

Coconstrual and Narrow Syntax

Ken Safir, Rutgers University 06/10/07

Abstract: This essay explores the place of coconstrual relations, such as antecedent-anaphor relations, in a theory of grammar informed by minimalist architecture. It has been argued that the logical space created by minimalist theorizing should favor an account of coconstrual derived from the tree-building operations of narrow syntax (Agree, feature theory, Merge and its subcase, Rmerge), dispensing with rules or conditions that evaluate constructed trees. On such an account, it is argued, the explanatory power of narrow syntax is enhanced and the role of the interpretive component can be circumscribed. However, if coconstrual cannot be reduced to the derivational relations of narrow syntax, then we must be prepared to reevaluate the role of syntax-sensitive interpretive rules, balancing the need for such rules against any complication of narrow syntax mechanisms just to account for coconstrual. It will be argued that dependent identity relations, the form of coconstrual that is sensitive to syntactic configurations, must be interpreted from the output of narrow syntax and are not expressed within narrow syntax at all. This result unburdens narrow syntax of a class of relations that bring theoretical and empirical complications, while providing a more elegant account of coconstrual in a broader conception of the interpretive interface.

1.0 Introduction

What is the place of coconstrual relations, such as antecedent-anaphor relations, in a theory of grammar informed by minimalist architecture? It has been argued that the logical space created by minimalist theorizing should favor an account of coconstrual derived from the tree-

building operations of narrow syntax (Agree, feature theory, Merge and its subcase, Rmerge), dispensing with rules or conditions that evaluate constructed trees. On such an account, it is argued, the explanatory power of narrow syntax is enhanced and the role of the interpretive component can be circumscribed. However, if coconstrual cannot be reduced to the derivational relations of narrow syntax, then we must be prepared to reevaluate the role of syntax-sensitive interpretive rules, balancing the need for such rules against any complication of narrow syntax mechanisms just to account for coconstrual. It will be argued that dependent identity relations, the form of coconstrual that is sensitive to syntactic configurations, must be interpreted from the output of narrow syntax and are not expressed in narrow syntax at all. This result unburdens narrow syntax of a class of relations that bring theoretical and empirical complications, while providing a more elegant account of coconstrual in a broader conception of the interpretive interface.

Two sorts of coconstrual patterns will be examined in this light. It is argued that *unbounded dependent identity relations* (e.g., the distribution of bound readings for pronouns) cannot be reduced to (or directly read off of) narrow syntax movement relations without distorting and complicating narrow syntax. Instead I appeal to interpretive mechanisms, perhaps to be understood as interface conditions, that achieve coconstrual at a distance and leave narrow syntax both more restrictive and less complicated. The interpretation of *bounded obligatory coconstrual* (e.g., local binding of anaphors) as dependent identity is also outside of narrow syntax, but it is argued that movement can be exploited to derive the locality relation described by Principle A, once the proper conditions for such a solution are laid bare (favoring some existing accounts and not others). However, since narrow syntax operations are insensitive to the

nature of a dependent form, algorithms in the interpretive component must decide the optimal choice of form for a given coconstrual interpretation. The result of this reasoning is a more elegant, uncluttered account of narrow syntax and of its contribution to semantic interpretation, as well as a more principled modular view of structure-sensitive semantic interpretation.

1.1 Preliminaries - Narrow syntax

I view narrow syntax as consisting of those operations that build trees. Primary amongst these, from the perspective of minimalist syntax, are Agree and Merge and ancillary notions involving what projects. Almost all of my assumptions are standard within this framework, particularly following along the lines of Chomsky (1995, 2000, 2001).

I assume that every word in a derivation belongs to a numeration. A numeration is a set of selections from the lexicon for lexical tokens. Every lexical token in a numeration is assigned an index distinct from every other. Merge is simply the operation that joins two units (following common practice, binary structure is assumed) and projects the properties of one of them. [Note N1] I assume all instances of Merge join units to the highest (root) nodes of the pair (Chomsky's *Extension* condition). For clarity's sake, the node that projects will be called the *dominant branch* of a merged pair. Thus if a verb is merged with its complement, the verb is the dominant branch of this pair, and if the verb selects for an external argument, merger of [V Complement] with a DP leaves the former branch dominant.

Movement is understood as *Remerge*, which simply means that a unit α contained in a tree ψ can merge with the root node ψ . Since *Remerge* does not expand or draw upon the numeration, the indices on tokens within the remerged α are identical to those of unremerged α . Thus *copies* of any token created by *Remerge* are indistinct from one another. To put it in

Chomsky's (2001:39-40) terms, an *occurrence* of α , created by Rmerge differs from other occurrences of α only with respect to its sisterhood relations.

Rmerge is regulated by economy conditions that disfavor it. Typical cases of Merge increase the variety of tokens from the numeration that are in a single tree, but Rmerge does not achieve this. Perhaps this is why Rmerge only occurs when it is necessary, that is, when it is triggered. Rmerge of α is triggered only if the (mysterious) IPP property is found on an agreement feature of a head γ . If γ agrees with α then the IPP property on the feature in γ requires that the next operation to take place must be Rmerge of α to the root node ψ dominating γ (where γ is the dominant branch of ψ , but here theories of adjunction may differ in detail).

Agree is a relation between unlike constituents. The *probe* is a head with a set of features that must be matched or valued (depending on the theory) with a *goal*. The goal has a dominant branch as an immediate constituent (i.e., the goal is not a head, at least for the purposes of this discussion). I assume the following condition on Agree.[Note N2]

1) The Containment Condition: If α is a probe, then its goal is contained in the sister of α . The Containment Condition, which is just a c-command condition on Agree, is generally implicit when it is not explicit (see Chomsky, 2001:39) in minimalist accounts (it is implicit in the claim that a probe searches a domain restricted by Minimal Link, which can only be computed from c-command), but I separate it here because I will have more to say about it later. The distance between a probe and its goal may be regulated by phases or minimality conditions like Minimal Link or Shortest Move, but I set these aside for the moment. There is a certain redundancy between the Containment Condition on Agree and the definition of *chain*. First Chomsky

designates each *occurrence of α* as named for its sister, e.g., if α is a subject, then it is the occurrence of α named T'. A chain, in this account, is just a name for the occurrence of α that contains all other occurrences of α , another matter to which we will return.

1.2 Preliminaries - Dependent identity

I use the term *coconstrual* to describe any form of identity relation between two nominals (as in Safir 2004a,b). This includes coconstruals that do not involve a dependency relation (such as so-called 'independent coreference', see Safir, 2005a) as well as antecedent-pronoun/anaphor relations, bound variable relations, and the relation of a moved element to its point of origin (antecedent-trace relations in earlier parlance). The descriptive nature of the term permits us to speak of identity relations between nominals without prejudging the analysis of any particular case. I will also use the term *flavored reading* to describe the varieties of coconstrual relations that are distinguished with respect to the identity conditions they enforce. The essential property of flavored readings is that in a dependent identity relation, the choice of dependent form may have a consequence for the nature of the interpretation of the coconstrual relation (e.g., the use of a reciprocal as opposed to a reflexive). I use the term *unbounded coconstrual* to describe any coconstrual that lacks a locality restriction, and *bounded coconstrual* for cases that do respect locality, such as obligatory local anaphora and Principle B effects (locally blocked coconstrual).

If I am correct in arguing that unbounded dependencies should not be established in narrow syntax, then I must rely on a theory of such relations. Safir (2004a,b), has argued for an interpretive approach to unbounded dependent identity relations and it is useful to have some background knowledge about that approach. An important empirical claim of Safir's theory that is relevant here is that c-command does not license bound interpretations; rather, dependent

identity relations (such as bound variable readings) are everywhere possible between constituents as long as no principle blocks such relations. One of the two principles that block dependencies is the Independence Principle.

- 2) The Independence Principle: If x depends on y , then neither x nor a nominal z dominating x , can c-command y .

If we consider just (2), the pronoun can depend on *John* in (3a,b,c,d) (where the italics are indicating coconstrual), but it cannot do so in (4a) or in (4b) (where *his mother* is a 'z' in (2)). Moreover, the pronoun *he* cannot depend on *his* in (4c) (although *his* can depend on *he*).

3a) *John* loves *his* mother.

b) *John's* mother says *he* is smart.

c) *John* slept soundly. *He* did not wake until morning.

d)**John* loves *him*.

4a)**He* thinks that *John* is guilty.

b) *His* mother says *John* loves her

c) *He* loves *his* mother.

The Independence Principle does not exclude dependent coconstrual in (3d) and (4a), however, as this is due to the Form-to-Interpretation Principle.

5) The Form-to-Interpretation Principle (FTIP) (simplified)

If x c-commands y and z is not the most dependent form available in position y with respect to x , then y cannot be directly dependent on x .

6) Pragmatic Obviation: If FTIP does not permit y to be interpreted as dependent on x , then x and y form an obviate pair.

Only the FTIP blocks dependency in (3d) and (4a), because in (3d) a more dependent form, *himself*, is available to support the same dependency relation, and in (4a), a pronoun is available, which is more dependent than a name on the dependency scale (for a more complete account of the FTIP expressed as an algorithm, see Safir, 2004a:81). Blocked dependency is not the same as blocked coconstrual, however, as Evans (1980) was the first to observe - dependent coconstrual blocked by (2) does not prevent coconstrual altogether. It is Pragmatic Obviation, which is uniquely sensitive to dependencies blocked by FTIP, that determines that coconstrual is unexpected (obviation) in (3d) and (4a). The pattern in (4a-c) of dependencies blocked by the Independence Principle corresponds to the distribution of crossover effects (and also proxy readings, certain reconstruction effects, and certain failed ellipsis interpretations).

It is a significant empirical claim of Safir's account, one that separates it from Reinhart (1983) and Reinhart and Reuland (1993) and Reuland (2001) among many others, that dependent identity readings do not have to be licensed by c-command. Bound readings are optionally possible as long as the dependency is not blocked *and* scope is established.

7a) *Everyone* loves *his* mother.

b) *Everyone's* mother says *he's* smart.

c)**Everyone* slept soundly. *He* did not wake until morning.

d) Someone in *every city* loves *its* weather.

In (7c), for example, it is a failure of scope (which is not intersentential), rather than dependency, that blocks the bound reading for the pronoun (whether one computes scope from QR or some other device). Empirically speaking, this means that any successful account of dependent identity will have to posit this relation in contexts where the antecedent does not c-command the

dependent. These generalizations and these principles are defended at length in Safir (2004a,b), where numerous details, extensions and potential counterexamples are discussed, and so I leave most of that discussion aside here. Since most of my argumentation concerns how certain aspects of coconstrual should be kept out of narrow syntax, this brief presentation is just to show (a) that the pattern of potential dependencies that must be accounted for is wider than some simple c-command licensing theories would lead one to expect and (b) that there exists a viable theory of dependent identity relations (one that treats the distribution of binding theory effects, bound variable readings, crossover and the like) that could appropriately complement the narrow syntax approach I defend.

1.3 Interpreting copies

An independently motivated narrow syntax that also accounts for coconstrual relations would obviously be a better theory than any account that has both narrow syntax relations and a separate set of coconstrual relations, other things being equal. Insofar as the copy relation is the only narrow syntax coconstrual relation available, this essay is about how far it can be stretched to account for the full range of syntax sensitive coconstrual.

Copy theory is already attractive in that it has provided interesting accounts of a variety of reconstruction phenomena.

8a)*[How much criticism of *each boy's* behavior] did *he* have to listen to?

b) [How much criticism of *his* behavior] did *each boy* have to listen to?

c)?[How much criticism of *each boy's* behavior] is determined by who his parents are?

If (8a,b) are to be correctly predicted, it seems necessary to evaluate the sentences at a point in the derivation where the bracketed constituent is c-commanded by the subject ((8c) is included to

show that what is wrong with (8a) is that dependency has failed, not scope, since *each boy* seems to be able to have scope outside its nominal in (8c), though not so easily for most speakers). Copy theory makes this possible because a complete copy of the fronted constituent is in fact structurally present as the complement of *to*, even though it is not pronounced there. However, *how much* and *each boy* require that their operator-variable relations be interpreted as such, so narrow syntax must be enriched by some operation that converts copy relations to operator variable relations for at least a portion of the copy in these examples. What is usually done for an example like (8b) is something like (9). (See Chomsky, 1976, 1995:202-209, Munn 1994, Fox 2003).

9a) [How much criticism of *his* behavior] did *each boy* have to listen to

[how much criticism of *his* behavior]

b) [How much (x)] [did *each boy* have to listen to [x criticism of *his* behavior]]

The copy relation has been transformed in that a variable is introduced in the place of *how much* in the lower copy. Technically, this could be regarded as a violation of Chomsky's (1995) Inclusiveness Condition, insofar as something that is not a lexical item or a product of Merge has been derivationally introduced. On the other hand, a variable is a reduction of a lexical item to a place holder (empty node) or else to a set of features that the lexical item had, and may not violate Inclusiveness in the sense of introducing something new. Crucially, the relationship between [*how much criticism of his behavior*] (sister to the whole sentence) and [*how much criticism of his behavior*] (sister to *to*) is indistinctness. The relation of *how much* to *x* is an operator-variable relation, and that is not indistinctness, but a case of dependency. In an example like *How much did John eat?*, the entire copy left by movement must be interpreted as a variable.

Movement, then, does not achieve dependent identity coconstruals, but indistinctness coconstruals that in a wide variety of cases (not all) must be converted by interpretive rules to dependent identity interpretations. Operations creating dependencies are thus necessary outside of narrow syntax. The question whether or not narrow syntax provides what we need for coconstrual relations may now be posed as follows:

- 10) Are dependent identity relations all and always interpreted off of copy relations established by narrow syntax?

While (11a) is the strongest version of a “yes” answer, (11b) and (11c) are also possible answers, to be entertained only if it is established that (11a) is not viable.

- 11a) All dependent identity relations are interpretations of copy relations.
b) Some dependent identity relations are interpretations of copy relations.
c) No dependent identity relations are interpretations of copy relations.

We have already argued against (11c), insofar as we have endorsed the operation that interprets operator-variable relations from copies of operators generated by Rmerge, so our choice now narrows to (11a) vs. (11b). If (11a) cannot be maintained - if some coconstrual is motivated independent of movement - then there is no obvious conceptual advantage in *extending* the power of movement to account for coconstruals.

Notice also that (11) is not posed in terms of Agree relations. As mentioned earlier, Agree relations are not coconstrual relations between arguments in current formulations. Moreover, Agree relations are assumed to be local in all current accounts, and so no account of Agree could account for unbounded coconstruals. If Agree is involved in locally restricted relations, an idea explored by Reuland (2001), then it is still necessary to have operations that

interpret these relations as dependencies (see Reuland (2001:471) and it is still necessary to establish and restrict unbounded coconstruals by other means, presumably interpretive rules, if (11b) is our answer for unbounded dependencies.

2.0 Unbounded coconstruals and narrow syntax

Part of the burden of (11a) is to show that all the dependent identity coconstruals in (12) are interpreted from the result of movement.

12a) *Alfie* loves *himself*.

b) *The boys* love *each other*.

c) *Alfie* says Mary knows the man who loves *him*.

d) *Alfie's* mother (thinks she) loves *him*.

e) *Alfie* was tired. *He* slept through the alarm.

Kayne (2002) is the only attempt to meet the burden of (11a). He proposes that all coconstrual relations[Note N3] involve embedded nominals that extend through movement into antecedent positions, as in the derivation in (13), where indexed traces appear for copies (for the sake of presentation only), skipping steps (except 13d) that do not involve coconstrual-related merge (indices and traces illustrative only).

13) *John* says that *his* mother told *him* that *he* was smart.

a) [[[[John] his] him] he] merged to [was smart]

b) [[[[John] his] him]_i remerged to [that [[t_i he]] was smart]

c) [[John] his] remerged to [mother] to form [[[[John] his] mother]

d) [[[[John] his] mother] merged to [told [t_j him] that [[t_i he]] was smart]

e) [John] remerged to [says that [t_k his] mother told [t_j him] that [[t_i he]] was smart]

On this account, the initial constituent that will effect coconstrual is a series of adjuncts on an antecedent that shrinks by subextraction via Rmerge until the antecedent can be remerged without its adjuncts. Following Bobaljik and Brown (1997), Hornstein (2001) and Nunes (2001), Kayne permits sideward movement, which is an instance of Rmerge of α that attaches not to root node ψ dominating α , but to a root node γ that does not dominate α , as in (13c) where $[[[John] his] mother]$ is formed by movement of $[[John] his]$ from one tree to another (satisfying Extension, insofar as a tree larger than root node γ results).

Whatever its defects, Kayne's theory has four significant advantages over most other movement-as-coconstrual (MAC) accounts that do not employ subextraction. In Kayne's theory, there is no rule of coconstrual other than the dependent identity relation between adjuncts and what they are adjoined to - a strictly compositional relation that could be understood as part of the compositional semantic interpretation of the tree (setting aside the rule establishing operator-variable relations discussed in the last section). Any special rule of coconstrual has been eliminated: Unless two nominals are sisters before movement, they are not coconstrued. Second, there is no violation of Chomsky's Inclusiveness condition, since no copy is derivationally converted to a lexical item, for example. Third, movement into a theta position does not duplicate theta-assignment on a single nominal, since only the outer shell of the remerged constituent α receives a new theta role, not the launching point of α , where it is a subconstituent, as is evident in (13e). Finally, Kayne's theory is the only one to treat intersentential coconstruals as potential dependencies, consistent with the view of dependencies in 1.2.

The question, however, is whether the sort of movement permitted in Kayne's MAC theory has properties that movement should have in general, or whether MAC movement is

idiosyncratic to suit the facts of coconstrual and must be supported by assumptions not required for anything else. In other words, is it really a theoretical reduction?

Kayne's version of MAC-movement must have the properties in (14) to achieve coconstrual for all cases in (12).

14a) MAC-movement violates all island constraints

b) MAC-movement violates c-command as a condition on landing sites

c) MAC-movement is intersentential.

d) MAC-movement must derive domains for Principle A and B effects.

While the need for (14a-c) is straightforward, given (12a-e) (recall there is no appeal to any separate rule of coconstrual to save the day), notice that c-command must be independently stated for analogs to Principles A and B to avoid permitting (15a,b) and forbidding (15c).

15a) *John's* mother loves[t *himself*].

b) *John and Bill's* mother loves [t *each other*].

c) *John's* mother loves *him*.

Principle C is supposed to be derived by Kayne's theory, since names are always most deeply embedded as the kernel off of which the pronominal adjuncts ultimately feed, hence are the last to move. This appears to mean that at the end of the derivation, names will never be lower than, or c-commanded by, the adjuncts associated with them.

However, if a name moves sideward to a constituent lower than a remerged remnant including the pronoun, even Principle C violations will be permitted by his theory.[Note N4] If Rmerge can jump from tree to tree, then one could remerge *John* of [*John he*] to *of* to form [*of John*], as illustrated in (16) (where italics in (a-d) indicate a residue copy of Rmerge).

16)**He* saw pictures of *John*.

a) John *of* [John he] *remerges to of to form* [of John]

b) [of John] *is merged to* [pictures] *to yield* [pictures of John].

c) [*John* he] *is merged to* [saw pictures of John].

d) [[*John* he][saw pictures of John]]

Whenever a name is extracted from a little tree like [[John] he] that is then set aside for later merger, any number of derivations of this type can be constructed (with similar derivations incorrectly predicting that WCO should be allowed). They cannot be salvaged without some output condition that interprets the [*John* he] constituent inducing the obviation effect on the occurrence of *John* that is the sister of *of*. Notably, the first *John* does not c-command the second (a problem for chain theory, see 2.3), rather the shell [*John* he] containing *John* c-commands the second *John*, and these are not completely overlapping copies of each other. Something like the Independence Principle, which is responsible for crossover effects, or some additional principle that derives Principle C effects (or an ad hoc deletion rule), will then be necessary to weed out overgeneration by MAC-movement.

Another departure from minimalist movement theory in this account is that there is no movement trigger.[Note N5] If *Remerge* is indeed triggered by an EPP property on the feature of a probe in an Agree relation, then MAC-movement should respect c-command because Agree respects c-command. Insofar as MAC-movement does not respect Agree, islands, minimality and the Containment Condition (c-command), it is not a simple extension of what movement has been understood to be in most of the minimalist literature. Rather MAC-movement is a new construal rule, one establishing copy coconstruals (which interpretation must treat as

dependencies), but one that does not derive the standard binding principles. It also must be restricted by a scope principle of some sort, one sensitive to intersentential boundaries (or else (7c) is as easily derived as (7d)) and some principle excluding crossover. The remaining details rendering MAC-movement different from “form a dependency relation” and then “restrict the output” in this account become rather slim, and I will not pursue them.

An even less attractive theory of unbounded dependencies that still relies on sideward movement is that of Hornstein (2001). Hornstein assumes that bound variable readings are introduced when lower copies are demerged and replaced with pronouns (violating Inclusiveness). He only discusses quantified antecedents and is concerned to protect his account of parasitic gaps by rendering bound variable traces susceptible to Principle C (which he stipulates as a convergence condition on derivations in narrow syntax - a complication of minimalist mechanisms that few would endorse). This operation will correctly predict that there cannot be a bound variable relation between the *John* tokens in (17a) or (17b) (because a pronoun did not replace the second *John*) but it will not predict that (17b) introduces an expectation of non-coconstrual, which (17a) does not.

17a) *John's* mother thinks that *John* should be shot.

b)**John* thinks that *John* should be shot.

The distinction between (17a) and (17b) requires a restatement of the c-command condition that applies to non-quantificational cases and requires distinct interpretive effects.

In other words, neither Kayne's MAC theory nor Hornstein's offer an advance over our current understanding of unbounded anaphora relations, since both require interpretive rules that are structurally conditioned fix overgeneration by sideward movement, including rules that are

needed to capture Principle C effects, scope effects and to limit dependency relations. MAC theories of unbounded coconstrual do, however, weaken the explanatory force of movement, in that many more relations can be established by unrestricted Rmerge if it is capable of adjoining α to a node that does not dominate it.

2.1 A strategic retreat?

It is, of course, possible to retreat to the view expressed in (11b) that MAC-movement establishes *some* coconstrual relations and not others. Such a theory immediately runs the risk that non-movement-based interpretive rules, which are necessary for at least some cases, may be more general, thereby undermining or overlapping with movement/copy accounts. Moreover, it must be insured that copy relations generated by movement are semantically uniform with non-movement created dependencies at the level where such relations are interpreted. These concerns need not be fatal, but they will arise in subsequent discussion.

Zwart (2002) stakes out a position like (11b), arguing that if coconstrual does not arise by movement, then it arises syntactically by ‘accidental coreference’. By this he means, following a tradition that extends back to Lasnik (1976), that there is no dependency relation between two nominals that just happen to pick out the same index (‘reference’) in the discourse. Unlike Kayne, Zwart abjures sideways movement, so he assumes that (3b) and (4b) can achieve coconstrual only by accidental coreference. However, this can’t be true for cases like (18a,b), where ellipsis permits a sloppy interpretation for each example, such that *any other boy* is the antecedent of a bound variable reading for the elided pronoun in (18a), and *John* is the antecedent of an elided pronoun in (18b). Thus it is possible to preserve parallel bound variable interpretation between the disjuncts, the hallmark of the sloppy reading.

18a) All of the boys were involved. *John's* mother will forgive *him*, but I doubt if any other boy's mother will.

b) I said *each boy's* mother would forgive *him*, but I didn't mean to say that John's mother would..

Since there is no c-command between the antecedents and the bound variable pronouns they antecede, Zwart would have to characterize these coconstruals as accidental, which seems hopelessly false. However, Zwart's theory faces deeper problems, since he assumes that simpler cases, such as *John said that he is guilty but Bill didn't* can only have an accidental dependency relation in the first conjunct, and hence whenever a sloppy reading with a pronoun arises it must also be accidental, which appears to be an abuse of the term "accidental."

Zwart also does not distinguish the failure of the dependent reading in *He saw John's mother* from its failure in *His mother thinks John should run for president*, since both coconstruals are assumed to be accidental. But the failure of the dependent reading where the second permits coconstrual between *his* and *John* and the first does not are indistinguishable in Zwart's theory.

If it is necessary to treat cases like (18a,b) and (7b,d) as permitting bound anaphora, then movement to create dependent coconstrual only covers a subclass of cases, the remainder to be accounted for some alternative licensing mechanism (ALM) that is not accidental coreference. Presumably, ALM can be prevented from applying to create dependencies where there is an alternative derivation that movement can license, as it can for *John loves his mother* - perhaps by some sort of economy claim. However, what then prevents ALM from permitting other cases that movement cannot generate, such as *He saw John's mother* where *he* depends on *John*? The

force of ALM will then have to be specifically crafted in ways to avoid undoing what movement has been assigned to derive. However ALM is crafted, there would then be two separate devices (Remerge and ALM) sensitive to syntactic structure that create dependent identity relations. One is in narrow syntax, while the other is presumably in the interpretive component.

The necessity of ALM is more general than approaches like those of Zwart and Hornstein appreciate. Kayne's approach is the only one of these three that allows intersentential movement to create dependencies. In this respect, Kayne's theory does not share the disadvantage that all theories that require c-command for dependency licensing are prone to (theories like those of Hornstein, 2001, Zwart, 2002, and Reuland, 2001 and Grodzinsky and Reinhart, 1983, amongst many others). Grodzinsky and Reinhart, for example, assume the elided VP is interpreted as in (19b) is based on bound variable anaphora of *John* binding *his*, while the strict reading in (19a) arises, not from dependency, but from copied coreference relations between *John* and *his*.

19) John loves his mother more than Bill does

a) [loves John's mother]

b) [loves Bill's mother]

This contention is challenged and explored in Safir (2007), but it suffices to point out here that strict readings cannot be copied from coreference relations if coreference is not part of grammar, as many have argued (going back at least to Evans, 1980). The strict reading appears to arise from a cross-sentential dependency between *his* in the first conjunct and the parallel position in the elided VP. Cross-sentential dependency is usually rejected on the basis of examples like (20), where the antecedent in the first conjunct is quantified, so the relation to the pronoun it binds must be dependence, not coreference. As a result, (20) has no strict reading.

20) Everyone loves his mother and John does too.

However, (20) actually fails to have a strict reading because the scope of *everyone* is clausebound, so it could not bind a variable in the second conjunct. Strict readings are possible with quantifier-bound antecedents in the antecedent clause if we construct cases where quantifier scope holds over both antecedent and elided clause conjuncts.

21) Every boy says that he loves his pet and that St. Francis does, too

a) Every x, x a boy, x says that x loves x's pet and that St. Francis loves x's pet, too.

b) Every x, x a boy, x says that x loves x's pet and that *St. Francis* loves *his* pet, too

If strict readings require coreference, then the strict reading in (21b) should be impossible.

Rather, intersentential dependency is possible, as in the case of the strict reading in (19a), but if the antecedent must be quantifier-bound, then the elided pronoun in the second conjunct can

only be bound as a variable for the strict reading if the quantifier binding the variable in the first conjunct has scope over the elided VP. On this account of strict readings, *intersentential*

dependency is required to account for the pattern of dependency readings in natural language, or the strict reading in (19a) is not explained (for a comprehensive discussion, see Safir, 2007).

The only MAC theory that can characterize such a relation is one that allows sideward and intersentential movement.

Thus MAC accounts without sideward movement fail to account for all the cases (e.g., strict readings), and need an interpretive supplement to establish additional dependencies, but MAC accounts with sideward movement overgenerate potential dependency relations, and require an interpretive supplement to fix them up (e.g., **Everyone's mother loves himself*). In either case, MAC movement is impervious to islands or the Containment condition on Agree,

unlike other forms of movement, and such theories still require syntax-sensitive interpretive rules to fix the cases where the theory fails. Such failures include the locality domain of Principle A (for the sideward theories), the c-command condition of Principle C and the patterns predicted by the Independence Principle. In short, MAC accounts do not succeed in limiting coconstrual to relations read off of narrow syntax operations.

2.2 Not so narrow syntax

I have argued that some syntax-sensitive interpretive devices must augment any MAC theory confined to narrow syntax in order to interpret dependent identity, and in so doing I have suggested that narrow syntax would be more restrictive if it were not stretched to accommodate the distribution of unbounded dependent identity. However, a different version of the MAC theory would be to permit sidwards movement, but augment narrow syntax with an extrinsically defined notion of ‘chain’, one that would restore the role of c-command in cases where sidwards movement undermines it. Nunes (2004), and Boeckx (2003) offer versions of such a theory.

For example, to insure that sidwards movement does not license examples like *John’s mother loves himself*, it is argued that movement can derive such a structure (e.g., merging *John* to *’s mother* from its initial position in the object of [*love [John himself]*] before *John’s mother* is merged to the VP), but that a version of ‘chain formation’ would rule it out. Suppose we adopt the definition of ‘chain’ that contains at least the properties in (22) (it may contain a minimal link condition as well, but not if it is applied to movement out of islands)

- 22a) Two constituents α and β can form the nontrivial chain $CH = (\alpha, \beta)$ if α is nondistinct from β .

b) α c-commands β

Given sidwards movement, it is not guaranteed that one of the copies α and β will c-command the other, so (22) stipulates that the relation between copies in the same chain is conditioned by c-command. In a theory without sidward movement, it is unnecessary to insure that the highest copy c-commands the others (as first pointed out by Epstein et.al., 1998), since Rmerge cannot generate such a relation.[Note N6]

The introduction of a new entity, chains, to restrict overgeneration by the sidward movement theory raises at least two questions.

23a) Is the introduction of chains into minimalism an expansion of narrow syntax, or an appeal to an interpretive entity that restricts the output of syntax?

b) Can the sidwards movement MAC-account be efficiently saved by the introduction of chains?

Let us keep in mind what is at stake. We have determined that MAC accounts of the complete range of bound variable interpretations are not possible without sidwards movement, so if no sidwards movement theory is possible, then it must be possible to form dependencies without movement, removing the Occam's razor advantage that MAC theories are purported to have. If chains are necessary to save a MAC theory, then determining that they are a complication of narrow syntax further reduces their appeal. If chain formation is necessary and not in narrow syntax, then they are syntax-sensitive interpretive entities outside narrow syntax.

It is notable that Hornstein (1998) argues against the existence of chains as legitimate LF objects, arguing that their existence as entities of which conditions hold in syntactic derivations is potentially a violation of Inclusiveness, but in any case, a by-product of movement that should

be dispensed with as either a derivational artifact, or no artifact at all. If he is right, then Hornstein (2001) cannot appeal to chains to save the *John's mother loves himself* cases, with consequences as discussed in the next section. If c-command sensitive chain formation is added to his theory, then we must ask whether the chain formation in question is part of narrow syntax or not, and distinct from movement. In Chomsky (2001:39-40), a chain is just the name of the occurrence of α that contains all other occurrences of α , where an occurrence of α is named for its sister node. Mentioning a particular occurrence and conditioning the properties it is allowed to have is not like stating a condition on how the chain is to be built (e.g., 22)). It is possible, as an interpretive restriction, to determine whether or not narrow syntax has generated a well-formed chain, but this is not the same thing as introducing an operation, such as Chomsky's earlier Form Chain, that applies in formal syntax to relate a set of nodes.

Boeckx (2003), for example, views Form Chain as a trigger for movement, and insofar as he does, he is adding this operation to narrow syntax. Boeckx' main program is to provide an account of resumptive structures, where the antecedent is often separated from the resumptive pronoun by an island, yet is part of a chain with its antecedent (in his theory). That means that locality is not a key property of chains. Rather, Boeckx distinguishes whether Form Chain is achieved by Agree, which imposes locality restrictions, or Match, an additional relation added to narrow syntax, which permits chain formation (triggering movement) where features match and locality is not enforced (or at least not the strict locality of Agree).

I will not evaluate whether or not Boeckx' innovations are sufficiently justified by the resumption phenomena he explores, but his treatment of Form Chain as part of narrow syntax decreases the simplicity and restrictiveness of the latter (e.g., by relaxing island constraints). If

Hornstein's theory, which allows sideways movement (but not intersentential movement, by stipulation) is augmented by a chain theory, then it either complicates narrow syntax or concedes the existence of syntax sensitive interpretive rules that define and condition chains.

It is likely that anaphora interpretation requires sensitivity to c-command relations between antecedents and dependents, though it is unlikely that chains are the entities that are required at the conceptual-intentional interface to bring these c-command relations to bear.[Note N7][Note N8] Such an interface condition, or more likely a set of such conditions, might anticipate that syntactic outputs can be optimally semantically interpreted, or might require that syntactic outputs choose optimal forms for a given interpretation, perhaps along the lines of the FTIP. By positing a place for these interpretive algorithms outside narrow syntax, we can keep narrow syntax simple, while at the same time grouping the interpretive conditions on dependent identity with the component responsible for introducing dependency relations in the first place.[Note N9]

3.0 Local coconstrual and narrow syntax

I have argued that the attempt by Kayne (2002), Hornstein (2001) and Zwart (2002) to reduce coconstrual rules in general to narrow syntax fails to be attractive for unbounded dependencies, but one may still ask if the smaller program of deriving the properties of *obligatory local* dependencies from the pattern of copies derived by narrow syntax is still achievable (on the latter, see also Reuland, 2001). In other words, is it still possible to derive Principles A and B of classical binding theory from narrow syntax?

24a) Principle A: An anaphor must be bound in its binding domain.

b) Principle B: A pronoun must be free in its binding domain.

If c-command and locality, which are built into ‘binding domain’, and the classification of potentially dependent forms into pronouns and anaphors is to follow from narrow syntax, then these relations and classifications should arise from tree-building operations. Although I do not think that Principle B should be dealt with in this way (I assume it is derived by the FTIP along with Principle C), there are some reasons for optimism that the locality requirement of Principle A can be derived, although a number of assumptions must first be made explicit.

Zwart’s (2002) account, like Kayne’s assumes that structures like [[the man] himself] can be formed and that [the man] can be subextracted from such structures, leaving the adjunct shell. Although neither of them supplies it, there needs to be a theory of what can be adjoined to a nominal destined to be an antecedent (i.e. *the man of the man himself*) and what the limits are on subextraction. Let’s assume that subextraction is possible from the subject of a tenseless complement clause, a direct object, and a prepositional object, and that, as Zwart would have it, the stranded adjunct is then treated as anaphoric. Recall that on Kayne’s theory, such subextraction moves out of a theta-assigned adjunct shell structure and then the portion moved out is eligible to move into a theta-position and receive a separate theta-role. Thus (25a,b,c) should be possible, producing surface strings without the underlined portion

25a) *The man* didn’t like [[the man] himself]

b) *Jones* expected [[[Jones] herself] to be unbeatable]

c) *That student* was talking to [[Jill] herself]

Theta-theory insures that an adjunct shell is left behind when such subextraction takes place, accounting for the necessity of the adjunct observed, but what insures that the adjunct left behind is a reflexive? The examples in (26) fail even if the underlined copy is deleted.

26a)**The man* didn't like [[the man] on drugs]

b)**Jones* expected [[[a woman] on drugs] to be unbeatable]

c)**That student* was speaking of [[that student] on drugs]

This sort of adjunct stranding could be multiplied for any number of other adjunct types with similar results (such as appositive relatives, e.g., *Pembroke praised *(himself), who no one else admires*). In Zwart's specific version of the theory, anaphorhood is a feature assigned to adjuncts that are then stranded, but clearly not just any adjunct is capable of playing this role.[Note N10] Rather, an independently designated class of obligatorily nominal-adjoined elements must be posited as capable of receiving some sort or other of dependent identity reading - i.e., the difference between pronouns and anaphors is not derived. On the other hand, as in Kayne's theory, an adjunct-sisterhood condition would replace a stipulated c-command and binding domain, no small achievement. The price of the sisterhood domain would then be the additional requirement that only anaphor-adjuncts license this form of subextraction for A-movement (unless this can be derived from something else).

The problem of illicit adjunct-stranding would not arise, notice, if we assumed that inclusiveness could be violated by A-movement, as long as what is left behind in the place of the lower copy is a designated lexical form, such as *himself* or *him*. Such a theory would dispense with the adjunct shell and instead allow multiple occurrences of α to bear distinct theta-roles, as in Hornstein's (2001) theory of control. Notice that all (A-)movement must be local for such a theory to go through.[Note N11] In Hornstein's (2001) theory, where movement is non-local and a Case must be realized, as in (27), a pronoun is inserted.

27) *Each man* said that it seemed to *him* that it was getting late.

Hornstein suggests that some competitive principle will prefer a reflexive locally, but it is not clear how the spell-out rule for the pronoun would know that no reflexive can be inserted in (27) without an extra stipulation that the movement involved in this case was non-local (and to a c-commanding position).

An additional problem with inclusiveness-violating spell-out is that it could not account for multiple flavored readings in a single chain of antecedent anaphor relations.

28a) The men considered themselves proud of each other.

b) The men considered each other proud of themselves.

On the copy-substitution theory (which even Hornstein does not consistently adhere to), the choice of substitution would have to be interpreted. It is an attraction of the adjunct shell approach that the interpretive flavor of the shell is composed (pure Merge) with an occurrence of the antecedent, and so no distance relation other than that achieved by movement (driven by theta-assignment) is necessary, if the initial adjunct structures inserted as the object of *of* in (29a,b) can be justified.

29a) [[[the men] themselves] each other]

b) [[[the men] each other] themselves]

So far then, the classification of pronouns and anaphors is not derived from narrow syntax, but the coconstrual relation of anaphors with their antecedents is reduced to compositional interpretation of nominal-adjunct sisters, and the distance between anaphors and their antecedents can now be characterized by locality restrictions on movement, as long as a stipulated class of adjunct-anaphors can license subextraction not permitted by other adjuncts (or are transparent to Agree in a way other adjuncts are not - see below).[Note N12] Unlike

Hornstein (1999, 2001), however, it is never the case that multiple occurrences of α receive different theta-roles in the adjunct shell theory, so PRO would have to be specifically exempted from this principle if this movement theory were to be extended to control.

Thus the considerations raised so far do not weigh against a narrow syntax theory that (a) limits movement to instances where phases and Agree condition Reemerge (thereby disallowing sideward movement), (b) permits movement to a theta position, and (c) permits subextraction (to A-positions) from (certain) adjunct shells. The part of Zwart's (2002) theory which is built from Kayne's adjunct shells and strict locality conditions on movement seems to meet these conditions for obligatory local readings. Such a theory has to concede, however, that c-command conditions on unbounded coconstruals *are not* derived from movement and that unbounded coconstruals *are not* interpreted from copies generated by movement (at least where A'-movement is not involved).

3.1 Interpretation and morphology

Notice also, that if Agree is to condition theta-driven extraction, then some head must have the property of inducing movement to satisfy thematic roles. The question now arises as to whether Agree, apart from triggering traditional movement, has any role to play in the distribution of syntactic anaphors. As matters stand, Agree does not directly enforce anaphoric dependencies.

For example, if a probe, perhaps a lexical (theta-assigning) head agrees with some nominal that can saturate one of its theta-roles, what agrees, exactly? When the verb *kill* 'agrees' with *John* in $[[John][himself]]$ and attracts it to Spec-VP, it is not probing for Case, since T will only subsequently probe for Nominative.

30a) [_T T [_{VP} *John* [_{VP} kill [[*John*][*himself*]]]]

b) [_{TP} *John* [_T T [_{VP} *John* [_V kill [[*John*][*himself*]]]]]

The adjunct shell fulfills the object theta-role of *kill*, so it must be the case that *kill* probes and attracts some theta-fulfilling property of *John*, i.e., *kill* must optionally have an EPP property associated with its subject theta-role that selects for DP's embedded in DP's (something must suppress A-over-A effects, but only for the outermost adjunct). Then T agrees with *John* in Spec-VP (for phi-features) and attracts *John* to Spec-TP. The adjunct *himself* supports the object theta-role, not the subject theta-role, and does not agree with what it is adjoined to in Case (though it does in number and gender).

The failure of adjuncts to agree in Case with what they are adjoined to may seem unnatural - adjectives, in languages where they decline, overwhelmingly agree in Case with the noun they modify - but it is a necessary assumption for the adjunct-shell theory, especially for languages like Icelandic, where the Case of the anaphor SIG varies only according to the position it is in, not its antecedent, as in (31) (from Zaenen, Maling and Thráinsson, 1990:107)

31) *Honum* var oft hjálpað af fore drum *sinum*/**hans*

he-Dat was often helped by parents SIG-Gen/his

“He was often helped by his parents.”

Notice, however, that the choice to use SIG as opposed to an otherwise independent pronoun to represent the bound reading is a choice that is indeed sensitive to the structural position of its antecedent.

32) *Jón* sýndi Haraldi föt á *sig*/**hann*

John showed Harald clothes for him/SIG

While *hann* can be *Haraldi* in (32), it cannot be *Jón*, and this shows that the interpretive relation that establishes coconstrual in the adjunct shell theory, a sisterhood relation before movement, is not sufficient to predict the requirement that SIG, rather than a pronoun, be the form that represents coconstrual if the antecedent is a subject (oversimplifying ‘subject’ somewhat - see Safir (2004b:170-173). Thus some relation must identify the adjunct as anteceded by a copy that has an occurrence which is a subject.

There are two ways that this relationship can be achieved. The only narrow syntax tool in the box that insures coincidence of non-sister features is Agree. After all, the copy left by Rmerge is blind to, and unaffected by, the landing site for the Rmerge operation. Agree, however, insures that features of the goal match (or value) the probe, and in this case we would have to say ‘match’ for the argument type that a given lexical head requires. If the argument is one that can match the requirements that the lexical probe in question (V in (33)) places on its external argument, or at least the subject of a predication, then only a copy that agrees with a SIG adjunct will do.

33a) [_{VP} [_{V'} V [_{DP} [_{DP}[John]][his]] book]

b) [_{VP} *John*] [_{V'} V [_{DP} [_{DP}[*John*]][his]] book]

On this account, crucial appeal to Agree for external argument selection by V insures that the sister relation between argument and its adjunct anaphor will match the position that the argument lands in for structural position agreement.

Alternatively, the choice of anaphor must be ratified by determining its antecedent in the interpretive component. This can either be stated as a restriction on the morphology based on the interpretation of what the antecedent is, or perhaps more consistently, a restriction on the

interpretation of possible antecedents based on the morphology.

The Agree account has the advantage that no new mechanism need be employed, just Agree and Reemerge, along with the matching relation between a head and its adjunct, which we are treating as a modification relation (e.g., between *Jón* and SIG in the constituent $[[Jón][SIG]]$). However, we can easily see that it cannot be right (thanks to Halldor Sigurðsson, p.c., for these examples).

34a) Við sýndum Haraldi föt á hann / ?sig

we showed Harald-Dat clothes on him

b) Haraldi voru sýnd föt á sig / *hann

Harald-Dat were.PL shown ...

Although SIG forms are not fully excluded when they are not anteceded by subjects (much depends on the choice of verb for successful postverbal antecedents for SIG), otherwise independent pronouns can never be bound by a local subject. What the passive construction in (34b) shows is that the anti-subject orientation effect is determined after movement to subject position has taken place, as represented in (35).

35) $[_{TP} Harald [_{T'} T[_{VP} Harald [_{V'} V [_{VP} [_{DP} Harald] [_{V'} V [_{DP} clothes [_{PP} on [_{DP} Harald][sig]]]]]]]]]$

If we assume that in (34a) that the surface position of *Harald* is a non-subject position in the relevant sense of non-subject (since *hann* is permitted), then the movement theory of coconstrual will require the derivation in (35). In (35), however, the only way to know whether or not *sig* is wellformed is to evaluate the final position *Harald* moves to, namely Spec-TP, since neither its lowest position nor the first position it moves to is sufficient. If the lowest V were acting as a probe, then agreement for non-subjecthood with the goal *Harald* of $[[Harald][sig]]$ would be

expected, and *hann* should be licensed in (34b), contrary to fact. Only an account that relates the final landing site of *Harald* to the purported adjunct *hann/sig* will be able to make the right prediction.

Recall that the purported advantage of the adjunct shell theory is that dependent coconstruction can be reduced to local coconstruction of an adjunct α with the copy β that it is adjoined to. If α is dependent on β then α is dependent on all occurrences of β , where no occurrence of β is distinct from any other. However, the result that is needed is described in (36), however it is expressed as a lexical property of SIG forms.

- 36) Use SIG over a pronoun if SIG is an adjunct that depends on α and the highest occurrence of α is a subject.

Even though the distance between the highest occurrence and the lowest one is derived by whatever locality principles limit movement, *the morphological form of the adjunct anaphor is still not determined within the bounds of narrow syntax*. Rather, the notion needed to state which occurrence is ‘highest occurrence’, which can be straightforwardly appealed to, consistent with Chomsky’s (2001) discussion, as the occurrence of α that has a name that contains all other occurrences of α . To accept such a condition on *sig*, however, is to accept that narrow syntax is inadequate to predict the morphological form of a syntactic anaphor. Alternatively, we could look upon this result as follows: The form of the anaphor places a restriction on the sort of non-local antecedent that the interpretive component can permit it to have. In the latter case we have a further instance of a syntax sensitive interpretive rule that must apply outside narrow syntax, just as the FTIP and the Independence Principle do.

The need for interpretive mechanisms to regulate the pattern of local anaphora is not by

any means exhausted by appeal to (36), since (36) does not, in fact, fully determine the distribution of SIG and its other subject-sensitive cognates. As pointed out in Safir (2004a:72), SIG forms in Danish are not permitted to be plural for many speakers. Given the lexical gap in the SIG paradigm, normally anti-subject-oriented pronouns appear where the plural possessive SIG form would be required in other Scandinavian languages.

37) *John og Mary læste *sine/deres artikler*

John and Mary read SIG/their paper

Examples like these were among the justifications for a competitive algorithm to regulate the distribution of anaphoric interpretations like the FTIP, since in this case, the most dependent form *available* in the lexicon of Danish is an otherwise independent pronoun, whereas in all other cases where a SIG form is available, SIG defeats the pronoun in the competition to represent the dependent reading.

It is thus clear that the most local theories of narrow syntax cannot predict the distribution of SIG forms without appeal to a syntax-sensitive interpretive condition that looks at highest occurrences. Short of introducing chains into narrow syntax to avoid this consequence, it seems that the role of syntax-sensitive interpretive rules or operations is secure, and, as cases like (37) show, a competitive algorithm is needed to regulate where SIG is available. On the other hand, the adjunct shell account has provided both an account of the locality relations on local anaphors (at least the ones evaluated here)[Note N13] and an account of the flavored dependency relation between an adjunct anaphor and a potentially distant occurrence of the α it depends on locally as an adjunct.

If the FTIP is necessary for local anaphora in order to choose the optimal anaphoric form,

then there is every reason to use it for non-local anaphora to predict Principle C effects, as well as Principle B effects, especially since MAC theories fail to provide successful accounts of these effects. This does not rule out, however, an attempt to derive the locality enforced by Principle A from the locality of movement relations created in narrow syntax, as long as we are willing to countenance theta-driven A-movement and adjunct shell constructions and appeal to a post-narrow syntax condition on the highest occurrence of an antecedent for certain adjuncts, an empirically necessary condition, it would appear, for any existing account.

It is still an open question what the relation of dependencies created by movement is to those dependencies not created by movement, but it seems reasonable to adopt the position that dependencies interpreted from the output of copy relations are always favored over those that are not so derived, particularly if some account of resumption is to account for island sensitivity, for example (following the intuition behind Shlonsky's, 1992 approach, and perhaps the modular hierarchy suggested by Reuland, 2001). If anaphors can only enter into the adjunct shell structure, perhaps they can be seen as forcing movement of the ultimately theta-bearing element they are adjoined to. If so, by forcing movement to establish a relation to be interpreted as coconstrual, anaphors will always be more optimal with respect to the FTIP, partially deriving their place on the hierarchy of most dependent forms. The FTIP will then require their use where they are available, and locality will follow from restrictions on movement (hopefully), with the result that Principle A can indeed be derived as a result of the representation rendered by narrow syntax. It remains to be seen whether or not theta-driven movement is an attractive or independently motivated idea, but it does hold out the promise of permitting us to derive the effects of Principle A along these lines.

4.0 Closing remarks

The transformation of copies into interpretable dependency relations and the establishment of coconstrual between non-copies, both of which have been demonstrated to be necessary here, cannot be narrow syntax operations driven by Merge or Agree on standard minimalist assumptions. Extensions to the descriptive power of narrow syntax to establish coconstrual relations end up cluttering narrow syntax without improving our understanding of anaphora (and indeed it appears to be a step backward).

The view that there are syntax-sensitive interpretive mechanisms that are distinct from narrow syntax is a return to modular thinking, if there has ever been a real departure from it. Under ideal minimalist assumptions, the interpretive component is simply derivative from interface conditions. If the output of a narrow syntax derivation is some kind of object of thought, then some mental mechanism must make sense of which object it is. The component that includes compositional semantics, which also must access the syntactic tree and the established dependency relations, is presumably responsible for achieving dependent identity coconstruals as well as semantic interpretation generally. Can syntax sensitive interpretive mechanisms be usefully categorized as constituting or meeting ‘legibility conditions’ along the lines of Chomsky (2000:113)? This issue remains open, but hopefully the modular approach defended here provides a firmer foundation for posing the right questions.

NOTES

*Acknowledgments.

Note N1: These could be node labels or features or a ‘bare phrase structure’ analysis - it is immaterial for the discussion here.

Note N2: In most, and perhaps all, situations, a sister to a probe is not its goal, but is its selected complement, which is a relation different from Agree in certain respects (see Chomsky, 2001:8-9 and fn.6,42). If complements selected by lexical heads participate in Agree, then ‘is *either the sister of α or is contained in...*’ must be added.

Note N3: Actually Kayne appears to be defending a claim stronger than (11a), according to which all coconstrual, not just dependent identity, must arise by movement, since he claims that no coconstrual is accidental. On such an account, covaluation that is not dependent identity would also have to be derived from copy relations established by movement. For standard cases used to distinguish dependency and independent coconstrual, such as i. (essentially an example from Higginbotham (1995:570)), it appears to be the right result that *John* cannot depend for its reference on *he*, but the whole point of the way B puts it is that *John* and *he* should be coconstrued.

i. Scenario: A and B are sitting in a café and B says he sees John.

A: That couldn’t be John. He’s supposed to be in Mexico.

B: Well, he’s putting on John’s coat.

Standard accounts treat this as a case where dependency is blocked, but a pragmatic effect of some sort overcomes the expectation of non-coconstrual (see, for example, Fiengo and May, 1994:10, or for the origin of this way of putting it, Safir, 2004b:9). A proponent of the view that all coconstrual relations are movement outputs account must relate *he* and *John* by movement because they are coconstrued, precisely the opposite of what the movement theory is claimed to derive for Principle C effects. This seems a hopeless avenue which is susceptible to any number of fatal criticisms that would take us too far afield (see Safir, 2003, 2004b:126-135), so for

presentational purposes, I will treat Kayne's account as defending (11a).

Note N4: In Safir (2004b), it is allowed that Kayne's theory might succeed in deriving Principle C despite its other problems, a view I reject here.

Note N5: This is a general issue with sideward movement, which is generally justified by the need to satisfy theta-roles. In Nunes (2004) and references cited there, parasitic gaps are derived by sidwards movement to the *to* object in *i.* and movement from there to the initial position c-commanding both copies.

i. *Who* [did [John talk to *who*] [without insulting *who*]]

Movement to the *to* object position satisfies the theta role of *talk to* (and a definition for chains then sorts out a mapping between roles and chains) but neither Agree or Boeckx's (2003) 'Match' provide triggers for such movements.

Note N6: I abstract away here from cases where a copy is fronted past its antecedent by virtue of remnant movement. In such cases, a copy in a remnant is the same occurrence as the copy in the remerged constituent, as illustrated in *ii.* where copies that will not be pronounced are underlined.

i. Seem to be guilty though Bill did, he did not try to hide.

ii. [seem *Bill* to be guilty] though Bill did [seem *Bill* to be guilty], ...

Thus the occurrence of *Bill* is the infinitive T' in both the remnant and the remerged constituent, and that occurrence is contained in the highest occurrence of *Bill*, which is the tensed T'. It must be assumed that if any occurrence of α is contained in β then α is contained in β for Chomsky's notion of containment to go through, but that said, his notion seems to do some useful work here that would have to be done in any case for the notion presented in the text..

Note N7: Here the theory of deletion may need to characterize such relations, but it is not obvious that the sets of copies that are reduced to one in phonology are defined by a condition of the conceptual interface. Rather, a device that limits phonetic occurrences of α to one (in the typical case) may not have any interpretive effect. Copies, after all, are semantically indistinct from one another (unless the operator variable rule applies), so if the content of one is interpreted, there is no additional information provided by interpreting another. However, if the phonology interprets more than one copy and pronounces it, there is a difference at the phonetic-articulatory interface.

Note N8: See Safir (2004a:chapter 1), where it is argued that the Reinhart and Reuland (1993) notion of CHAIN is unnecessary to account for anaphoric relations and otherwise unmotivated.

Note N9: Hornstein's attempt to relate pronouns in islands relative to their antecedents as bound variables, as in *Everyone knows a man who (John says that Mary thinks) can help him*, requires him to introduce a special rule (p.177) to demerge the copy of *everyone* and substitute *him*, violating Inclusiveness. This introduces a global condition on derivational operations, since in order to know that the movement operation is illicit and that a pronoun should be inserted, the condition must evaluate an antecedent-copy relation over a potentially infinite distance, and do so in narrow syntax.

Note N10: Zwart notes that Fulani anaphors are formed from a pronoun and a body part, as in many languages, and that the form can have a literal interpretation. From this he assumes that the anaphoric interpretation is applied in a particular syntactic context. This ignores that fact that not just any body part plays this role in Fulani. Something specific must be said in the lexicon about which body part term is conventionalized to play this role, as discussed in Safir (1996).

Note 11: Something must insure that anaphoric adjuncts, which are licensed by what they are adjoined to, do not permit subextraction by non-local movement, as in i.

- i. Do you remember those boys who we were wondering how it would ever be possible for
*himself/him/*each other to leave?

In accounts where resumptive pronouns are seen as residues of non-local movement (e.g., Boeckx, 2003, and references cited there), some additional stipulation must rule out the stranding of *himself*. Note that in i., *himself* is not prohibited from moving locally to Spec CP of *for*. Once again, appeal must be made to the type of chain that *himself/him* is ultimately included in (perhaps distinguishing A'-chains from A-chains), if it is to be prevented from appearing here.

Note N12: Notice that for the adjunct shell theory, no difficulty need arise for insertion of *[[John][himself]]* into a position where movement of *John* to some theta-position would be blocked because it is non-local; Inability to move non-locally might be argued to force an emphatic interpretation of the adjunct, since *John* would not have an independent theta-role.

Note N13: Not all obligatorily bounded coconstrual relations appear to satisfy Agree, particularly cases where anaphora is possible across a specified subject, and so a different approach to Principle A and movement is taken in Safir 2004a, chapter 5 (e.g., with respect to covert clitic movement). However, if the modified narrow syntax account presented here can be extended to the additional cases, it would be an improvement over the stipulated locality principle in Safir (2004a,b).

References

Bobaljik, Jonathan and Samuel Brown. 1997. Interarboreal operations: Head movement and the extension requirement. *Linguistic Inquiry* 28:345-356

- Boeckx, Cedric. 2003. *Islands and chains: Resumption as stranding*. Amsterdam and Philadelphia: Benjamins.
- Chomsky, Noam. 1976. Conditions on rules of grammar. *Linguistic Analysis* 2: 303-351.
- Chomsky, Noam. 1995. *The minimalist program*. Cambridge: MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries. In *Step by step: Essays in minimalist syntax in honor of Howard Lasnik*, eds. Roger Martin, David Michaels and Juan Uriagereka, 89-155. Cambridge: MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. Michael Kenstowicz, 1-52. Cambridge: MIT Press.
- Epstein, Samuel David, Erich M. Groat, Ruriko Kawashima and Hisatsugu Kitahara. 1998. *A derivational approach to syntactic relations*. Oxford: Oxford University Press.
- Evans, Gareth. 1980. Pronouns. *Linguistic Inquiry* 11: 337-362.
- Fiengo, Robert and Robert May. *Indices and Identity*. Cambridge: MIT Press.
- Fox, Danny. 2003. On logical form. *Minimalist Syntax*, ed. Randall Hendrick, 82-123 Oxford: Blackwell.
- Grodzinsky, Yosef and Tanya Reinhart. 1993. The innateness of binding and coreference. *Linguistic Inquiry* 24: 69-102.
- Higginbotham, James. 1985. On semantics. *Linguistic Inquiry* 16: 547-593.
- Hornstein, Norbert. 1998. Movement and chains. *Syntax* 1:99-127.
- Hornstein, Norbert. 1999. Movement and control. *Linguistic Inquiry* 30:69-96
- Hornstein, Norbert. 2001. *Move! A minimalist theory of construal*. Oxford: Blackwell.
- Kayne, Richard. 2002. Pronouns and their antecedents. In *Derivation and Explanation in the*

- Minimalist Program*, Samuel David Epstein and T. Dan Seely, eds. pp.133-166. Oxford: Blackwell.
- Lasnik, Howard. 1976. Remarks on coreference. *Linguistic Analysis* 2: 1-22.
- Munn, Alan. 1994. A minimalist account of reconstruction asymmetries. In *NELS 24*, ed. Mercé Gonzalez, 397-410. Amherst: University of Massachusetts, GLSA.
- Nunes, Jairo. 2001. Sideward movement. *Linguistic Inquiry* 32:303-344.
- Nunes, Jairo. 2004. *Linearization of chains and sideward movement*. Cambridge: MIT Press.
- Reinhart, Tanya. 1983b. *Anaphora and semantic interpretation*. Chicago: University of Chicago Press.
- Reinhart, Tanya and Eric Reuland. 1993. Reflexivity. *Linguistic Inquiry* 24: 657-720.
- Reuland, Eric. 2001. Primitives of binding. *Linguistic Inquiry* 32:439-492.
- Safir, Ken. 1996. Semantic atoms of anaphora. *Natural Language and Linguistic Theory* 14:545-589.
- Safir, Ken. 2003. Anaphors, movement and coconstrual. In *Festschrift for Christer Platzack*, eds. Lars-Olof Delsing, Cecilia Falk, Gunlög Josefsson, and Halldór Sigurðsson. Lund: Institutionen för nordiska språk.
- Safir, Ken. 2004a. *The Syntax of Anaphora*. Oxford: Oxford University Press
- Safir, Ken. 2004b. *The Syntax of (In)dependence*. Cambridge: MIT Press.
- Safir, Ken. 2005. Abandoning Coreference. In *Thought, reference and experience: Themes from the philosophy of Gareth Evans*, ed. José Luis Bermúdez, 124-163. Oxford: Oxford University Press.
- Safir, Ken. 2006. Strict readings. Ms. Rutgers University.

- Shlonsky, Ur. 1992. Resumptive pronouns as a last resort. *Linguistic Inquiry* 22: 443-468.
- Zaenen, Annie, Joan Maling and Thráinsson. 1985. Case and grammatical relations: The Icelandic passive. *Natural Language and Linguistic Theory* 3:441-483.
- Zwart, Jan-Wouter. 2002. Issues related to a derivational theory of binding. In *Derivation and Explanation in the Minimalist Program*, eds. Samuel David Epstein and T. Dan Seely, eds, 269-304. Oxford: Blackwell.