *him / *the man.*

Application of the FTIP, of course, proceeds in (3) just as it did for (1). The FTIP thus
blocks dependent identity interpretations for him and for the man just as before. However, since mere coreference does not require a relation of dependency, and since the FTIP only restricts dependency relations and not coreference relations, the FTIP does not block coreference in (3). Still, the facts here are as plain as they were with the earlier example: intended identity, be it in the form of variable binding or in the form of simple coreference, requires use of the anaphor himself. The FTIP excludes a bound variable interpretation for him and the man. To account for additional absence of a coreferent interpretation, Safir proposes the principle of Pragmatic Obviation in (4), along with supporting definitions in (5) and (6).

(4) **Pragmatic Obviation**

If FTIP does not permit y to be interpreted as dependent on x, then x and y form an obviative pair.

(5) If x and y are an **obviative pair**, then they are not expected to share a value.

(6) **x is dependent** on y if the value of x is a function of the value of y.

Since the FTIP blocks the pronoun him and the r-expression the man from being dependent on John in (3), by Pragmatic Obviation in (4) <John, him> and <John, the man> form obviative pairs. By (5), then, the members of these pairs are not expected to share a value. In this way certain restrictions on coreference – namely those involving a pronoun or r-expression with a (locally) c-commanding antecedent – are accounted for.

One of the main features of this analysis is that it does not depend on conditions B and C of the LGB Binding Theory, making it possible to eliminate these. The only remnant of the LGB Binding Theory that Safir embraces is a revised version of Condition A, which is recast as Local Antecedent Licensing (LAL). (Note that LAL is a condition that must be met in order for a derivation to converge. Since the FTIP only compares convergent derivations, it follows that anaphors that are either unbound or only bound by antecedents that are too far
away do not enter into FTIP competitions. This contrasts with illicitly bound pronouns and r-expressions, as we have just seen.)

(8) **Local Antecedent Licensing (LAL):** An anaphor must be c-anteceded in Domain D.

(9) Domain D: The domain for X is the minimal maximal extended projection containing X.

(10) X c-antecedes Y if X co-varies with Y and X c-commands Y.¹

Though the LAL in a sense does the same work as Condition A of earlier formulations of the Binding Theory, it accomplishes this goal in a very different way. Condition A applies to anaphors in syntactically convergent derivations, imposing a co-indexing requirement (or in some manifestations an interpretational requirement) on the anaphor.

¹ The notion of c-antecedence depends both on the syntactic relation of c-command and the semantic relation of co-variation. While there is nothing wrong with such a notion in principle, in the present context it makes it difficult to see how LAL can block convergence. By including a semantic element in LAL, interpretation of a syntactic representation is a prerequisite to determination of whether the LAL is satisfied. However, by taking LAL to be a prerequisite for convergence, the syntactic representation itself can presumably only exist if the LAL is satisfied. This means that satisfaction of LAL depends on LAL being satisfied, a clearly circular requirement. Such a fundamental problem with one of the core notions upon which Safir's analysis is constructed threatens to undermine the entire approach. To overcome this problem will require either giving a purely syntactic analysis of LAL or reanalyzing LAL as a condition on interpretation rather than on convergence. Either approach will have far-reaching consequences within Safir's analysis, requiring a reworking of many other aspects of his proposal. Constructing a workable version of LAL, however, is beyond the scope of this review.
Under Safir's proposal, in contrast, an anaphor that does not satisfy LAL thereby causes a derivation containing it not to converge.

Treating LAL as a prerequisite for syntactic convergence plays a role in generating bound variable interpretations for pronouns with long-distance antecedents as in (11).

(11) *No man thinks that Mary loves *himself/ *him/ *the man

This is so because the FTIP is taken to only compare expressions across convergent derivations. The FTIP explanation for (11) goes as follows. Choice of *the man as a value for z in (2) is blocked by the possibility of *him as a value for w, in a manner exactly parallel to what we have already seen in (1). Choice of *him as a value for z, however, is not blocked by *himself as a possible value for w despite the fact that *himself is more dependent than *him. This is so because use of *himself taking *no man as antecedent would not satisfy LAL, and hence would not result in a convergent derivation.

A comment on the analysis is in order here. The logic of the analysis requires that something other than FTIP competition determine whether use of an anaphor is possible. Otherwise, an anaphor would always win any competition, and there would be no possibility of having pronouns or r-expressions with c-commanding antecedents, contrary to observation. 2 In Safir's analysis, LAL plays this competition-external role, imposing a

2 The existence of bound variable r-expressions brought to light recently by Schlenker (2005) poses a serious problem for Safir's analysis since there is no situation in which an r-expression should out-compete a pronoun. Schlenker's original example is given in (i), and a bound variable version of the same example is given in (ii). (Italics indicate dependency, as does bold facing).

(i) A linguist working on Binding Theory was so devoid of moral sense that he forced a physicist working on particles to hire his/the linguist's girlfriend in his lab.
locality requirement on anaphors. While this aspect of the analysis is a virtual logical necessity, it is not logically required that the LAL satisfy this role by restricting syntactic convergence. It is only required that the restriction imposed by LAL be one that FTIP is sensitive to. This is fortunate for Safir since interpreting LAL as restricting convergence leads to circularity. In particular, taking LAL to be a prerequisite for convergence makes convergence a prerequisite to determining satisfaction of LAL (see footnote 1). While fatal to his specific formulation, however, this observation does not argue against the general competition-based approach that Safir is primarily concerned to establish. All that is needed to salvage the general approach is a revision of LAL that eliminates the circularity and a reworking of the FTIP in such a way that it can exclude from competition anaphors that don't satisfy the revised LAL. There are many potential solutions to this problem, but the details of the solutions would only serve as a detraction from the main points I wish to address. In what follows, then, I will proceed as if this problem has been solved. The problems that I wish to turn to next do not revolve around the specific formulation of LAL or of FTIP, but rather address the question of whether a dependency-based binding theory of the type that Safir envisions is adequate in principle or whether such an analysis will need to be supplemented.

3 Problems Posed by Focus

It is a long-standing observation that focus can affect the acceptability of a pronoun in certain environments relevant to binding theory. (Cf. Higginbotham (1992) and Tancredi

(ii) Every linguist in this department is so devoid of moral sense that he forced some physicist working on particles to hire his / the linguist's girlfriend in his lab.

I save a detailed analysis of this problem within Safir's framework for another occasion.
Thus, parallel to the unacceptable examples in (12) one finds the acceptable example in (13a) and the marginal example in (13b). (Below, CAPS indicate focus, and italics indicate intended antecedence. All examples are to be taken as context-initial.)

    b. *Every man ADMires him.

(13) a. John Smith admires HIM.
    b. ?Every man admires HIM.

If we ignore focus in the operation of the FTIP and Pragmatic Obviation, then the FTIP predicts an absence of dependency (and hence of bound variable interpretations) for both him and HIM in all four examples. This is so since the more dependent himself (as well as HIMSELF) can be used to generate the same bound variable interpretation and hence blocks the less dependent pronouns. Furthermore, intended coreference should also be blocked in the (a) examples by Pragmatic Obviation. While these predictions are exactly what we want for (12), they are clearly undesirable with respect to (13a). Blocking of dependent identity and hence of a bound variable interpretation for HIM in (13b) is arguably undesirable as well, though this case is less clear and subject to greater speaker variation. How can we account for this distinction in behavior of focused and non-focused pronouns within the broad confines of Safir's analysis?

A first thought might be to analyze focused pronouns as equal to anaphors on the scale of dependency. This would make it possible for focused HIM to tie with unfocused himself in the FTIP competition. However, there are two undesirable consequences to such an analysis. The first problem is that it would fail to explain why the coreference case in (13a) is more acceptable than the bound variable case in (13b) for all speakers, including those speakers who don't accept the bound variable case at all. Under Safir's analysis, both bound variable and coreferential interpretations are sensitive to dependency. The bound variable
interpretation directly requires dependent identity, while the coreference interpretation simply requires that a dependent identity interpretation not be blocked.\(^3\) The marginality of a bound variable interpretation would seem to indicate that a dependent identity relation is not problem free, and might therefore suggest that a coreference interpretation as well might be equally marginal. However, the problems with the bound variable interpretation are not inherited by the coreferent case. For those speakers who find the bound variable interpretation of HIM in (13b) to be unacceptable, the divergence between (13b) and (13a) is even more problematic. The second undesirable consequence of such an analysis is that it would make it virtually impossible to ever use a non-accented pronoun dependently: any such pronoun would be blocked by a focused pronoun. Bound variable pronouns do not, however, typically have to be focused.

A more plausible analysis would be to take focus on a pronoun to allow it to overcome Pragmatic Obviation. Though Safir does not work out the details of such an analysis, he does hint that this is the direction he is inclined toward. However, this approach too faces a problem with the following contrast:

(14) a. *John Smith claims that he ADMires him.

   b. *Every man claims that he ADMires him.

\(^3\) There is some potential for confusion here, though Safir goes to great lengths to make his intentions clear. Intended coreference does not require dependent identity. However, it does require a dependent identity relation to be possible. This sets intended coreference and bound variable anaphora apart since the latter requires not merely the possibility of dependent identity but an actual relation of dependent identity. Put in terms of linking, which is the relation that Safir employs, bound variable anaphora requires presence of linking, while mere coreference simply requires that a linking relation not be blocked by the FTIP.
(15) a. *John Smith* claims that *HE ADMURES him*.
    
b. *Every man* claims that *HE ADMURES him*.4

    In these examples, the embedded bound variable subject pronoun *he / HE* is
    unproblematic. Since an anaphor is unavailable in this position, the pronoun
    surfaces as the most dependent form available. However, the pronoun *him* differs in its
    acceptability here in a manner parallel to the difference observed in (12a) and (13a) between a
    focused *HIM* and a non-focused *him*, and yet in the present examples *him* is uniformly non-focused. This
    means that the difference in acceptability in this case cannot be coming from focus on that
    pronoun.

    There are two ways that intended identity could be encoded syntactically in the
    examples in (14) and (15) without any expression being dependent on an expression that it c-
    commands. These two ways are given schematically in (16).

(16) a. Subject ... pronoun ... pronoun

        ↑_______|  

        ↑_________________|

        (both pronouns directly dependent on the matrix subject)

    b. Subject ... pronoun ... pronoun

        ↑_______| ↑_______|

        (second pronoun dependent on first, first dependent on matrix subject)

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4 The example in (15b) is perhaps less than perfect, but appears to be much more acceptable
than (13b) above and less subject to speaker variation. Among other things, sentences
parallel to (15b) but with different quantifiers in the matrix subject position remain at the
same level of acceptability for a wide range of quantifiers. In (13b) in contrast, quantifier
choice can make a bound variable interpretation much more difficult to obtain.
In cases like (14) and (15) in which the first pronoun locally c-commands the second, the pattern in (16b) is immediately eliminated by the FTIP since an anaphor could be employed in place of the second pronoun to yield the same interpretation. Furthermore, under Safir's analysis the pattern in (16a) is blocked by Pragmatic Obviation, adapting the basic analysis of Higginbotham (1983). The dependency relation between the two pronouns depicted in (16b) is blocked by the FTIP. This then feeds Pragmatic Obviation, according to which the two pronouns cannot be expected to have the same value. If their pattern of dependencies were as in (16a), they would be required to share a value. Pragmatic Obviation thus blocks such a pattern of dependencies. While this is a potentially good result with respect to the examples in (14) with only unaccented pronouns, it is clearly a bad result with respect to the examples in (15) with a focused embedded subject pronoun. This is especially clear in the (b) examples, since these are examples in which both pronouns are required to ultimately be dependent on the matrix subject quantifier in order to generate their bound variable interpretation. Since the patterns of dependency in (16) exhaust the relevant space of possibilities for construing both pronouns as dependent on the matrix subject, it follows that one of these must be allowed by the grammar. However, if we make allowance for one of these patterns of dependency in the grammar, then we run the risk of undermining the explanation for the unacceptability of the original examples without focus in (14).

4 Approaches to the Focused Pronoun Problem

In this section I will discuss two approaches that could be used to overcome the problems illustrated above. The first is a syntactic analysis of focus as involving adjunction of a covert focus operator to some expression containing a focus. By adjoining such an operator to *HE* in (15), this pronoun would no longer c-command the embedded object pronoun *him*, and so the relation between these two pronouns would no longer be subject to
the FTIP, a principle restricted to cases of antecedence involving c-command. The second approach is to analyze focus on the embedded subject pronoun as having a semantic effect that makes the two types of sentence non-synonymous. This approach would make it possible to analyze the focus examples as similar to examples using only, such as the following:

(17) Every man claims that only HE admires him / himself

The interpretation of this sentence with himself bound by only HE is distinct from the interpretation with him bound by Every man, making it plausible to maintain that him and himself are not in competition in this example. In this section I will show that the first of these two approaches is untenable, but that the second approach can be given a satisfactory formalization within Safir's general framework.

4.1 The Syntactic Approach

The first of the two approaches is conceptually the simpler. It involves analyzing the examples in (15) as containing a covert focus operator Op adjoined to the focused pronoun HE, as illustrated in (18).

(18) a. John Smith claims that [ [Op [HE]] ADMires him ]
   b. Every man claims that [ [Op [HE]] ADMires him ]

Under such an analysis, both patterns of identity illustrated in (16) become possible. The pronoun HE is the most dependent expression that can occur in the position it occurs in and so wins all FTIP competitions. Regarding him, there are three possible dependency relations that it could potentially enter into, one in which him is dependent on HE, one in which it is dependent on [Op HE], and one in which it is dependent on the matrix subject. The second and third of these options are blocked by the FTIP and Pragmatic Obviation
respectively. The first of these dependency relations, however, could plausibly be analyzed as not involving c-command of him by HE, and under such an analysis the FTIP simply does not apply. This means that under such an analysis him would not be out-competed by himself, and so should be allowed. If HE is then dependent on the matrix subject, by transitivity the object him will be dependent on the matrix subject as well, making a bound variable interpretation, and for (18a) also a coreference relation, possible.

Despite its initial appeal, Safir argues against such an analysis on the grounds that it leads to incorrect predictions regarding anaphor binding in examples like (19).

(19) Every Democratic candidate insisted that only she expected herself to win.

(20) Each candidate insisted that everyone except her thought she would lose.

Under one interpretation, (19) can be taken to entail (20). This interpretation requires that herself be dependent either on she (interpreted as a bound variable) or directly on every Democratic candidate. In either case, in order to satisfy LAL, herself has to co-vary with a locally c-commanding expression, and Safir assumes that the only candidate that could possibly satisfy this requirement if she and only she were to be distinguished would be she. If she fails to c-command herself because of the presence of only, then herself could not be licensed directly through its co-varying with she, and (19) would then be incorrectly predicted not to have the reading that entails (20).

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5 This assumes that the operator does not affect the semantics of the sentence. If the operator does affect the semantics, then the argument of the following section can be adopted for the syntactic analysis as well. However, in this case the added structure would play no direct role in explaining the effects of focus. It would merely be compatible with an independent semantic explanation of the effects.

6 Safir takes herself in this case to be licensed by only she rather than by she. I can only
While the problem that Safir uncovers in (19) is clear, it is less clear that his analysis can deal with the problem, and hence whether his rejection of the syntactic approach is justified. (See footnote 5 for discussion.) Fortunately, a simpler argument can be given for rejecting the syntactic approach. Under the analysis under consideration, focus on an expression makes it possible for that expression to be the dependent antecedent of any pronoun in the scope of the focus operator adjoined to the expression. This means that all of the following examples would be predicted to be acceptable context initially.

I presume that this comes from an assumption that if *herself* and *she* co-vary, then so do *herself* and *only she*, though Safir does not spell out his assumptions in sufficient detail for me to be sure. If my presumption is correct, his argument entails that the notion of co-variation that appears in the definition of LAL cannot be analyzed as identity of interpretation under a variable assignment since a referring expression like *herself* cannot possibly be interpreted identically to the quantifier-like expression *only she*. Co-variation will rather have to mean being identically sensitive to variable assignments, so that for any two variable assignments \( g \) and \( h \), \([[herself]]^g = [[herself]]^h \) iff \([[only she]]^g = [[only she]]^h \). Unfortunately, incorporating such a definition of co-variation into Safir’s analysis would raise problems elsewhere. In particular, SELF anaphors would be predicted to be licensed by LAL in any simple SVO sentence in which the subject is a quantified expression containing an dependency antecedent for the anaphor, as in *Every man who saw Mary loved herself*, with *herself* dependent on *Mary* but licensed by the subject. Such an analysis would also undermine Safir’s argument against taking *herself* to be dependent on *she* in (19). Equally unfortunately, without such an analysis it is far from clear how LAL can license use of the anaphor in (19) under the intended interpretation. Clearly this is an area where a precise working out not only of the syntax but also of the accompanying semantics is required before the analysis can be adopted.
(21)  a.  _HE_ LIKES _him._  (with deictic _HE_)
b.  _JOHN SMITH_ LIKES _him._
c.  _EVERY MAN HERE_ LIKES _him._

This prediction is clearly not borne out. As context initial utterances, the examples in (21a,b) disallow a coreference reading, while (21c) disallows a bound variable interpretation.

The contrast between the unacceptable examples in (21) and the acceptable examples in (15) indicates that the relation that makes the latter examples possible is not a local relation between _him_ and its local subject. Rather, I will argue that it is the additional possibility of analyzing _him_ as directly dependent on the matrix subject in (15) that makes these sentences acceptable.

4.2 The Semantic Approach

The second approach to overcoming the focused pronoun problem is to analyze focus on the embedded subject pronoun as having a semantic effect that makes the two types of sentence, i.e. those with focus and those without, non-synonymous. To illustrate this approach it is necessary to first clarify the analysis of (17), the relevant part of which is repeated here as (22).

(22) _Every man_ claims that only _HE_ admires _him._

According to Safir, the pronoun _him_ in (22) can only be identity-dependent on _Every man_. It cannot be identity dependent on only _HE_ since it is out-competed by _himself_ for that dependency by the FTIP. The former dependency is allowed, however, since the interpretation it generates differs from that generated under the latter dependency and hence is not blocked by Pragmatic Obviation. This can be seen in the fact that under the interpretation where the pronoun is dependent on the matrix subject, (22) entails that each man claimed to have only one admirer, namely himself. Under the (ungrammatical)
interpretation in which *him* is dependent on *only HE*, in contrast, the sentence only entails that each man claimed to be the only self-admirer, allowing each man to believe in addition that he is enormously popular.7

The analysis of (22) with *only* differs from that of (15b) in that a difference in dependency relations makes for a truth-conditional difference only in the former case. In the latter case, repeated below, the embedded object pronoun *him* cannot be dependent on the matrix subject under Safir's analysis since the resulting interpretation would be identical to that in which it is dependent on the embedded subject, and the FTIP blocks the latter dependency because the more dependent *himself* can be used to generate the same interpretation.

(15b) *Every man* claimed that *HE* admires *him*.

Pragmatic Obviation then blocks the intended bound variable interpretation of *him*, since *him* would have to have the same value as *HE* in order for both to be bound by *every man*, but *him* cannot be dependent on *HE*.

As long as we take truth conditional differences to be the only semantic difference that Pragmatic Obviation is sensitive to, there is little hope of extending the analysis of (22) to that of (15b). If, however, we look at non-truth conditional semantic differences, a plausible analysis that allows a bound variable interpretation for *him* in (15b) can be constructed within the confines of Safir's general framework. According to Rooth (1992), focus interpretation introduces just such a non-truth conditional semantic difference into the semantics in the form of focus semantic values. What's more, under Rooth's analysis, (15b) will have distinct focus semantic values under different dependency relations for *him*. To see how

7 This latter interpretation is exactly the interpretation that is generated by employing *himself* rather than *him* in (17).
this comes about, suppose that the normal semantic interpretation of \( HE \) is that of a bound variable, say \( x \). Then the focus semantic value for this expression will be a set of alternatives to \( x \), for example \( \{x, x's \text{ sister, Bill, } \ldots \} \). Assuming that focus gets interpreted at the level of the matrix sentence, then the focus semantic value of the sentence with \( \text{him} \) dependent on \( HE \) will be (23a), roughly equivalent to the set of all interpretations which can be derived from a sentence of the form \( \text{Every man claimed that } y \text{ loves } y \) by putting an individual in place of \( y \). The focus semantic value of the same sentence with \( \text{him} \) directly dependent on \( \text{every man} \), in contrast, will be (23b), roughly equivalent to the set of interpretations derivable by substituting individuals for \( y \) in \( \text{Every man } x \text{ claimed that } y \text{ loves } x \).\(^8\)

(23)  
(a) \( \{\forall x: \text{man}(x)\} x \text{ claimed } y \text{ admires } y \mid y \in D_c \)  
(b) \( \{\exists x: \text{man}(x)\} x \text{ claimed } x \text{ admires } x \mid y \in D_c \)

These two sets clearly differ in their membership. It follows that the choice of dependence antecedent for the pronoun \( \text{him} \) in (15b) can affect the semantic interpretations of that sentence, in particular its focus semantic value. This difference opens up the possibility of interpreting Pragmatic Obviation so that it is sensitive not only to truth conditional meaning, i.e. to normal semantic values, but to focus semantic values as well.

Before turning this idea into an analysis, it is necessary first to address an issue that I have not yet addressed except indirectly. As noted in the analysis of (19), Safir makes a clear distinction between an anaphor \( x \) being dependent on an expression \( y \), and \( x \) being licensed by \( y \). The interpretation of (19) that entails (20) depends crucially on this distinction, with the anaphor \( \text{herself} \) being licensed locally by \( \text{only she} \) but dependent long distance on \( \text{every Democratic candidate} \). Safir notes that the possibility of the licensor and

\(^8\) The interpretations given in (23) are simplified for purposes of exposition.
the dependency antecedent coming apart depends in part on whether the licensing antecedent for the anaphor is a coargument of the anaphor.\footnote{In local cases of anaphor binding as in \textit{John admires himself}, the licensing antecedent \textit{John} is both within Domain D, satisfying LAL, and a co-argument of \textit{himself}. In (19), in contrast, \textit{only she} is within Domain D of \textit{herself}, but fails to be a co-argument of \textit{herself}; \textit{herself} is the subject argument of \textit{win}, while \textit{only she} is the subject of \textit{expect}, hence they are arguments of distinct predicates. The possibility of an anaphor occurring in an ECM subject position bound by the subject of the ECM verb shows clearly that a co-argument relation cannot be a necessary condition on anaphor binding.}

When such a coargument relation fails to obtain, as in (19) where the anaphor occurs in an ECM subject position, the relevant interpretation is possible. When such a coargument relation obtains, in contrast, as in (24), Safir finds the relevant reading to be unavailable.\footnote{I find that the existence of a contrast between the long-distance dependency reading in examples like (24) and examples like (19) depends upon the predicates used and the contexts assumed in ways that I have not been able to fully penetrate. The specific example in (24) is one where the contrast with (19) is weak at best, though Safir gives other examples where the contrast is more readily perceivable.}

(24) \textit{Every man} claimed that only \textit{HE} admires \textit{himself}.

To account for this and other related contrasts, Safir posits the Locally Reflexive Principle (LRP), given in slightly simplified form in (25).

(25) \textbf{Locally Reflexive Principle (LRP)}: An anaphor is dependent on its coargument antecedent, if it has one.

By the LRP, the anaphor in (24) can only be dependent on its co-argument subject, and not on the matrix subject, blocking an interpretation parallel to the interpretation of (19) that entails
This gives us what we need to account for the intervening focus effect in (15b) and for
the similar effect in (22). Given the LRP, in neither of these examples is there a potential
long-distance dependent anaphor that will compete with him within the FTIP.11  This is so
since the object co-varies with its local subject, and so by the LRP an anaphor in this object
position will have to be dependent on the local subject, not on the matrix subject. Since a
pronoun is the second most dependent expression there is in English, and since the most
dependent expression, namely an anaphor, is excluded from competition with the pronoun for
the long-distance dependence relation by the LRP, in both examples the FTIP predicts that a
dependent reading for the embedded object will have to be carried by a pronoun.

Spelling a focus-sensitive analysis out in detail, then, we adopt the basic analysis of
Safir based on the FTIP, Pragmatic Obviation, LAL, and LRP, all of which are repeated
below.

(2)  **Form-To-Interpretation Principle (FTIP)**

If a) X c-commands position Y,
  b) z is the lexical form or string that fills Y,
  c) w is a single form more dependent than z, and
  d) both w and z could support the same identity-dependent interpretation if Y were
     exhaustively dependent on X,

  then (the referential value for) Y cannot be interpreted as identity dependent on X.

(4)  **Pragmatic Obviation**

If FTIP does not permit y to be interpreted as dependent on x, then x and y form an

11 Note that the situation is different with (19) since the anaphor, occurring in an ECM subject
position, does not have a coargument antecedent. Its licensing antecedent is in the next
higher clause.
obviative pair.

(5) If \( x \) and \( y \) are an \textbf{obviative pair}, then they are not expected to share a value.

(8) \textbf{Local Antecedent Licensing (LAL)}: An anaphor must be c-anteceded in Domain D.

(25) \textbf{Locally Reflexive Principle (LRP)}: An anaphor is dependent on its coargument antecedent, if it has one.

The only modification to the analysis needed in order to account for the distinction between (14b) and (15b) is in the understanding of what interpretative restrictions obtain on obviative pairs. Under Safir’s analysis, if \(<x,y>\) is an obviative pair, then \( x \) and \( y \) are not expected to share a value. This is presumably intended as sharing of a normal semantic value. By revising this to mean sharing of a normal semantic value and a focus semantic value, the distinction between (14b) and (15b) will fall out directly. To see how, consider the two examples once again:

(14) b. *Every man claims that \textit{he} ADMires \textit{him}.

(15) b. \textit{Every man} claims that \textit{HE} ADMires \textit{him}.

The FTIP applies equally to both of these examples, making it impossible for \textit{him} to be directly dependent on \textit{he}/\textit{HE} but allowing a dependence of both \textit{he}/\textit{HE} and of \textit{him} on \textit{every man}. In (14b), neither \textit{he not him} is focused, so their focus semantic values are the unit sets of their normal semantic values. If both are interpreted as bound variables, this means that if their normal semantic value is \( x \), their focus semantic value is \{\( x \}\}. Since \(<he,him>\) form an obviative pair, it follows that they cannot be expected to share a value. This runs up against their both being bound variables with identical normal and focus semantic values, parallel to Safir’s own analysis of this example. Since there is no difference in the focus semantic values of the pronouns, adding focus semantic values to the analysis makes no difference to the judgment of the sentence.

Turning now to the analysis of (15b), we immediately see how focus makes a difference.
Just as in (14b), here as well $<HE,him>$ form an obviative pair. However, given that $HE$ is focused, its focus semantic value will be a non-singleton set. If the normal semantic values of the two pronouns are both the variable $x$, then the focus semantic value of $him$ will be $\{x\}$, but that of $HE$ will be some set of the form $\{x,y,\ldots\}$, for some $y$ which is an alternative to $x$. This means that the normal and focus semantic values of the two expressions taken together are not shared even when both pronouns are interpreted as bound variables. Thus having both pronouns interpreted as bound variables does not conflict with the need for the pronouns not to share a value. Pragmatic obviation thus does not block the interpretation in question for (15b) like it does for (14b).

The analysis just presented is in no sense complete, failing to cover a wide range of other examples that appear to involve focus sensitivity. Emphatic reflexives, for example, as in John/He HIMSELF thinks so, are obligatorily focused, and yet nothing in the analysis predicts this fact. Focused reflexives, unlike their non-focused counterparts, are also capable of taking long-distance antecedents, as in John/Nobody thinks Mary likes HIMSELF/*himself, and again the facts are not predicted. While these kinds of data are obvious directions in which to expand a focus-sensitive analysis of binding phenomena, time constraints make it necessary to put such an expansion off to a future date.

5 Discussion

The analysis that was just arrived at illustrates some of the potential of the competition-based approach to binding theory that Safir champions. The intervening focus effect analyzed in section 2 is problematic for virtually every other analysis of binding theory ever proposed, including those of Chomsky (1980, 1981), Higginbotham (1984, 1992), and Reinhart and Reuland (1993). Indeed, the only other analysis I know of that can handle this effect is that of Tancredi (1999), where the effect was attributed to the need for deaccented referring expressions to be contained in a focus chain. While empirically adequate, the
focus chains appealed to there served no other purpose than to account for the effects of focus and deaccenting on binding theory, and so constituted little more than a formalized restatement of the facts. In particular, the focus chains appealed to were not and cannot be reduced to independently required relations among focused expressions. The present analysis overcomes this shortcoming by making appeal only to one of the most basic properties of focus argued for independently by Rooth (1992), that of contributing a focus semantic value to interpretation. Importantly, the analysis developed cannot be readily translated into the other analyses of binding theory mentioned.

While the competition-based analysis of binding theory has potential, it must also be noted that the analysis proposed is problematic both technically and conceptually. We have already noted both technical and conceptual problems with the formalization of LAL, Safir's account of Condition A effects, and problems in footnote 2 with bound variable r-expressions. We should add to this the conceptually mysterious nature of the LRP. While much of the evidence that Safir gives for the principle is compelling, and some of it quite novel, there is no accompanying explanation of why such a principle should exist. That is, the LRP serves to give a formal treatment of differences between anaphors in ECM subject positions and those in other argument positions, differences that are in some sense surprising. However, it does no more than this, and in this sense amounts to little more than a formal restatement of a rather narrow generalization. Safir's analysis thus brings us no closer to understanding why such a generalization should obtain, or how to relate it to more general principles of grammar.

While technical and conceptual problems of the type examined in this paper are present in many places in *The Syntax of Anaphora*, the problems that Safir points out for past analyses of binding theory are in many cases decisive against those analyses, the broad range of data addressed is skillfully organized to provide clear empirical arguments for the technical analyses proposed, and the new picture that the book paints of binding restrictions resulting
from competition among forms is coherent and compelling. I look forward to both lively debate and further advances brought on by the publication of this book.
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Adding Semantics to Safir's *The Syntax of Anaphora*

Review article

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Abstract: This paper reviews the main ideas in Ken Safir's *The Syntax of Anaphora*. It gives a brief introduction to the central claim of the book, namely that binding theory should be based upon competition among alternatives rather than on rigid principles governing distinct types of forms. While several technical and conceptual problems are raised for the specific analysis as Safir develops it, it is also shown that Safir's approach makes possible an analysis of a recalcitrant problem involving the interaction between binding theory and focus.