

Strict Readings*

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This essay is a contribution to the discussion, now going on for many years, concerning what sorts of identity relations should be represented in the syntax and semantics of formal grammar and what properties those relations should have. In what follows, I will use the neutral cover term *coconstrual* to refer identity relations of one sort or another between nominals when no particular syntactic or semantic analysis is presupposed (among which are dependent identity, covaluation and coreference). The central claim made here is (I), with its consequence in (Ia) and the far-from-innocent background assumption in (II). Most of my argumentation is designed to establish (Ia) to argue that it should be understood as the natural consequence of (I) and with respect to strict readings in ellipsis contexts. Although I will also argue for (II), I rely on Safir (2004b) for a more general defense of it.

- I) All coconstrual relations represented by formal grammar are dependent identity relations and thus are asymmetric relations between antecedents and their dependents.
 - a) There is no symmetric identity relation, such as covaluation or coreference, that must be represented in formal grammar.[Note N1]
- II) Relations of dependent identity are not specifically licensed. Rather they are everywhere possible where they are not configurationally blocked.

There are several who appear to share the view that symmetric identity relations are not represented in formal grammar, but there are perhaps none that actually do, as I will demonstrate for the most part in the appendix to this paper. There I argue against hybrid approaches like those of Grodzinsky and Reinhart (1993), Fox (1998, 2000) and Buring (2005a,b) and Reinhart (2006) which claim to treat indices as unnecessary except as dispensable markers of bound readings, but then appeal to covaluation or coreference (implicitly if not explicitly) for at least one special case. I also reject dual indexing systems like that of Fiengo and May (1994) and full symmetric indexing approaches, such as that sketched (and rejected) in Buring (2005a), an indexing system most akin to Chomsky's simplified indexing approach of (1981), augmented by a semantic treatment of bound variable representations developed from work by Heim and Kratzer (1998). Except for Grodzinsky and Reinhart (1993), which I address directly in the body of the paper, most of these comparisons I also reserve for the appendix or the notes, after I have defended the view that only dependency relations are represented in grammar, following in the tradition of Evans (1980) and especially Higginbotham (1983).

In the body of this paper, I argue that symmetric indexing should be rejected not just on the grounds of semantic parsimony (too many possible relations are allowed, see, e.g., Safir, 2004b:14-17, with respect to an indexing proposal by Fiengo and May, 1994) and syntactic parsimony (Chomsky's, 1995, *Inclusiveness* would have to be violated, see, e.g., Safir, 2004a:43-45),[Note N2] which are points that have been made in the literature, but more specifically on empirical grounds having to do with the distribution of strict readings for VP ellipsis. I demonstrate that solutions to the difference between strict and sloppy readings in ellipsis contexts should not rely on a difference in the way VP antecedents are represented, as most approaches do, but rather to a difference in the way antecedents are linked to the antecedent VP. This carries with it the further consequence that the design of grammar does indeed generally favor bound readings over other coconstruals, as originally proposed by Grodzinsky and Reinhart (1993), and in slightly different forms in Reuland (2001) and Safir (2004a,b),

contra Reinhart (2006).

1.0 Strict readings: The usual story

Over the last 30 years, VP ellipsis and ellipsis of other sorts have come to play an important role in theories of interpretation, precisely because native speakers can predictably interpret the absence of phonetic content in VP ellipsis contexts in some ways and not in others. The standard observation about sentences like (1b) is that the elided VP in the second conjunct can only be interpreted to mean (1b), and indeed it is suggested that (1a) is derived from (1b) syntactically or semantically.

1a) Gina loves George Bush and Joe does too.

b) Gina loves George Bush and Joe loves George Bush too.

The basic intuition is that in the absence of a VP (which we will call VPe), we fill in or elide from a fuller representation where the same VP or a VP meaning the same thing (the “antecedent VP, or VPa) is represented. A further distinction that has been known at least since the John Ross pointed it out in the sixties is that sentences where the VPa contains a pronoun coconstrued with something outside VPa (marked here with italics) permit two possible interpretations for the VPe. One interpretation, the “strict reading” that is ‘filled in’ in (2a), is quite similar to what we see in (1b): Whatever the pronoun refers to in VPa, it refers to in VPe, so if *his mother* refers to Larry’s mother in VPa, it does so in VPe as well.

2) *Larry* loves *his* mother and Louis does too.

a) *Larry* loves *his* mother and Louis loves Larry’s mother too. (Strict reading)

b) *Larry* loves *his* mother and **Louis** loves **his** mother too. (Sloppy reading)

The “sloppy reading” represented in (2b), where *his*=*Louis*, is only possible if VPa contains a pronoun that is anteceded in the first conjunct by something outside of VPa and the VPe preserves the same *sort* of relationship. Perhaps because the striking fact about sentences like (2) is that suddenly more than just one interpretation is possible, and that, moreover, the strict reading is just the same one we get for examples like (1b), most of the attention that has been paid to VP ellipsis interpretations for examples like (2) has focused on sloppy readings, rather than strict ones. As a result, a number of properties of strict readings have been taken for granted.[Note N3]

For example, it is usually claimed that the sloppy reading is modeled on a bound variable interpretation for the pronoun in VPa, but the strict reading is modeled on a “referential” or “coreferential” interpretation for the pronoun in VPa (particular versions of this view are addressed in section 3.1 and the appendix). It is easy to see where this idea comes from in light of (1b). After all, it is plausible to take the occurrence of *his* in (2) to be just a stand-in for the name *Larry* in (2), in which case the pronoun in (2) refers to Larry, just as George Bush has a referent in (1a) that is preserved in (1b). On this way of looking at things, the strict reading must come about by some means we must posit anyway for cases like (1a), where the reference is copied along with everything else in VPa except the subject (which may be thought of as focused).[Note N4]

The sloppy reading appears to be what we need to say something slightly novel about, in that everything is held constant except the focused antecedent *and* the pronominal variable it binds. Reinforcing the notion that the sloppy reading is the one with special properties is the contrast between (2) and (3), where (3a) is the logical form for (3), and not (3b).

- 3) Every monkey loves its mother and every elephant does too
 a) Ax, monkey x (x loves x's mother) & Ay, elephant y (y loves y's mother)
 b) Ax, monkey x (x loves x's mother) & Ay, elephant y (y loves x's mother)

On most accounts, the reason that (3) cannot mean (3b) is that the pronoun bound as a variable by *every monkey* in VP_a is not referential, so no referential index for it can be copied (e.g., Grodzinsky and Reinhart, 1993). Therefore only a bound interpretation for (3) is possible, where the binder is *every elephant*. The sloppy reading, however it is licensed for (2), is thus the only option available for (3).

My strategy for building an account of the way these two readings emerge is to analyze the basic relations from which the readings that arise are constructed. In particular, I shall focus on the difference between operator-variable relations and dependency on a singular term, and on the way the latter sort of relation can extend intersententially, even when scope does not. Neither operator-variable relations nor dependency on a singular term are coreference relations or symmetric relations. Thus I begin by laying out my objections to the view that the strict reading is necessarily derived from symmetric referential covaluation with a parallel antecedent.

2.0 Antecedents for strict readings

I have given two reasons why strict readings might be regarded to be instances where *his* in (2) is taken to be in a coreferential relation with the corresponding (possessor) position in VP_e, as in (2a). One is that the distinction between coreferential and bound interpretations is available for free, a claim that depends on whether there are any other coreferential relations that have to be notated in syntax. I do not believe that there is any independent evidence for grammar-enforced coreferential interpretations outside of ellipsis (a matter addressed in section 2.1), and if this is so, then the case for coreference in grammar turns more on the second argument.

The second argument for treating strict readings as referential copying from VP_a is the claim that quantifier-bound pronouns in VP_a can't possibly receive strict readings in VP_e because variables bound by quantifiers are not referential. An alternative account jumps out at once with a moment's glance at (3b); The strict reading fails because the pronoun to be interpreted as a variable in VP_e is not in the scope of the quantifier phrase *every monkey*. The question is, why can't (3b') be a possible interpretation for (3)?

- 3b') Ax, monkey x ((x loves x's mother) & Ay, elephant y (y loves x's mother))

The usual answer, and certainly the correct one, is that the scope of *every monkey* is limited to the antecedent clause even when ellipsis is not at issue, as we can easily see for (4) and (5).

- 4)**Every monkey* loves *its* mother and Mary feeds *him*.

- 5) Every monkey eats nuts and Mary likes some elephant.

In the case of (4), a pronoun cannot be bound in the second sentential conjunct by a quantifier that is in the first conjunct. Besides bound variable readings, the existence of scope interaction is another way of determining when a particular scope is available. In (5), there is simply no scopal interaction between the quantifier in the first conjunct and the quantifier in the second such that there is an interpretation for which the truth of (5) requires that for every monkey that eats nuts there is some elephant that Mary likes.

If the failure of the strict reading in (3) is only due to the fact that the pronoun in VP_e would not be in the scope of the quantifier that must bind it, then it ought to be possible to

construct cases where this problem is overcome. Consider the ellipsis example in (6) (which is similar in essential respects to examples with *only* pointed out by Heim, 1993), [Note N5] where the context permits a strict reading (the presence of *that* insures that the ellipsis site is in the parallel subordinate clause).

- 6) *Everyone* thinks that *he* loves *his* pet and that St. Francis does too
- a) SLOPPY: Every x , x a person (x thinks that (St. Francis y (y loves y 's pet)))
 - b) STRICT: Every x , x a person (x thinks that St. Francis loves x 's pet)

Both readings are available here, but the strict reading is clearly not a *referential* reading under any common interpretation of the term *referential*. [Note N6] Thus strict readings with quantifier-bound antecedents are possible as long as the scope of the binding quantifier also includes the strictly interpreted ellipsis site (see the Scope Condition in section 3). [Note N7]

It is important to note, however, that quantifier-bound strict readings are not possible across discourse, presumably because the scope of *everyone* is sentence bound, as illustrated in (7).

- 7) A: *Everyone* thinks that *he* loves *his* mother.
B: Not so, John doesn't.

While (7) has both matrix and subordinate sloppy readings such that (*John* does not think that) *he* loves *his* mother, there is no reading where either *he* or *his* in VP_e could be a variable bound by *everyone*. Thus the mystery of how strict readings arise is deeper than referential copying, and yet there is a cross-sentential relation between the antecedent in VP_a and the pronoun in VP_e that can only be variable binding in cases like (6), not those in (7).

2.1 Antecedency Relations in VP_a

If we were only to look at (6), we might conclude that strict readings are *only* constructed on the basis of parallelism with a *bound* pronoun in VP_a. It is time to go further against the grain. I contend that whenever a strict and sloppy reading are both available, the strict reading is *always* built off of the same VP_a interpretation that antecedes the sloppy interpretation. The difference between the interpretations for VP_e arise not because VP_e accesses different versions of VP_a, but rather because VP_e interpretation can be constructed from the VP_a antecedent in more than one way.

This view directly confronts that of Grodzinsky and Reinhart (1993) (and, for that matter, Reinhart, 2006, as addressed in the appendix) who explicitly assume that the strict reading accesses a VP_a that has the pronoun coreferent with its antecedent, whereas the sloppy reading accesses a VP_a that has bound relations between the pronoun and its antecedent in VP_a. Moreover, in the semantic treatment of ellipsis formulated by Heim and Kratzer (1998), it is not possible to get a strict reading for VP_e if VP_e is modeled on a VP_a in which a pronoun is bound to the focus (by λ -abstraction) from which VP_e is calculated.

Such approaches also lack an account of how a strict reading could arise for VP_e in cases where reflexives bound to the focus in VP_a permit strict readings, [Note N8] which is an interpretation which can be made more accessible under certain circumstances. [Note N9]

- 8a) Bush considers himself above the law, but we don't.
b) Congressmen have been known to pay themselves more liberally than most voters would.
c) Attorney Shaw had to represent himself, since no other competent lawyer was willing to.
d) Cara criticized herself harshly for this, but no one who knows her circumstances would.

e) Pruitt promotes himself as efficiently as any agent could. Insofar as (8a-e) all allow strict readings derived from a VP_a with the reflexive bound to the focus,[Note N10] it should not be built into principles of semantic interpretation that a strict reading should be unavailable for VP_e. This conclusion is only bolstered by cases like (6).[Note N11]

2.2 Proxy readings, dependency, and strict readings

To properly present the next bit of evidence that strict readings of VP_e are built from bound pronoun antecedents in VP_a, I have to put some of my cards on the table. The essence of the approach I will defend here, to be made somewhat more explicit in section 3, is that the pronoun in VP_a is the direct antecedent to the pronoun in VP_e in the sense that the latter is *identity dependent* on the former as a means of satisfying the parallelism requirement matching VP_a with VP_e - there is no appeal to a relation of coreference or symmetric covaluation of the VP_e pronoun with the pronoun in VP_a. For this to be possible, dependent identity readings have to hold where c-command does not (as will be explained in section 3), and quantifier-bound dependent identity relations will have to be distinguished from identity relations that are still dependent but that are not quantifier-bound (hence not conditioned by scope). Once the role of c-command and scope is clarified, it will be possible to maintain the simple view that the value of a nominal in any VP_e is *directly dependent* on its overt parallel counterpart antecedent in VP_a. This direct dependency relation replaces the role of coreference in the account of strict readings and one immediate advantage is that it generalizes across (1a) *and* (6a) (the St. Francis sentence), whereas the coreference account does not.

For the account I propose to succeed, it must be the case that quantifier-bound dependent identity relations are a proper subset dependent identity relations. An opponent of this view might argue, at least with respect to (8a-e), that reflexive morphology is dependent, but the interpretation of the pronoun is not - it is just coreference. The next argument is directed against this objection and is also presented as a means of demonstrating the existence of bound readings that are not restricted by the Scope Principle.

Suppose Lenin were walking through a statue factory and tripped and fell across a fallen statue of him, one could say, perhaps somewhat tongue in cheek, that *Lenin fell across himself*, as in (9). This case, and many others discussed in Safir (2004a:112-114) and (2005:156-159) (based on the initial insights of Jackendoff, 1992), indicate that the identity relation enforced by the reflexive is not coreference, since the subject *Lenin* and the object *himself* are not even coextensive, but the statue is a kind of *proxy* identity for the person, Lenin. Surely, our anaphora theory must allow that *himself* in this context acts as a syntactic anaphor in that it behaves according to Principle A or its analogs, so whatever this relation is, it is anaphora and it is not coreference. However, if a statue of Lenin were tipped over and crushed Lenin the person, this cannot be described as in (9a). Moreover, *David* understood as 'the statue of David' cannot be the antecedent of the person 'David' in the syntactic form of the pronoun *he* in (9b)

9a) *Lenin* fell across *himself*

(Comrade Lenin falls across his statue - OK)

(Statue of Lenin falls across Comrade Lenin - *)

b) In Michelangelo's time, *David* indicated how handsome *he* was thought to be.

(*...the statue of David indicated how handsome the person David was thought to be.)

Similarly, in (10a) *himself* refers to Yeats' poetry, but (10b) cannot mean that Yeats' poetry embarrasses Yeats.[Note N12]

10a) *Yeats* prefers to read *himself* in German

b) *Yeats/he* embarrasses *himself* (*Yeats' poetry embarrasses Yeats)

c) *Yeats* thinks *he* reads better in Swahili. (*he*=*his poetry*)

For reasons such as these, I proposed (11).

11) A proxy reading depends on what it is a proxy of (and not vice-versa).

This means that the proxy is susceptible to the Independence Principle (to be introduced in 3.0) which will then require that the proxy cannot c-command what it depends on (ruling out the starred interpretations of (9a,b) and (10b)).

Now notice that proxy readings participate in both strict and sloppy readings, as in (12). The strict reading of (12a) is one where Lord Dunsany is less likely to read Yeats's work in German than Yeats is and the strict reading in (12b) is the one where I knew in advance that Castro's statue would be dressed in a uniform.

12a) Yeats is more likely to read himself in German than Lord Dunsany is.

b) As we strolled into the wax museum to see our new effigies, Castro did not know he would be dressed in a uniform, but I did.

Both the strict and sloppy reading must be built from a representation of the proxy reading wherein *himself* depends on *Yeats* in (13a) (semantically, given (11), as well as morphologically) and where *himself* depends on *I* in (13b). Notice, moreover, that proxy dependency is not a quantificational dependency, that is to say, it is not a case where the scope of quantification plays any role.

13a) Yeats prefers to read himself in German, just as Lord Dunsany does.

b) Each poet prefers to read himself in German, just as Lord Dunsany does

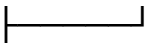
While (13a) permits a reading where Lord Dunsany reads Lord Dunsany in German (sloppy) and one where Lord Dunsany reads Yeats in German (strict), (13b) permits only the sloppy reading, where Lord Dunsany reads his own poetry, but not a strict reading where Lord Dunsany prefers to read the work of each poet in German.

If this analysis is correct, then proxy readings are dependent identity readings, they are not quantificational readings, and strict and sloppy proxy readings must be built from VP's that contain proxy dependencies. Thus there are non-quantificational bound readings that reveal asymmetries that are subject to the Independence Principle (simplified, x cannot depend on y if x c-commands y). The existence of nonquantificational bound readings that permit strict readings under ellipsis argues that the dependent identity relation is always asymmetric, and that any theory that treats coindexation to capture proxy readings as a form of coreference or symmetric covaluation is doomed to failure. Indeed, there is no need for indices to be part of syntactic theory at all, unless they exclusively represent asymmetric dependencies.

3.0 The Distribution of Dependent Identity Readings

Let us assume that when A depends on B it means that the value of A is a function of the value of B, and if the dependency involves some notion of identity between predicate arguments, then A is *identity dependent* on B (where proxy readings are a special case of this).[Note N13]. The identity dependency relation holds between an anaphor and its antecedent in cases like *John loves himself*, or in cases like *John thinks he is smart*. [Note N14] Following a tradition that goes


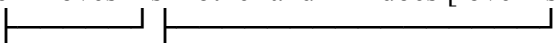
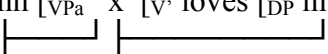
back to Evans (1980) and particularly Higginbotham (1983), I will represent dependency (when I am being more explicit) with dependency arrows. In what follows, “┘” is the ‘hook’ that indicates a form is dependent, and the anchor “└” is the antecedent connected to the dependent by a line, as in (14), where *his* is identity dependent on *John*.

14) *John* loves *his* mother


The dependency relation, then, does not have to involve a quantificational antecedent, and however such relations are instantiated semantically (a very serious issue I only indirectly address), I presume that the technology can express the asymmetry intended. Insofar as I am about to show that dependent identity is the only form of identity that is required to capture strict readings, perhaps the last utility of referential indices has now been replaced by the independently necessary asymmetric dependent identity arrows.

So now we are assuming that the identity dependent relation instantiates bound readings when the antecedent is a name or something with the referential character of a name, and that the identity dependent relation also instantiates the bound variable interpretation when the antecedent of the dependency relation is the variable of a quantifier. What unites these two cases is the assumption that the antecedent of the dependent identity relation, a name or variable, is always a singular term, a matter of some significance I will return to shortly. [Note N15]

As established in the last section, both strict readings and sloppy readings for VPe are derived from bound variable relations in VP_a. If we assume that sloppy readings somehow copy the pattern of dependencies, a generous assumption to which we will return, then what is the mechanism by which a pronoun in VPe can be interpreted as matching the parallel pronoun in VP_a? The most parsimonious way to achieve this would be to employ mechanisms that are already available. A pronoun in VPe parallel to one in VP_a is either dependent within its clause (the one containing VPe) in the same way its counterpart (in VP_a) is dependent within its clause (for the sloppy reading as in (15a)), or else the pronoun of VPe can be dependent on its counterpart in VP_a (for the strict reading, as in (15b)).

15a) *John* loves *his* mother and *Bill* does [love *his* mother] too

 b) *John* loves *his* mother and *Bill* does [love *his* mother] too

 c) [IP *John* [VP_a x [V' loves [DP *his* mother]]]


Notice that for both readings, the dependent pronouns in VPe are dependent on singular terms. For the sloppy reading in (15a), the pronoun of VPe is identity dependent on the variable left by the subject in VP_a, assuming the model for VP_a in (15c) based on the VP-internal subject hypothesis (as also assumed by Heim and Kratzer). For the strict reading in (15b), the parallel pronoun *his* in VPe is directly dependent on the pronoun it is parallel to in VP_a. However, for the strict reading to come about by dependence on a pronoun in a previous sentence, we must posit a role for dependent identity across sentences.

3.1 C-command and bound variables

Lasnik’s (1976) noncoreference principle, which in a slightly revised form became

Principle C of Chomsky's (1981) binding theory, requires that anything other than pronominals and anaphors (like reflexives) must not be c-commanded by a coreferent nominal. However, this view of noncoreference was challenged by Evans (1980), Reinhart (1983) and Higginbotham (1983) on the grounds that coreference can be achieved even though *bound* reference is blocked in these contexts. Grodzinsky and Reinhart (1993) introduced their Rule I in an attempt to derive Principle C effects from an independently necessary condition on bound variable interpretations for pronouns (16) (see Lasnik, 1989:103-4), on the one hand, and a pragmatic preference for using bound anaphora as the unmarked method to achieve coconstrual wherever possible (17).

16) Bound Variable Licensing: A pronoun *x* can be bound as a variable if it is c-commanded by its antecedent.

17) 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. (Reinhart and Grodzinsky, 1993:79)

In other words, wherever a bound variable interpretation of a pronoun (also assumed by Reinhart, 1983 to be available when the binder is not a quantifier) is possible by (16), then using a name or an unbound pronoun to achieve coconstrual in the position of the pronoun is blocked by Rule I (and the accompanying variable translation rule, which I have omitted), unless something more, or something other than a bound interpretation was intended.

18a) *Every man/John* said that *he* was smart.

b) *He* said that *he/*John* was smart

In (18a), the *he* after *that* can be a bound variable of the matrix subject, thanks to (16), and in (18b), the *he* after *that* can be a bound variable of the matrix *he* too, but since names are not variables and coreference is intended, the name *John* cannot be used to achieve coreference if a pronoun could support a bound variable with the same meaning in the same position. Thus (18b) with *John* is excluded by Rule I where coreference with the matrix *he* is intended. Rule I was intended to replace Binding Principle C, which treated the 'Principle C effect' as simply prohibited coreference, and in this respect it was a notable improvement.

In Safir (2004a,b), I rejected Rule I for two key reasons. The first is that it is based on (16), which is not empirically accurate, and the second reason is that failure of a dependent reading does not always induce a Principle C effect, or the "expectation of noncoconstrual", as I put it in the reference cited.

Evidence that bound variable interpretations are sensitive to scope, rather than just c-command by the position of the quantified phrase on the surface, were already well-known (some were even pointed out by Reinhart herself). Here are two such cases that remain problematic for (16). (Examples like (20a) are originally due to May (1978) and examples similar to those presented in (19) are also reported by Rooth (1992) and by Fiengo and May (1994:156))

19a) *Everyone's* mother believes in *his* innocence, but no one's lawyer does.

b) The girls are so different. *Alice's* mother can trust *her*, but Jane's mother can't.

20a) Commuters in *every Chinese city* dread *its* traffic jams and commuters in every German city do too.

b) Having an efficient subway system in a city makes a huge difference.

Commuters in *Beijing* fight *its* traffic every day, but commuters in Berlin don't have to.

21a) Every boy's mother loves three celebrities.

b) Two bureaucrats in every city appointed three deputies.

Both (19) and (20) include cases where VP_a supports a bound reading as evidenced by the possibility of a sloppy reading for VP_e, whereas (21a,b) show that the positions of the quantifier

and the pronouns in (19) and (20), respectively, permit quantifiers in those position to scopally interact, since these sentences permit wide scope of the universal over *three x* as well as wide scope of *three x* over the universal.[Note N16] This suggests that the right generalization for bound variable licensing has crucially to do with scope (a condition that seems inescapable for any quantified bound variable reading).

22) Scope Condition: A pronoun *x* can be interpreted as a variable of a quantified expression *Q* iff *x* is in the scope of *Q*.

If scope is achieved by quantifier raising, as proposed by Chomsky (1976) and May (1978), then the scope of an expression is what it c-commands at LF. However, this does not make sense for (19b) and (20b) unless either names are treated as a special quantifier class not subject to (22), or there is a bound relation independent of quantification, but one that is further restricted by (22) when the antecedent just happens to be the variable of a scopal operator (quantified phrase). I will explore the latter option.

Now let us return to (19) and (20), the counterexamples to the c-command licensing condition in (16). To permit bound readings of this type we must abandon (16), a *licensing* condition on bound readings, for (23), a *restriction* on bound readings. [Note N17]

23) The Independence Principle: *X* cannot depend on *Y* if *X* c-commands *Y* or *Z* dominates *X* and *Z* c-commands *Y*.

Thus the pronoun *he* cannot depend on any nominal it c-commands in (24a,b) and *his* cannot depend on any nominal in (24c,d) c-commanded by the (maximal) nominal containing *his*.

24a)**He* cannot trust *Milt's/everyone's* mom.

b) *He* cannot trust *his* mom.

c)**His* mom cannot trust *everyone*

d) *His* mom cannot trust *Milt* (to do the right thing).

e) *His* mom cannot trust *him*

f) *John's* mom cannot trust *him*.

The Independence Principle predicts that *he* cannot depend on *Milt* or the trace of *everyone* at LF in (24a), but it does not predict that *he* and *Milt* should not be expected to be coconstrued. The principle replacing Principle C (and Principle B) in my theory (the Form-to-Interpretation Principle, or FTIP), feeds a principle of Pragmatic Obviation that will insure that *Milt* is not expected to be coconstrued with *he* (that is FTIP and the Independence Principle overlap in this case, such that the FTIP effect disguises the role of the Independence Principle).[Note N18] In (24b) it is certainly possible for *his* to depend on *he*, but notice that it is not possible for *he* to depend on *his*. The fact that *he* cannot depend on *his* doesn't matter here because there is no presumption of non-coconstrual attached to the failure of a dependent reading under the Independence Principle (and there is no overlap here with FTIP). By contrast, (24c) is excluded because *his* is contained in *his mom* and *his mom* c-commands *everyone*, blocking dependent identity of the pronoun on the variable (for more discussion of weak crossover, see Safir, 2004b). The same is true of (24d), but the difference is that in (24d), even though *his* cannot depend on *Milt*, they can be optionally coconstrued *without* dependency (since only the Independence Principle is violated). On the other hand, (24e) is possible, even though *his* cannot depend on *him*, but because *him* can depend on *his* since *him* does not c-command *his*. In other words, there is a representation that permits *him* and *his* to be coconstrued in (24e) on this analysis. The same analysis that permits dependent identity for *him* in (24e) also permits it in (24f).

As I mentioned earlier, there were two reasons that I rejected Rule I, the first being that Rule I depends on (16), c-command licensing, and I have rejected (16) in favor of (23), the

Independence Principle. The second reason plays a lesser role here, but it concerns which principle is involved in blocking dependency. In (25a) and (26a), a quantifier binds a pronoun as a variable but the quantifier does not c-command the pronoun. If the bound variable reading is possible and coreference is intended, then (25b) and (26b) should be impossible with coconstrual under Grodzinsky and Reuland’s Rule I, but these examples are acceptable ((25b) improves with some stress on *some* or some stress on *in*). (For my own account of these matters see Safir, 2004a,b).

- 25a) I’m sure some people in every city think *it* is marvelous.
- b) I’m sure some people in it think *New York* is marvelous.
- 26a) *Everyone’s* mother insists *he’s* a genius.
- b) *His* mother insists *Marvin* is a genius.

Although I rejected Rule I in Safir (2004a,b), I did preserve a principle that was inspired by Rule I, and it is (re-)stated here in (27) as a restriction on pronouns (compare Safir, 2004b:47).

27) Preferred Covaluation: Covaluation of pronouns arises from dependent identity unless dependency is unavailable.

Preferred Covaluation (or more generally, coconstrual) has the intuitive force of an attempt to treat pronouns as dependent on previous mention unless that is not structurally possible (due to FTIP or the Independence Principle).

Now reconsider the sorts of VP_a that lead to a strict/sloppy ambiguity.

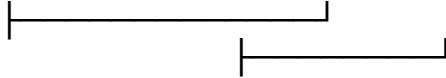
- 15a) *John* loves *his* mother and **Bill** does [love *his* mother] too
- b) John loves his mother and Bill does [love his mother] too
- c) [_{IP} John [_{VP_a} x [_{V'} loves [_{DP} his mother]]]

For familiar examples like (15) (both for Grodzinsky and Reinhart and for me), this means that the only way for a pronoun in VP_a to be interpreted is as coconstrued with the focus of VP_a is if the pronoun has a bound reading, unless we are to assume that there is some special attempt to signal a reading that his not bound. However, no special focus or intonation is necessary for VP_a in (15c), and indeed VP_a is not pronounced differently in order to signal a strict or sloppy interpretation for VP_e. In other words, given Preferred Covaluation in (27), the strict reading that is possible for (15b) *must* be built off of a VP_a in which the pronoun *his* is bound to the focus as in (15c), or else covaluation between *John* and *his* in VP_a has to have been unexpected, contrary to fact. In other words, the account given by Grodzinsky and Reinhart that posited a VP_a with only a coreference relationship contravened their own theory (as noted in Safir, 2004a:46). Reinhart (2006) revises Rule I, rejecting the intuition instantiated by (27), to permit the two VP_a’s required by the Grodzinsky and Reinhart analysis (see the appendix to this paper), thereby systematically doubling representational options for coconstrual - a step backward, I will argue. Thus in theories with (27) or something that entails (27) (like Rule I), (15b) is another case, like the reflexive cases in (8), the proxy cases, and the St. Francis cases in (6), where a strict reading is built from a VP_a which contains not just a pronoun coconstrued with the focus, but a pronoun that is *bound* by (i.e., is identity dependent on) the focus.

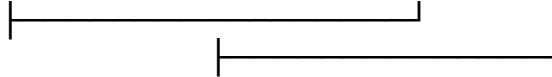
3.2 Intersentential anaphora and strict readings

From the perspective of 3.1, dependency is possible whenever it is not ruled out. The only conditions ruling out dependency so far are the Independence Principle and the successor to Principle C and Rule I, namely, the FTIP. Both of these are c-command sensitive and do not restrict readings between positions for which no c-command relation holds. Thus relations like those in (28) are typical.

28a) *Joseph* spoke to *Pharaoh*. *He* said *his* grain would not last through the drought.



b) A: Did *Joseph* speak to *Pharaoh*? B: Yes, *He* said *his* grain would not last the year.



Insofar as I am committed to the representation in (28a), I am also committed to the same representation for (28b), where Speaker B's pronoun depends on names in Speaker A's utterance. This introduces nothing new into the theory, however, since it has always been assumed that elided VP's get their antecedents from discourse, including the utterance of some other person in the discourse. If some relation that must be established across discourse to account for how the content of VPe is recovered, then speaker B of (29) must have a mental representation that models that discourse, including A's remarks, and that representation must be accessible for the determination of dependencies. Moreover, speaker B must produce an utterance that permits speaker A to recover what B leaves out.[Note N19]

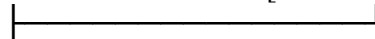
29) A: John left.

B: No, Mary did.

It should now be clear that moving away from bound variable licensing, as in Grodzinsky and Reinhart's theory (16), to the Independence Principle (23) has permitted us to characterize the strict reading as arising from a situation where the pronoun in VPe is directly dependent on the parallel singular term in VPa. The singular term in question is a pronoun bound as a variable in VPa by the focus contrasted just outside VPa (most typically, the subject of VPa), as we saw for (15b).

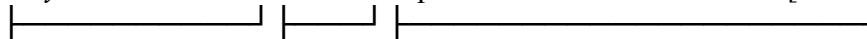
Now that the mechanism for strict interpretation has been introduced, we can return to examples like (1a), which were presented as the rationale for the notion that the strict reading is a referential one. With our revision that strict readings arise by virtue of dependency on a singular term in VPa, when names behave like names, as in (1a), then they will provide adequate antecedents for parallel pronouns in VPe.

30) Gina loves George Bush and Joe does [love him too] too.



Here I am assuming that the dependent form in VPe is a pronoun linked to *George Bush* (see note N10). The same dependency account is now available for the strict reading in (6) repeated here as (31) with dependency arrows.

31) *Everyone* thinks that *he* loves *his* pet and that St. Francis does [love *his* pet] too



For completeness's sake I add a restriction on dependency patterns to insure that bound interpretations are as local as possible. This restriction, introduced as Rule H by Fox (1998,2000) (originally based on a Principle B argument developed in Heim,1993),[Note N20] and extended somewhat in Safir (2004), insures that if there is a local c-commanding coconstructed antecedent,

it must be favored over one more distant.

32) Rule H: A pronoun, α , can depend on an antecedent, β , only if there is no closer antecedent, γ , such that it is possible for α to depend on γ and get the same interpretation.[Note N21]

This formulation of Rule H differs from Fox (2000:115) in that the language of dependency replaces *binding* (which relies on coindexing, regarded here, as in Safir, 2004b, as unnecessary - see note N20).

We see the effect of Rule H in (33), where it does not permit both *he* and *him* in (33) to depend directly on *Joseph*, as represented in (33b) (star from Rule H). Instead, only the sentence internal bound reading permitted by Rule H, represented in (33a), is permitted, but (33a) leads to a violation of whatever accounts for Principle B, as desired. Thus no dependent identity between *him* and *Joseph* is permitted.

33a) *Joseph* ran from Potiphar's wife. *He* could not protect *him*.

b) **Joseph* ran from Potiphar's wife. *He* could not protect *him*.

Insofar as Rule H and Preferred Covaluation have been independently motivated in the references cited, we need add nothing to our account of pronouns that is not already in the literature (see appendix, note A2). Indeed, a path to deriving Preferred Covaluation from the general organization of the grammar will be pointed to in the conclusion.

These considerations have at least two important consequences. First, typical accounts of assignment functions for pronouns should be revamped to reflect conditioning by Preferred Covaluation and Rule H. This could be achieved by assuming all pronouns are assigned bound interpretations unless an antecedent is not available. If no antecedent is available, pronoun assignment proceeds according to Deictic Closure, which has an implicit or explicit counterpart in every theory.

34) Deictic Closure: Unbound pronouns are assigned an arbitrary value not already assigned.. Deictic Closure, since it applies when a linguistic antecedent to satisfy Preferred Covaluation is not found, results in the presupposition of a non-linguistic antecedent (compensated for by pointing, salient circumstances and the like). This is different from typical assignment function accounts (e.g., Heim and Kratzer, 1998), which permit the possibility that an index assigned to a pronoun might happen to match one in the discourse without added restrictions on such a match. Thus Preferred Covaluation, Rule H, and Deictic Closure can be thought of as restrictions on assignment functions for pronouns.

Ellipsis interpretation for VP_e when VP_a contains a deictically closed pronoun is straightforward. *Him* of VP_e is dependent on a singular term in VP_a, namely, a pronoun that has been deictically closed. (Imagine Sam talking to Phil about the beggar in front of the café door that they see, but have not mentioned before, as their friends walk in one after the other).

35) Mary avoided *him* and Bill did [avoid *him*] too

Deictic pronouns are relatively rare on this account, since they are the residue of pronouns not fixed by dependency relations to their antecedents. In the most limited sense of the “strict reading” for ellipsis, these cases do not qualify as strict readings (the antecedent pronoun in VP_a is not bound to the focus of VP_a), even though they involve the same mechanism - dependency on a singular term in a parallel position in VP_a.

4.0 Sense identity readings

As pointed out in the last section, the strict reading is just an instance where a value for a pronoun in VPe is dependent on a parallel nominal in VP_a. Let's call this relation the *parallel value reading*, of which (1), where no pronoun is bound to the focus of VP_a, and the strict reading are just special cases. In this section I explore how the sloppy reading is also a special case of a more general reading, a *parallel relation reading*, that might also involve cases where there is no pronoun bound to focus.

Consider sentences like (36), which have what I will call a *sense-identity* reading (examples of this sort were originally pointed out by Grinder and Postal, 1971).

36a) Mavis loves many people and Malva does too.

b) Mavis loves many people and Malva loves many people too.

If we treat *many people* as a quantified phrase, as would seem inevitable, and if QR is the method by which such QP's are moved to leave traces interpreted as variables, then what appears to be going on is that there are two separate operator binding relationships, one in VP_a and one in VPe, and that the operator-variable relation in VP_a serves as a model for the quantifier-variable relation in VPe, as illustrated in (37).

37a) [_{IP} *many people* *x* [_{IP} Mavis [_{VP_a} loves *x*]]] and
[_{IP} *many people* *y* [_{IP} Malva does [_{VP_e} love *y*]]]

In other words, the sense-identity reading is one of parallel, sense-identical, but independent variable binding. It would appear that we would need exactly this analysis for similar sentences that have overt movement. [Note N22]

38a) I know which people Mavis loves, as well as which people Malva does

b) I know [[_{IP} *which people* *x* [_{IP} Mavis [_{VP_a} loves *x*]]] as well as
[_{IP} *which people* *w* [_{IP} Malva [_{VP_e} loves *w*]]]]

Sense-identity readings arise for VPe as part of the de-accented material that forms the background context for focus on something else (see, for example, Fox, 2000:90, and references cited there). In such theories, *Mavis* and *Malva* are in a contrast in (36), (37) and (38), a contrast that some have called focus, and what is elided in (36a) or de-accented in (36b) is what is not contrasted, namely, *loves many people*. The non-contrasted material is typically treated as somehow identical between the VPe and the VP_a, but there is more to the identity required than meets the eye, as some further cases of sense-identity readings will serve to show.

[Note N23]

Sense identity readings are not restricted to conventional quantifier cases. Consider the name *George Bush*, which we used as an example of a parallel value reading in cases like (1b). With the right sort of context, even *George Bush* can receive a sense-identity reading:

39a) Gina and Joe have something in common: Gina followed George Bush to war and Joe did [_{VP_e} *e*] too, but they didn't follow the same George Bush.

b) Gina followed a George Bush to war and Joe followed a George Bush to war, but they did not follow the same George Bush.

The parallelism required by ellipsis in (39a) is like that for parallel indefinite descriptions that *do not have the same referent* (although what is perhaps closer to going on in (39a) is that the choice of *George Bush* is unique when indexed to a temporal context). It is possible that one could analyze cases like (39a) as special instances where a name is treated as a quantifier, but

however it is done, what is preserved is a parallel relation reading, not a parallel value reading.

Another sort of case involves ellipsis contexts where reversals of conversational exchange values for pronouns (utterer/addressee relations) are possible. The following examples are from Chung (2000), where a short summary of the effect can be found.

40a) Jack: I don't want to be divorced from you.

Jill: Well, I do [want to be divorced from you]

b) Jill: For instance, I would be reluctant to criticize you in public

Jane: I wouldn't be [reluctant to criticize you in public]

c) Jack: You pushed me first!

Mike: No, you did [push me first]

d) Jane: I'll negotiate with you.

Jill: Okay, I will [negotiate with you], too

e) Jack: I love you.

Jill: I do ??[love you] too

In these cases, it would appear that the addressee designation of VP_a is preserved for VP_e even at the price of introducing a mismatch of referents between VP_a and VP_e. These cases contrast with strict readings for 1st and 2nd person pronouns that have been reported by many others whom Chung cites.

41a) Jill: Have you answered my message?

Jack: No, I haven't __.

(a) [answered your message]

b) Jane: I really appreciate you.

Jill: You do __?

(a) [appreciate me]

c) Mike: I thought you'd be elected.

Jack: Yes, I believe you did __.

(a) [think I'd be elected]

While the readings available for (41) are strict readings, where differences in person are suppressed to achieve the relevant interpretations in VP_e. The readings available in (40) correspond to neither a strict nor a sloppy reading for the ellipsis, since there is no pronoun bound to the focus. [Note N24] Rather the readings in (40) can be treated as sense-identity readings, if we take "addressee" to be part of the sense of the 2nd person pronoun. In other words, what is preserved by parallelism in these cases is the sense-identity reading, such that each speaker's 2nd person or 1st person retains its utterer-determined sense, but not its referential value on the first speaker's occasion of use. (These cases appear to provide further evidence for the theory of vehicle change, where in this case the pronoun of VP_e takes on a different set of values that conversational exchange reversal requires of it).

Normally, it is not assumed that pronouns have senses, but are simply entities with values determined by their antecedents (or Deictic Closure). Indeed the assignment functions of Heim and Kratzer (1998) do not assign indices to any form with semantic content (they abstract away from gender presuppositions). Sometimes, it is argued that because 1st and 2nd person pronouns have some sense, they do not act as bound variables, but by now it is clear that such forms permit bound variable readings ((42a) from similar examples in Heim, 1993 and (42b) from Safir, 2004c:110)

42a) Only I think I am smart

b) If I were any one of you, I would think I was smart

Insofar as 1st and 2nd person pronouns do not require antecedents in a discourse in order to identify the conversational participant they refer to, they never require Deictic Closure in the way that third person pronouns do. Perhaps any form that is neither dependent on an antecedent nor ever in need of Deictic Closure can qualify as having a sense, or at least can have a sense identity reading, as in the cases Chung reports. The existence of the relevant readings for (40) now follows - the conversational role of speaker or of addressee are preserved under parallelism, and these preserved person features just happen to have different referential values in the mouths of different speakers. One way to achieve this is to assume that 1st and 2nd person are operator-bound pronouns, and although it is not the only way to achieve a result here, it is one mechanism that is consistent with my analysis. The variable-binding mechanism is illustrated for (40c) in (43).

43) Jack: [IP 1st x [IP you [VP_a pushed x first]]]

Mike: No, [IP 1st z [IP you [VP_e push z first]]]

Notice that the contrast in this sentence is on the focused subject, hence the *you* of Jack's utterance is contrasted with the *you* of Mike's utterance, but the object of *push* in both utterances is bound not by the pronoun *me*, but by the 1st person sense, and so a sense-identity interpretation is possible. The referential value for the 1st person of Jack's utterance is different from the 1st person of Mike's utterance on account of the sense identity reading, not on account of focus contrast (or alternatives).

I suspect that ascribing a sense to 1st and 2nd person pronouns is probably at best only marginally achieved for many speakers, and it may be for this reason that the sense identity reading for these pronouns sounds a bit strained to many ears (it sounds self-consciously 'cute' to me). Also enabling the sense-identity reading is the fact that the foci contrast only if the speaker's *you* has a different referent in their respective mouths, and that will only be true under the reversal of roles that extends to the object of push in (43). Nonetheless, to the extent that 1st and 2nd person pronouns have a sense, a sense identity reading is predicted for them.

The conversational exchange reversal cases are thus another example of a sense identity reading, and further evidence that sense-identity readings are a subcase of parallel relation readings, just as sloppy readings are.

4.1 Sense-identity readings vs. strict ones: English generic *One* in elided contexts

From this perspective, it is possible now to account for another sort sense-identity reading, one that could be mistaken for a strict one.

44) One must praise one's children when others won't

a) Other x don't praise x's children

b) Other x don't praise one's children

While (44a) clearly permits a bound (sloppy) reading, the question that arises is whether or not a strict reading can be distinguished from a sense-identity reading for (44b). I will argue that there is no strict reading here because the pronoun *one* must be a quantifier-bound variable, and scope of the quantifier that binds it does not extend across sentences. Rather, the reading that is available is much like that for *many people* in (5). There are, however, several complications that arise with this particular pronoun, English generic *one* (EG *one*), and a bit of explication concerning EG *one* is in order (see Safir, 2005 and Moltmann, 2006, for discussion)

First of all, notice that EG *one* is a singular 3rd person pronoun (in terms of its subject-

verb agreement properties and number concord). However, if this were all one had to say about it, then (44) should be as uncomplicated as (45) with respect to ellipsis.

45) *He* must praise *his* children when others won't

a) Other x don't praise x's children.

b) Other x don't praise his children.

We take (45b) to be a strict reading, on the assumption (provisional, in certain ways) that 3rd person pronouns do not have a sense, or if they do, it is not one that can reverse the direction of a conversation. How is EG *one* different in this respect?

EG *one* has the peculiar property according to which B is necessarily contradicting A in (46), as long as A and B are in the same conversation. Imagine that the exchange in (46) arises after A and B have witnessed a situation in which X inadvertently bumped into Y, Y shoved X, and X shoved Y back.

46) A: One should be kind.

B: One should not be kind.

By contrast, under the same scenario, (47) permits a situation (perhaps with some ostension or contrasting stress on the pronouns) where A's 3rd person pronoun and B's 3rd person pronoun do not have the same value, such that A and B might actually agree on who should or should not be kind.

47) A: He should be kind.

B: He should not be kind.

EG *one* contrasts with simple 3rd person pronouns because EG *one* has an indexical quality, which includes not only the speaker, but the addressee (Safir, 2005), such that the normative ideal is an individual that both A and B can discuss in the abstract as person like those in the conversation. There is, in fact, there is no particular individual denoted by EG *one* [Note N25] and no deictic gesture is possible accompanying its use (as all other pronouns in English would permit), nor can EG *one* be used contrastively with another instance of EG *one* since they denote the same notion of an individual in the same way; A shift from one speaker to the next in the same conversation does not cause a shift in the normative ideal amongst conversational participants. Thus, within a conversation, EG *one* has a *constancy of value* across speakers, a value that only changes if the conversational participants change.

Although I have modeled the constancy of value effect for EG *one* in indexical terms, another method of preserving constancy of value across a discourse is to represent each occurrence of EG *one* in a discourse as a variable bound by a single intersentential operator. Besides the unparsimonious inclusion of quantifiers with scope beyond sentence grammar, the quantifier in question would presumably bind every instance of EG *one* in the same way. It does seem correct to say that EG *one* acts as a variable of some normative operator in each sentence where it appears, but this aspect of EG *one* interpretation seems clausebound, unlike the indexical part of its meaning.

To test the latter hypothesis, it is necessary to determine if the scope of EG *one* extends across sentences when it is interpreted in VPe. Consider the conversation in (48) and (49a) or (49b), and set aside the sloppy reading, which is available, though dispreferred, for both (49a,b) (where *someone else* must see to it that *their* guests are treated well).

48) A: One must see to it that one's guests are treated well.

49a) B: Yes, and whenever one can't be there, then someone else must [see to it that one's guests are treated well].

b) B:*Yes, and this Thursday at 3:00PM, someone else must [see to it that one's guests

are treated well].

At issue here is whether or not the reading where someone else sees to it that one's guests are treated well is available, and if so, what sort of reading it is, a strict reading or a sense-identity reading. While (49a) is acceptable with a non-sloppy reading ('non-sloppy' maintains neutrality as to whether the reading is strict or sense-identity), (49b) seems very strange with the non-sloppy reading. It would appear that (49b) is unacceptable with the non-sloppy reading because it is not a habitual or a generic context (rather it is a punctual moment in the past). This suggests that (49b) is unacceptable because it requires a generic bound variable interpretation which no operator from the first clause has scope over (just as we saw for (4)). However, if the strict reading does not license the acceptability of (49a), then it must be the sense-identity reading that succeeds. As long as VPe is in the scope of a generic operator (or an operator of the appropriate type to bind EG *one*), one that is at least parallel to the generic operator of the first clause, the non-sloppy reading succeeds.

I conclude from this that (49a) does not really have a strict reading along the lines of (6b), but rather it has a sense-identity reading. Recall that the sense-identity reading for *many people* in VPe did not require any match of value or quantity, but the sense-identity reading for EG *one*, does require an exact match of value. However, constancy of value holds of EG *one* outside of ellipsis contexts, and this masks the fact that the reading of (49a) is not a strict reading, but a sense-identity reading. What independently needs to be said about EG *one* is that the generic force of the pronoun derives from a restriction on the pronoun itself which dictates that it be bound by an appropriate generic or normative quantifier and that is restricted in its domain to the conversational participants. Thus EG *one* in (49a) does conserve the value of the parallel pronoun in VP_a, but not because it depends on that pronoun, but rather because it has a sense identity reading that returns the same value as that it would have in VP_a.

In terms of the general program of this paper, we have now established that sense-identity readings are in the parallel relation family of readings, unlike strict readings, which are in the parallel identity family. Sense-identity readings are sometimes available when strict readings are not. [Note N26] Moreover, sense-identity readings are parallel operator variable relations, such that the operator variable relation in one clause matches the operator-variable relation in another clause as being of the same sort, but there is no further identity requirement. Strict readings, by contrast, although they also arise under a parallelism restriction, involve identity dependency of a pronoun on a singular term.

5.0 Constructing the Readings

The readings in question are constructed from the same three building blocks: scope, operator variable binding, and dependency on a singular term. In addition, these relations are employed to achieve the readings that meet the identity conditions determined by the parallelism relation or else a theory of de-accenting and/or backgrounding.

The relation of a variable to its operator is probably the most straightforward of the three relations. This relation is either instantiated syntactically by virtue of LF-raising to an A'-position, as in the case of QR or overt wh-movement, or it could presumably be instantiated semantically by λ -abstraction of the subject of a VP, as in work by Heim and Kratzer (1998). The latter case permits names to bind variables without any commitment to treat names as quantifiers, or at least that is how I will choose to interpret this relation.

Names in object position do not necessarily bind variables (except, perhaps, in cases like (39a)), and I will simply treat them as singular terms. What names in any position share is their ability to antecede pronouns not in their scope (where FTIP or the Independence Principle do not intervene). By virtue of λ -abstraction, a name must bind a variable in the scope of the λ -operator (assuming that it is not vacuous) and the variable it binds is a singular term. Pronouns that are deictically closed are treated as singular terms. First and second person pronouns can be treated as quantifiers, an extended usage that I do not take to be general (in the conversational role reversal cases discussed in section 4). I will assume (non-crucially) that pronouns are normally reduced definite descriptions that contain within them a variable that another pronoun interpreted as a variable can depend on (i.e., be anteceded by). Thus names are usually singular terms, variables are always singular terms, and pronouns contain variables which can antecede other pronouns.

The relation of dependence on a singular term is how pronouns are interpreted to have an antecedent. One way to model this dependency, as just mentioned above, is to treat pronouns as reduced definite descriptions along lines discussed by Neale (2005) and Elbourne (2005) (and references cited in these works). Although they differ in details, these approaches treat the pronoun as a determiner that binds a variable that must match a value as its argument, such that a bound pronoun like *he* will be rendered [*he* $x:x=y$] where y is the antecedent (when there is no antecedent in the discourse, deictic closure provides an arbitrary value not used in the discourse up to that point).[Note N27]

Where I differ from the approaches of Elbourne and Neale as well as most of the theorists in the line of Reinhart (1983) through to Reinhart (2006), is that the antecedent of this variable does not have to c-command it, as long as the relation to the antecedent respects the Independence Principle. Antecedence by a singular term respects Rule H, a matter to which I will return. Thus a pronoun can be dependent on any singular term that satisfies conditions on dependency, and among those singular terms it may be dependent on we may now add any other pronoun bound as a variable.

The third relation is scope. The scope of a quantifier includes only what it c-commands at LF, as presented here, but however scope is formally achieved, a pronoun bound as a variable must be in the scope of any quantifier that binds it. This requirement restricts dependency on a singular term if the singular term is bound by a quantifier, such that any pronoun anteceded by the variable of a quantifier must be in the scope of that quantifier.

To see how these building blocks work to produce the readings in question, consider (2), repeated here as (50a), under the sloppy reading, as schematically represented in (50b)

50a) *Larry* loves *his* mother and *Louis* does too.

b) $\text{Larry } \lambda x[\text{VP } x \text{ loves } [\text{DP } [\text{DP } \text{he } y: y=x]\text{'s mother}]]$ and
 $\text{Louis } \lambda z[\text{VP } z \text{ loves } [\text{DP } [\text{DP } \text{he } w:w=z]\text{'s mother}]]$

On this account, *Larry* and *Louis* bind the variables x and z , respectively, by λ -abstraction. The pronoun *his*, interpreted as a reduced definite description, introduces a variable that is identical to the variable it depends on, which is x in the first conjunct and z in the second (the pronouns should actually undergo QR to some low scopal position so as to leave the proper type for the predicate *loves* to combine with, as pointed out by Heim (1993) and Neale (1994), but I will leave out this detail for presentational purposes). Thus the sloppy reading arises not from binding of both the subject variable and the pronoun directly by the λ -operator, i.e., $\text{Larry } \lambda x[x \text{ loves } x\text{'s mother}]$, but indirectly through antecedence of *his* by the variable x . [Note N28] Now consider the strict reading of (50a), schematically represented in (51).

51) Larry λx [_{VP} x loves [_{DP} [_{DP} he y: y=x]’s mother]] and
 Louis λz [_{VP} z loves [_{DP} [_{DP} he w:w=y]’s mother]]

Here the antecedence relation reaches into VP_a for the antecedent to *his* rather than to the subject variable *z*. Notice that VP_a is the same for the strict and sloppy readings.

The role of scope is evident from the contrast between (6b), where a strict reading is possible for a quantifier-bound variable just in case the quantifier has scope over VP_e.

52) Aw, w a person, [_{IP}W thinks

[_{CP} [_{CP}that [_{IP} [_{DP} he x:x=w] λx [_{VP} x loves [_{DP}[_{DP} he y:y=x]’s pet]]]]
 and [_{CP} that [_{IP} [_{DP} St. Francis] λj [_{VP} j loves [_{DP} [_{DP} he k:k=y]’s pet]]]]]]

In (52), the representation of (6b), the universal has scope over both conjuncts, even though *his* of VP_e, interpreted as [_{DP} *he k:k=y*]’s, is directly dependent on a singular term, namely *y* (and thus only indirectly on *w*) and *y* is in the scope of the universal. More technically, Rule H will apply to the value provided for *his* in VP_e by parallelism and insure that this pronoun is revalued as [_{DP} *he k:k=w*]’s, since *w* c-commands *his* in VP_e and [_{DP}[_{DP} *he y:y=x*]’s in VP_a does not. For this reason, the strict interpretation is possible in (6)/(52), but not for (7), where the pronoun in VP_e is not within the scope of the quantifier that ultimately binds it.

Now consider a sense-identity reading for an example like (36a) repeated here as (53a), with a schematic representation of the interpretation in (53b).

53a) Mavis loves many people and Malva does too.

b) [_{IP} many *y*, people *y* [Mavis λx [_{VP} x loves *y*]]] and
 [_{IP} many *w*, people *w* [Malva λz [_{VP} z loves *w*]]]

Here the quantifier phrase *many people* undergoes quantifier raising to bind a variable in the object position of *loves* in both clauses, and this is sufficient to satisfy parallelism or some notion of identity of unfocused material according to the general approach to ellipsis one adopts. This treatment of sense-identity readings adds nothing new, as we are committed to such representations for overt movements, as in (38), illustrated earlier. It is merely pointed out here that there are special usages of names and indexical pronouns that permit them to be interpreted as cases of sense-identity readings. Since the sense-identity reading arises from operator-variable binding, not dependency on a singular term, it cannot be the basis of the strict reading.

6.0 Concluding Remarks

The most novel claims made here are (a) that both strict and sloppy readings for VP ellipsis are read off of a bound reading in VP_a, (b) that strict readings are an instance of identity dependency on a singular term where the singular term in question need not be referential and (c) that strict readings are instances of intersentential antecedency enforced by the dependency relation. The parallelism constraint as it applies to ellipsis contexts forces some sort of identity between the unfocused portions of VP_a and the unfocused portions of VP_e, but the relation in question is one of parallel value or parallel relationship, where coconstrual under parallelism is achieved by the only identity relationship enforced by formal grammar, namely, dependent identity, an asymmetric antecedency relation. On my analysis, the parallelism constraint appeals to an intersentential instance of the same relation that determines antecedency sentence internally. However, general scope restrictions on quantifier-bound readings prevent a subclass of strict readings from holding intersententially.

Insofar as I have established that strict readings do not require any appeal to symmetric

identity relations of coreference or covaluation, no device that expresses such a relation, such as coindexing, is necessary either. The elimination of coreference and symmetric covaluation represents a significant restriction on possible natural language grammars and provides for a considerable simplification of the mechanisms permitted in the theory of grammar.

The conclusion that Preferred Covaluation favors dependent readings wherever possible remains a key feature of this work, following in the tradition of Grodzinsky and Reinhart (1993) but not Reinhart (2006) (see the appendix). A slight revision of an idea suggested by Reuland (2001) may then perhaps be used to derive Preferred Covaluation from the general organization of the broad linguistic faculty. Reuland suggests that operations establishing coconstrual in narrow syntax (e.g., movement) are favored over those achieved in logico-semantic syntax (e.g., variable-binding sensitive to c-command at LF), and that variable-binding should then be favored over covaluation, since covaluation, paraphrasing slightly, is in the pragmatics, i.e., outside of logico-semantic form. If these levels fit into a hierarchy of computational complexity, then covaluation is the least favored form of coconstrual. Thus the solution to the strict identity puzzle without resorting to the different VP_a strategy (one with coreference, one with binding) permits us to isolate covaluation completely outside of logico-semantic form. This organization of the grammar then explains why Deictic Closure (introduced in section 3.2 for non-linguistic antecedents) and backwards coconstrual, both value assignments outside of formal grammar, might be expected to be computationally more effortful, a potentially welcome result.

Appendix: Covaluation in other accounts of strict readings

At the outset it is claimed that every other account of strict readings relies on a coconstrual relation distinct from dependency on a singular term in order to capture the existence of strict readings. Since not every account admits to resorting to something outside of dependent identity, this short appendix singles out a few popular approaches that are supposed to account for strict readings and show that they rely on an identity relation not motivated apart from their account of strict readings.

As mentioned in the text, there are two analytic devices that were appealed to to capture the difference between strict and sloppy readings, and they typically appear in combination. One is to argue that VP_a for the sloppy reading is different from VP_a for the strict reading, in that for the sloppy reading, VP_a contains a bound variable relationship, while for the strict reading, VP_a contains a coreference relationship, as argued in Grodzinsky and Reinhart (1993). In the body of this paper I refuted this view, arguing that both readings are built off of a bound variable relation in VP_a, insofar as no other sort of coconstrual relation is available. Proponents of the ‘different VP_a’ approach are tacitly or explicitly relying on a covaluation relation that is not dependent identity.

Recall that the approaches I criticize here assume that dependent identity is only licensed by c-command. It is for this reason that they must assume some other relation is involved to insure covaluation under parallelism. Thus to preserve the analytic distinction between the two VP_a’s, the second analytic device that is appealed to to capture the strict reading is a specific ‘rule of covaluation’ under parallelism, historically captured by coindexation. No other rule of grammar appeals to covaluation (as opposed to dependent identity or bound variable interpretation) in the theories I challenge, and so eliminating any reference in grammar to

covaluation is an advantage of my approach. Not every opposing account wears its commitment to a rule of covaluation on its sleeve, but let us begin with one that does.

Reinhart (2006) relies on both analytic devices, different VP_a's and a rule of covaluation, in her revision of the Grodzinsky and Reinhart account. Recall that it was a weakness of the R&G theory that although they relied on the 'different VP_a' approach, their Rule I required that a bound variable relationship is always preferred to a coreference relationship whenever both are available, and in such contexts, bound variable interpretation blocks coreferent interpretation. In other words, although they assumed the VP_a's for the two readings were different, their theory did not really permit it. Assuming that the strict reading involved coreference in VP_a, they then went on to assume that parallelism enforced coreference with the parallel pronoun in VP_e.

Reinhart (2006) is quite explicit about her assumption that the strict reading in VP ellipsis can only come about if there is a difference in VP_a's, and so she attempts to remedy the Grodzinsky and Reinhart account by adjusting Rule I to permit two different VP_a's. For example, Rule I is reconceived as in (A1) (Reinhart, 2006:196).

A1) Rule I

α and β cannot be covalued in a derivation D if

a. α is in a configuration to A-bind β , and

b. α cannot A-bind β in D, and

c. The covaluation interpretation is indistinguishable from what would be obtained if α A-binds β .

On the assumption that pronouns, but not names and descriptions, can be semantically bound, it will turn out that c-commanded names and descriptions won't be bound and can't be covalued, but pronouns can be bound, and thus do not have to be. The third condition does not permit covaluation to succeed in producing the same meaning where binding has been blocked. This now permits covaluation and bound variable interpretation optionally wherever binding is not blocked, which means that sentences like *Max loves his mother* can receive two different representations for the same coconstrual and two coconstrual relations to which rules of grammar must be sensitive.

A2a) Max (λx (x loves x's mother)

b) Max (λx (x loves z's mother) & z=Max

Notice that this is a significant move away from the assumption that bound readings are always preferred (as in Preferred Covaluation). The only empirical reason she doubles representations and relations in this way is to account for strict readings in ellipsis contexts by providing two potential VP_a's.

The appeal to covaluation appears to remedy the problems that arise in treating coreference relations as the source of the strict reading and as the source of the different readings for Heim's *only* sentences, e.g., *Lucie thinks that only she respects her husband*, where either Lucie thinks that she is the only husband-respecter (sloppy-like), or Lucie thinks that her husband is loved by no one but her (strict-like). The representations for these readings are presented in (A3) (from Reinhart, 2006:173).

A3a) Lucie (λx (x thinks that (only) x (λy (respects y's husband))))

b) Lucie (λx (x thinks that (only) x (λy (respects x's husband))))

c) Lucie (λx (x thinks that (only) x (λy (respects her husband)))) & her=Lucie.

The truth conditions of the last two readings are indistinguishable. Instead of coreference, she uses covaluation for these cases, which permits identities between variables, just in case they are under the same operator (as in the St. Francis cases). While this represents an improvement, it

does not change the fundamental difference between our respective accounts, namely that the subordinate VP_a in (A4) allows for three representations for two coconstrual readings (setting aside the reading of VP_a where *his* is not John), only two of which can result in readings for VP ellipsis (where VP_e corresponds to [love his pet]).

A4) John believes that only he loves his pet, but in fact only Bill does.

a) John λx [x believes that only x λy [loves y's pet]]

b) John λx [x believes that only x λy [loves x's pet]]

c) John λx [x believes that only x λy [loves z's pet]] & z=John

The sloppy reading for (A4) is made available by the representation in (4a) but the strict reading for (A4) is only available on the basis of (A4c), not on the basis of (A4b), which includes a bound variable which, if reproduced in VP_e would not be c-commanded within the parallel clause containing VP_e. On the account presented here, (A4b) is a sufficient source for the strict reading, so there is no reason to generate (A4c), hence no need for the grammar of parallelism to be sensitive to a separate covaluation relation distinct from dependent identity.[Note A1]

I now compare the approach taken here with that outlined in Büring (2005a,b). Büring (2005a) adopts, as a pedagogical step, a fairly conservative version of Chomsky's (1981) Binding theory, and then distinguishes the syntactic binding that the Binding theory runs on from semantic binding that is necessary for bound variable interpretations of pronouns, for example. The intuitive idea is that all noun phrases are indexed in syntax and given values by some assignment function. If nominals A and B have the same index, e.g. "*i*", then they are coreferent because they have the same assignment. If A c-commands B, then A syntactically binds B and the Binding theory regulates these outcomes. If A not only syntactically binds B, but A is a quantifier (or is a non-quantifier that is interpreted as a quantifier), then the sister to A (the domain that A c-commands) receives a binder prefix that replaces all assignments that have been made for index *i* with a variable semantically bound to A. Thus the set of semantic (bound variable) binding relations is a subset of syntactic binding relations. It follows from the definition of binding that a bound variable relation is only possible when A c-commands B.

Consider now how the strict interpretation is achieved on Büring's (2005a) account. An example like (A5) receives the right interpretation on Büring's account if the analysis proceeds as follows: The index of the pronoun in VP_a is copied to onto the pronoun in VP_e by parallelism of value. Coindexation is not converted to variable binding in VP_e (no c-commanding antecedent), so the interpretation is one of coreference for all nominals indexed *i*.

A5a) John_{*i*} loves his_{*i*} mother and Bill_{*j*} does [love his_{*i*} mother] too.

b)*Everyone_{*i*} loves his_{*i*} mother and Bill_{*j*} does [love his_{*i*} mother] too.

The second example fails because the binding affix of *everyone* will attach to the sister of *everyone*, which is the constituent, *loves his mother*, and since *his* is indexed *i*, the pronoun will be bound as a variable. However, the *his* of VP_e is not in the scope of *everyone* so it cannot be bound as a variable of *everyone* and the strict interpretation fails. The sloppy reading for (A6b) arises as it does in my account and all other accounts that assume variable binding, by parallelism with semantic binding. Since Büring's account is based on the scope of the binder rather than the referentiality of the antecedent in VP_a, he can get the same result that I do for (9) (as can Reinhart, 2006), repeated below as (A6).

A6a) Everyone_{*i*} says that he_{*i*} loves his_{*i*} pet and that St. Francis does [love his_{*i*} pet] too

In this case, the index for the pronoun in VP_a (*i*) can be copied onto the pronoun in VP_e. Then all of the *i* indices contained in the constituent that is a sister to *everyone*, that is, *says that he_{*i*} loves his_{*i*} pet and that St. Francis does [love his_{*i*} pet] too*, can now be converted to variables

bound by the binder affix of *everyone*. Buring eventually abandons the use of indices, and so something must replace the use of indices to achieve the strict reading, a matter to which I will return.

Neither Buring's account nor Reinhart's can so obviously extend to proxy reflexive VP_a antecedents or proxy strict readings in general. Consider first antecedent clauses with proxy antecedents, where the proxy interpretation for the pronoun must be a dependent reading, hence they ought to be represented by semantic binding.

A8) Yeats_i thinks he_i reads better in Swahili and Mary does
[think he_i reads better in Swahili] too

In (A8) *he* in VP_a will be converted into a variable bound by the binder affix attached to the sister constituent to *Yeats*, namely, *thinks he_i reads better in Swahili*. However, semantic binding is limited to the c-command domain of *Yeats*, which does not include *he* of VP_e, so *he* can not get a proxy reading, which must be a dependent reading. This would appear to mean that the proxy reading for (A8) should be impossible, contrary to fact, and that at best there should be a coreference reading, where the *he* of VP_e refers to the person Yeats. In my account, since dependency is possible across sentences, no problem arises, and indeed a non-proxy strict reading is impossible, as predicted, since the pronoun in VP_e depends on a proxy.

It was observed since Lasnik (1976) that any approach that allows nominals to have indices that inhere to them allows the possibility of two sorts of accidental coreference, one where two nominals just happen to have the same index, and the other where A and B have different indices, *i* and *j*, respectively, but *i* and *j* just happen to be assigned the same value. Buring's (2005A) initial approach to the second sort of accidental coreference (before he abandons the indexing approach) is too simply ban it (p.30). This will insure that where semantic binding is banned by the Binding theory, such that A and B cannot have the same index, it then must be the case that A and B are non-coreferent as well.

In the approach taken here, quantifier-bound variable relations arise as a subset of dependency relations. Dependency relations with the antecedent c-commands are what (my version of) the Binding theory regulates (along with Pragmatic Obviation). The theories differ on the role of c-command, of course, an advantage for the dependency theory if my arguments in section 3 are correct, but this we can put aside here. Following Higginbotham, the arrows that connect antecedent with dependent are directional and hence asymmetric; Thus neither the head nor the tail of an arrow has a value on its own, rather it marks a relationship, such that antecedents (those that are not also, themselves, dependents) bear values, and their dependents bear functions of those values. In proxy cases, the function may be contentful (e.g., *proxy of*) though in many other cases the function may have little or no content. Since Preferred Covaluation tells us to represent any coconstrual as a dependency if possible, for A and B to accidentally have the same value would be a rare occurrence (but it could occur for *John is Bill* for example, where no dependency holds *in principle*, or for backwards anaphora with a non-c-commanding antecedent). Thus the accidental coreference cases Buring bans by stipulation, cases where *A_i* and *B_j* are coconstrued in a way his semantic binding does not permit, either must involve a dependency by preferred covaluation, or must not be dependent in my system, and no special rule has to regulate accidental covaluation. Instances where an expectation of noncovaluation arise are handled by Pragmatic Obviation, not a ban on coreference or covaluation enforced by indices.

Buring (2005a) eventually rejects indexing as a necessary device in formal grammar, however, he does not succeed in removing the covaluation relation from the grammar. In both

Büring (2005a,b), he argues that indices are unnecessary because all that matters is semantic binding.[Note A2] He introduces a notation with binding prefixes and assumes that in any case where binding is possible, i.e., the antecedent c-commands, then the relation involved is always binding, unless the form cannot be bound (a name). This should leave any case not covered by binding as pragmatic, and accidental reference is then no longer a problem in his system either (in which case his statement of the ban on accidental coreference on p.157 might better be presented as a particular claim about what pragmatic coreference is).

Büring (2005a:131-2) does take a different tack from Grodzinsky and Reinhart (1993) and Reinhart (2006) insofar as he does not rely on the two VP_a's strategy to get the strict reading. Büring (2005b) he treats the matter in a footnote:

It is worth pointing out that [the condition on sloppy ellipsis] talks only about sloppy readings only. No inverse condition demands that strict identity...requires a parallel referring pronoun in the overt VP. Thus, the clause containing the overt VP always has [semantic binding of the parallel pronoun]...To allow coreference among c-commanding NPs just because they need to license a strict pronoun later on would wrongly predict that pronouns that “antecede” strict readings can circumvent the binding conditions...(Büring, 2005b:267, fn.4)

He is pointing out here that in order to get the strict reading for *John loves his mother and Bill does too*, the pronoun in the first conjunct would have to be coreferent, signaling a different reading from a bound one, but then if exceptional coreference is allowed in the first conjunct for *John likes him; Bill does too*, *John* and *him* should be permitted to corefer, since Principle B, as he conceives it, only blocks the bound reading. He is right about the potential problem, but unfortunately, he is left without any account of the strict reading at all, since it cannot involve binding (no c-command) and he can no longer rely on an index to be transferred from VP_a to VP_e (raising again, it would seem, a problem for the St. Francis sentence). In the same note he merely provides the observation that “Fox (2000) introduces the notion of *referential value* to allow for strict identity readings,” (emphasis Büring).

The only question now is whether or not Fox's ‘referential value’ in this context amounts to an additional coconstrual relation, one in addition to semantic binding, to which the grammar of ellipsis must be sensitive. Fox is quite blunt: “I do not know how to derive the [parallelism] generalization from a principled theory. I will therefore elevate it to the status of a principle,” which he characterizes in (A9) (from Fox, 2000:117).

A9) NP Parallelism

NPs in the antecedent and elided VPs must either

- a. have the same referential value (Referential Parallelism) or
- b. be linked by identical dependencies (Structural Parallelism).

I agree that the existence of two forms of parallelism are not quite derivable, but my theory comes closer to doing so, in that VP parallelism depends either on the semantic binding in VP_a or it depends on the values in VP_a, *but in either case it is a dependency relation*, since no covaluation rule, one distinct from dependent identity, exists for referential parallelism to apply to.[Note A3]

Notes

* I would like to thank Kent Bach, Volker Gast, Stephen Neale, Roger Schwarzschild, Philippe Schlenker, Tim Stowell, Tarald Taraldsen and Edwin Williams for useful discussions of

this material. I would also like to thank those who attended the seminar on anaphora that Stephen Neale and I taught at Rutgers in the spring of 2006 and audiences at the University of Western Ontario Semantics Workshop in May, 2006, at McGill in November, 2006, and at Stony Brook in March, 2007. This paper was written with the support of NSF BCS0523102.

Note N1: I am setting aside here those cases where identity *is* symmetric *and* regulated by grammar, namely, relations of indistinctness between arguments. These arise in cases of intrinsic reflexivity (see, e.g., Safir, 2004a:124-132 and Mutaka and Safir, 2007) and with respect to copy relations resulting from movement (see, e.g., Safir, forthcoming a).

Note N2: Chomsky's (1995:228) principle of 'Inclusiveness' bars from derivations any property of a node that is not a property of a lexical item or of the result of Merge and Agree. I agree with him that we cannot then add to narrow syntax derivations an index that is an intrinsic property of a nominal phrase, and if not, then there is no relationship between nominal phrases that arises because the index on one such phrase happens to coincide with the index on another. In order to exploit indices to achieve the strict reading, it is necessary, as Williams (1977:119fn.7) observes, that nominal phrases have indices as inherent properties, and that these indices must be asserted to match in the strict reading. This is just the sort of relation that Inclusiveness abjures, since the intrinsic index is intrinsic to the whole nominal phrase, and not to any subpart of it. Thus if there is any reason to appeal to indices to establish coreference, I am obliged to regard it as a matter not regulated by either narrow syntax, nor the logical syntax that interprets the trees of narrow syntax as bound variable relations (e.g., copy relations are not bound variable relations unless they are provided with an appropriate interpretation, see Reuland, 2001, and Safir, forthcoming a).

Note N3. I restrict my use of the term 'strict reading' to cases where there is coconstrual between a pronoun in VP_a and the subject of VP_a and the interpretation of VP_e preserves the value of the parallel pronoun in VP_a. Thus the interpretation achieved in (1a) is not a strict reading by definition, because VP_a does not contain any pronoun. Some are used to regarding the strict reading as also characterizing the reading in (1a) (e.g. Rooth, 1992), but since I am focusing on the peculiarity of what the strict reading has been taken to be, I am limiting the usage of the term 'strict' as much as possible. I will later introduce the term "parallel value reading" to cover the two kinds of cases.

Note N4: My use of the term 'focus' here is not innocent, though I intend it to be. Stress falls on *Bill* in *John likes fish and/but Bill does too*, and the notion here is that focus is additive or contrastive. As it is used here, I am always speaking of cases where the focus is the subject of VP_a or VP_e. It is not focus in the sense that the stressed nominal is an answer to a question.

Note N5. Tim Stowell (personal communication) suggests that Isabelle Haik may have been the first to observe this fact.

Note N6. Evans's Fregean substitution theory of quantifier-variable readings builds quantificational interpretation for *Everyone loves his mother* under the bound reading by substituting every referential singular term in the domain of quantification (John loves his mother, Bill loves his mother) until the domain is exhausted to determine if the sentence is true. This is not commonly assumed, but if it were, then perhaps the statement in the text would be too strong.

Note N7. Heim (1993) describes a bound strict reading in (6) by means of a double indexing system that achieves the asymmetry between antecedents and their dependents expressed by Higginbotham's arrows, at least where pronouns are bound. The quantifier-bound strict reading is based on a bound reading available in VP_a, but it is not obvious how a strict

reading is achieved when the pronoun in VPe is *not* bound by a quantifier scoping both VP_a and VPe (i.e., the more typical cases of strict readings). This becomes more apparent when we consider strict readings for pronouns in VPe that must be constructed from bound pronouns in VP_a. The issue is addressed again in the appendix, where Buring (2005a,b) are evaluated with respect to this issue.

Note N8. This does not appear to be problematic for Fiengo and May (1994) because they explicitly allow for two forms of indexing, one referential or covaluative, the other expressing dependency. A strict reading is thus possible for (8) if the coindexing licensing the reflexive is referential coindexing rather than dependency coindexing. I reject this approach as too powerful. See the Appendix.

Note N9. Hestvik (1995) reviews the claims of authors that assert the absence of a strict reading for reflexives (p.212) and suggests that strict readings are possible with bound antecedents in VP_a where subordination (such as comparative structures), as opposed to coordination relations hold. I do not adopt his theory, but his empirical distinction indicates that there is a systematic class of cases where the strict reading must be computed from bound antecedents in VP_a. Heim (1993;fn.26) notes that strict readings can be anteceded by certain bound interpretations, particularly those that do not involve reflexives, and that the same mechanism should allow both sorts of cases to antecede strict readings, but she offers no proposal. The preference for sloppy readings seems to be influenced by the choice of connectives, by feature mismatch between the VPe and VP_a pronouns, and contrast, where aspects of pragmatic context can fuel such contrasts - in other words, it I am assuming that the form of the two readings is generally available but one or the other reading is less likely in certain environments. For further factors see Frazier and Clifton (2006).

Note N10. I am assuming that what Fiengo and May call ‘vehicle change’ is generally possible in phonetically silent contexts. Vehicle change involves certain morphological or semantic changes that are permitted for DP’s in VPe with respect to the parallel position in VP_a. It is narrowly construed in Safir (2004b) as an adjustment in VPe that is possible just in case a DP that is not a pronoun can be interpreted as a pronoun with features that do not conflict with whatever its antecedent is. For examples like those in (8), a reflexive in VP_a can be rendered in VPe as a pronoun, since a pronoun is the least marked form of DP that exists. See Safir (2004b) for discussion of why vehicle change to anything else is not permitted. On this account, however, vehicle change does not extend to cases discussed by Fiengo and May such as *John didn’t speak to anyone, but Bill did [speak to someone]*, where the *someone* that is interpreted in VPe does not correspond exactly to *anyone* in VP_a. See Merchant (2001) for an attempt to do without vehicle change or parallelism in favor of a semantic account (ellipsis requires that the denotation of VP_a and the denotation of VPe must be mutually entailing), although his account must adopt some form of parallelism to account for sense identity cases like (36), and see note N23, where parallelism is shown to be more than just a relation between VPs. Moreover, it is not obvious how Merchant avoids examples that should be Principle B violations, such as *John loves **him** and Bill does [love **him**] too*. Nothing would be amiss in Merchant’s deletion theory if VPe were to be *Bill [loves himself]*, since *[loves himself]* and *[loves him]* would work out to be mutually entailing insofar as the index on the object (with ‘Bill’ as its value) is the same for both VP’s - thus deletion would be incorrectly licensed.

Note N11. The possibility that strict readings must be constructed from antecedents with dependent bound anaphora is also acknowledged by Fiengo and May (1994:172) as part of their

account of Dahl's (1973) puzzle. Since I regard all strict readings to be constructed from bound pronoun antecedents, I naturally agree with them that such relations are necessary for Dahl's Puzzle (see note N20). However, it is not a strength of their system that they must appeal to strict readings constructed in this manner, as most of the point of their dual index system is to distinguish strict and sloppy readings based on which of the two kinds of indexing are reconstructed in VPe.

Note N12. Such relations are even subject to Principle C effects, as illustrated in i., so there is an obviation effect that is distinct from the non-coextension that this identity relation involves. See also Safir (2005).

i. **He* thinks *Yeats* reads better in Swahili. (*Yeats*=*his poetry*)

Note N13. I am being vague about what identity means since the matter is both murky and complex. See Safir (2004a:chapter 4, 2005) for discussion.

Note N14. The difference between *de se* or *de re* interpretation does not come into play here, since under both interpretations the pronoun can be a bound variable, e.g. *Each boy felt that he had been slighted* can hold if each boy in question feels righteous resentment for an individual he does not recognize as himself, but compare *Each boy felt slighted*, for which each boy cannot be mistaken about who has been slighted. See Safir (2004c)) and references cited there.

Note N15. I assume here, as I did in Safir (2004a,b) that the relation between a variable and the quantifier that antecedes it is also a dependency relation, but it is not dependency on singular term. In Safir (2004b), I stress that dependent identity relations always prefer dependency on a variable, if that is possible, rather than a pronoun or an operator. In many resumptive pronoun structures, there is no variable that does not consist of a pronoun (or reside in one, if we treat pronouns as definite descriptions along the lines in section 5).

Note N16: Tomioka (1999), Buring (2004) and Neale (2005) would extend the use of D-type pronouns (E-type, to some) to contexts where the variable that they are dependent on does not c-command them, but where the quantifier that binds the antecedent variable has scope over the pronoun in question, as in (21a) and (21b) in the text. These cases do not appear to fit with other D-type readings, in that the quantifiers show scopal interaction with the direct object of the main clause, and thus have scope over the pronouns to bind them as variables directly. There is no direct scopal interaction between *a donkey* and *every farmer* in *Many boys who own a donkey hate every farmer*, but *it* in the place of *every farmer* can be a donkey pronoun. That said, Tomioka seems to be right that D-type pronouns in VP_a can support sloppy readings, e.g., *Male officers that arrest a women activist almost always grope her, but female officers that arrest one almost never do*. For the issues surrounding these sloppy readings in brief, see Buring (2005a:160-162).

Note N17. For the origins of this principle in works by Evans and Higginbotham, see Safir (2004b) for discussion. In contrast to Higginbotham (1983), I do not use the Independence Principle to derive Principle C effects - the latter fall under my FTIP - because failure of dependency does not involve Pragmatic Obviation unless FTIP is involved. See Note N18.

Note N18: The principle that insures obviation in my theory, Pragmatic Obviation, determines that if nominals A and B are determined by the FTIP not to permit a dependent interpretation, then A and B are not expected to share a value - nothing is said about sharing or not sharing indices. Also, Pragmatic Obviation does not require any structural information from the grammar, other than that a given pair of nominals have been blocked by FTIP from forming a dependent identity relation. See Safir (2004a,b) for a full discussion.

Note N19. I do not mean by this to commit myself to a treatment of ellipsis sites as VP

pronouns, a view that may not be compatible with other claims I make, depending on what one assumes about the interpretation of pronouns generally. If it is assumed that pronouns can be reconstructed for a donkey sentence like *Every man who owns a donkey beats it*, as *it=the donkey he beats*, as in Elbourne 2005, then it is not clear that ellipsis sites could not receive a more articulated interpretation even if they consist of pronouns interpreted as concealed descriptions.

Note N20. In addition to the Principle B effect (which is not a good argument for it based on the formulation of the FTIP in Safir 2004b; 42-43), there are other arguments for Rule H, including Fox's (2000:117-120) account of Dahl's (1973) puzzle, revised within this system in Safir (2004b:44-49). Another involves restrictions on possible reconstruction interpretations discussed in Safir, (2004b:84-86). For reasons of space I will not review these arguments here.

Note N21. "The same interpretation" can be put slightly less vaguely, such that if a pronoun x is identity dependent a singular term y , then there is no interpretation for x identity dependent on a singular term z that is distinct from x identity dependent on y . In other words, only dependent identity interpretations for x are compared, although *distinct* remains vague. What I intend to avoid is any inference for covaluation (coreference) interpretations that do not necessarily involve dependent identity.

Note N22. Williams (1977:131) notes similar cases, but I do not agree with some of his judgments concerning them (the appositive relative cases, which he rejects and I accept).

Note N23: The sense-identity reading brings some questions that linger behind the notion 'parallelism' to the fore. Sense-identity readings require parallelism of wh-operators that may not be local to VP_a and VP_e, nor even to the IPs that immediately contain them, as long as the operators are bound at the same distance from their traces.

i. We know what Alice expects Mark will say, but not what she expects Bill will [say].

ii.??We know what Alice expects Mark will say, but not what Bill will [say]

If the distance of the operator from the trace must be the same for both disjuncts in i and ii. then theories which limit parallelism or backgrounding/deaccenting to a matching of VP_e and its VP_a, (such as Williams, 1977:105) are probably not tenable. When the VP containing the trace is elided, then parallelism of backgrounded operator-variable relations (sense-identity readings) cannot be assumed to be local to the elided VP (nor can such VP's be simply existentially closed, as Merchant, 2001:26, assumes) or else i. and ii. cannot be accounted for. This problem does not arise for Fox (2000:91), revising Rooth (1992), in that Fox's statement of parallelism only requires that for a constituent α to be deleted, it must be identical to or contained in β , where β is parallel to some β' that contains the antecedent VP for α . The exact statement of parallelism that would capture the notion of parallel positions that my account of the strict reading relies on is tricky, but I will assume that it is technically achievable.

Note N24. Chung (2000) actually regards the sense-identity reading as a sloppy reading, which seems like the right intuition, but it is an odd use of this term, since there is no pronoun bound by a variable in VP_a or VP_e. She remarks, "I and you have a relational use: these pronouns stand in the "salient other" relation, and that relation can form the basis for a referential dependency (cf. Heim, Lasnik, and May [1991] on *other*). I claim that this referential dependency can be accessed by the process responsible for VP ellipsis. When that happens, the result is the sloppy reading" The relation to *other* suggests that the semantics of *I* is more complex than positive definitions of the persons might lead us to believe (a positive definition would be "the speaker of the utterance in context c ," as opposed to Chung's negative definition, "I and you are opposed in that you picks out the participant in the speech event who is not the

speaker. Likewise, I picks out the participant who is not the hearer”). The approach in the text does not require the more complex relational definition of the persons Chung proposes. Moreover, modeling the relation after *other* seems dubious, since there is only a weakly acceptable reading for *John pushed others, and then others did*, a reading for which one group of others pushes another group of others, but certainly there is no reading where others push John.

Chung extends the salient other relation to examples like i. “which contains neither *I* nor *you* but does involve a situation of conflict, the most natural interpretation of the elided VP is the sloppy reading that depends on the “salient other” relation.”

- i. At the same time as Jill_i's lawyer claimed that Jack_j had been unfaithful to her_i, Jack_j's lawyer insisted that Jill_i had ____.
(a) [been unfaithful to him_j].”

I find this judgment very difficult to reproduce, and insofar as it is more difficult than the conversational role reversal readings in the text, it suggests that sense-identity readings are much more accessible than “salient other” readings, which for many, like me, are barely accessible at all. Upon leaving a theater, however, I remarked to my wife that I needed to use the men’s, to which she responded, “Me too.” “Hardly,” I replied, but she responded “You know what I mean,” and insofar as I did, I can interpret the salient other reading.

Note N25. There is a coy first person usage in American usage, e.g., condescendingly spoken *One spends one’s millions with aplomb*, but the condescension resides in the irony that not everyone in the conversation really does have millions. See Safir, forthcoming b.

Note N26. Volker Gast, personal communication, brings to my attention cases like *Mary has a bun in the oven and Jane does too*, which means they are both pregnant. The question arises whether this is a sloppy reading with some bound relation between metaphorical buns and ovens or if it is no more mysterious than *Mary is pregnant and Jane is too*. The issues grow more complicated for *John was punched in the nose and Bill was too*, where the noses are inalienably possessed (they are not punched in the same nose), but presumably inalienable possession is an idiomatically required bound reading, hence VPe must have a sloppy reading, as it reproduces the same idiom.

Note N27. The Russellian axiom for *he* provided by Neale (2005:236) treats 3rd person pronouns (setting aside gender) as a morphological variant of *the*.

- (HE) [*he* x_k: Φ]_ψ; is true of a sequence iff ψ is true of very sequence that Φ is true of differing from *s* at most in the *k*-th position, and there is exactly one such sequence.

Note N28. The view that λ-abstraction extends to bind a pronoun as a simple variable in VP for the sloppy reading and for reflexivity (see Williams, 1977:116 and Reinhart and Reuland, 1993:662,677, for example) suggests that there is no semantic asymmetry between the variables other than the thematic roles they bear. I suspect that this is not always the right translation (e.g., Williams translates *John killed himself* as *John* [_{VP}λ*x*(*x* killed *x*)] to mean that John has the property of self-killing), in that there are dependency asymmetries that are frequently observed for reflexives with respect to their antecedents, but not always. If pronouns and reflexives are asymmetrically bound, then these differences are not obliterated when pronouns are interpreted as reduced definite descriptions, and there is evidence they shouldn’t be (e.g., Jackendoff’s (1992) wax museum examples discussed as proxy cases in Safir (2004a:112-114). The view that the pronoun is a definite description that contains an identity relation which matches the external value of the pronoun with an antecedent by an internal identity statement essentially derives Heim’s (1993) inner-outer index system rendering of the dependency relation insofar as it involves dependent pronouns. However, I presume non-pronominal variables have no internal

structure, hence their relation with their antecedents is unmediated by an identity statement. Insofar as the asymmetric relation between variables and quantifiers that bind them is dependency, then there are two sorts of asymmetry involved in the two relations I have characterized as dependent identity. I will not explore here what might be at stake in these cases, but a clear statement should probably eliminate the role of dependency arrows.

Note A1. Reinhart's account and mine converge on some issues, but diverge sharply on others. For example, both Reinhart and I (in Safir 2004b, forthcoming a) believe that coconstrual relations and reference set computations (competitions between derivations) exist, but are outside of narrow syntax. We differ in that she ascribes a processing cost to all reference set computations on the basis of a derivational theory of complexity and I do not. The FTIP, which in my account is a competition between a very limited set of derivations, is assumed to apply routinely wherever c-command and dependent identity interpretations hold. In most of the environments where FTIP applies, there is no discernable processing effect that would evidence computational complexity. There are cases where different structures for the same string are involved, and this may lead to complexity effects (as in the case of certain prepositional arguments). I will not explore whether or not my position can be defended across the range of putative processing effects that Reinhart (2006) presents.

Note A2. The main goal of Büring (2005b) is to unify Rule I and Rule H, a matter I will not address directly, although some of the motivation for this direction is undermined by the critique raised here. In particular, he relies on the parallel requirements for Rules I and H that refer to the notion of an "indistinguishable interpretation." Recall Rule I requires that bound anaphora be employed where there is no distinction between coreferent and bound readings, and that Rule H requires something similar. However, note that Reinhart (2006, especially 182-3) abandons the preference for the bound reading to preserve a different VP_a strategy. On my account, there is no Rule I and Preferred Covaluation and Pragmatic Obviation do not require a calculation of distinguishable readings for Principle C cases either, so there is reason to doubt the foundations of this enterprise (collapsing Rule I and Rule H). On the other hand, adding a locality restriction to preferred covaluation would come close to translating Büring's proposal to collapse Rules I and H, but I do not know how the locality effect captured by Rule H would then follow from the organization of the grammar, although one might hope for a proposal that achieves this result.

Note A3: Büring (2005a:132-4) suggests Rooth's (1992) focus matching approach might mitigate the problems that arise for strict readings, but it is not clear how that account achieves sense identity readings, which, if true, is a major flaw. In *John loves many people and Mary does too*, it seems odd to require that *loves many people* is the same for at least one reading, given that neither the amounts nor the individuals in the sets of many people are necessarily the same for both conjuncts. If Mary and John are both gay, then *I don't know which women Mary dates, but I know every man that John does* will involve sets with no intersection as potential answers to the indirect questions, so it is not clear that these are in the same P-set, in Rooth's sense (also *Mary seeks same-sex partners and John does too*). In other words, the parallel operation of the assignment function is not enough to insure parallelism for sense-identity where pronouns are not involved, which is suspicious, insofar as something special is still required for the strict and sloppy readings for pronouns. See also Büring's (2005a:134:fn.11) which raises some unexplored concerns about Rooth's theory and my notes N10 and N23.

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