

One True Anaphor

Ken Safir, Rutgers University - Draft 1.0, August, 2011

1.0 Introduction

In this paper I will argue that there is only one true anaphor in natural language which takes many shapes. Building on the idea that some pronouns are constructed and others are 'native born' with features, as suggested in Kratzer (2009), I suggest further that, just like locally bound variables, all non-locally anteceded bound variable pronouns that are traditionally bound (c-commanded) are the spell-out of a special, but universally available, dependent form, which I call *D-bound*.

At the heart of my proposal is the assumption that all bound anaphora, locally or at a distance, is achieved by a single, universally available, grammatical form, *D-bound*, the one true syntactically sensitive anaphor. The following assumptions are made about D-bound.

1) Properties of D-bound

- a) *Always a variable* - D-bound is the same object in SEM in all cases - it is interpreted as a bound variable regardless of its phi-features.
- b) *Always bound* - D-bound must be bound in a c-command configuration.
- c) *Always feature compatible* - D-bound must be feature compatible with its antecedent (informally, antecedent agreement)
- d) *Morphological shape conditions* - Spell-out of morphological shape of D-bound is potentially sensitive to whether binding is phase internal (essentially following Kratzer, 2009).
 - i. Agreement compatible with morphological shape may be determined by phase-internal factors locally distinct from antecedent agreement.
 - ii. D-bound enters the derivation with phi-features arbitrarily assigned to it.
 - iii. Anywhere phase-internal shape is not required, D-bound receives default pronominal shape.

D-bound spells out differently depending on when and how it is bound and agreed with. The idea is that the phonological shape of surface pronouns has two origins: Either the universal bound form D-bound is given pronominal shape as a default and random phi-features if it is not bound at the end of a phase, or it is given the shape of a local bindee if bound within a phase. D-bound, however, is never well-formed if free (even when it looks like a pronoun). Binding requires feature compatibility wherever it holds, however compatibility is achieved (unification, matching, non-conflict) as conditioned by local or default shape and the nature of the antecedent. The existence of local anaphoric shape is thus not expected to be a universal, though there are functional pressures for local anaphora resolution that can exploit phase-internal binding. Arguments that local binding should reduce entirely to Agree (locally), or that distance binding should reduce to context shift, are rejected, but the role of heads in effecting binding as in Kratzer (2009) is adopted, primarily as binding by Spec v as effected by v. The details are reserved for later sections.

There are several theoretical results that become possible from this perspective. First of all, the parallel between the contexts where bound anaphora is possible and the existence of Principle C effects, first posited by Reinhart (1983) and Reinhart and Grodzinsky (1993) can be rehabilitated. A problem faced by that approach has been the existence of bound variable interpretations in what Hornstein (1996) has called 'almost c-command' contexts, that is, cases

where a quantifier originates (or appears on the surface) in a position that does not c-command the pronoun it binds as a variable. In all such cases, Principle C effects are not observed, contrary to Reinhart's generalization. Assimilation of the almost c-command effects (ACE) to E-type (or D-type) anaphora does not contribute to a solution this problem, especially if D-type anaphora is also argued to be available in contexts of c-commanded bound variables (as argued by Elbourne, 2006). The D-type approach renders Principle C effects completely independent of bound variable phenomena and unexplained. I will argue that Reinhart's complementarity approach is the right one in general and that it can be implemented straightforwardly (insofar as the syntax is concerned) if we assume the existence of D-bound and distinguish it from other sorts of bound variable or covariation phenomena. By identifying bound variable pronouns as D-bound, it becomes possible to restore Principle C to a simple reflex of lost competition to the bound form. Native born pronouns and names are thus must always free wherever they would compete with D-bound and in this respect, native-born pronouns and names have exactly the same status for obviation in this theory (they both lose to D-bound). By contrast, 'almost c-command' bound variable pronouns are treated here as true pronouns, which presumably have to be shifted or re-featured under binding, but this operation is only available where D-bound would not be well-formed (and so this sort of binding does not induce obviation).

The second potential advantage builds on Kratzer (2009) to show that all anaphoric diversity is morphological - the syntax of binding is everywhere the same. All morphological variability in the phonological realization of D-bound is due to morphological shape conditions or language specific feature compatibility (e.g., syncretisms in paradigms, gender presupposition avoidance, etc.). However, the diversity of the morphology is not just arbitrary. It is argued here that functional pressures insure that creases in what UG allows are exploited in a variety of ways that favor certain outcomes. Thus, even though binding is the same relation, locally or not, the universal distinction between phase-internal and phase-external relations permits the syntax to express a distinction, one that most languages exploit, perhaps because it permits early anaphoric resolution. The incidence of languages that do not distinguish local anaphora in this way is predicted to be rare, but possible, a result consistent with what is known. Relations beyond phase internal relations (far vs. very far) do not exist, modulo 'hoisting' analyses (the term from Safir, to appear), where D-bound raised into positions where it can receive a phase internal antecedent (and influence as to its morphological shape). Moreover, on this account, binding is distinct from both local agreement (Safir, 2010) and context shifted indexicality (Safir, 2004c and Anand, 2006) and it will be demonstrated that binding can and must hold where Agree and indexical shift cannot account for the morphological effects.

The One True Anaphor approach also permits certain morphological shape paradoxes, paradoxes that involve proximity of binding for strict and sloppy readings, to be resolved without appeal to vehicle change (in contrast to Safir, 2004b, for example). These cases involve ellipsis contexts where non-locally bound pronouns interpreted as variables in antecedent VPs are treated as locally bound variables in ellipsis sites, even though the pattern of parallelism technically involves a 'strict' reading. This shows that strict readings are not essentially coreferential ones (e.g., as compared with Grodzinsky and Reinhart, 1993) and explains how the pattern is derived.

Another important advantage of positing D-bound is that certain agreement paradoxes that involve binding of apparently interpretable features can be resolved if features on D-bound serve only to achieve compatibility with their binders - they are not interpreted since D-bound is

always a variable. It is demonstrated that logophoric pronouns that do not have the morphological form of indexicals in simple sentences must enter the derivation as D-bound assigned a logophoric feature in addition to whatever other features it is randomly assigned. These pronouns are then capable of antecedent phase-internal D-bound which can result in anaphoric shape that agrees with the binding logophoric pronoun, which is in turn consistent with the logophoric configuration that binds the pronoun. I treat the term ‘pronoun’ as a descriptive term for a form that is phonologically realized solely on the basis of its feature content - i.e., it contains no independently identifiable morphological stem.

The presentation will proceed as follows. In section 2 I will show how the system works with fleshed out assumptions and some sample derivations. Section 3 defends the view that Principle C effects arise from complementarity with the distribution of D-bound. In Section 4 I argue that long distance binding is morphologically necessary to account for the distribution and interpretation of (at least) logophoric pronouns, distinguishing these pronouns from those that might be treated by other paths to coconstrual (indexicality, indexicality shift, and D-type anaphora). The last section deals with the issues arising from phase-internal shape crosslinguistically, including the argument that functional pressures exploit seams in the system generated by UG. A short conclusion follows.

2.0 How it works

The easiest way to enter into understanding what this theory predicts about the distribution of D-bound is to see how some standard examples would be derived. Derivations in various degrees of detail will be offered for the examples in (2), where italics indicate coconstrual.

- 2a) *John* praised *himself*/**him*/him.
- b) *The men* say that **themselves/they* are winning
- c) *The men* expect *themselves* to win.
- d) *The men* seemed to *each other* to be guilty
- e) *The men* expect *each other* to question *themselves*.

Before I illustrate the derivations of (2a-c), I must make a few assumptions about phases and spell-out, which are listed in (3), and which are well-known in the literature on minimalist syntactic architecture.

3) Assumptions about phases and spell-out.

- a) Phase determining heads are C and v.
- b) Anything merged above the phase head and its complement (sister), but below the next X^0 merged to the undominated node dominating the phase head, is in the phase edge of the phase for the phase head in question.
- c) A phase closes when the phase edge is capped (by the ‘next X^0 ’ of (3b)).
- d) The complement of the phase head is sent to spell-out (for morphological insertion) and cannot be further altered by Merge.
- e) Spell-out of the complement of the phase head is conditioned by copy relations between occurrences in the phase edge and occurrences in the phase complement.
 - i. The lower of two copies is unpronounced (not spelled out), either not ever, or sometimes not, depending on further assumptions. (Safir, 2010)
- f) A probe in the Agree relation cannot access anything in the complement of the first phase head below it.

g) There is a *v* in structure whether or not *v* assigns and external argument or not. Except for (3g), which has been argued for by Legate (2003), these are standard assumptions and I will not defend them here (see, for example, Chomsky, 2004 and Fox and Pesetsky, 2005, for (3b,d)). Notice that (3f) is a less general assumption than the Phase Impenetrability Condition, since I assume that feature compatibility for pronouns by binding will have to hold over a distance and across phases, as discussed below, though pronouns will have to be spelled out when the phases they are in are capped.

Consider the derivation of (2a) as schematically presented in (4).

- 4a) [_{VP} praise *D-bound*+3ps]
- b) [_{VP} *John* [*v* [_{VP} praise *D-bound*+3ps]]]
- c) [_{VP} *John* [*v* [_{VP} praise *pronoun*+3ps-*self*]]]
- d) [_{VP} *John* [*v* [_{VP} praise *himself*]]]
- e) [_{TP} *John* [T [_{VP} *John* [*v* [_{VP} praise *himself*]]]]]]

In (4a), *D-bound* is merged as the complement to *praise* and *D-bound* already has features assigned to it. Before the phase [_{VP} *John* [*v* [_{VP} praise *D-bound*]]] is capped, *John* is the antecedent of *D-bound*, and since *John* is within the phase edge *D-bound* takes on phase-internal shape (*pronoun-self*). It is not clear that there is any additional relation of agreement rather than compatibility an antecedent in this case, but it is possible that additional feature compatibility may be imposed by *v* (see below). Consistent with a Distributed Morphology approach, I then assume that spell-out will pick the form from the *pronoun-self* paradigm that expresses the features of *D-bound*+3ps. Subsequent raising of *John* to Spec TP (where by ‘Spec’ I simply mean the first non-terminal node merged above a head and its complement) will not change anything of relevance here, on the assumption that T can probe the phase edge, particularly Spec *vP*, for its agreement features (on agreement with T, which is not crucial in this account, more below). This insures that “*John* praised *him*” is a morphological impossibility, unless *him* is not bound by *John*, in which instance it is a DP assigned only phi-features (and presumably Case), hence it is realized phonologically as a pronoun.

The derivation in (4) must be understood in the context of some more specific assumptions about agreement and binding and these are adapted from Kratzer (2009), described informally in my terms here.

- 5) Binding of *D-bound* is achieved when
 - i. *D-bound* is in the complement of a minimal *c*-commanding head *H* and
 - ii. Spec *HP* is designated as the binder of *D-bound* in the property formed by *H* and its complement (i.e., binding is always mediated by a head).
- 6a) If *D-bound* is bound by Spec *HP* and *H* is the minimal phase head *c*-commanding *D-bound*, then *D-bound* has phase-internal morphological form.
 - b) The phi-features of *v* are inherited from its Spec.
 - c) *D-bound* must be feature-compatible with *v* where *v*=*H* in (6a). (Agree)
- 7) *D-bound* must be feature compatible with its antecedent.

These assumptions will insure the outcome in (4c), but notice that antecedent agreement (in 7) with Spec *vP* may be all that *D-bound* requires, so it is not obvious that Agree (in 6c) must value *D-bound*, at least for the English cases. Evidence for (6c) (and its enabling assumption (6b)) is only found where phase-internal agreement is different from agreement outside the phase, and it must come from instances where morphological shape is not the only reason for the difference (e.g., the *pronoun-self* paradigm in English is feature compatible in English in the same way it

binding holds. That no appeal is made to feature transmission by v suggests that spell-out will result in the right features on *D-bound* even when v , or T above it, have no phi-features to transmit, as is widely the case empirically, as in the case of binding relations in infinitives. This only shows that visible local agreement is not *necessary* to implement binding, but later it will be argued that it is also not sufficient to implement local binding, at least not without ad hoc assumptions.

The key point is that binding is not required to be a local relation in the syntax for any bound form. Binding can take place at the first phase in the derivation where the configuration allows it - locality effects are all about spell-out of either phase-bound *D-bound* (anaphoric shape) or *D-bound* bound outside the lowest phase that contains it (most typically, with resulting pronominal shape). The role of Agreement in this system is minor, affecting spellout of local morphological shape in some cases, but not in English. I postpone discussion of why there should even be a local/non-local morphological shape distinction until section 6.

This account is a notable departure from those like Safir (2004a), where morphological forms of bound elements compete to represent an interpretation with respect to a particular antecedent. The complementarity that plays such an important role in that reasoning is achieved here by the determinants on spell-out options, so no competitive calculation that considers more than a single node is necessary with respect to morphology. As noted in the next section, however, competition still plays a role in interpretive outcomes.

3.0 Principle B and Principle C Effects

The most influential account of Principle C effects is that of Reinhart (1983) and its slight reformulation in Grodzinsky and Reinhart (1993), and this account relies on the following generalization.

12) Reinhart's Generalization

Wherever a pronoun Y can be interpreted as a variable bound by X, X and Y cannot be coconstrued (are obviative) if Y is not a pronoun.

Reinhart's generalization was a potential advance because without it, Principle C is just a stipulation unrelated to any other generalization that does not produce the same effect. Reinhart also tried to explain the relationship between bound readings and obviation stated (12) in pragmatic terms with her Rule I, as formulated in Grodzinsky and Reinhart (1993).[Note N2]

13) Rule I

NP A cannot corefer with NP B if replacing A with C, C a variable A-bound by B, yields an indistinguishable interpretation.

This formulation can be understood as a competition to represent the bound reading between pronouns vs. names and descriptions, where the form that loses is limited in the class of interpretations it can have by comparison with the winning form. Since, on this account, the bound variable interpretation is assumed to be the favored way to achieve coconstrual between a form and its antecedent, any speaker who does not use the form that permits the bound variable interpretation (a pronoun) must not mean to indicate a coconstrual, or must not mean to signal coconstrual in the usual way.

I will set aside discussion of (13) as an explanation of (12) for the time being, however, because Reinhart's explanation of (12) depends on (12) being true and there are well-known counterexamples to (12) that are set aside by reference to 'A-bound' in the formulation of Rule I. Consider, in particular, the paradigm in (14), which shows the missing parallel between the

bound reading in (14b) and that (14a), where the existence of a bound reading correlates with a Principle C effect in (14a), but not in (14c).

- 14a) **He* thinks that *John* is a genius
- b) *Every boy* thinks that *he* is a genius
- c) *His* mother thinks that *John* is a genius
- d) *Every boy's* mother thinks that *he* is a genius.

Cases like (14d), which Hornstein (1995) has called ‘almost c-command’, are counterexamples to Reinhart’s Generalization, insofar as Principle C effects are predicted for (14c), but not observed (hence the reference to ‘A-bound’ in Rule I). As remarked in Safir (to appear), Barker (2008) details a much wider range of violations of the c-command condition on the interpretation of pronouns as bound variables, including examples like (15a-c), where the quantifier takes extra-wide scope.

- 15a) The scope of *each book* has expanded on that of *its* predecessor.
- b) When the game ended, the amount of wealth that *each person* had accrued was added to *their* overall score.
- c) After unthreading *each screw*, but before removing *it*, make sure the boards will remain aligned, so you can replace *it* later.

Barker argues that these are not E-type readings, and I agree, particularly since E-type readings are typically observed only for weak quantifier antecedents, which these are not (but I return to this question at the end of this section).

I will assume that bound readings for pronouns are possible wherever pronouns are in the scope of the quantifier for which they permit a bound variable reading, and in perhaps a few other cases, modulo weak crossover effects (see Safir, 2004b). There are two reasons that almost c-command cases are less common, and the first is that quantifier extraction out of a subject is syntactically difficult. What appears to be the easiest extraction is that of the specifier of the subject DP, hence the almost c-command effect. Kayne (1994:22-27) has suggested that this c-command is not ‘almost’ but actual c-command, on the assumption that the highest adjoined position in DP (covertly or overtly) is adjoined to DP, hence not dominated by DP on the segment theory of May (1985). If adjunction to DP repeats the DP node, such that the two DP nodes of (16) are ‘segments’ of DP, and if X only dominates Y if all segments of X dominate Y, then *every city* in (16) is not dominated by DP.

- 16) [*every city* [someone in *every city*]] loves *its* weather.

Thus in one of May’s classic inverse-linking type examples, *every city* would, in Kayne’s system, c-command *its*. Appeals to allow specifiers to c-command out of the subjects that contain them are harmless if local anaphora is limited by coargumenthood (as in Reuland, 2011) (e.g., to avoid ‘*Every boy's* mother loves *himself*’), but this does extend to long distance cases, where the CHAIN relations of Reinhart and Reuland (1993) do not hold in any case (links are conditioned by locality, unlike the long distance cases). To preserve Reinhart’s generalization, it has to be the case that *only* quantifiers in a subject DP could adjoin to it, which is feasible if Spec DP is distinguished from adjunction to DP. However, even this move will fail, which I return to below, when I also reconsider appeals to D-type readings as almost c-command fixes for (12).

From the perspective of the D-bound approach, D-bound is only well-formed when the binding of it is mediated by a head H such that D-bound is embedded in the complement of H and the first merged XP_a above H is the antecedent. Thus D-bound cannot be bound by an adjunct (an XP_b merged to [XP_a [H complement]]) as in the almost c-command cases.[Note N3]

It is possible, however, to defend a new version of Reinhart's approach based on the distribution of D-bound rather than the distribution of the wider class of possible bound variable readings.

17) Syntax-induced Obviation (SIO)

If X is in a position to bind Y and Y is not D-bound, then X and Y are not expected to be coconstrued (i.e., they are obviate).

Where a quantifier has scope over D-bound in the absence of a mediating head, as in the relevant almost c-command cases, D-bound is not available, but then the bound variable readings can be achieved by binding of something other than D-bound, namely, a native-born pronoun. I then predict that the almost c-command cases allow bound anaphora, but do not induce obviation.

Notice that "something other than D-bound" includes both native born pronouns, on the one hand, and names and descriptions, on the other, so obviation effects for names (Principle C) fall together with obviation effects for pronouns (Principle B), as in the competition theory of Safir (2004a) and (on very different assumptions), Heim (2006). Even if coconstrual is enforced by the character of 1st and 2nd person pronouns, which requires them to independently pick out the same referent in discourse with each use, Principle B effects are observed for identical indexicals, as predicted by the obviation principle.

18a) *I killed me.

b) *I defended me.

c) *I voted for me.

Apart from locality effects, where phase-internal-bound shape is imposed, one might ask why languages have D-bound if native born pronouns will serve the purposes of supporting bound anaphora more generally. My answer to this is based on problems pointed out by Heim (2005) and explored recently in Kratzer (2009), concerning an issue that arises for 1st and 2nd person features on pronouns that appear to be bound variables. Since these pronouns appear to directly access the context of utterance, their interpretation as variables would appear to require them to shed this interpretive fixity, yet examples like (19) are easy enough to come by.

19a) I can't do what I want, but others can.

b) Only I spend my money as I please.

These examples permit bound readings for the second 1st person pronoun, as evidenced by the available sloppy reading (e.g., 'others can do what they want' can be understood as the elided portion of (19a) and (19b) can imply that others do not spend their money as they please). Thus the concern arose for earlier accounts as to how such indexical features could be suppressed or coopted. For D-bound, these cases are simply instances where the features of D-bound are compatible those of their binders (suppose they are maximally compatible with the antecedent within the morphology of the language) and the features that appear in the form of a phonological pronoun are uninterpreted by hypothesis. After all, local binding by 1st person pronouns results in a reflexive form in English, and these features must be innocuous, so it seems a small step to assume that features associated at a greater distance can be just as empty on the dedicated bound form (especially when arguments against binding as the effect of agreement are introduced). Some of the cases in (19) might be addressed by some version of a theory that shifts contextual coordinates (=coopted interpretation, as above), as discussed in section 5.2, but as will also be discussed in that section, a significant class of cases seem to require binding rather than shifting.

Nonetheless, I allow native born pronouns to be bound variables when D-bound is not available, and so this raises the question as to whether indexical pronouns can be bound in these circumstances. There does seem to be a contrast between indexical pronouns and native born 3rd person pronouns in this respect. Consider (20a-d) and the possible readings they support.

- 20a) Students should respect their teachers, but that's just the difference between me and you.
- i. *My* students respect *me* but your students don't.
- sloppy reading unavailable.
- b) Students should respect their teachers, but that's just the difference between me and Bill.
- i. *My* students respect *me* but Bill's students don't.
- sloppy reading unavailable.
- c) Students should respect their teachers, but that's just the difference between Bill and Joe.
- i. *Bill's* students respect *him* but Joe's students don't
- sloppy reading available.
- d) Students should respect their teachers, but that's just the difference between Bill and Sophia.
- i. *His* students respect *him* but hers don't
- sloppy reading available.

As (20c,d) show, a bound reading is achievable between subject possessors and a 3rd person pronoun object so as to support a sloppy reading in the ellipsis context (probably because the possessor is contrastively focused). In these cases, the pronoun must be native born because D-bound cannot be licensed where its antecedent does not c-command it. The same sort of binding fails when the native born pronoun that would have to be bound is a 1st person indexical. Moreover, if a c-commanding 1st person pronoun is introduced, allowing the lower pronouns to be instances of D-bound, the sloppy reading improves.

- 21) In those days, students respected their teachers, and when you and I taught then, we were less skeptical.
- I* used to believe *my* students respected *me*, just as you did
-? sloppy reading available.

If these data are properly interpreted, the difference between non-commanding surface pronouns and the surface ones is revealed for indexical pronouns. I attribute the difference to the distribution of D-bound vs. natural born pronouns - the direct objects are natural-born pronouns, not D-bound, in (20a,b) and the consequence is that their indexical features must be visible to interpretation, but where the 1st person pronoun in (21) can be D-bound, those features are only visible to morphology.

The evidence given here supports the view that D-bound is the same syntactic and interpretive entity whether it is bound phase-internally or at a distance. In both cases, features on D-bound are invisible to interpretation, but visible to morphology. I have also shown that Reinhart's Generalization does not work if Principle C effects are linked to contexts where bound variable interpretation is possible, but a revision of it, based on the distribution of D-bound, does make the right prediction about the distribution of Principle C effects.

It has been suggested however, by Elbourne (2006) that non-locally bound 3rd person pronouns may in fact be instances of E-type, or, as Elbourne characterizes them, as D-type readings, like those found in (22).

22) Every farmer who owns *a donkey* beats *it*.

Without going into this large and historic literature, the key idea, also explored, for example, by Büring (2005) and Elbourne (2006), is that perhaps all bound readings of 3rd person pronouns are achieved in the same way. In order for this project to be successful, the differences between donkey anaphora, where the antecedent must be indefinite, and the more general cases of bound readings, which permit universals as the binding quantifiers, must be accounted for, and, in Elbourne's proposal, which treats pronouns as radically reduced descriptions, a theory of ellipsis that is syntactically plausible is required. But whether these results are achievable or not, the success of such a project would lose the relationship between Principle C effects and the distribution of D-bound that is captured by the Obviation Principle in (17). Since I am aware of no account of Principle C effects that is derivable from the distribution of D-type readings, the expansion of D-type anaphora, from the cases where the antecedent c-commands to those where it does not, seems a step backward.

I am treating obviation of the sort identified for Principle C effects as an expectation of non-coconstrual, one that can be overcome if, given the right pragmatic conditions, bound anaphora is to be avoided in order to achieve coconstrual. A version of Higginbotham's (1980:234-235) famous example, discussed in Fiengo and May (1994:10) and Safir (2004b:9), suffices to make the point.

23) We are at a café and I spot John across the room about to leave. You think it isn't John, which is baffling to me because it is so obvious. I say:

a) Ok, explain to me why he is putting on John's coat.

b) Ok, explain to me why he is putting on his coat.

Bound reference is not intended and *he* does not get special stress here. The obviation effect is being exploited to indicate that the only person who would be putting on John's coat is John, so the addressee is supposed to infer the identity of the individual from the fixed reference of the owner of the coat. A statement like (23b) cannot be interpreted this way. Thus binding is avoided, but coconstrual is intended. Under the understanding of obviation suggested above, this is just as expected, though my particular interpretation of what obviation is is not crucial to my proposal.

To summarize, D-bound is the same element when it is bound locally as it is when it is bound at a distance, as indicated by the fact that indexical features it bears are neutralized in the interpretive component. Insofar as D-bound is only well-formed when it is in a head-mediated binding relation, it is never bound by something that does not c-command it, nor by something that does c-command it, but is not the designated argument of a head (e.g., an adjunct). Principle C effects arise for any position that could antecede position X in the event that X is D-bound.

4.0 D-bound and ellipsis contexts - Neutralizing local morphology

The theory developed so far has been supported with evidence based on the strict vs. sloppy readings that are possible in cases of VP ellipsis, but I have not offered a theory of how D-bound interacts with VP ellipsis. In this section, I will flesh out my assumptions about ellipsis contexts a little further and then use this account to formulate another argument that long and short distance binding are not different in kind, but only in morphology. The essence of the

argument is that where morphology is neutralized by ellipsis, locality does not figure in the well-formedness of D-bound.

I begin by assuming that parallelism, however it is achieved, is an underlying requirement in ellipsis contexts like those in (24), so that the elided portion, whether it is structurally articulated but silent structure, or a structure deleted under identity with the antecedent DP, must permit the anaphoric element in the antecedent VP (VPa) to match a similar element in the elided VP (VPe).[Note N4]

24a) *John* [_{VP} loves *his* mother] and Bill does [_{VP} e] too.

b) *John* [_{VPe} loves *D-bound*+ 3rd*ms*'s mother] and

Bill does [_{VP} love ***D-bound*'s** mother] too

c) *John* [_{VP} loves *D-bound*+3rd*ms*'s mother] and Bill does
[_{VPe} love 3rd*ms*'s mother] too

Under the coconstrued reading for VPa, coconstrual indicated by italics, the VPa is identical in (24b,c),[Note N5] but the readings obtained differ based on whether it is D-bound that is copied (or matched) or if only the features of D-bound that are copied (or matched). When D-bound is copied it must be bound, and *Bill* is available as the antecedent - the reading is sloppy. When only the features are copied, it is parallelism that requires an interpretation matching (24a), but a bound interpretation is not possible without D-bound, so parallelism can enforce only a strict reading for what will amount to a pronoun (a DP consisting only of features). Since feature compatibility only matters for the phonology, the features of D-bound do not have to be copied (matched) in an ellipsis context.

The same account can be applied to D-bound when it is morphologically reflexive. In (25a,b), the sloppy reading is always available, but the strict reading seems to be disfavored when the relation between the sentence containing VPa and the one containing VPe is most symmetric, as in (25a). By contrast, (25b), which is connected by a comparative rather than a conjunct, clearly permits the strict reading (for discussion and examples, see Hestvik, 1995, Safir, 2004b:30, and Safir, to appear).

25a) *Zelda* judges herself harshly and Alice does too

b) *Zelda* judges herself more harshly than I ever do

What is of interest here is that the strict reading is possible when conditions are right and our account of it works just like it does for (24), where (26a,b) illustrates the two possible candidates for VPe.

26a) *Zelda* [_{VP} judges *D-bound*+3rd*fs*] more harshly than **I** ever do [_{VPe} judge ***D-bound***]

b) *Zelda* [_{VP} judges *D-bound*+3rd*fs*] more harshly than I ever do [_{VPe} judge 3rd*fs*]

The sloppy reading is achieved when D-bound is copied, again without its features, which would not match *I*, but which are neutralized by ellipsis anyway. The strict reading also works just as it does in (24b), in that only 3rdfs is copied/matched and parallelism forces the resulting pronominal to align semantically with a value in VPa.[Note N6]

The account so far makes an interesting prediction, one which requires some preliminary exposition. First, notice that the theory predicts, as it should, that (27) has only a sloppy reading.

27a) No one loves his puppy more than Arthur does.

b) *No one* [_{VP} loves *D-bound*'s puppy] more
than **Arthur** does [_{VPe} love *D-bound*'s puppy]

If only the features of D-bound are copied, parallelism has no way to enforce a parallel reading, given that no referent is provided by the antecedent except a bound variable interpretation, but

that interpretation fails because the resulting pronoun is not in the scope of the quantifier *no one*, and would have to be D-bound in any case to be a bound variable in that context. That scope is the problem is proved by the success of (28) that permits both a near sloppy reading and a distant sloppy reading but no strict reading.

28a) *Every boy* believes that *he* loves *his* puppy and that St. Francis does too.

b) *Every boy* believes that *D-bound+3rdms* [_{VP} loves *D-bound+3rdms*'s puppy and that ***St. Francis*** does [_{VPe} love ***D-bound's*** puppy] too.

c) *Every boy* believes that *D-bound+3rdms* [_{VP} loves *D-bound+3rdms*'s puppy and that St. Francis does [_{VPe} love *D-bound's* puppy] too.

In this example, taken from Safir (2008: 342-343), the only possible form in VP_a is a bound variable, hence an instance of D-bound, and so only a sloppy reading is possible, since parallelism has nothing else to work with. The ambiguity arises because the sloppy reading can result from local binding, as in (28a), or it can be a long distance sloppy reading where, as in (28c), *D-bound* of VP_e is bound by *every boy*, which has *D-bound* in its scope.

The prediction that interests us is one where the antecedent in VP_a is a reflexive locally bound by a quantifier, but VP_e allows a long sloppy reading, one which would normally be represented by a pronoun. Such an example would show that the overt phase-internal-bound morphology (pronoun-*self*) is irrelevant to determining whether D-bound is well-formed in an ellipsis context - D-bound must only meet the requirement that it be bound. The examples in (29) and (30) bear this prediction out, in that they easily permit distant sloppy readings, where the object of elided *promote*, if morphologically copied from (29a), would be a reflexive form that would fail to be locally bound. No strict reading is possible because both of the potential antecedents are quantifiers, so the distant and local sloppy readings, unbolded and bolded italics, respectively, are all that is possible, just as in the case of the St. Francis sentence. Thus (29) and (30) show that the phase-internal-bound morphology of D-bound in VP_a is irrelevant to the interpretive well-formedness of D-bound in VP_e.

29a) *Every athlete* thinks *he* promotes *himself* better than ***any agent*** could [promote *him/himself*]

b) *Every athlete* thinks *D-bound+3rdms* [_{VP} promotes *D-bound+ 3rdms*] better than ***any agent*** could [_{VPe} promote *D-bound/D-bound*].

30a) *I* have always believed that *I* can represent *myself* better than any lawyer could [represent *me*]

b) *I* have always believed that *D-bound+1sts* can [_{VP} represent *D-bound+1sts*] better than ***any lawyer*** could [_{VPe} promote *D-bound/D-bound*].

We have now shown that the licensing of D-bound is indifferent as to the distance between itself and what binds it, even when it is copied from a counterpart that shows the morphology induced by a local binder. In other words, a D-bound locally bound in VP_a can be copied and non-locally bound in VP_e. The logic of the argument would lead us to believe that in a context where D-bound is non-locally bound in VP_a, it could be locally bound in VP_e. As we shall see, if one takes a surface pronoun to always be susceptible to Principle B, then the sort of case I describe should always be excluded. I will show, however, that pronouns that are pronunciations of D-bound behave differently from pronouns that are not and that our prediction is born out.

If we just look at natural born pronouns, it is clear that Principle B holds as per usual, as illustrated in (31).

31)*Mary hates *him* and *John* does too.

This is consistent with our theory so far, in that the only option for (31) is to copy 3rd *ms* from *him* which also results in a pronoun, not D-bound, so *John* cannot bind *him*. There are, however, contexts where VP_a contains a bound variable pronoun that is not locally bound, and that can be bound by an antecedent that c-commands both VP_a and VP_e. The prediction we should make is that non-locally bound D-bound (outwardly pronominal in form) in VP_a should license locally bound D-bound (outwardly reflexive in form) in VP_e.

32a)? It turns out that *only I* believed that John could represent *me* better than *I* could (myself).

b)?John has praised me more convincingly than I ever could have.

In (32) we see that *me* is obviative locally with respect to *John*, even though it appears to be a bound variable of *only I*. VP_e, however, permits the interpretation “I could represent myself”, which is a locally bound reading, and even without elision, parallelism permits the non-parallel morphological form. Before we declare victory, however, matters are not so simple. It is important to distinguish the native born 1st person pronoun here from D-bound with 1st person features. Suppose that (32a) is a mixed case, where the last *I* is native born and the bound variable in VP_e is just D-bound directly bound by *only I*, that is, it is actually distance bound. This case is a bit more difficult to make for (32b) because it is not clear that *me* c-commands the object of VP_e, but a similar attempt might be made to distinguish two paths to coconstrual. To be sure that we have the crucial example, we must avoid using indexical pronouns, as in (33).

33) *He's the sort of star athlete* who believes that no agent can [_{VP} promote *him*] any better

than *he* can [_{VP_e} promote *himself*]

In this case, binding cannot skip the intervening *he* after *than* on the grounds that it is a shifted indexical, so the binding in this case is local and a bound reading is possible only if we assume that the object of *promote* is D-bound. If we judged the antecedent pronoun in VP_a as simply a pronoun, then copying it into the parallel position in VP_e should result in a Principle B violation, but the reflexive reading of (33), a local sloppy one, is almost perfect.

The argument that sloppy readings can be anteceded by VPs where pronouns are bound, but not locally, can also be made with the paradigm illustrated in (34).

34a)**Every student* believes in *him*.

b)?*Every student* hopes that if Mary would just believe in *him*, then *he* would too

Finally consider (35a), where a local reflexive and an emphatic reflexive (with heavy stress on the emphatic) co-occur. In simple sentences, the bound interpretation requires the form with phase-internal-bound morphology, which is why (35b) is not possible.

35a) *Every politician* praises *himself* *himsélf* though not always so convincingly

b) *Every politician* praises **him* *himsélf* though not always so convincingly

c) *Every politician* hires a publicist whose job it is to praise *him* more convincingly than *he* can [_{VP_e} praise *himself*] *himsélf*

In (35c), however, where the first *him* is a bound variable (and thus D-bound), the bound variable interpretation extends not only to the subject of VP_e, but to its object. These cases establish that the principle B effect can be absent where D-bound in pronominal shape is copied into an environment where it is locally bound and would have a local anaphor shape if overt.

I conclude from these demonstrations that D-bound is unselective about how locally it is bound and that only its morphological form is sensitive to locality. In ellipsis contexts where its

morphology is never pronounced, the morphology of D-bound's antecedent does not limit how locally it is bound. This is further evidence that D-bound is everywhere the same bound variable element, however it is pronounced.

5.0 Binding and shifting

Kratzer (2009) argues that local binding is distinct from Agree, but she does not commit herself to the existence of phase-external binding. Since some current approaches (e.g., Reuland, 2001, 2011, Heinat, 2006, Hicks, 2009) treat agreement as the device that achieves binding, it is perhaps useful to make clear that the only way to maintain such a position is to employ a number of ad hoc assumptions about the presence of Agree relations when there is no overt sign of them. I address this question in 5.1 and turn to overt evidence of phase-external binding in 5.2, as opposed to the covert evidence for phase external binding offered in the last section.

5.1 Agreement is not necessarily correlated with binding

Kratzer (2009:196) argues that local bound variable readings have distinctive agreement because they are locally bound by a lexical head which inherits features from its specifier. The head then imposes the features on the bindee by Agree, which is bounded by phases. One purported advantage of such an account is that Principle A of the Binding Theory is then derived as a consequence of Agree.

In Safir (2010:97) an explicit argument for distinguishing Agree from binding is made on the bases of certain Icelandic constructions, in which an oblique argument is bound by a non-Nominative subject, while the verb in the same clause agrees with a Nominative non-subject, as illustrated in (36a,b).

36a) Henni tykir brodr sinn/*hennar leidinlegar.
she.DAT thinks brother SIN/her boring
'She finds her brother boring.'

b) Konunginum voru gefnar ambáttir í höll sinni/?hans.
the-king.DAT were given slaves in palace SIN/his
'The king was given slaves in his palace.' (Zaenen *et al.* 1990: 102, 112)

As pointed out in the reference cited, "the structural subject is Dative, so the verb agrees with the post-verbal Nominative. The possessive anaphor *SIN* in Icelandic (inflected for agreement with what it modifies), which must normally be bound by a structural subject, is bound by the Dative subject...Moreover, it is also clear that verb agreement is not establishing the anaphoric relation (since the verb usually agrees with a structural subject that is Nominative) ... if Agree on a functional node determines verb agreement, then a different functional node must be responsible for anaphor-binding." Notice also that *SIN* is not bound by non-subjects, so to appeal to the origin of the Dative in a double-complement structure must also explain why *SIN* has the subject-oriented shape. Thus binding must occur, on this analysis, after movement of the Dative to something that counts as a subject position, which in the theory presented here, is Spec vP position. Thus the same functional node seems to be determining agreement with one constituent and binding with another.

I will henceforth assume that binding is achieved as described in (5-7) and that the phenomenon known as (strict) subject orientation (for discussion and references, see Safir, 2004a:170-173) is the morphological reflex recorded in some languages that can emerge when a phase-internal form is bound from Spec vP position (where 'Spec vP' is just the name for the

first element merged above *v* and its complement). Notice that what used to be Principle A is now reduced to the influence of phases on points in the derivation when the shape of morphology on a bindee is determined. There is no independent Principle A, and the Principle A effect is not therefore predicted to be a universal.

This result does not preclude the possibility that binding by a local head can affect the agreement as well as the local shape of D-bound. The cases of fake indexicals in German that Kratzer presents would presumably be instances of that kind, such that locally bound fake indexicals are sensitive to subject-verb agreement in a way that distant ones are not. I will not explore those cases here, as the example presented above shows that agreement *can* be independent from morphological shape induced by binding within a phase.

5.2 Phase-external binding

As mentioned above, Kratzer is non-committal about the existence of phase-external binding, but she proposes that feature transmission, which assures agreement, is always restricted to local domains. Thus if there is agreement at a distance beyond a phase, the mechanism of binding cannot be the source of it within her theory. She suggests instead that fake indexicals are born as pronouns, but that their indexical features are shifted, so that instead of picking out the utterer in the context of speech, the indexical picks out the utterer of reported speech, for example. In such cases, as Schlenker (1999) argues for Amharic, embedded 1st person pronouns behave like logophors, picking out the agent of the reported speech (or thought) instead of the utterer in the speech event. Kratzer further suggests that the apparent cases of binding at a distance that do not fall under context shift, may turn out to be accounted for by Elbourne's account of D-type readings, and if so there is no real binding of pronominals outside of local domains. Thus, while her theory does not preclude non-local binding, it cannot account for long distance agreement, and so she suggests that there may be no need to appeal to it.

If indeed there is no real binding of outwardly pronominal elements outside of their local domain, then there is no reason to posit a non-local D-bound to contrast with local D-bound, and binding stands a better chance of being reduced to agreement. In this section, I will provide some evidence for non-local binding by showing that there are long distance, structurally sensitive, antecedent agreement effects that neither context shift nor D-type readings can account for.

5.2.1 The essentials of the indexical analysis

Kratzer (2009) suggests that pronouns are bound as variables *at a distance* are born as pronouns, unlike the local forms bound as variables which originate without features. In cases such as these, 1st and 2nd person features are present and problematic for interpretation unless their relation to the context (the utterer and the addressee involved in the speech act, respectively) is somehow neutralized or *shifted*. On the assumption that 1st and 2nd person pronouns are interpreted relative to a head that determines the contextual commitment of 1st and 2nd person, such that they bear their designated roles in that context, the proposal is that the context-bearing head does not have to pick out the context of utterance, under certain conditions, and can instead be shifted to the context of reported saying or belief, presumably in the manner ascribed to logophoric interpretation. To see how this works, consider (37).

37) I believe that I am smart, just as others do.

On the strict reading, others believe the speaker of the sentence is smart, and in that instance, the features on the subordinate subject are born on it and unchanged by interpretive mechanisms. The 1st person pronouns each pick out the speaker in the context of utterance, which is the same context for matrix and subordinate clauses. On the bound reading, the reading where others also believe that they are smart, the subordinate subject *I* is a ‘fake’ indexical in Kratzer’s terminology. In effect, the context of utterance is shifted to the context of reported belief or reported saying, and so whoever the believer is, it is that person who is 1st person in the reported context. Thus the subordinate *I* will pick out the believer in that context, and the believer in that context (the logophoric antecedent) is just the same as the utterer of the matrix sentence. The key point, however, is that the context-setting head (H^{CS}) in question is not a binder, but affects the interpretation of every natural born pronominal in its scope, such that the person feature(s) in question is/are reset for all of the natural born pronouns below H^{CS} . Schematically, the analysis is illustrated in (38).

38) [I think [H^{CS} [I am smart]]]

As Schlenker (1999:109) has argued for the Amharic sentence below, this would account for the use of 1st person pronouns to refer to a third person logophoric antecedent.

39) john Jägna näNN yt-lall [Amharic]
 Johni hero Ii-am says-3 sg.m
 ‘John says that he_i is a hero.’

There are a variety of versions of this theory that weaken it, including the assumption that other indexical elements (e.g., temporal ones, such as *today*) can be unaffected when the contextual coordinates of the logophoric operator are shifted, or, as suggested by Anand (2006), it is possible that only certain contextual coordinates can shift, but not others (e.g, 1st person can shift without affecting the 2nd person) (see also Kratzer, 2009:213 on a proposal from Cable, 2005), but the key assumption is that all pronouns in the scope of the H^{CS} with shifted features will have their features shifted in the same way.

The alternative to the shifting theory is an operator-binding theory, one that says that there is a logophoric operator that intercedes between the logophoric antecedent and the logophoric pronoun, but the logophoric operator is a binder of the pronoun that shows the logophoric morphology, whether it is 1st person morphology that is manifested below or some other logophoric marking.

These two theories predict different empirical patterns and we can test to see which is correct, at least for a given construction or for such constructions in a given language. All that needs to be shown for the purpose of this essay is that binding at a distance by an operator is required for some cases, since these cases justify the assumption made earlier that long distance bound variable bindees are D-bound, not native born pronouns, at least in most cases.

5.2.2 The insufficiencies of the shifted context account

The shifted context account of Amharic has been sometimes thought of as a model for the distribution of logophoric pronouns. Logophoric pronouns, first so named by Hagège (1974), are those that are coconstrued with the subject of a propositional attitude verb, are embedded in the propositional complement selected by the verb, and are required to have what has been identified as a *de se* reading, although the cases discussed here could as easily be characterized as reflecting the contrast between speaker’s reference and reported speaker’s reference (see Safir,

2004c). If so, these pronouns would be expected to look just like 1st and 2nd person pronouns, as they do in Amharic and some other languages, but in fact, the morphological shapes of pronouns interpreted logophorically are diverse. In Gokana, as reported by Hyman and Comrie (1981), the difference is reflected on subordinate agreement relations, in Ewe, as reported by Clements (1975), there is a dedicated form for logophoric pronouns distinct from pronouns of other sorts. The form used for logophoric interpretations in subjunctive contexts in Icelandic is identical to the normally bounded anaphor *sig*, and in Yoruba, the form used logophorically is otherwise employed as a pronoun bound to focus. The first argument against the context-shifting account is that the range of morphological forms is in no way predicted by the contextual shift that is proposed.

One could imagine that all pronouns without features that are in the scope of a context-shifting operator with particular features must have a certain shape that does not correspond to the standard morphology for person, but the relation of scope to shape is not binding because it does not select any particular pronouns in its scope. It is not obvious how this could be achieved, but let us suppose that for the sake of argument one could manufacture such a device. We are comparing the shifting device to binding, where the logophoric operator is somehow anteceded by the logophoric antecedent, and the operator binds particular instances of D-bound in its domain that must, by virtue of being bound, have a logophoric shape to be feature compatible. This structure is schematically presented in (40), where italics indicate coconstrual.

40) *John* thinks [*pro* Log-OP [that *he-Log* is smart]]

On this analysis (see Safir, 2004c, and references cited there), the Log-OP is the mediating head that is inducing logophoric shape, potentially at long distance (as in the cases presented below), and either the Spec v of the matrix verb (*John*) or a *pro* that it controls in the left periphery of the complement clause (possibly Spec CP), is the designated antecedent. Sticking closely to the definitions in (5) and (6), the *pro* must be the antecedent binding the logophoric pronoun, where the *pro* is bound by Spec v, mediated by v.

The unselective scope-induced morphology and the logophoric binding account make markedly different predictions in *interleaving* examples (see Safir, 2004c, and Anand, 2006). Interleaving examples are those where one logophor-inducing verb is embedded in the complement of another, and in the lowest complement there are two logophoric pronouns, but one is associated with the highest logophoric antecedent and the other is associated with a distinct lower one. If the context is shifted with each embedding, then all the logophoric pronouns in the lowest embedding should connect to their referents in exactly the same way, that is, they should be coconstrued. The interleaving theory predicts that the pronouns in the lowest clause could have different logophoric antecedents, depending on which logophoric operator they happen to be bound by i.e., they could both be bound by the lowest operator, both by the highest, or, crucially, one could be bound by the lowest operator and the other by the highest (interleaving). The evidence presented below shows that the binding theory makes the right prediction for Yoruba and that the shifted theory does not.

As mentioned earlier, Yoruba is a language with special logophoric morphology (see Adésolá, 2004, for discussion and references). In (41a,b), the pronouns in both examples are interpreted as bound pronouns, the pronoun in (41b) optionally (and only with the particular context about to be explained), but only the ‘strong’ pronoun *òun* is logophoric (data in (41) from Oluseye Adesola, personal communication: in the Yoruba data that follows, diacritics below segments have been omitted).

41a) Enìkòòkan r̀̀ pé ìyá òun níwà
 Everyone think that mother his have.character
 Everyone thinks that his mother is nice.

b) Enìkòòkan r̀̀ pé ìyá r̀̀ k̀ níwà
 Everyone think that mother his NEG have.character
 Everyone thinks that his mother is mean.

The non-logophoric ('weak') pronoun *r̀̀* can be understood to mean the speaker has observed this, even for cases where none of the individuals who do not or do not like the woman they know are aware that that woman is their mother (e.g., 'Every orphan who meets a woman who he does not know is his mother finds that woman mean' - often the context must be provided before speakers accept the anaphora is possible). The example with the 'strong pronoun' *òun*, however, requires the interpretation that each thinker is aware that the woman he finds mean is in fact his mother. The *r̀̀* cases show that shifting will never account for pronouns bound as variables where there is no logophoric reading,[Note N7] but we will return to these cases, for which Kratzer has made a different sort of suggestion.

The first observation to make is that the logophoric pronoun can appear in a clause that does not shift 1st person pronouns.

42) Olú so pé òun r̀̀ ìyá mi (from Safir, 2004a)
 Olu say that he.LOG see mother me
 Olu said that he saw my mother.

For examples like (42), it would be necessary to appeal to the device that shifts the morphology of all pronouns in its scope to a reading that is a shifted 1st person reading without inducing 1st person morphology, but instead a special morphology without selective binding of pronouns in its scope. Once this is established, the interleaving example in (43) shows that the context-shifting account is hopeless for Yoruba logophoric pronouns.

43) Olú r̀̀ pé Ade so pé òun r̀̀ ìyá òun (From Safir, 2004c)
 Olu think that Ade say that he see mother his
 Olu thinks that Ade said that he saw his mother.

The strong pronouns must refer to either Olu or Ade, but both can refer to Olu or both to Ade, or either one can refer to Olu while the other refers to Ade. This last possibility, the *interleaving* effect, is exactly what we expect if logophoric coconstrual is achieved by variable binding, since one operator can be within the scope of another *without one scope overriding the other*. Arguments of this kind can presumably be made for a number of other languages with logophoric pronouns.

The point made here is not that the shifting account of fake indexicals is not a possible analysis of logophoricity in other languages, but in those languages, we would expect to see different properties, as Anand (2006) has shown.[Note N8]

Kratzer (2009:218) leaves open whether or not there is interleaving in English with respect to fake indexicals, but I think the following context allows for interleaving of just the sort that would not be expected if all fake indexicals bound non-locally were shifted. The bound pronouns in (44) are italicized, and italicized coconstrual relations are distinguished by whether or not they are bolded. Consider the following scenario: Janet has just married into a family she thinks her friends will not like. She is addressing her friends, warning them, in effect, not to say anything in front of her new husband about what they might think of his family, but she is doing so by trying to make them understand her situation as if from their own perspective.

44) If I were any one of *you* and any one of you were *me*, then *I* would be careful to tell *only me* what *I* thought about *my* new in-laws.

If the coordinates on the context-setting head are all that can shift, how can there be two different shifted readings for 1st person within the same domain? It is certainly possible if the two substitution statements (if *x* were *y*) introduce operators, each binding different instances of D-bound, filling both with 1st person features. Whether there are other readings of (44) that are possible is not important for the point being made here, which is the following: Only binding relations can distinguish the 1st person pronouns in a way that gives the intended reading. Thus it must be possible for fake indexicals to be bound at a distance (hence not always shifted), and if so, D-bound can be bound non-locally as well as locally, as long as its features are compatible with its binder.

5.2.3 The insufficiency of D-type readings as a substitute for variable-binding

As noted in the last section, bound variable readings do not have to have logophoric interpretations, as illustrated in (45).

45) Every hero like Oedipus believes that his mother is the perfect bride.

The whole point of the Oedipus story and others like it is that the hero is not aware that the person he marries is, in fact, his own mother, but in most such stories, the hero believes he has made the right choice when he marries. These are not, then reported speaker or *de se* readings of the pronouns, but are bound readings nonetheless. Kratzer (2009:216) suggests that the apparent bound readings in these cases are achieved not by binding, but by an extension of the D-type reading originally assigned to donkey pronoun sentences, distinguished from normal variable binding by Evans (1980).

46) Most men who own a donkey beat it.

Without touching upon the voluminous literature on this phenomenon (see Büring, 2005, for a discussion of the literature), two key features of the example are that the sentence may be interpreted to mean that most of the men who own a donkey beat the donkey that they own, which means that *it* varies with choice of owner, and *a donkey* does not c-command *it*. The proposal put forward by Elbourne (2006) and others cited by Kratzer is that all pronominal variable binding phenomena are actually cases where the pronoun is represented as a definite description with an elided restricting clause (=the donkey that he owns in (47)). I will avoid reproducing the details of this account here, but there is a notable difference between the cases where it has been employed in the absence of c-command and the instances where c-command appears to play a crucial role, namely, donkey sentence structures do not permit a bound variable reading when the antecedent is a universal.

47) Most men who own every donkey (in their district) beat it/them

No one accepts *it* in (47) with the bound reading, even though bound neuter pronouns in English are singular with *every* (e.g., *Every donkey in the district loves its mother*), though to my ear, *them* is marginally acceptable in (47). The failure of the universal with the singular, which is general, is enough to show that the D-type reading has different requirements for agreement than variable-binding in the more general case, which usually respects c-command.[Note N9]

There is, however, another strong theory-internal reason to assume that pronouns bound as variables are not definite descriptions, but instances of D-bound.

17) Syntax-induced Obviation (SIO)

If X is in a position to bind Y and Y is not D-bound, then X and Y are not expected

to be coconstrued (i.e., they are obviative).

There is no way to recover the force of (17) if, apart from indexical pronouns, all pronouns are definite descriptions, that is, if some bound pronouns c-commanded by their antecedents are not instances of D-bound. If D-type readings are the same as those that determine coconstrual in (48), then the distribution of D-type readings cannot be correlated with the distribution of Principle C effects, e.g., (48) does not require obviation between *him* and *Bill*.

48) Every man who saw *him* hated *Bill*.

Thus, the D-type theory generalized to all bound variable readings would need a completely separate account of Principle C effects.[Note N10]

5.3 Summary: The case for binding

We still need binding for at least the following four reasons.

- 49a) Antecedent agreement must hold in clauses where subject-verb agreement also must hold and yet the two must be distinct.
- b) Special morphology (not 1st person) for distance bound logophors does not follow from context shift, but must appear only where licensed.
- c) Special morphology for distance bound logophors allows interleaving rather than scope override.
- d) Non-logophoric bound anaphora is not context shift, and appears incompatible with D-type interpretations.

The mediation by a head has been shown to contribute to additional conditions for feature-compatibility between antecedent and D-bound, but antecedent agreement appears to be independently necessary, as in the Icelandic case of binding by a Dative antecedent. If the D-type account is not responsible for them, other cases of binding at a distance for which the head inducing binding does not appear to induce any extra requirement for feature compatibility are common (e.g., ‘For *any girl* to tell Bill to marry *her* would be counter-productive’).

6.0 On the sources of phase-internal morphology for D-bound

The proposal I make about D-bound means that there is only one anaphor in natural languages that happens to have many morphological shapes. Closure for this term, i.e., special morphology assigned within a phase, can (and does in most languages) distinguish interpretations where D-bound is bound at the first opportunity from interpretations where it is not.

One might ask, however, why local anaphora should, in so many languages, be marked by special morphology, especially because there is no theoretical reason in this approach as to why there should have to be forms specialized for local anaphora. A reasonable speculation as to why this is so is that the manifestation of this sort of morphological within-phase distinction, expressible in the syntax, might be reinforced by functional pressure for systems where binding at the most local opportunity is distinguished interpretively from binding that requires a longer store. After all, as long as c-command is respected, binding is unbounded in this account. The prediction made by this theory in combination with my speculation about functional pressure is (50).

- 50) Languages that lack local bindees distinct from pronouns are thus possible (and attested), but relatively rare.

This statement seems to square very well with the cross-linguistic facts as we know them to be.

From this perspective, the prevalence of complex reflexives, particularly pronoun+Stem, is a form of morphological conservation reacting to functional pressure for local anaphora resolution where possible. The manifestation of the form as complex is just the division of the sources of morphological information, so the agreement form associated with the local shape is expressed as a pronoun, and not a special one, but one generally found in the language, and a stem with a separate usage. The functional pressure to distinguish local interpretation is thus addressed without a special form of D-bound. D-bound is thus paired with an otherwise familiar paradigm (e.g., the phi-features of a body part reflexive are the same as those used when it is a body part). In some languages, these paradigms become lexicalized and the anaphor is fused (as in English), leading in many cases to grammaticalization in the direction of a simplex form. If we think about the historical trajectory in this way, there is no need to posit a grammaticalization stage where a fully invented nonce form is used to distinguish the local interpretation.

Moreover, the distribution of complex forms or formerly emphatic forms for local anaphora takes on a slightly different significance from some of the proposals in the literature. König and Siemund (2000), for example, following a line of reasoning that has been pursued by others (see Gast, 2006 for discussion and references) have argued that complex reflexives derive from the grammaticalization of emphatic pronouns, that is, the form used to convey meanings like *John did this himself* is eventually lexicalized to effect reflexivity, but it does not follow from this that there is any pressure for locality of interpretation. Even if lexicalization were to proceed along these lines, there would be a point where the emphatic could choose between becoming a phase-internal morphology or not. From this perspective we would expect that, in languages where the emphatic complex anaphor (used in contexts like *John, himself, did this*) can form non-emphatic reflexive readings, the same form can be bound at a distance as picking up a discourse salient form.

In Lubukusu, a Narrow Bantu language of Kenya, however, the form AGR-*eene* (where AGR- agrees in noun class with its antecedent and *-eene*, in non-anaphoric usage, means ‘owner’) is used in emphatic contexts such as (50) (=example ID3750 in the Afranaph Database), but cannot take an antecedent within its phase, as in (51) (=ID1350), that is, where it would correspond to a direct object, though in those positions it can take a salient discourse antecedent (preferably, ‘the owner’).[Note N11] The local reflexive reading for a direct object is achieved by a reflexive marker (RFM) prefixed to the verb stem, as in (52) (=ID1253), in which case AGR-*eene* can cooccur with the RFM postverbally. When AGR-*eene* cooccurs finally with the RFM, it fulfills a different function from an adjunct, as the contrast between (53) (=ID3749) and (50) shows.

- | | | | | |
|------------|---------------|----------------------------|--------------------|--------------|
| 50) Wekesa | o-mu-eene | a-a-ch-a | engo | (*o-mu-eene) |
| | Welesa | c1-c1-owner | SM.c1-PST-go-fv | home |
| | Wekesa | himself | went home | (*himself) |
| 51) Wekesa | a-a-p-a | o-mu-eene | | |
| | Wekesa | SM.c1-PST-beat-fv | c1-c1-own | |
| | Wekesa | beat him/*himself. | | |
| 52) Yohana | a-a-i-yonak-a | | o-mu-eene | |
| | Yohana | SM.c1-PST-RFM-destroyed-fv | c1-c1-own | |
| | John | destroyed himself. | | |
| 53) Wekesa | o-mu-eene | a-i-siim-a | o-mu-eene | |
| | Wekesa | c1-c1-own | SM.c1-RFM-loves-fv | c1-c1-own |

Wekesa himself loves himself.

In the absence of the doubling prefix on the verb stem, AGR-*eene* must be interpreted as locally emphatic or as having an extraclassical antecedent, much like a pronoun, unless it is a prepositional object. Where it is a prepositional object, it contrasts with a simple pronoun in some cases with respect to whether the local subject can bind it, as illustrated by the contrast between (54a) (=ID5091) and (54b) (=ID1259). While (54a) allows either local anaphora, or a reading that refers to some ‘owner’ in the context, the pronoun cannot have Yohana as its antecedent.

- 54a) Yohana a-a-lom-a khu o-mu-eene
 Yohana SM.c1-PST-speak-fv about c1-c1-own
 John spoke about himself/the owner
- b) Yohana a-a-lom-a khu niye
 Yohana SM.c1-PST-speak-fv about pron.c1
 John spoke about him/*himself.

It is also possible for AGR-*eene* to take a distant c-commanding antecedent or pick out someone salient in the discourse (like the UD-forms discussed in Safir, 2004a). The former possibility is illustrated in (55) (=ID1559), where *o-mu-eene* can be anteceded by *Jack*.

- 55) Jack a-kanakan-a a-li Lisa a-many-il-e a-li
 Jack SM.c1-think-FV c1-that Lisa SM.c1-know-TNS-FV c1-that
 o-mu-eene a-siim-a Alice
 c1-c1-own SM.c1-like-FV Alice
 Jack thinks that Lisa knows that he likes Alice.

Thus the AGR-*eene* form is complex, potentially locally anaphoric, potentially long distance bound, potentially emphatic, but never locally anaphoric on its own unless a preposition intervenes, probably because it introduces a phase boundary.

Although there are a number of issues and loose ends that are of interest in the Lubukusu data, the reason I present it here is that the case of Lubukusu AGR-*eene* would seem to show that there is no *direct* connection between the development of a complex emphatic form for anaphoric readings (associating its morphology with D-bound) and the use of the emphatic form exclusively for locally bound argument readings. The association of the complex form exclusively with local reflexivity appears to be an independent step and the crease in the theory that permits it is the opportunity to associate the emphatic form with phase-internal binding morphology - a possible association, but not a necessary one. Given the robust use of the local reflexive prefix (RFM) in Lubukusu, there is no pressure in that language for the complex form to be recruited for phase-internal anaphora (even though AGR-*eene* is licensed to appear in direct object position with a local interpretation just in case the RFM is also present). Various points of analysis need to be clarified: Both pronouns and AGR-*eene* are possible morphological realizations of D-bound in Lubukusu, where D-bound does not spell out as AGR-*eene* in the absence of the RFM locally, and is subject to discourse restrictions when it is bound at a distance. AGR-*eene* appears also to have a native-born counterpart that does not require a sentence internal binder, although its distribution is limited (it is most often associated with a subject or object marker on the verb when its antecedent is sentence external).

The existence of forms like Lubukusu AGR-*eene* does not conform to the generalization that complex anaphoric forms are local, which is fine as a generalization (e.g., Faltz, 1977, Pica, 1986), but difficult to defend if it is to be enforced as theoretically necessary result (see, for

example, Reuland, 2011 for discussion and references cited there). Simply claiming that AGR-*eene* is not anaphoric at all, besides the apparent counterevidence presented, would make it difficult to formulate a counterexample to the generalization in question. For rich details about the distribution of Lubukusu AGR-*eene* see (see Safir and Sikuku, 2011 and Sikuku, 2011 for extensive discussion and the Afranaph Database for a multitude of glossed examples pertaining to the distribution of anaphoric readings and morphology in Lubukusu).

It is unsurprising, from the perspective of the One True Anaphor account, that D-bound should frequently have underspecified morphology, since its interpretation is not determined by its morphology, but vice versa (i.e., how it is bound). This does not make any prediction, however, as to whether underspecified morphology on D-bound would favor local or more distant antecedency. Icelandic *sig* (morphologically unspecified for number) is employed for logophoric interpretation in subjunctives (see Reuland and Sigurjónsdóttir, 1997 and Safir, 2004c), yet it is possible, and frequently the case, that underspecified forms are exploited as targets for phase-internal AGREE, plausibly as a means of responding to the functional pressure for local anaphora resolution.

Nothing I say here affects theories of predicate reflexivity/reciprocity for any case where D-bound is not involved. Systems where local reflexivity does not use D-bound at all, if they exist, would deserve some discussion, but I am not sure that, beyond inherently reflexive or inherently reciprocal predicates, there are such cases. Whether the reflexive affix of Lubukusu (ubiquitous in Narrow Bantu) is phase internal morphology and/or a manipulation of the argument structure of the predicates to which it is attached is beyond our immediate concerns (but for discussion of related questions, see Mchombo, 2004, Safir and Sikuku, 2011, Sikuku, 2011 and Safir, to appear).

The main point, however, is that D-bound, by its nature, is indifferent to locality, although UG can be exploited to distinguish local domains from more distant ones by identifying the morphological spell-out of D-bound with special phase-internal morphology.

7.0 Conclusion

This paper can be seen as an elaboration and amendment of Kratzer (2009) that extends the exploration of the distribution of anaphora to a variety of patterns that have to be handled differently, and, if I am right, not as well, in other approaches. The One True Anaphor hypothesis obliterates any syntactic or semantic distinction between anaphors that is not about the realization of their morphology (e.g. there is no Principle A) or the additional semantic conditions attached to them (e.g., reciprocity). All bound forms are D-bound where D-bound is possible; Principle B and Principle C effects are derived from contexts where D-bound is available for a binding relation but is not used for that relation. Anaphors, local or distant, are bound the same way and by the same devices, as the evidence from ellipsis in English has shown. The morphology of D-bound may be influenced locally or non-locally by the heads associated with the specifier positions that bind them, but the morphology does not have to make this distinction, and in particular, binding does not reduce to phase-internal AGREE. The effects of Principle A are reduced to conditions on phase-internal spell-out for bindees that the theory of grammar does not require. Functional pressure for local anaphora resolution can exploit the option provided by UG to recruit special morphology for phase-internal relations, but even in languages that make the distinction (which is most of them) binding is the same whether

phase-internal morphology is manifest or not. Many new questions now arise as to whether the anaphoric phenomena that have been analyzed from other perspectives can be better explained or, at least, accounted for within the One True Anaphor approach, but I leave these explorations for future work.

Notes

N1. Some support for the view that the anaphor *each other* is idiomatic rather than composed is based on examples like i., recently explored by Brasoveanu (to appear), in comparison with examples like ii.

i. The men told each girl a different story.

ii. The men told each other a different story.

The preferred interpretation of i. is one where each girl hears a story that the other girls do not hear, but it is also possible that the men are telling the same story to each girl (perhaps one at a time), but the story is one that is different from some discourse salient story. There is no interpretation of ii. that corresponds to a situation in which each man tells a story different from what the other men tell; rather the story that is told is one that does not vary across the men, but is different from some discourse salient story. If *each other* were composed, we would expect the same ambiguity allowed by i. to be found in ii.

N2. Grodzinsky and Reinhart regarded both pronouns and anaphors to be potential variables, and so no prediction was made concerning obviation for Principle B. For those cases Reinhart and Reuland (1993) had a different account. The approach to Principle B taken here is distinct from theirs, as described in the text.

N3. It is necessary, however, to distinguish between A-binding and A'-binding with respect to Spec CP as opposed to, say Spec IP, since Spec CP does not count as a binder for D-bound, and so this part of the A-binding stipulation I am still assuming for the purposes of this article. Safir (forthcoming), however, seeks to eliminate all reference to the A/A'-distinction in linguistic theory, and there it is argued that quantified nominals are usually not DP specifiers at the point in the derivation where their scope is established. This distinction is argued to interfere with binding of D-bound (which ultimately requires a DP antecedent), but will not influence binding of variables within the scope of the quantifier.

N4. For example, the recovery of the interpretation of VPe is dependent on parallelism that need not be local to the VP_a, as in the case of wh-extraction.

i. *I don't know what Mary thinks Bill saw, but I know what he did [_{VP_e} see]

ii. I don't know what Mary thinks Bill saw, but I know what she thinks he did [_{VP_e} see]

There are ways to improve examples like I., e.g., I accept 'I don't know what Mary THINKS Bill saw, but I know what he ACTUALLY did', but in any case, these conditions are beyond the concerns of this paper.

N5. This approach is different than that of Reinhart (2006), who treats the strict vs. sloppy contrast as a difference in the form of binding in VP_a. On her account, only the sloppy reading is anteceded by a VP_a with a bound pronoun, while the strict reading is a mere coreference reading. See Safir (2008:342-343), for discussion.

N6. These cases were treated with vehicle change in Safir (2004b), but appeal to that device, originally proposed for different kinds of ellipsis examples by Fiengo and May (1994), is no longer necessary, at least for these examples.

N7. Koopman and Sportiche (1989), reporting on logophoricity in Abe, specifically distinguishes bound variable pronouns that are logophoric and those that are not.

N8. Safir (2004c) doubts whether the shifted analysis is ever warranted and shows that the binding account appears to be necessary, based in part on interleaving examples, whereas Annand (2006) shows that both analyses appear to be required, each producing a systematic pattern of facts. For the purposes of my argument, it is only necessary here to show that the binding account is necessary, which establishes that there are instances where D-bound is bound at a distance.

N9. Even for those, like me, who accept (47) with *them*, the agreement involved is different than that which holds in the canonical bound variable environments. It appears that D-type readings, in terms of the antecedents they allow as well as with respect to the antecedent agreement relations they impose, are distinct from the usual bound variable phenomena in a way that does not support the view that both kinds of readings are achieved by the same device.

N10. It appears that any theory that exploits a version of Reinhart's generalization in (12) will not be compatible with the generalized D-type account of variable binding.

N11. In the examples that follow, tone marking is not currently available, but it will be available by the time of publication. The term SM, subject marker, is generally thought of as a kind of subject-verb agreement, and fv is a final vowel, usually *-a*, unless the sentence is subjunctive. All Bantu languages have a rich noun class system, where singular and plural are represented by different genders (agreement affix classes and paradigms). Singular for humans is class 1 (c1) and plural for humans is c2. In most contexts, Lubukusu typically has two class prefixes before nouns, the pre-prefix, which is usually the shape of agreement for that class, and a noun class prefix, which also identifies the class but normally is not the morpheme used to show agreement on the SM, a complementizer, or an adjective, for example.

References

- Adésolá, Olúsèye. 2004. Null operators and pronouns - A-bar dependencies and relations in Yoruba. Ph.D dissertation, Rutgers University.
- Afranaph Project. Ongoing. www.africananaphora.rutgers.edu. Edited by Ken Safir. Rutgers University and University of Utrecht.
- Anand, Pranav. 2006. De de se. Ph.D. dissertation, MIT.
- Brasoveanu, Adrian. To appear. Sentence-internal *different* as quantifier-internal anaphora. *Linguistics and Philosophy*.
- Büring. Daniel. 2005. *Binding theory*. Cambridge: Cambridge University Press.
- Cable, Seth. 2005. Binding local person pronouns without semantically empty features. Ms., MIT, Cambridge, MA.
- Chomsky, Noam. 2004. Beyond explanatory adequacy. In *Structures and beyond: The cartography of syntactic structures Vol. 3*, ed., Adriana Belletti, 104-131. Oxford: Oxford University Press.
- Clements, George N. 1975. The logophoric pronoun in Ewe: Its role in discourse. *Journal of West African Languages* 10:141-177.
- Elbourne. Paul. 2005. *Situations and individuals*. Cambridge: MIT Press.
- Evans, Gareth. 1980. Pronouns. *Linguistic Inquiry* 11:337-362.
- Faltz, Leonard. 1977. *Reflexivization: a study in universal syntax*. Garland Publishing.

- Fiengo, Robert and Robert May. 1994. *Indices and identity*. Cambridge: MIT Press.
- Fox, Danny and David Pesetsky. 2005. Cyclic Linearization of Syntactic Structure. *Theoretical Linguistics* 31: 1-45.
- Gast, Völker. 2006. *The grammar of identity*. London: Routledge.
- Grodzinsky Yosef and Tanya Reinhart. 1993. The innateness of binding and coreference. *Linguistic Inquiry* 24:69-102.
- Hagège, Claude. 1974. Les pronoms logophoriques, *Bulletin de la société de linguistique de Paris* 69: 287-310.
- Hornstein, Norbert. 1995. *Logical Form*. Oxford: Blackwell.
- Heim, Irene. 2005. Features on pronouns. Ms., MIT.
- Heinat, Fredrik. 2006. Probes, pronouns and binding in the minimalist program. Ph.D. dissertation, Lund University, Lund.
- Higginbotham, James. 1980. Pronouns and bound variables. *Linguistic Inquiry* 11:679-708.
- Hestvik, Arild. 1995. Reflexives and ellipsis. *Natural Language Semantics* 2:1-27.
- Hicks, Glyn. 2009. *The derivation of anaphoric relations*. Amsterdam and Philadelphia: Benjamins.
- Hyman, Larry and Bernard Comrie. 1981. Coreference and logophoricity in Gokana. *Journal of African Linguistics* 3:19-37.
- König, Ekkehard, and Peter Siemund. 2000. Intensifiers and reflexives: A typological perspective. In *Reflexives: Forms and functions*, edited by Zymunt Frajzyngier and Traci Curl, 41-74. Amsterdam: Benjamins.
- Koopman, Hilda and Dominique Sportiche. 1989. Pronouns, logical variables, and logophoricity in Abe. *Linguistic Inquiry* 20:555-588.
- Kratzer, Angelika. 2009. Making a pronoun: Fake indexicals as windows into the properties of pronouns. *Linguistic Inquiry* 40:187-237.
- Legate, Julie Anne. 2003. Some interface properties of the phase. *Linguistic Inquiry* 34:506-516.
- May, Robert. 1985. *Logical form*. Cambridge: MIT Press.
- Mchombo, Sam. 2004. *The syntax of Chichewa*. Cambridge: Cambridge University Press.
- Pica, Pierre. 1986. De Quelques implications théoriques de l'étude des relations à longue distance. In *La grammaire modulaire*, eds. Mitsou Ronat and Daniel Couquaux, 187-209. Paris: Minuit.
- Reinhart, Tanya. 1983. *Anaphora and semantic interpretation*. Chicago: University of Chicago Press.
- Reinhart, Tanya. 2006. *Interface strategies: Optimal and costly computations*. Cambridge: MIT Press.
- Reinhart, Tanya and Eric Reuland. 1993. Reflexivity. *Linguistic Inquiry* 24: 657-720.
- Reuland, Eric. 2001. Primitives of binding. *Linguistic Inquiry* 32:439-492.
- Reuland, Eric. 2011. *Anaphora and Language Design*. Cambridge, Massachusetts: MIT Press.
- Reuland, Eric and Sigríður Sigurjónsdóttir. 1997. Long distance 'binding' in Icelandic. In *Atomism and binding*, edited by Hans Bennis, Pierre Pica and Johan Rooryck, 323-340. Dordrecht: Foris.
- Safir, Ken. 2004a. *The Syntax of Anaphora*. Oxford: Oxford University Press.
- Safir, Ken. 2004b. *The Syntax of (In)dependence*. Cambridge: MIT Press.
- Safir, Ken. 2004c. Person, context and perspective. *Revista di grammatica* 16:107-154.
- Safir, Ken. 2008. Coconstrual and narrow syntax. *Syntax* 11:330-355.

- Safir, Ken. 2010. Viable syntax: Rethinking minimalist architecture. *Biolinguistics* 4:35-107.
- Safir, Ken. To appear. Syntax, Binding and Patterns of Anaphora. In *The Cambridge Handbook of Generative Syntax*, Marcel den Dikken, ed. Cambridge: Cambridge University Press.
- Safir, Ken and Justine Sikuku. 2011. Lubukusu anaphora sketch. In Ken Safir, ed., www.africananaphora.rutgers.edu. Rutgers University and University of Utrecht.
- Schlenker, Philippe. 2003. A plea for monsters. *Linguistics and Philosophy* 26:29-120.
- Sikuku, Justine Mukhwana. 2011. Syntactic patterns of anaphoric relations in Lubukusu: Representation and interpretation in a minimalist perspective. Ph.D. dissertation, University of Nairobi.
- Zaenen, Annie, Joan Maling and Hoskuldur Thráinsson. 1985. Case and grammatical relations: The Icelandic passive. In Maling, Joan & Annie Zaenen (eds.), *Syntax and semantics: Modern Icelandic syntax*, 95-136. New York: Academic Press. Reprinted from *Natural Language and Linguistic Theory* 3, 441-483.