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Missing Complement Sentences in English: A Base Analysis of Null Complement Anaphora

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0. INTRODUCTION

Sentences like (1b) and (2b) might at first seem elliptical.

(1) a. Are you coming?
    b. I refuse.

(2) a. Is he coming?
    b. I suppose.

At least two analyses of such sentences which would treat them as elliptical deserve mention. One analysis would derive (1b) and (2b) from (3) by way of a deletion rule.[1]

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[1] Alternatively, one could derive (1b) and (2b) by way of deletion from (i), with a proform complement instead of a full complement.

(i) I refuse to.
    I suppose so.

{For arguments that *to* is an auxiliary verb see Pullum [32] and Johnson [24]. For arguments that auxiliary verbs are really propredicates in structures like the first sentence of (i) above (that is, in so-called Verb Phrase Deletion Structures), see Schachter [38].} But not all instances of missing complements have corresponding proform complements. At least some nondeclaratives do not, for example.

(ii) I wonder (*whether/ *so/ *not).

Thus requiring the deletion rule to operate only on a proform source is immediately problematic. Furthermore, the analysis that derives (1b) and (2b) from (i) is open both to some of the criticisms that can be leveled against the deletion analysis presented here in the text and to some of the criticisms that can be leveled against the interpretive analysis immediately below in the text. For these reasons I will not take up this analysis in the text but leave its destruction to the reader.

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(3) I refuse to come.
I suppose he's coming.

A second analysis would derive (1b) and (2b) from (4), with *e* representing a deep (i.e., present in the deep structure after lexical insertion) null anaphor that is interpreted appropriately.[2]

(4) I refuse $[e]_{VP}$
I suppose $[e]_{S}$

This second analysis is argued for in Hankamer and Sag (20) who name the phenomenon Null Complement Anaphora (NCA).

In this article I argue that both of the above analyses fail. Instead, (1b) and (2b) are base generated as is, with no complements of the matrix verb, null or otherwise, at any level in the derivation. (1b) and (2b) are simple intransitive sentences. This analysis is identical to Grimshaw's [17, Sec. 3] with regard to the syntax. However, it differs from hers with regard to semantics. That difference is discussed in sections 1.6 and 2.6 below. The base analysis here was also suggested, without supporting arguments, in Williams [41, fn. 6].

In the arguments below I will make the following reasonable assumption. The null anaphor complements of (4) are to be interpreted in the same way other complements are interpreted. (In fact we'd expect them to be interpreted like other anaphoric complements with at least some theories of anaphora.) Any alternative to this assumption is unreasonable. That is, to claim the null anaphor has some unique interpretation that makes it contrast (in whatever ways come up) with all other complements is to give an already abstract syntactic entity an equally abstract semantic entity and to thus protect this analysis from any possible objections based on interpretation. But an analysis that is protected from any such possible objection is untestable from a semantic point of view. And an analysis that is untestable is a non-analysis. Thus, if we are to take the null complement anaphora analysis seriously, we need to make this (rather minimal) assumption.

Let me call the three analyses Del (for Deletion), NCA (for Null Complement Anaphora), and Base (for Base Generated Analysis).

The arguments below assume a theoretical framework in which semantic interpretation operates relative to a structure before any deletion rules have applied (as in Chomsky and Lasnik [12] and Chomsky [9–11]). This means that any semantic rules will see the structure proposed by Del as distinct from the structure proposed by Base. Also syntactic rules which apply before deletion rules (i.e., the transformations of core grammar) will see these two structures as distinct. Rules that apply after deletion rules will see these two structures as distinct only if the output of deletion is an empty node that remains in the tree as a syntactic entity (and that may or may not be coindexed with the trigger of the deletion, if there is such a trigger). Notice that assuming this framework forces us to see Del and Base as distinct analyses. If, instead, we chose a framework in which deletion rules could precede semantic interpretation rules and at least some of the transformations of core grammar, we could simply allow Del to apply before whatever semantic or syntactic rule we were looking at in order to obliterate any difference between Del and Base. Such a theoretical framework can essentially reduce Del and Base to the same hypothesis (i.e., they would have the same predictive power). Thus the framework I am assuming here is the only "interesting" one with regard to discussing Del, NCA, and Base.

[2] No assumption is made here as to whether or not the empty VP in (4) is immediately dominated by S. That issue is discussed below as it becomes relevant.

The article is organized as follows. Section 1 gives six arguments against Del. Section 2 gives eight arguments against both Del and NCA. From these sections I conclude Base is correct. Section 3 concludes with a brief discussion of the theoretical implications of this study.

1. AGAINST DEL

1.1. LEXICAL GOVERNANCE

This argument is attributed to Ken Wexler by Edwin Williams (personal communication). It is also found in Grimshaw [17]. If Del existed, it would have to be lexically governed: witness (5) versus (6).

(5) (At least we think) John knew. / (At a certain point in his life) John found out.

(6) *(At least we think) he figured out. / *(At a certain point in his life) John discovered.

But lexical governance is a questionable condition on a syntactic rule (see Bresnan [4], Napoli [28], and Herschensohn [21], among others).

If, instead, the relevant verbs were subcategorized to allow empty [the *e* of (4) above] complements (as in the NCA analysis) or optional

complements (as in the Base analysis), there would be no need for lexical governance.

1.2. RELATIVES

Culicover [13:p. 29*ff*] points out pairs like those in (7)–(8) and (9)–(10).

(7) Mary lives in the house which you claimed she lives in.

(8) *Mary lives in the house which you claimed.

(9) Mary lives in the house that you claimed she lives in.

(10) Mary lives in the house that you claimed.

The relative introduced by a *wh*-word does not allow a missing complement with *claim* (or any other verb). That introduced by *that* does. If *wh*-relative clauses involve movement of the *wh*-word from the appropriate position inside the relative clause into COMP, but *that* relative clauses do not involve movement, these facts militate against Del, as Culicover notes. That is, in (7) *which* will have moved from the object position of *in*. But in (8), if Del existed, we would have no way to block the derivation of this ungrammatical sentence: *wh*-movement could apply followed by Del to produce (8). [Notice that we cannot block (8) by letting Del apply before *wh*-movement in a theory where all deletion rules follow *wh*-movement.]

If, instead, (8) involves a null anaphor following *claim* (as in NCA) or no anaphor at all following *claim* (as in Base), then the *which* in COMP would have no source from which it could have been moved. Thus 8 would never be generated.[3]

[3] The major weakness of the above argument is that it relies on one rather unusual assumption. In order to see that assumption consider that derivation of (10) consistent with the above account of (8). No movement or deletion rules will have applied in (10): its surface structure is identical (for our purposes) to its deep structure. But typically analyses of *that* relative clauses which do not involve movement involve deletion instead (as in Bresnan [6:357] especially). And a very common claim about relative clauses is that they contain a node identical to (i.e., coreferential with) the head of the relative clause (see Akmajian and Kitagawa [1], Chomsky [8:81, 92], and Kayne [25:203], among others). In (10) Relative Deletion could not apply because there would be no node identical to the head to undergo deletion, given the argument of this subsection. If this analysis of (10) is correct, we would expect that English might allow other *that* relative clauses that contain no node identical to the head but that also do not involve the phenomenon of interest in this article (that is, missing complements). Indeed, this expectation is fulfilled by at least three different structures. First, this expectation is minimally fulfilled by relatives with adverbials as heads. Thus in (i) no node is strictly identical to the head in the relative clause.

(i) The Sunday (that) I met him, we fell in love.

We cannot say the deep relative clause in (i) is (ii), since (ii) is not grammatical.

(ii) *I met him the Sunday.

Nor does it help us to claim the head in (i) is only *Sunday* and not *the Sunday*, because then the deep relative clause of (iii) would be (iv), which is just as bad as (ii).

(iii) The girl (that) I met is nice.
(iv) *I met girl.

One might object to (i)–(iv) as being real examples of the type required on the grounds that coreference is found here even if strict "identity" is not. But examples like (v) need not even involve coreferential items, since there is no perceived gap in these relatives.

(v) I remember the time (that) John hit Mary.
I know the reason (that) John hit Mary.
I can identify the place that John buried Mary.

Second, this expectation is fulfilled by relatives with so-called Verb Phrase Deletion (VPD) structures if VPD structures are base generated (as Schachter [38] and Napoli [30] argue).

(vi) I'd never invite the same girl that John would.
(cf. *I'd never invite the same girl which John would.)
I'll invite the girl that John wanted to.
(cf. *I'll invite the girl which John wanted to.)

Notice that both *that* and *wh*-relatives are possible if the subject of a VPD structure is coreferential with the head, as expected.

(vii) Any man who/that can, is invited.

Third, this expectation is minimally fulfilled in the very informal speech of some speakers (my own included, but not that of my anonymous *Linguistic Analysis* referee). Here are three examples in order of decreasing acceptability for me.

(viii) That's the book that the ending drives me crazy.
(cf. *That's the book which the ending drives me crazy.)
That's the church that the organ I was telling you about is magnificent.
(cf. *That's the church which . . .)
That's our poor old Volvo that the block is cracked.
(cf. *That's our poor old Volvo which . . .)

Thus while we must say the derivation of (10) does not involve Relative Deletion in order to be consistent with the discussion of (8), there do seem to be other relative clauses that lend themselves to an analysis that involves neither movement nor deletion in English. We could then replace the coreference requirement of relatives with a requirement that every relative clause be able to be construed as modifying the head—a functional rather than syntactic requirement. This is what Chomsky [11:13] calls an "aboutness" relation. And, as Chomsky notes, it is possible "to devise a system of logic in which vacuous quantifiers are permitted in well-formed expressions, but simply ignored in interpretation." Thus there is no a priori argument against the existence of relatives that bear only an "aboutness" relation to their head and do not contain an NP coreferential with the head. Note that Chomsky does not argue for a functional requirement on relatives. He merely discusses the issue, and makes a brief suggestion as to why relatives without NPs coreferential to the head do not occur in English. But, on the contrary, it appears that they do occur. I will, therefore, not consider the necessary derivation of (10) to be a serious drawback to the argument against Del presented above in this subsection.

Before leaving this subsection, let me point out that both (8) and (10) are out if a proform complement is present.

(11) *Mary lives in the house which you claimed so.

(12) *Mary lives in the house that you claimed so.

These facts can be accounted for regardless of which analysis of missing complement sentences we consider, depending upon our analysis of *so*. [Note that a base generated analysis of *so*, contrary to that offered by Hankamer and Sag [20], would allow the simplest account of (11)–(12).]

1.3. STRUCTURAL IDENTITY

Hankamer and Sag [20] offer an argument against Del based on the claim that syntactic deletion requires "that the syntactic antecedent (when there is one) be structurally identical to the form that the anaphorized complement would have taken were it present" [20:413]. But missing complements do not observe this requirement.[4]

(13) [=H&S's (64c)] Nobody else would take the oats down to the bin, so Bill volunteered.

[4] The requirement Hankamer and Sag have claimed exists on deletion rules is a necessary one, but it is not sufficient. There are instances of what even Hankamer and Sag would call "deep" anaphora that observe this requirement.

(i) Someone had to buy the eggs, dye them, and hide them, so Bill was nice and he did precisely that (in that order).
(ii) *The eggs had to be bought, dyed, and hidden, so Bill was nice and he did precisely that (in that order).
(cf. The eggs . . . , so Bill was nice and he did it.)

To see that this would involve a "deep" anaphor for Hankamer and Sag, note iii.

(iii) (Situation: I'm stuck in a traffic jam. The guy in the next car gets out and starts jogging around his car. I say to my passenger,)
Let's do precisely that!

Thus if a phenomenon does not exhibit this characteristic, we can conclude syntactic deletion is not involved. But if it does exhibit this characteristic, we cannot conclude syntactic deletion is involved. In particular, VP Deletion, which Hankamer and Sag use as their example of a syntactic deletion rule to contrast to (13)–(14) in the text, need not be a syntactic deletion rule just because it exhibits this characteristic. And Schachter [38] has argued that VP Deletion is not a syntactic deletion rule. (Notice, by the way, that in the context for iii above, we could as well have said a sentence with VP Deletion, like *Shall we?* or *Want to?*, contrary to Hankamer and Sag's claim that VP Deletion cannot be pragmatically controlled. See also Schachter [37]. This fact about VP Deletion will be of use to us in 1.4 below.)

(14) [=H&S's (65c)] The oats had to be taken down to the bin, so Bill volunteered.

Thus Del cannot be responsible for (14).

Let me point out that Hankamer and Sag take (14) as evidence that NCA exists. However, (14) is compatible with both NCA and Base.

1.4. ADVERBIALS

There are adverbial clauses in which a nonproform complement is accepted, a missing complement is accepted, and the proform complement *to* is accepted, but the proform complement *so* is rejected. (No claims of synonymy are intended or needed here.)

(15) John left {after / before / when} Mary said he would (leave).

(16) John left {after / before / when} Mary said to.

(17) John left {after / before / when} Mary said (*so).

These data look baffling at first. But noting just a few facts can help us to sort out the relevant factors operating here. First, adverbial clauses like those in (15)–(17) are syntactic islands. Second, deletion rules have been argued to be sensitive to island constraints (Bresnan [5]).[5] Third, the phenomenon known as VP Deletion can be pragmatically controlled (see fn. 4 above). Fourth, *so* in (17) cannot be pragmatically controlled, requiring a syntactic controller (Hankamer and Sag [20]). Finally, VP Deletion is best analyzed as base generated (as in Schachter [38] and Napoli [30]).

[5] Whether deletion rules obey island constraints has been debated in the literature (Ross [34], Wasow [40], among others). But with regard to the rules that appear to violate island constraints studied in these debates, a deletion analysis may well be inferior to a base generated analysis (as argued in Napoli [30]). However, among the best motivated deletion rules is comparative deletion, and this rule obeys island constraints (see Bresnan [5]). For this reason I am taking the position that bona fide deletion rules obey island constraints.

We can now explain most of the data in (15)–(17). *So* is excluded from (17) because its generation (or, alternatively, its interpretation) would violate the adverbial island constraint. But VP Deletion is possible in (15) and (16) because no violation of the adverbial island constraint is involved. What we have here is a base generated form [*would* in (15) and *to* in (16)] that can be interpreted through pragmatic means (where such means are, naturally, not sensitive to island constraints).

The only remaining fact to account for is why a missing complement is possible in (17). If Del existed, its application would violate the adverbial island constraint, and we would expect (17) to be bad. Since (17) is good, Del must not exist. But with NCA we correctly expect (17) to be good because the null anaphor here would be base generated and would be open to pragmatic control (as demonstrated by Hankamer and Sag [20]). Likewise, with Base we correctly have no reason to expect (17) to be bad. Since no syntactic operation applies in (17), no violation of the adverbial island constraint can arise.

1.5. COMPARATIVES

In comparative clauses we find the same range of data we found in adverbial clauses discussed in section 1.4 above.[6]

(18) a. John shouted louder than you thought he did.
b. John shouted louder than he expected (to).
c. John shouted louder than you thought (*so).

Bresnan [5] (among others) has shown that comparative clauses are islands. Given this fact, we can use here the argument of section 1.4, mutatis mutandis, to show that Del cannot exist. Instead, either NCA

[6] Note that Comparative Ellipsis cannot be taken to have applied in (18a–c). Comparative Ellipsis (if it exists, see Napoli (29) for arguments against the existence of CE) obeys subjacency.

(i) John shouted louder than Bill shouted. (without CE)
John shouted louder than Bill. (with CE)
(ii) John shouted louder than you said Bill shouted. (without CE).
*John shouted louder than you said Bill. (with CE)

Since CE cannot operate in (ii), it also cannot operate in (18a–c). Thus (18a–c) are examples of missing complement sentences. See also Kuno [26].

or Base is the correct analysis of the missing complement phenomenon.[7]

1.6. CONCEALED QUESTIONS

Grimshaw [17, section 5] points out that missing complement sentences that have a verb that allow an embedded question as the verb whose complement is missing can appear where there is no identical complement elsewhere in the linguistic structure. Consider (19).

(19) a. Bill asked me the time, so I inquired.
b. *Bill asked me the time, so I inquired the time.

Since *inquire* is not subcategorized for a simple NP complement [as (19b) shows] but for an S complement, (19a) must be an example of a missing complement sentence. If Del existed, there would be no controller for the deletion here, so it should not be able to apply to (20) to give (19a).

(20) Bill asked me the time, so I inquired what the time was.

If NCA existed, and if NCA required an antecedent question for (19a), NCA would fail here because of the lack of an appropriate antecedent.

Grimshaw (17) offers a third alternative. Seeing problems in pro-

[7] There are two other arguments offered by Hankamer and Sag [20] against Del. Both of them fail, however. The first argument [20:412] is based on the "missing antecedent phenomenon," discussed in Grinder and Postal [18]. But from Williams [41:693–4] we can see that this test is not a reliable diagnostic for syntactic deletion, since elements like *that* and *those*, which even Hankamer and Sag would have to call "deep" anaphors, can be understood to "contain" missing antecedents. For this reason I will not present Hankamer and Sag's argument in the text.

The other argument [20:419] is based on the claim that a sentence like (i) is ambiguous between a "stupid" and a "sensible" reading, whereas (ii) is unambiguous (with only the "stupid" reading).

(i) I claimed that she was older than she was.
(ii) [=H&S's (99)] I claimed that Sue was older than she was, and Lennie agreed.

But no one I have asked (out of a dozen speakers, none of whom are linguists) finds (ii) to be limited to the "stupid" reading. Instead, everyone I asked saw only the "sensible" reading (and judged the sentence fine with that reading) until I specifically pointed out to them the possible "stupid" reading, in which case they all also accepted that reading. For this reason, I find fault with Hankamer and Sag's argument and I will not reproduce it in the text.

Sag and Hankamer [36] present no new arguments against either Del or Base.

posing a null anaphor in the syntax, she proposes that syntactically there is no complement in a missing complement sentence. But she also proposes an interpretive rule, called the Null Complement Rule, which copies well-formed sentential formulae of logical form to supply an interpretation for missing complements. Now Grimshaw can offer a semantic explanation for (19a) along the following lines. She points out that *the time* in (19a) will be represented in logical form as a question—in fact, the question *what the time was*. So her Null Complement Rule can copy this question into the complement of *inquire* in logical form and (19a) will receive the same interpretation (20) receives. If NCA were to operate like Grimshaw's Null Complement Rule, then the data here can be handled by NCA, after all.

An alternative pragmatic explanation (which would be the explanation required by Base) for (19a) utilizes only facts about appropriate contexts for sentences. *So* in (19a) implies a relationship of cause and effect. We are, therefore, to take the inquiring in the second clause as a result of the asking in the first clause. Since Bill was asking the speaker about the time, we infer that the speaker then inquired about the time. If the speaker were to have inquired about something other than the time, the use of *so* in (19a) would be inappropriate, particularly in the absence of explicit information that the expected inference did not hold.

The data here, then, supply an argument against Del and against one formulation of NCA, but not against Grimshaw's analysis.

2. AGAINST BOTH DEL AND NCA

2.1. TAGS

Missing complements can occur in tags of the following type.

(21) He's coming, I think/expect/suppose.

Ross (35) has argued that these tags are derived by a rule called Slifting from a structure in which they embed what becomes the surface matrix clause. There are problems with this analysis, many of which Ross himself carefully points out. Let me here note just one problem that is significant for us. The sentences with negative tags in (22) are to be derived, according to Ross, from those in (23b) after a rule of *Not* Copying (copying the embedded S's negative onto the immediately higher clause) has applied to the sentences in 23a. If Slifting, an optional

rule, does not apply, then *Not* Deletion, an obligatory rule, must apply to (23b).

(22) He's not coming, I don't think/expect/suppose.

(23) a. I think/expect/suppose he's not coming.
b. I don't think/expect/suppose he's not coming.

Notice that *Not* Deletion would have to be global, deleting only *not*'s that had been copied onto higher clauses, otherwise we would have no way of preventing a *Not* Deletion rule from freely deleting *not* out of any clause immediately embedded under another negated clause (see Ross's fn. 27). Given this problem (which I return to below) plus the other problems he points out, I will assume that the tag in (21) is base generated as a tag and not by way of Slifting.

While missing complements occur in these tags, full complements and proform complements do not.[8]

(24) a. He's coming, I think $\left\{\begin{matrix}\text{*he's coming}\\ \text{*so}\end{matrix}\right\}$.

b. I'm coming, I expect $\left\{\begin{matrix}\text{*I'm coming}\\ \text{*so}\\ \text{*to}\end{matrix}\right\}$.

c. He's not coming, I don't suppose $\left\{\begin{matrix}\text{*he's coming}\\ \text{*so}\end{matrix}\right\}$.

d. *He's not coming, I suppose not.

If Del existed, then we would have to claim Del was obligatory in this context. Even if we were to allow functional conditions on rules, we cannot say the reason for Del's being obligatory is to avoid redundancy, since semantic interpretation rules will operate off a level of structure before Del (and other deletion rules) apply. Thus we are left with an apparently ad hoc condition on Del: it is obligatory in tags of this sort.

[8] I am taking *not* to be a proform S complement, the negative counterpart to *so*. Notice that *not* follows the pattern in 28 below that we would expect if it were a proform.

(i) John might be right, even though I strongly suspect not.
(ii) Even though I strongly suspect not, John might be right.
(iii) Even though John might be right, I strongly suspect not.
(iv) *I strongly suspect not, even though John might be right.

Also, *not* behaves in the way expected of a proform in section 2.7 below and elsewhere in this article.

The problem for NCA is even more glaring. Not only do we obligatorily generate a null complement in the base in these tags, but we have no syntactic or semantic reason for doing this. If we really have a complement here, null though it may be, it has the same syntactic and semantic status as any other unanalyzable complement: i.e., the same syntactic and semantic status as proforms such as *so*, *to*, and *not*.[9] But none of these proforms can occur here. Thus the restriction on the base is unquestionably ad hoc.

Base, instead, not only does not require any ad hoc conditions on rules of grammar, it is also explanatory in a way no other analysis could be. Consider (24) again. Let us assume that full complements and proform complements are all excluded for the same reason (perhaps redundancy). If Base is the correct analysis of missing complement sentences, these sentences are neither semantically nor syntactically equivalent to the corresponding sentences with full or proform complements. In particular, tags such as those in (21) must be interpreted as meaning simply that I hold an opinion or expectation, with no assertion made as to what that opinion or expectation is. Pragmatic factors, such as Grice's [16] maxims, will tell us that if the utterance is to be interpreted as relevant toward making the discourse proceed,

[9] Restrictions on the distribution of empty categories (as in Chomsky [10, 11] will not predict that the [e] of NCA have a different syntactic distribution from phonetically realized proform or full complements. Consider the syntactic status of this [e] with NCA. [e] is not trace (since no movement is involved here). It cannot be pro (the "little" pro of Chomsky [11]) since it is not coindexed with INFL. And finally, it cannot be PRO since then we would never expect it to alternate with phonetically realized complements, but it does, as in,

(i) I suppose (so). I suppose (he's coming).
I refuse (to). I refuse (to come).

One might object that since these complements are of the category S and not NP, they will not be assigned case and thus they can be ungoverned. In that instance, both PRO and phonetically realized complements could alternate if the complement is ungoverned. But what would prevent the verb of (i) from governing its S complement? Notice that verbs allowing null complements can govern their complements in other sentences (where the complement is nonnull).

(ii) I expect John to leave. (cf. I expect (so).)

It appears that the system developed to account for empty categories in Chomsky [10, 11] is most useful for NPs and not for Ss. Thus the assumption I am using in the text is that the [e] of NCA should have the same distribution in the base as phonetically realized complements and any surface differences in distribution should follow from independently established principles and rules of the grammar. In (24) in the text, I see no independently needed grammatical mechanisms that would block the phonetically realized complements.

then the opinion or expectation held should be one that we can glean from elsewhere in the context. With tags like those in (21), the obvious place to look for the opinion or expectation is the sentence to which the tag is attached.

The tag, then, is little more than an indication of agreement with the preceding sentence. Now notice that English is a language with what Pope [31] describes as a "positive–negative answering system." When we wish to show agreement with a question, we answer with "yes" or "no" depending strictly on the polarity of the (matrix clause of the) question. A difference of polarity between the question and answer, on the other hand, indicates disagreement (or disconfirmation), as shown below.

(25) Q. Is it hot today?
A. 1. Yes (, it is hot today). Positive Agreement
2. No (, it isn't hot today). Negative Disagreement

(26) Q. Isn't it hot today?
A. 1. No (, it isn't hot today). Negative Agreement
2. Yes, it is (hot today). Positive Disagreement

Consider again my claim that the tag in (21) is merely an indication of agreement. We would expect, then, that if we were to add such a tag to indicate agreement with a negative sentence, the tag would have negative polarity also. This is precisely what happens, as seen in (22) above. Only with an analysis that allows us to see the tag as a simple indication of agreement (much like "yes" and "no") can we see the polarity of the tag in (22) as expected given the pattern in (25)–(26). In any other kind of analysis, the polarity of the tag in (22) is problematic. Base is just the right kind of analysis to allow us to see the tag as an agreement indicator, and, thus, the right kind of analysis to allow us to see the polarity facts in (21)–(22) as determined by the agreement system of English in general. Base offers us an insight that the other analyses of missing complement sentences miss entirely.

2.2. BACKWARDS ANAPHORA CONSTRAINT

This argument is attributed to Ken Wexler by Edwin Williams (personal communication). The Backwards Anaphora Constraint (BAC) restricts a proform from both preceding and commanding its antece-

dent.[10] Thus *he* can be understood as coreferential with *John* in (27a–c) but not in (27d).

(27) a. John left, after *he* made his bed.
b. After *he* made his bed, John left.
c. After John made his bed, *he* left.
d. **He* left after John made his bed.

The proform complements below obey the BAC, as expected.[11]

(28) a1. John wants to win, even though he won't try *to*.
b1. Even though he won't try *to*, John wants to win.
c1. Even though John won't try to win, he wants *to*.
d1. *John wants *to*, even though he won't try to win.
a2. I expect Mary can do it, even though you don't think *so*.
b2. Even though you don't think *so*, I expect Mary can do it.
c2. ?Even though you don't think Mary can do it, I expect *so*.
d2. *I expect *so*, even though you don't think Mary can do it.

[Note that the asterisks in (27d) and (28d1) and (28d2) indicate ungrammaticality with the intended reading only.] But missing complements do not exhibit this pattern. (29a–d) are all acceptable sentences.

(29) a1. John succeeded in impressing, even though he didn't try____.
b1. Even though he didn't try____, John succeeded in impressing.
c1. Even though John didn't try to impress, he succeeded____.
d1. John succeeded____, even though he didn't try to impress.
a2. John did promise he was coming, although I still worry____.
b2. Although I still worry____, John did promise he was coming.
c2. Although I still worry whether John is coming, he did promise____.
d2. John did promise____, although I still worry whether he is coming.

[10] The exact formulation of the BAC is debatable (see Reinhart [33], among others). In fact, McCray [27] questions the syntactic status of the constraint. Still, typically, the BAC as stated in the text is observed, thus I will assume this formulation of it. Note that in all instances of testing for sensitivity to the BAC, we must try to find contexts for our sentences which preclude pragmatic and/or discourse control of the proform in question.

[11] C2 is marginal for some unknown reason. A better pair for (c2)–(d2) is:

(i) Even though Mary's really smart, you'll never think *so*.
(ii) *You'll never think *so*, even though Mary's really smart.

If NCA existed, then the null anaphors marked by the underlining in (29d1–2) would be violating the BAC and we would expect these sentences to be ungrammatical. Instead, the sentences are fine.

If, on the other hand, Del existed, then this deletion would allow the "trigger" of the deletion to be both commanded and preceded by the deletion site. Since I believe there are, in fact, very few, if any, bona fide deletion rules (see Napoli [30]), it is difficult to test whether deletion in general obeys the BAC or not. But certainly those early linguistic studies that proposed and/or assumed many deletion rules claimed that the rules obeyed the BAC (and even more restrictive constraints, such as being only left to right, as in Hankamer [19]).[12] For example, Gapping, which is often taken to be a deletion rule (as in Stillings [39]) obeys the BAC.

(30) *John pears and Sue bought apples.
(cf. Sue bought apples and John pears.)

Thus even with Del we would incorrectly expect (29d1–2) to be ungrammatical.

Base, obviously, is presented no problems by the fact that the examples (29d1–2) are good. Base posits no null anaphor in (29d1–2), thus no question of a possible violation of the BAC arises.[13]

[12] Hankamer [19] claims the only deletion rules which can operate right to left are pronominalization rules (where proforms for him are the result of deletion and insertion) and "fishing rules" (see his Section 4.4), which he suggests may be formulated to incorporate a pronominalization stage. Thus nonpronominal deletion rules would operate only left to right and therefore (trivially) obey the BAC.

[13] Hankamer and Sag [20, fn. 21] claim that missing complements do obey the BAC. They star (i).

(i) I don't approve, even though she's old enough to drive a truck.

I have uttered this sentence to dozens of native speakers of English. No one yet has found it unacceptable in the slightest way. I have no explanation for this difference in judgment. But over and over again we find what would be instances of a violation of the BAC if NCA existed. Just a few examples that everyone I asked found acceptable are given here.

(ii) I (still) wonder, even though Homer has promised to come.
I (still) worry, even though Homer has promised to come.
Bill volunteered, so we let him carry the canoe.
Bill offered, so we let him carry the canoe.
Bill agreed, so we practiced jumping off his car.

This one comment of Hankamer and Sag's constitutes one of only two arguments they put forth against Base. Their only other argument against Base is refuted in section 2.6 below.

2.3. CONTROL VERBS

Kuno [26:148] notes the following pair as examples of constraints on missing complements (although he does not discuss the analysis of these structures).

(31) Q. Did John persuade Mary to go?
A. Yes, he persuaded her.

(32) Q. Did John expect Mary to win?
A. *Yes, he expected her.

Missing complements can occur after V NP when we have what is classically called an "Equi" structure [as in (31A)], but not when we have what is classically called a "Raising" structure [as in (32A)].

If Del exists, and if Raising into Object Position exists, we might try to account for (31A) vs. (32A) by restricting Del to S complements only, and never allowing it to apply to VP complements. There are, however, serious problems with this solution. First, assuming Raising exists, the VP of the lower clause must still be dominated by S in order to account for the failure of (33).[14]

(33) *I expect her to like myself.
(cf. I expect her to like me.)

So, then, we might try to restrict Del to only those S complements that branch. But Del can apply to Equi structures as in (1b), where S dominates only VP, so this alternative also fails. Note that we cannot rescue this hypothesis by claiming Equi structures as in 1 involve VPs immediately dominated by VP in the base (so-called orphan VPs, as Bresnan [3, 7], among others, proposes), since then Del would have to be allowed to delete VP [as in (1)] and then we would have no way to block (32A).

If, on the other hand, Del exists but Raising into OP does not exist, we could block (32A) by restricting Del to S complements again, and never VP complements. Again this necessitates our analyzing all Equi structures as having underlying full Ss and not base generated orphan

[14] This conclusion holds whether we take the position that reflexive pronouns must have a clausemate antecedent or whether we assume a government and binding analysis of reflexivization. So even if we could do Raising into Object Position in a GB theory (which we cannot for multiple reasons), (33) would still provide evidence that *myself* is contained in a governing category which does not contain *I*. Therefore, *myself* is contained in an S which does not contain *I*, since there's no other candidate for a governing category for *myself* here.

VPs. Thus this analysis is workable, given a particular analysis of "Raising" and "Equi" structures.

Now consider the facts if NCA exists. Let us first assume Raising into OP exists. Then we can say we base generate $[e]_S$ but never $[e]_{VP}$. Thus (31A), which is "missing" an S complement, is generated with $[e]_S$. But (32A) cannot be generated, since *her* could never have been raised out of a null complement. In order to account for (1), we will have to say that Equi involves base generated Ss, and not VPs.

If Raising into OP does not exist but NCA does, again we can account for (31A) vs. (32A) by claiming only $[e]_S$ is base generated and never $[e]_{VP}$. And again Equi in (1) must involve an embedded S in the base.

Finally consider these facts if Base exists. To account for (31A), we merely claim that the propositional argument of *persuade* is optional (a fact handled by strict subcategorization rules). To account for (32A), all we need note is that *expect* takes a nonpropositional object argument or a propositional object argument but never both. In either instance, that object argument is optional (again, a fact handled by strict subcategorization rules). Then (32A) will never be assigned an intransitive reading (which is the reading associated with Base), since it has a nonpropositional object—and is, therefore, transitive. (32A) fails not because it is ungrammatical, but because it is inappropriate for that context. As Grimshaw [17:289] notes, "a discourse which violates pragmatic conditions on responses will be ill-formed even if the response itself is interpreted in a way that is consistent with selection." (32A) is an inappropriate response to (32Q) because in (32Q) we are questioning a propositional object of *expect*, but in (32A) we are offering a nonpropositional object of *expect* as an answer. This account of (31A) vs. (32A) holds regardless of one's analysis of "Equi" and "Raising" structures. That is, all theories agree, so far as I know, that *persuade* is a 3-place predicate whereas *expect* is 2-place. That is the only fact utilized by Base to explain these data.

In sum, all three analyses can account for the data. But both Del and NCA require that a certain analysis of "Equi" structures be adopted, and Del also requires a certain analysis of "Raising" structures, plus the ad hoc claim that S can be filled by a null anaphor in the base but VP cannot. Since the analysis of "Equi" and "Raising" structures is highly debateable, if we have an analysis of missing complement sentences of comparable simplicity and adequacy that is independent of one's analysis of "Equi" and "Raising" structures, this alternative analysis is to be preferred on a priori grounds. Base is just such an analysis.

Note that this argument does not claim Del or NCA must be incor-

rect. It merely says that if all other factors are equal, we should choose Base on theoretical grounds.

2.4. *ONE OF THEM*

Jerry Morgan (personal communication) has pointed out to me a problem for the analysis of VP Deletion that involves phrases like "one of them." In this subsection I give the analogous problem for the analysis of missing complement sentences.

Consider sentences like those in (34)–(35).

(34) John was going to buy Mary a cake and she was supposed to give him the money, but one of them forgot____.

(35) Mary wanted to get married and Bill wanted to marry her, but at the last minute one of them refused____.

The problems for Del and NCA are similar: What is the antecedent of the so-called gap that either triggers the deletion (as in Del) or accounts for the interpretation (as in NCA)? We'd have to claim that sentences like (34)–(35) are ambiguous, where one reading of (34), for example, has John forgetting to buy Mary a cake and another reading of (34) has Mary forgetting to give John the money. But this is not, in fact, the way people understand these sentences. They are not ambiguous sentences: they do not have two distinct meanings. Instead, they mean precisely what they say: that either John or Mary forgot. Which one forgot is not part of the meaning of this sentence. That information is not given us. In fact, understanding that that information is not given us is crucial in understanding the sentence.

Base, on the other hand, encounters no problem with (34)–(35). There is no complement of *forgot* or *refused* at any level of the derivation, so questions of antecedents and corresponding interpretations don't arise. Here Grice's [16] maxims can again be helpful. Given that speakers are supposed to cooperate by being relevant, to say "one of them forgot" is to invite the listener to conclude for (34), for example, that either John forgot to buy Mary a cake or Mary forgot to give John the money. This invited inference (to use Geis and Zwicky's [15] term) holds even if the speaker doesn't know who forgot.

(36) A: Where's the cake?
B: John was supposed to buy it and Mary was supposed to give him the money, but one of them forgot.

A: Who forgot?
B: I don't know. Mary wouldn't tell me.

But as expected this invited inference can also be cancelled.

(37) A: Mary wanted to get married and Bill wanted to marry her, but at the last minute one of them refused.
B: Oh, yeah? What happened?
A: Well, Mary arrived at the church and refused to enter. Her old violent atheism erupted. And so the minister called the whole thing off, even though both Mary and Bill begged him to marry them in the side yard.

I see no way Del or NCA could handle (36) at all and no way they could handle (37) without claiming speaker A had contradicted himself. But when I have presented (37) to native speakers of English, they may find speaker A "sneaky" or "perverse," but no one feels he has contradicted himself. Base is the only analysis compatible with the data here.

2.5. *ANY* WORDS

Another argument can be made using sentences involving *any* or *any*-words, like those in (38).

(38) If he wants me to hold anything, I'll agree____.
If she needs me to carry anything, I'll volunteer____.
If she says any dirty words, I'll approve____, no matter what her father thinks.

If either Del or NCA exists, we must allow the antecedent (of either deletion or interpretation) to contain an *any* word where the target of the rule (the deletion site or the null anaphor) contains or is understood as containing a *some* word or a definite pronoun in the corresponding slot. While there are ways to handle these facts, Base does not encounter the problem at all. Thus (as in section 2.3 above) Base is to be preferred on a priori grounds, all other factors being equal.

2.6. INTRANSITIVE MEANING

There are sentences in which the same verbs that can occur in missing complement sentences must be analyzed as being intransitive. For

example,

(39) I think, therefore I am.

(40) He had a lobotomy. Now he can't think.

Hankamer and Sag [20:412, fn. 21] give as an argument against Base the claim that verbs with missing complements are understood differently from intransitive uses of those same verbs. Thus, they claim that (41) "means specifically that my wife doesn't approve of my playing cards and shooting dice, not that she just doesn't approve of anything in general."

(41) [=H&S's (ii)] I play cards and shoot dice, and my wife doesn't approve.

Grimshaw [17], whose analysis is outlined in section 1.6 above, agrees with Hankamer and Sag as to the meaning of the missing complement sentences. Thus H&S and Grimshaw are making different claims about the meaning of these sentences from me. They claim missing complement sentences have a specific meaning assigned to the missing complement. I claim there is no meaning, per se, assigned to the missing complement because there is NO missing complement, in fact, but that the overall sentence is interpreted as having a given (limited) meaning enriched by certain inferences invited, as expected, by Grice's maxims.

There are at least two obvious ways to test which claim about the meaning of these sentences is correct, and these involve the predictions made with regard to synonymy and contradiction. That is, the first claim would lead us to predict that we could find instances in which both the intransitive use of a verb and the missing complement were used in a *nonredundant way*, since the two are not synonymous. My claim would predict such instances would never arise. Thus with the first claim one would predict (42A) would have a nonredundant reading (as well as, perhaps, a redundant one), whereas I predict only redundancy.[15]

(42) Q. Why does John try so hard to win?
A. He tries because he tries.

[15] Perhaps "redundancy" is not the best term here. That is, I am predicting (42A) will be similar in its feeling of repetitiveness to sentences like, "War is war." Something other than redundancy is at issue here, as Frank Humphrey (personal communication in 1977) pointed out to me, but it is not necessary to clarify what for this article so long as the distinction between the first claim's predictions and mine is clear.

No one I asked found (42A) ambiguous when first presented with it, and everyone I asked found it redundant (but see fn. 15 above). Certainly with the addition of adverbs that can distinguish between simple present versus generic interpretation of the tense of the verbs in (42A), the answer can emerge as nonredundant.[16]

(43) A. He tries now because he always tries.

But the difference in interpretation between the two clauses in (43A) is not one of having a specific complement (even if it is phonetically null) versus having no complement—but, instead, simply one of tense interpretation. Once (43) is presented to speakers, they often look back at (42A) and find it ambiguous—but the ambiguity, again, is only one of tense interpretations. Likewise, if there is any other difference of tense and/or aspect between the two clauses, (42A) can be rescued from redundancy.

(44) A. He's trying (now) because he tries (always).

On the other hand, the first claim would predict that instances in which a transitive use of a verb and the missing complement use of a verb appeared with opposite polarity would have a noncontradictory reading (as well as, perhaps, a contradictory one), whereas my claim predicts only contradiction. In this light consider (45A).

(45) Q. Why doesn't John try to win?
A. He doesn't try but he tries.

Everyone I asked found (45A) contradictory when first presented with it. Again the addition or change of elements to allow for contrasting tense interpretations can rescue (45A).

(46) A. With regard to elections, he doesn't try, but in general he certainly tries hard.

(47) A. He isn't trying now, but he does usually try.

[16] If you find these examples less than fully acceptable, try (i) in place of (42) and (ii) in place of (43)–(44).

(i) A. Why didn't you refuse to go with him?
B. I didn't refuse because I didn't refuse.
(ii) I didn't refuse because I never (used to) refuse.

Notice that the generic use of the present tense does not require an interpretation of "always"—just of "typically".[17] Thus (46) and (47) are not contradictory. While we might expect that speakers who had been presented with (46) and (47) would return to (45A) and now allow a noncontradictory reading (involving simple present in one clause but generic in the other), for some reason no one I asked found (45A) anything but contradictory. And I agree with my informants.

Clearly the above facts are consistent only with Base and not with Del (where interpretation would operate off a structure before deletion rules had applied to it), NCA (where the null complement would receive a specific interpretation), or Grimshaw's analysis (where the syntactically missing complement is supplied in the logical form to yield a specific interpretation for the complement).

2.7. NEGATION

I came to this argument through a discussion with Allen Browne in 1979. Some verbs with missing complements can comfortably be negated, as in (48).

(48) Don't even try.
He didn't begin.
He won't refuse.

But other such verbs are strange in the negative in some contexts in at least some varieties of English (my own included).

(49) a. He'll never win.

b. I don't { guess / think / suppose / expect } .

The responses in (49b) are decidedly odd for some speakers. Those verbs which have classically been called "Negative Raisers" are precisely the set of verbs that are odd in the negative in a context like (49).

Notice that the utterances in (49b) are perfectly acceptable or at worst marginal in other contexts, as seen in (50).

[17] Actually, the interpretation of generic tense need not require even a sense of "typically". See Dahl [14] among others for relevant discussion.

(50) a. I don't guess. I know. In ALL situations, I know.
b. I don't think. I prefer watching television.
c. ?I don't suppose. Rather, I argue, no matter what position I like.
d. ?I don't expect. After a tough childhood like mine, I simply wait.

The problem is that these utterances are nonsequitors in (49b). Only the generic tense interpretation of the verb is allowed here. Apparently the invited inference associated with a specific tense interpretation (that what I don't guess, for example, is that he'll win—see section 2.6 above for more discussion) is somehow blocked.

These facts are at first a puzzle. But if we consider the fact that the problem arises only with "Negative Raisers," we can extract from these facts an argument for Base.

First, consider Del. Whether the effect called Negative Raising is (1) the result of a transformation, or (2) the result of scope interpretation of a base generated matrix negative, or (3) the result of pragmatic factors, Del offers no explanation as to why (49b) should resist the interpretation we'd assign to the corresponding sentences with full complements or proform complements.

Second, consider NCA. Notice first that the context in (49) is an appropriate one for sentences with proform complements. Thus (51) give fine responses to (49a).

(51) I { guess / think / suppose / expect } not. I don't { guess / think / suppose / expect } so.

With an interpretive or pragmatic account of the effect known as Negative Raising, there is no obvious explanation as to why a null anaphor should be inappropriate in (49b) but a proform should be appropriate in (51). With a transformational account of the effect known as Negative Raising, if both *so* and *not* are "surface" anaphors in Hankamer and Sag's terms, we could order Negative Raising before the rule which derives *so/not*. Then (51) could be generated. (49b), however, could never be generated since NCA posits a base null anaphor here, so a negative could never be "raised" out of this null complement. Notice that while we can account for (51) versus (49b) with NCA (ordering Negative Raising before *so/not* pronominalization, an ordering that would be natural if Negative Raising belonged to Sentence Grammar

and *so/not* pronominalization belonged to Discourse Grammar, given that rules of Sentence Grammar should apply before rules of Discourse Grammar), our account requires that Negative Raising be a transformation, a position which is highly suspect (see Horn [23], among many others, including the references therein).

With Base, however, the facts can be explained simply. If the effect known as Negative Raising is due to a transformation, (49b) cannot be generated with the reading where the negative has scope over some embedded complement since there is no complement for this negative to raise out of. If the effect known as Negative Raising is due to an interpretive rule, the question is one of scope of the negative. The negative cannot be read as having scope over some embedded complement since there is no such complement. And, finally, if the effect known as Negative Raising is due to pragmatic factors, we can explain (49b) by noting that with the generic tense reading no particular complement can be inferred, therefore we cannot go through the usual steps to arrive at the effect that would be desired in 49.[18]

On the other hand, we can account for the acceptability of (51) either by raising the negative transformationally before *so/not* pronominalization or by interpreting the matrix negative as having scope over the complement (whether before or after *so/not* pronominalization), or by the usual pragmatic means (where *so/not* are interpreted like any other complements). Furthermore, if *so* is base generated (contra Hankamer and Sag), we can still account for (51) as long as we have an interpretive or pragmatic account of the effect known as Negative Raising (which, as I mentioned above, is the more likely situation, anyway).

We can see, then, that our account of (49) with Base does not depend on any particular analysis of Negative Raising or of the derivation of *so/not*. Base, then, is clearly superior to both Del and NCA with regard to explaining (49b).

Before we leave this subsection, consider (49) once more for those speakers who find (49b) acceptable in the context given there. Notice

[18] A pragmatic account (briefly) would go like this. Consider (i).

(i) I don't think he's coming.

(i) says that I do not hold opinion X (where X = he's coming). This could be either because I hold no opinion regarding X or because I hold the opinion "not X." Now if I utter (i) and people assume I do have an opinion, people may infer that the reason I do not hold opinion X is that I hold the opinion "not X." Thus people may infer (ii).

(ii) I think he's not coming.

This pragmatic account is essentially the same as that found in Bartsch [2], as far as I can tell from the rendering of Bartsch (which is not available to me) in Horn [22].

that the account of (49b)'s exclusion with NCA above is totally inconsistent with the fact that some speakers find (49b) acceptable. Since NCA will most likely call for a transformational analysis of Negative Raising [see the discussion immediately following (51) above], (49b) should be rejected by all speakers. For Base, the fact that some speakers accept (49b) is not nearly so problematic. The question becomes: Why do some people favor the generic tense interpretation in (49b) so strongly that they cannot get the invited inferences associated with the specific tense interpretations?[19] I cannot answer this. But it seems clear that whatever answer is correct cannot be of a syntactic nature—contrary to any explanation that would be compatible with Del or NCA, but just as expected given Base.

2.8. INTRANSITIVE VERBS

A final (trivial) argument for Base can be deduced from the fact that all verbs which allow missing complements also have what Hankamer and Sag [20:412, fn. 21] would call intransitive uses. If Del or NCA existed, the fact that Del and NCA could apply only to verbs which were also subcategorized to optionally take object complements in the base is accidental. But if Base is correct, this fact is exactly as expected, because missing complement sentences are, precisely, intransitive uses of the verbs in question.

3. IMPLICATIONS

Many arguments have been presented to show that the phenomenon of so-called missing complements in English is really just a case of intransitive verb usages. This result is interesting in a number of ways. First, it is one more example of a phrase structure analysis (the null hypothesis) being superior to any more abstract analysis. Second, it is the only analysis consistent with Napoli's (in progress) hypothesis that there are no deletion rules that operate on a target position that could

[19] The inferences go like this.

(i) I don't guess.

(i) should be relevant as a response to the preceding comment. So let's infer, "I don't guess he'll win" in (49). But since saying what one doesn't guess is not terribly informative if one actually does guess something, let's assume that the reason I don't guess he'll win is that I guess just the opposite. That is, I guess he won't win. (The second inference is simply what I've been calling the Negative Raising effect. See also fn. 18 above.)

have been filled with a proform. Third, it is another example of how Grice's [16] maxims can help us to avoid the mistake of asking our grammar to do more than its job. Fourth, it removes one of a very few crucial rule examples upon which Hankamer and Sag's [20, 36] theory of anaphora rests, threatening that theory further. Fifth, while I cannot here present the Italian evidence, it can be argued (as I do in Napoli [30]) that missing complements in Italian are also best analyzed as instances of intransitive verb usages. Thus the insights gathered here, while using data from English, are not restricted to understanding the grammar of English only.

REFERENCES

1. Akmajian, Adrian, and Kitagawa, Chisato. 1976. Deep structure binding of pronouns and anaphoric bleeding. *Language* 52(1): 61–77.
2. Bartsch, Renate. 1973. 'Negative Transportation' gibt es nicht. *Linguistische Berichte*.
3. Bresnan, Joan, 1971. Sentence Stress and syntactic Transformations. *Language* 42(2): 252–81.
4. ———. 1972. Theory of Complementation in English Syntax. Unpublished doctoral dissertation, MIT.
5. ———. 1975. Comparative Deletion and Constraints on Transformations. *Linguistic Analysis* 1(1): 25–74.
6. ———. 1976. Evidence for a Theory of Unbounded Transformations. *Linguistic Analysis*. 2(4): 353–93.
7. ———. 1978. A Realistic Transformational Grammar. In *Linguistic Theory and Psychological Reality*, Morris Halle et al., Eds. Cambridge, MA: MIT Press, pp. 1–59.
8. Chomsky, Noam. 1977. On Wh Movement. In *Formal Syntax*, Peter Culicover et al., Eds. New York: Academic, pp. 71–132.
9. ———. 1980. On Binding. *Linguistic Inquiry*. 11(1): 1–46.
10. ———. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.
11. ———. 1982. *Some Concepts and Consequences of the Theory of Government and Binding*. Cambridge, MA: MIT Press.
12. ———, and Lasnik, Howard. 1977. Filters and Control. *Linguistic Inquiry* 8(3): 425–504.
13. Culicover, Peter. 1980. Deriving the Comparative from *So*. *Social Sciences Research Reports*, 76. School of Social Sciences. Univ. of California at Irvine.
14. Dahl, Östen. 1975. On Generics. In *Formal Semantics of Natural Language*. Edward Keenan, Ed. Cambridge: Cambridge University Press, pp. 99–111.
15. Geis, Michael, and Zwicky, Arnold. 1971. On Invited Inferences. *Linguistic Inquiry* 2(4): 561–6.

16. Grice, H. Paul. 1975. Logic and Conversation. *Syntax and Semantics 3: Speech Acts*, In Peter Cole and Jerry Morgan, Eds. New York: Academic, pp. 41–58.
17. Grimshaw, Jane. 1979. Complement Selection and the Lexicon. *Linguistic Inquiry* 10(2): 279–326.
18. Grinder, John, and Postal, Paul. 1971. Missing Antecedents. *Linguistic Inquiry* 2(3): 269–312.
19. Hankamer, Jorge. 1971. *Constraints on Deletion in Syntax*. Unpublished doctoral dissertation, Yale.
20. ———, and Sag, Ivan. 1976. Deep and Surface Anaphora. *Linguistic Inquiry*. 7(3): 391–428.
21. Herschensohn, Julia. 1982. The French Presentational as a Base Generated Structure. *Studies in Language*. 6(3).
22. Horn, Laurence. 1975. Neg-Raising Predicates: Toward an Explanation. In *Papers from the Eleventh Regional Meeting: Chicago Linguistic Society*, Robin Grossman et al., Eds. Chicago: Chicago Linguistic Society, pp. 279–94.
23. ———. 1978. Remarks on Neg-Raising. In *Syntax and Semantics 9: Pragmatics*, Peter Cole, Ed. New York: Academic, pp. 129–220.
24. Johnson, Rodney. 1982. The Missing Modal Problem in English Infinitival Complements. Ms. University of Michigan. Ann Arbor, MI.
25. Kayne, Richard. 1981. Binding, Quantifiers, Clitics and Control. In *Binding and Filtering*. Frank Heny, Ed. Cambridge, MA: MIT Press, pp. 191–211.
26. Kuno, Susumu. 1981. The syntax of comparative clauses. In *Papers from the Seventeenth Regional Meeting: Chicago Linguistic Society*, Roberta A. Hendrick et al., Eds. Chicago: Chicago Linguistic Society, pp. 136–55.
27. McCray, Alexa. 1980. The semantics of backward anaphora. In *Cahiers Linguistiques D'Ottawa, 9: Papers presented at the Tenth Meeting of the North East Linguistics Society*. John Jensen, Ed. pp. 329–343.
28. Napoli, Donna Jo. 1981. Semantic interpretation vs. Lexical Governance: Clitic Climbing in Italian. *Language* 57(4): 841–87.
29. ———. 1983. Comparative Ellipsis: A Phrase Structure Analysis. *Linguistic Inquiry* (in press).
30. ———. In progress. Null Anaphors and Proform Anaphors. Unpublished paper. University of MI., Ann Arbor, MI.
31. Pope, Emily. 1973. Question Answering Systems. In *Papers from the Ninth Regional Meeting: Chicago Linguistic Society*. Claudia Corum et al., Eds. Chicago: Chicago Linguistic Society, pp. 482–92.
32. Pullum, Geoffrey. 1981. The Category Status of Infinitival *to*. *Working Papers in Linguistics, 6*. University of Washington: Seattle, WA, pp. 55–72.
33. Reinhart, Tanya. 1976. *The syntactic Domain of Anaphora*. Unpublished doctoral dissertation, MIT.

34. Ross, John Robert. 1967. *Constraints on Variables in Syntax*. Unpublished doctoral dissertation. MIT.
35. ———. 1973. Slifting. In *The Formal Analysis of Natural Languages*. Maurice Gross et al., Eds. The Hague: Mouton, pp. 133–72.
36. Sag, Ivan and Jorge Hankamer. 1980. Toward a theory of Anaphoric Processing. *Stanford Working Papers in Semantics 1, Section E*. Stanford, CA: Stanford University Press.
37. Schachter, Paul. 1977. Does she or doesn't she? *Linguistic Inquiry* 8(4): 763–9.
38. ———. 1978. English Propredicates. *Linguistic Analysis*. 4(3): 187–224.
39. Stillings, J. 1975. The formulation of Gapping in English as Evidence for Variable Types. *Linguistic Analysis* 1(3): 247–74.
40. Wasow, Thomas. 1972. Anaphoric Relations in English. Unpublished doctoral dissertation, MIT.
41. Williams, Edwin. 1977. On "Deep and Surface Anaphora." *Linguistic Inquiry* 8(4): 692–6.