Phrase Structure "Paradoxes" were Already Solved: A Comparison of Bruening (2014) and Larson (2024)

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Abstract

Bruening (2014) argues that syntactic dependencies like binding do not involve c-command, instead they make reference to precedence and to a different notion of command, "phase-command." This proposal solves the problem of phrase structure "paradoxes," where constituency tests point to one structure but dependencies that are supposed to involve c-command require a different one (Pesetsky 1995). Larson (2024) proposes instead that syntactic dependencies do make reference to c-command, while the VP is radically right branching. The facts of constituency tests are accounted for by distributed pronunciation in the copy theory of movement. I compare these two accounts and show that only that of Bruening (2014) is viable.

1 Introduction

Since at least Reinhart (1976), it has been recognized that there are conflicts between standard tests for constituency and syntactic dependencies that are thought to make reference to c-command. For instance, a preposition and its NP complement behave like a constituent for tests such as displacement:

(1) . . . James, [to whom] it needed to be pointed out that leaving the burner on is dangerous,. . .

This means that the NP complement of the P does not c-command anything outside of the PP. Yet complements of Ps participate in relations that are standardly assumed to involve c-command. For instance, as Reinhart observed, complements of prepositions give rise to Condition C effects when they are covalued with an R-expression that follows them and is dominated by the same VP:

(2) * Someone should point out to her$_1$ that Rosa$_1$'s driving is dangerous. (Reinhart 1976: 155, (16b))

Here we have a very clear case of a conflict between constituency and c-command (the "c-" in c-command stands for "constituent").

Pesetsky (1995) dubbed these sorts of conflicts "phrase structure paradoxes," for which various solutions have been proposed (Pesetsky 1995, Phillips 2003, Lechner 2003, Janke & Neeleman 2009). In this paper, I will compare what I believe is the only successful proposal, that in Bruening

(2014), with a recent proposal by Larson (2024). I will show that the proposal in Bruening (2014) is the only one compatible with all of the facts. The proposal in Larson (2024) faces insurmountable problems and cannot be maintained.

2 A Quick Note on Exempt Anaphors

Larson's (2024) paper, unfortunately, presents examples of anaphors inside NPs as though they involve syntactic binding. It is important to set the record straight on these. Apparent anaphors inside NPs were shown to be exempt from binding by Pollard & Sag (1992) and Reinhart & Reuland (1993), and this has been confirmed by much subsequent literature. The reciprocal anaphor *each other* in possessor position is one such exempt anaphor. It does not need a local c-commanding binder in possessor position, unlike *each other* in an object position:

(3) (Janke & Neeleman 2009: 37, (90))
   a. * John and Mary hoped that the psychologist would explain their weaknesses to each other.
   b. John and Mary hoped that the psychologist would explain each other's weaknesses to them.

Larson (2024) presents the following example as illustrating syntactic binding:

(4) Mary said she would give them presents, and [give them presents] she did on each other's birthdays. (Larson 2024: 662, (7a), based on Pesetsky 1995: 230, (570c))

It does not, since *each other* is in possessor position. This is therefore not an example of a phrase structure "paradox," contra Pesetsky (1995) and Larson (2024). However, valid examples like it can be constructed (like those in (11–12) below).

Larson (2024) also presents the following example to argue for the copy theory of movement and distributed interpretation of moved phrases (Chomsky 1993):

(5) Alice_1 asked which picture of $\text{herself}_{1/2}$ Mary_2 bought. (Larson 2024: 669, (22))

The claim is that the anaphor *herself* can either be interpreted in the Spec-CP that it appears in on the surface, in which case it is bound by *Alice*, or it can be interpreted in its base position, in which case it is bound by *Mary*. However, Reinhart & Reuland (1993) argued that there was no reconstruction for Binding Condition A, since anaphors inside picture NPs are exempt from Binding Condition A. Both Pollard & Sag (1992) and Reinhart & Reuland (1993) showed that apparent anaphors inside picture NPs do not need syntactic binders at all. This is also true when the picture NP is a wh-phrase:

(6) Susan was perturbed. How many pictures of herself were taken in that pub, anyway? (Bruening & Tollan to appear)

In this example, the antecedent for *herself* does not even appear in the same sentence. Given this, there is no reason to think that reconstruction and the copy theory play any role in "binding" in Larson's example. The exempt anaphor takes its antecedent based on something like point of view.

I will not use any such examples in this paper. I will make sure that the examples I use to illustrate syntactic binding do in fact involve syntactic binding, and do not include exempt anaphors.

With this out of the way, we can go on to compare the two proposals.

3 The Two Proposals

I begin with Bruening (2014), and then describe the proposal of Larson (2024).

3.1 Bruening (2014)

Bruening (2014) argues that many syntactic dependencies (in particular, the Binding Conditions) depend not on c-command, but on precede-and-command. Consider the formulation of Binding Condition C below:

(7) Binding Condition C: An R-expression may not be covalued with an NP that precedes and phase-commands it.

That is, syntactic dependencies like Binding Condition C refer to both precedence and to a different notion of command, phase-command. Phase-command is defined as follows:[1]

(8) Phase-Command: X phase-commands Y iff there is no ZP, ZP a phasal node, such that ZP dominates X but does not dominate Y.

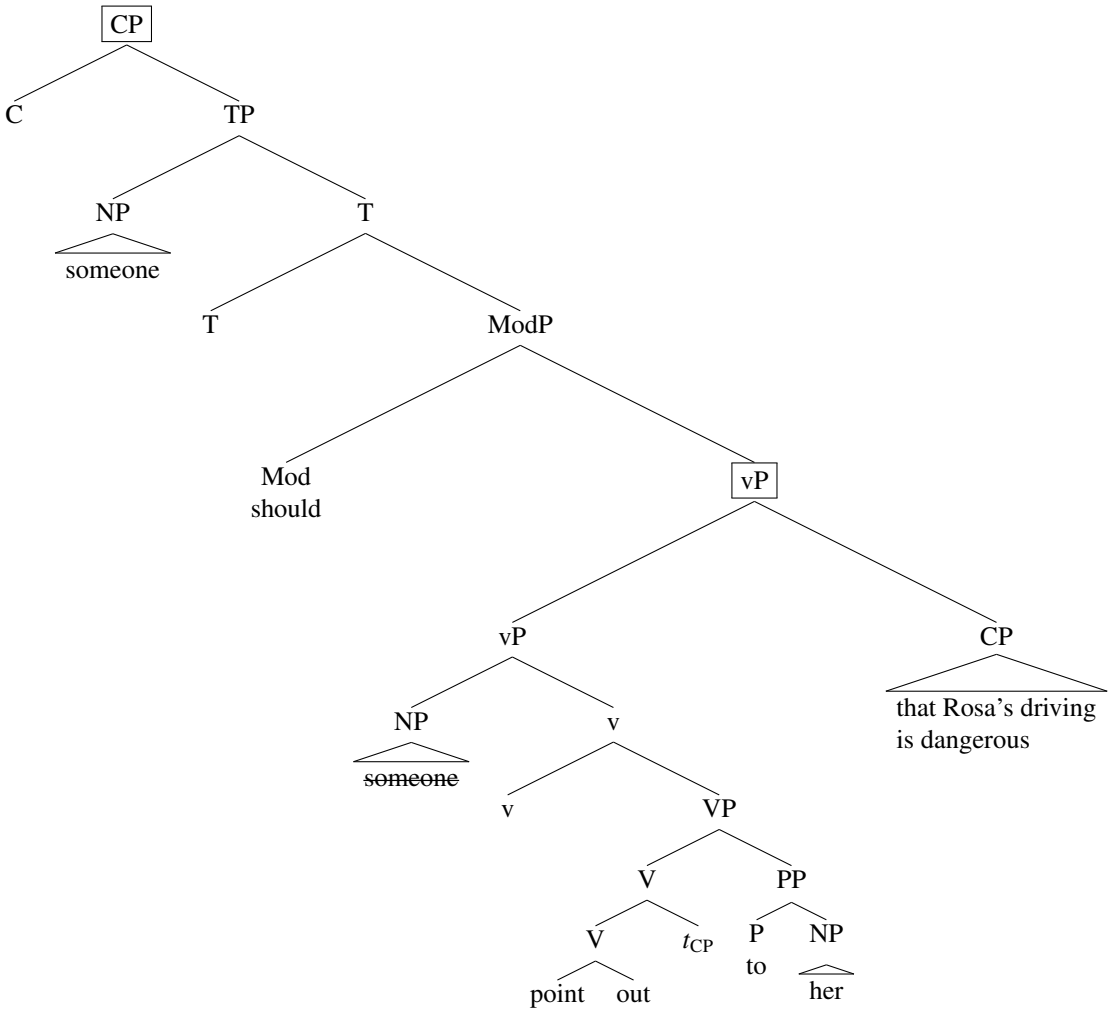
(9) Phasal nodes: CP, vP, NP

C-command says that every node in the tree matters; phase-command says that only particular ones do. These are the phasal nodes from Phase Theory (Chomsky 2000). The three phasal nodes that matter here are CP, vP, and NP. Note that PP is not a phasal node.

I will give two brief illustrations. The first is the Condition C effect in (2), repeated and diagrammed below. The exact structure of the VP does not matter. It is likely that the CP has extraposed across the particle and PP (see Bruening 2018). I show it adjoined to vP. When there are multiple segments of vP, CP, and NP, only the highest node is the phasal node (Bruening 2018).

(10) * Someone should point out to her$_1$ that Rosa$_1$'s driving is dangerous. (Reinhart 1976: 155, (16b))

[1] "vP" is meant to be the maximal projection of whatever head introduces the external argument. In many works, this is called "VoiceP." In this paper, I will use "vP," because that label is what both Larson (2024) and Bruening (2014) use.



In this structure, there is no phasal node that dominates the pronoun *her* that does not also dominate the R-expression *Rosa*. The only phasal nodes that dominate *her* are vP and CP (boxed in the tree), and both of those dominate *Rosa*. *Her* also precedes *Rosa*. If *her* is covalued with *Rosa*, then Condition C is violated.

For the second illustration, consider example (11) below, from Bruening (2014), and example (12), from Jason Merchant (email correspondence):[2]

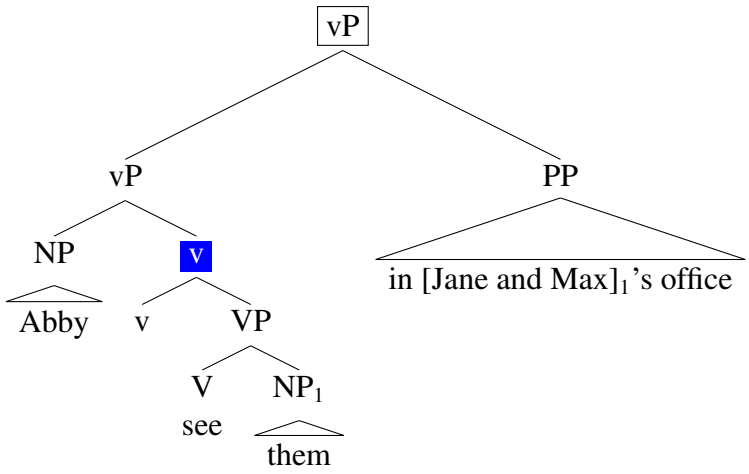
(11) * I spoke to them$_1$ about binding and argued with them$_1$ about gapping in [Joan and Martin]$_1$'s office.

(12) * Abby saw them$_1$ in my office; she didn't — in [Jane and Max]$_1$'s office.

[2]Phillips (2003) and Lechner (2003) claim that stranding in VP ellipsis bleeds Condition C. However, there is a confound with their examples: Repeating the R-expression serves to disambiguate among multiple referents with the same phi-features. Disambiguation is known to permit violations of Condition C (e.g., Schlenker 2005). Merchant's example has fewer NPs involved and those do not share phi-features, so there is no need for disambiguation. As he notes, Condition C effects are quite strong in such cases. Additionally, Bruening (2018) claims that stranding of a CP in VP preposing bleeds Condition C. I have found that many speakers disagree with this judgment. I will assume here that stranding in VP preposing and VP ellipsis, of any category, does not bleed Condition C. (If it is found that it does, then all that needs to be said is that the stranded category moves outside of the vP phase; this is what Bruening 2018 said about stranded CPs.)

In (11), part of a VP including the verb is coordinated, while a PP on the right is interpreted as modifying both of the conjuncts. In (12), a VP is elided, stranding a PP. Both point to a structure with the PP high on the right:

(13)



Following Bruening (2024), I take VP ellipsis to target the mother of v (or Voice, in Bruening 2024; it could also target the lower vP). This node is in blue in the tree. The stranded adjunct is adjoined to vP, outside of the elided constituent. In this structure, every phasal node that dominates the pronoun *them* also dominates the R-expression *Jane and Max*. The pronoun also precedes the R-expression (it being unpronounced due to ellipsis does not change this). Covaluing the two therefore violates Binding Condition C.

Recognizing that many syntactic dependencies involve precede-and-command rather than c-command makes the "paradox" disappear. Phrases can be high and on the right, as constituency tests tell us, and still be in the command domain of a preceding element.

It is important to note that not all syntactic dependencies involve the same structural relations, as Bruening (2014) shows. Precede-and-command is relevant to the Binding Conditions, but it is not what is relevant for relations like variable binding and negative polarity item (NPI) licensing. This will be the topic of section 6.

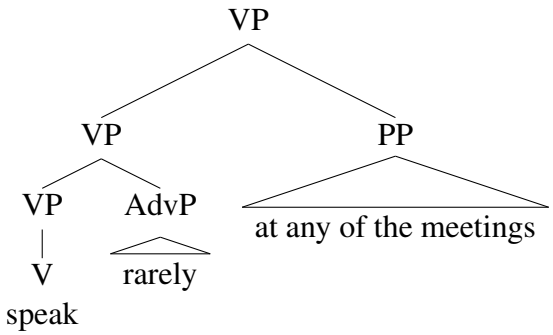
3.2 Larson (2024)

Larson (2024) is concerned primarily with adjuncts to VP that can strand in VP preposing and (to a lesser extent) VP ellipsis. Consider the following example:

(14) Mary warned she would speak rarely during the committee visit, and [speak rarely] she did — at any of the meetings. (Larson 2024: 662, (7b))

In this example, the PP *at any of the meetings* is stranded by VP preposing, and so is apparently high and on the right, so that the constituent [speak rarely] can front without it:

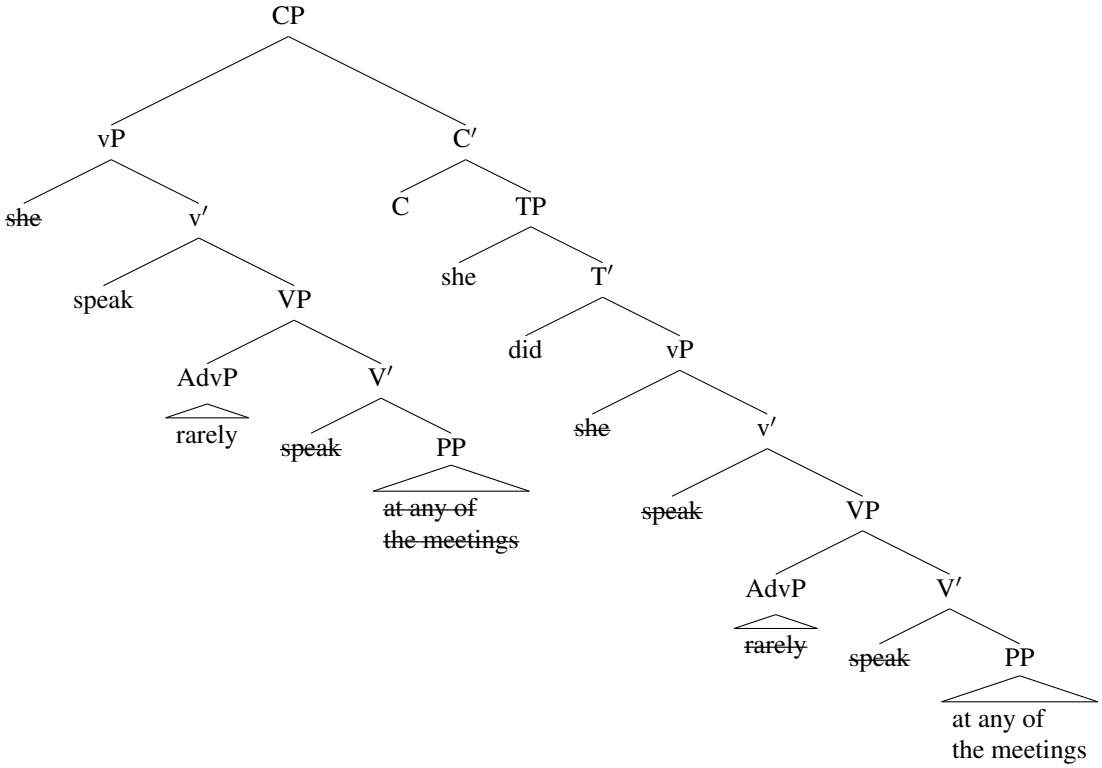
(15)



At the same time, the PP contains a negative polarity item (NPI) *any* which is licensed by *rarely* in the preposed VP. If NPI licensing requires c-command, as Larson (2024) assumes, then the NPI should not be licensed in this example.

Larson (2024) proposes that phrase structure paradoxes of this sort can be resolved by: (1) taking c-command to be the important relation for syntactic dependencies like NPI licensing; (2) taking all branching in the VP to be downward and rightward; (3) accounting for the stranding of modifiers in VP preposing and VP ellipsis by distributed pronunciation in the copy theory of movement. The following tree illustrates the proposal for the above example:

(16) . . . and [speak rarely] she did — at any of the meetings. (Larson 2024: 672, (28))

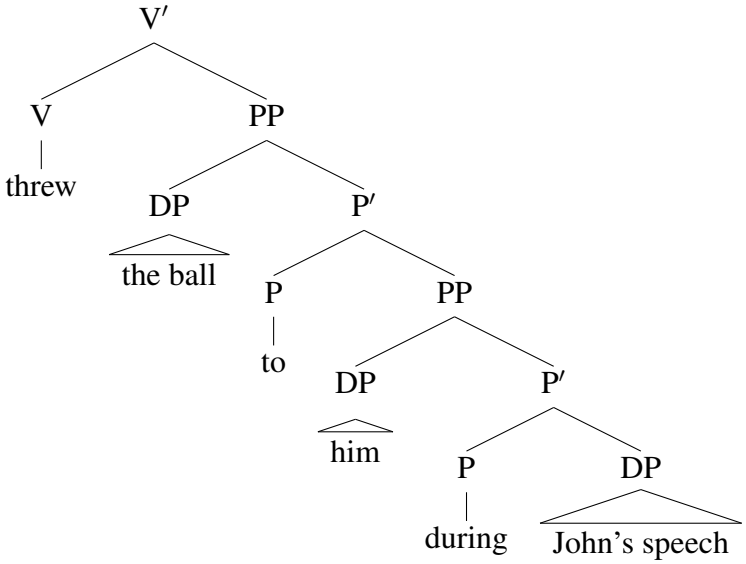


Here, the vP preposes to Spec-CP along with all of its arguments and modifiers. These are merged in "VP shells" of the type proposed by Larson (1988), where rightward is always downward. Stranding is viewed as distributed pronunciation: The PP is not pronounced in the fronted position, and is instead pronounced in the base position (strikethrough indicates non-pronunciation). In both copies, the NPI licenser *rarely* c-commands the NPI *any*, and so the NPI is licensed.

Thus, Larson (2024) defuses the apparent evidence from stranding in VP preposing for adjuncts being high on the right. They can be low instead, and still be stranded, through distributed pronunciation in the copy theory of movement. Much of Larson's paper is devoted to spelling out principles for pronunciation in the copy theory of movement (which will not be relevant here).

One issue that Larson (2024) does not address is how to handle PPs, as in (2). Larson could simply stipulate, as many have done (e.g., Reinhart 1976), that PPs do not count for c-command. However, Larson criticizes approaches like Ernst's (1994) m-command plus precedence[3] on the basis that c-command is to be preferred over all other structural relations. I infer from that that Larson would want to maintain strict c-command. That being the case, he would need to adopt the even more radically right-branching structures proposed by Pesetsky (1995), where the complement of a P appears in the specifier of the next projection down:

(17) (based on Pesetsky 1995: 174, (456))



But then it is unclear how to account for the very clear ability of PPs to undergo processes as constituents, even when they are followed by other material, as in (1).

Since Larson (2024) is silent on PPs, I will leave them aside here, and refer the reader to the extensive discussion in Bruening (2014).

4 Movement and Islands

As a first comparison of the two approaches, consider the following examples:

(18) a. Edwin said he would edit a review of someone's article for them, and edit a review he did — for Sue [of her article on phrenology].

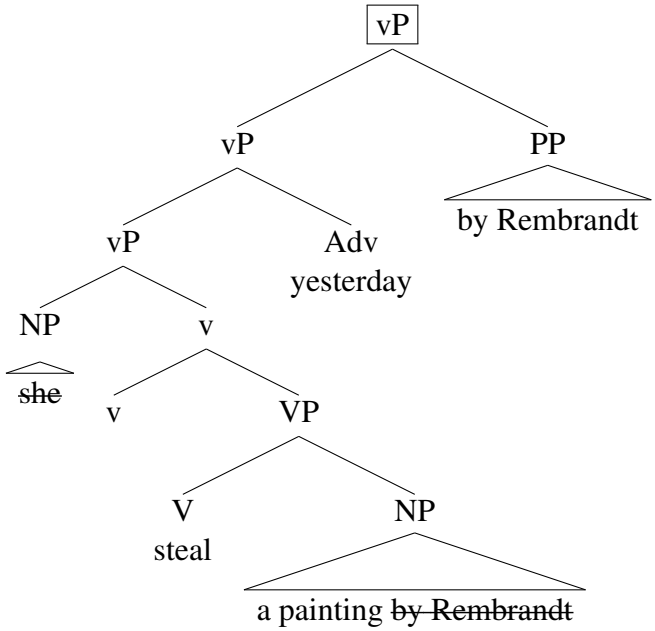
b. She said she would steal a painting by a famous artist this week, and steal a painting she did — yesterday [by Rembrandt].

[3]Note that Ernst's (1994) m-command plus precedence also does not solve the problem of PPs. NPs do not m-command out of PPs any more than they c-command out of them.

c. She said she would display a book with a startling cover, and display a book she did — (yesterday) [with a cover made of human skin].

In these examples, the bracketed part of what is stranded by VP preposing belongs with the object NP. It has apparently been extraposed from the NP to a position outside of the fronted constituent. In the analysis of Bruening (2014), the example in (18b) would have the following structure:

(19)



The PP *by Rembrandt* must undergo syntactic movement to adjoin to vP. A constituent that excludes this adjunct (and *yesterday*) then preposes to Spec-CP (I will assume that it is the lowest vP, but it could also be VP or the mother of v).

The relevance of syntactic movement is that Lechner (2003) pointed out that island effects emerge in stranding:

(20) She attempted to refute the allegation that they met on each other's birthdays,... (Lechner 2003: (20))

a. ... and refute the allegation that they met on each other's birthdays she did.

b. * ... and refute the allegation that they met she did on each other's birthdays.

Lechner's example involves an exempt anaphor, but this is not necessary to make the point. Other types of islands besides the Complex NP Constraint can also be constructed. I show examples of the Coordinate Structure Constraint, the Complex NP Constraint with a relative clause, the Adjunct Island Constraint, and the WH Island Constraint:

(21) a. She said she would leave on Tuesday or a day or two after that, and *leave on Tuesday or she did on Wednesday.

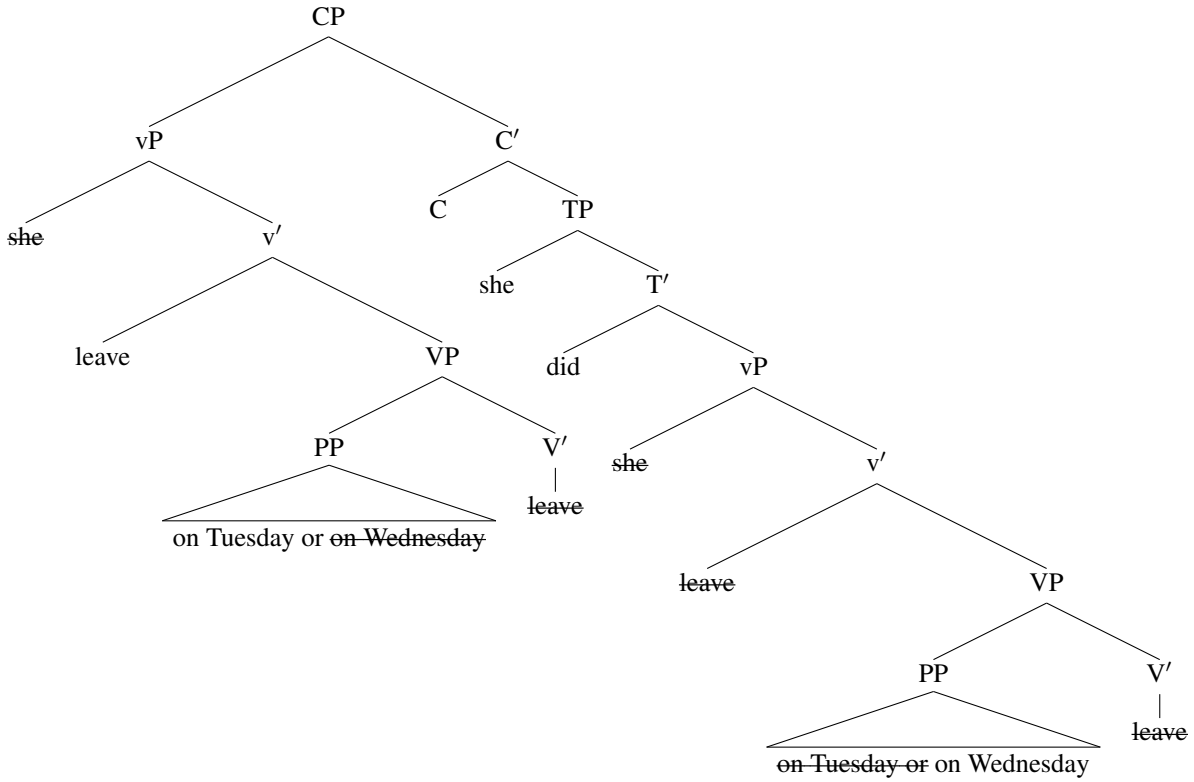
b. She said she could get in with a key she found, and *get in with the key she found she did in the garden. (* where she found the key in the garden)

c. She said she could get in before the guard returned from somewhere, and get in before the guard returned she did from the boiler room. (cannot mean: before the guard returned from the boiler room)

d. She said she would find out why Bill left when he did, and find out why Bill left she did on a Tuesday. (cannot mean: why Bill left on a Tuesday)

In the analysis of Bruening (2014), the stranded adjunct must have moved in order to be stranded in these examples, since only constituents can move. We therefore correctly expect islands to block stranding, since they block the necessary movement. In contrast, in Larson's analysis, adjuncts that are stranded by VP preposing and VP ellipsis do not move anywhere. They occur where they are base-generated, low in a VP shell. Stranding is just pronouncing the lower copy. Larson's analysis therefore does not expect any island effects, incorrectly. Take example (21a). This would have the following structure with distributed pronunciation (the order of the lowest V and PP does not matter):

(22)



There is no reason that Larson's analysis could not produce this kind of example. His principles of pronunciation refer only to stress and focus, and as far as I can see, they would allow this pronunciation. Note that all the remnants in (21) are possible remnants of VP preposing if there is no island. One would have to say that principles of pronunciation force an adjunct to be pronounced in the highest copy just when it occurs inside an island, but unless this can be motivated independently, it would be nothing more than a restatement of the facts.

Note also that the examples in (18) show that the stranded adjunct does not need to semantically modify the VP that preposes. There is, rather, a clear correlation with the possibility of movement: A low adjunct can only be stranded by VP preposing if it can undergo movement to the edge of the VP that is preposed. Since Larson's analysis of stranding has no movement, it does not expect this correlation.

5 Adjuncts High on the Right

English has a class of adjuncts that appear on the right, and which have generally been considered to be adjoined high in the clause. For instance, their contents are outside of the binding domain of an object in VP (Reinhart 1976, 1981, Bruening 2014). Here are some examples:

(23) a. So many people wrote to him$_1$ that Brando$_1$ couldn't answer them all. (Reinhart 1976: 47, (63))

b. Rosa won't like him$_1$ anymore, with Ben$_1$'s mother hanging around all the time. (Reinhart 1976: 23, (19c))

c. Rosa is kissing him$_1$ passionately in Ben$_1$'s high school picture. (Reinhart 1976: 79, (27a))

d. People worship him$_1$ in Kissinger$_1$'s native country. (Reinhart 1976: 79, (28a))

The fact that no Condition C violation occurs when an object pronoun is covalued with an R-expression inside the adjunct clause indicates that the adjunct clause must be high. This is confirmed by the fact that these adjuncts cannot prepose along with a VP:

(24) (Bruening 2014: 346, (12))

a. So many people wrote to him [$_{CP}$ that he couldn't answer them all].

b. * . . . and write to him [$_{CP}$ that he couldn't answer them all], so many people did.

c. . . . and write to him, so many people did [$_{CP}$ that he couldn't answer them all].

In anyone's theory, then, these adjunct clauses must be outside of the VP. Since they are on the right, they must be attached to the clause in a high position on the right. Moreover, extraposing a CP across one of these adjuncts bleeds Condition C, as would be expected if this movement must put the CP even higher than the high adjunct (Culicover & Rochemont 1990, Bruening 2018):

(25) (Bruening 2018: 368, (13))

a. * Would Ms. Jones disclose to him$_1$ that she has a conflict of interest regarding her new client$_1$?

b. Would Ms. Jones disclose to him$_1$ with the auditors breathing down her neck that she has a conflict of interest regarding her new client$_1$?

(26) (Bruening 2018: 368, (14))

a. * I won't tell her$_1$ that Melinda$_1$'s family has lost everything.

b. I won't tell her$_1$ with her children listening that Melinda$_1$'s family has lost everything.

These adjunct clauses show that every theory must allow adjunction high on the right. This is true even in Larson's radically right-branching analysis of VPs. Once one allows this, however, it dampens the attractiveness of the radically right branching approach. If adjuncts *can* be high on the right, then why not say that they are inside the VP, as well? It is hard to see how to rule out that possibility in a theory that allows high rightward adjunction outside of VP.

Additionally, as Bruening (2014) shows, a quantifier can bind a pronoun as a variable in the very same configuration where no Binding Condition C violation is incurred:

(27) (Bruening 2014: 374, (116))

a. Rosa is kissing every boy$_1$ passionately in his$_1$ high school picture.

b. People worship every UN Secretary-General$_1$ in his$_1$ native country.

c. So many people wrote to every actress$_1$ that she$_1$ couldn't answer them all.

There is also a distinct lack of weak crossover, even though the trace of the wh-phrase could not c-command the pronoun that the wh-phrase binds:

(28) (Bruening 2014: 375, (118))

a. Who$_1$ did so many people write to t_1 that he$_1$ couldn't answer them all?

b. Who$_1$ is Rosa going to stop going out with t_1, with his$_1$ mother hanging around all the time?

It is also not possible to analyze these adjuncts as structurally ambiguous; if they could ever be low, then they should be able to prepose with the VP in (24).

The contrast between Binding Condition C, on the one hand, and variable binding and weak crossover on the other, shows that it is not possible to maintain that Binding Condition C, variable binding, and weak crossover all depend on c-command, as Larson (2024) assumes. I will come back to structural relations in section 6, but for right now this fact also severely undermines the attractiveness of Larson's radically right-branching theory. Larson wants to maintain radical right branching inside the VP in order to allow quantifiers binding variables, for instance, but there is no point if quantifiers can bind variables when the structure is demonstrably not radically right-branching.

6 No Syntactic Relation Involves C-Command

Larson (2024) claims that c-command is the primary relation in syntax upon which all syntactic dependencies rely. His radically right-branching structures are meant to enable c-command for all of these dependencies within the VP. These syntactic dependencies presumably include at least Binding Conditions A, B, and C; variable binding; weak crossover; the *each... the other* construction; NPI licensing; and superiority (these are the dependencies discussed by Barss & Lasnik 1986 and Larson 1988).

Bruening (2014) argues that none of these dependencies involve c-command. That paper focuses on Binding Conditions A, B, and C, and shows that they involve precedence and phase-command, not c-command. It also mentions some of the other dependencies, including variable binding and weak crossover. In this section, I will show, mostly on the basis of prior work, that none of the other syntactic dependencies involve c-command, either. This conclusion removes all motivation for the radically right-branching structures that Larson (2024) proposes.

6.1 Variable Binding

Section 5 showed that a quantifier could bind a variable in the very same configuration where no Condition C effect emerged, indicating that it is not possible to maintain that they both depend on c-command (Bruening 2014). Barker (2012) has argued extensively that c-command is not

required for variable binding. Here are a few examples with a distinct lack of c-command between the quantifier and the pronoun that it binds as a variable:

(29) a. This shows that [the fate of every$_1$ individual] is decided by his$_1$ inner ego. (Barker 2012: 622, (26a))

b. . . . [after seeing each$_1$ animal] but before categorizing it$_1$ on the computer or recording it$_1$ on their response sheet. (Barker 2012: 624, (31b))

c. It ended and [$_{NP}$ the amount of Wealth [$_{CP}$ that each$_1$ person had]] was added to their$_1$ overall score. (Barker 2012: 624, (34a))

It is also important that variable binding does not pattern with Binding Conditions A, B, and C. It does not require phase-command any more than it requires c-command. The examples in section 5 showed this, where the quantifier in object position does not phase-command into the high adjunct (as shown by the lack of Condition C). The example in (29c) also shows that phase-command is not necessary, as the quantifier is embedded in at least two phases, NP and CP, that do not dominate the pronoun. Binding Conditions A, B, and C also require precedence in addition to phase-command. Variable binding generally also seems to require precedence, except in one class of cases, with an initial *unless* clause:

(30) a. Unless he$_1$'s Mr. T, no$_1$ straight man should be wearing much more than one, or maybe two, small subtle pieces of jewelry (watches not included). (Barker 2012: 629, (45a))

b. Unless he$_1$'s been a bandit, no$_1$ man can be an officer; unless she$_2$'s been a trollop, no$_1$ woman can be a noble lady. (Barker 2012: 629, (45c))

These seem to be exceptional; in all other cases, the quantifier at least strongly prefers to precede the pronoun:

(31) a. ?? This shows that [the fate of his$_1$ inner ego] is decided by each$_1$ individual.

b. ?? . . . [after seeing it$_1$] but before categorizing each$_1$ animal on the computer or recording it$_1$ on their response sheet.

c. ?? It ended and [$_{NP}$ the amount of Wealth [$_{CP}$ that he$_1$ had]] was added to each$_1$ player's overall score.

(See also the discussion of weak crossover in section 6.2.)

Moulton & Han (2018) claim to find psycholinguistic evidence that variable binding with and without c-command behave differently, but this is refuted by Kush & Eik (2019). There is no evidence that c-command plays any role whatsoever in variable binding, and plenty of evidence that it does not. Rather, all that is required is scope, and usually linear precedence. Now, one will wonder what determines what the scope of a quantifier is. This is a very large question that I cannot possibly do justice to here. I will refer the reader to work like Wurmbrand (2018) and Kush & Eik (2019). The scope of a quantifier can be quite large, even crossing finite clause boundaries. The important point here is that variable binding does not require c-command. That being the case, variable binding provides no support for the radically right branching structures proposed by Larson (2024).

6.2 Weak Crossover

Section 5 presented examples from Bruening (2014) that show that weak crossover also does not involve c-command. The typical claim is that the trace of a wh-phrase must c-command a pronoun in order for the wh-phrase to bind that pronoun as a variable (e.g., Lasnik & Stowell 1991: 690, (14)). The examples in Bruening (2014) show that that is not true. They additionally show that phase-command is not necessary, either. Here are some more examples from Bruening (2014), involving extraction from a left branch (based on Chaves 2012: (4d,g)):

(32) (Bruening 2014: 375, (120))
  a. Which president$_1$ would [the impeachment of t_1] cause more outrage within his$_1$ party?
  b. Which problem$_1$ will [no solution to t_1] ever be found by its$_1$ discoverer?

(33) (Bruening 2014: 375, (121))
  a. * Which president$_1$ would his$_1$ party agree that [the impeachment of t_1] would cause more outrage?
  b. * Which problem$_1$ did its$_1$ discoverer declare that [no solution to t_1] would ever be found?

In the acceptable examples in (32), the trace of the wh-phrase does not c-command the pronoun, yet the wh-phrase can bind the pronoun as a variable. In the unacceptable examples in (33), the trace of the wh-phrase still does not c-command the pronoun. The difference appears to be linear precedence: The trace of the wh-phrase must precede the pronoun. In fact linear accounts of weak crossover have been proposed, indeed they are among the earliest accounts of weak crossover (Chomsky 1976, Higginbotham 1980, Shan & Barker 2006). I conclude that they are correct, and linear order is what matters for weak crossover, not c-command. Specifically, an A-position occupied by the wh-phrase must precede an A-position occupied by the pronoun or a phrase containing it.

Regardless of what the proper account of weak crossover is, it is clear that c-command plays no role in it. Weak crossover therefore also provides no motivation for Larson's radically right branching VPs.

6.3 The *Each... the Other* Construction

To my knowledge, no one has systematically investigated the *each... the other* construction to determine whether it truly requires reference to c-command. I will not undertake a complete investigation here, but I can give some examples. My suspicion is that it patterns exactly like variable binding. It seems to, basing relevant examples on those from sections 5 and 6.1. First, *each* can occur inside VP while *the other* occurs in a high adjunct:

(34) (Lynsey and Samantha are officials in different branches of a government office, but they always rely on each other.)
So many people complained to each woman that the other had to help deal with them all.

As we saw in section 5, NPs inside VP do not c-command one of these high adjuncts. This shows us that *each* does not need to c-command *the other*.

Second, modifying examples of variable binding without c-command from Barker (2012) to the *each… the other* construction always seems to work:

(35) a. This shows that [the fate of each man] was decided by the other.
b. When the game ends, [$_{NP}$ the amount of Wealth [$_{CP}$ that each player has]] is subtracted from the other's overall score.

It is clear that it is not necessary for *each* to c-command *the other* (or phase-command it).

It appears that precedence may be necessary. All of my attempts at constructing examples where *the other* precedes *each* fail, including examples modeled after the *unless* clauses from Barker (2012):

(36) a. * Unless the other turns turncoat, each should not have to watch his own back.
b. Before each player shuffles, the other removes a card of their choice.
c. * Before the other shuffles, each player removes a card of their choice.

I will leave full exploration of the *each… the other* construction to future work, but the examples given here have definitively shown that c-command is not required, any more than it is required for variable binding. Instead, what is required is that the scope of *each* include *the other*, and *each* must precede *the other*.

6.4 Negative Polarity Items

Besides exempt anaphors (see section 2), the only example of a syntactic dependency that Larson (2024) presents is NPI licensing. Recall his example (7b):

(37) Mary warned she would speak rarely during the committee visit, and [speak rarely] she did — at any of the meetings. (Larson 2024: 662, (7b))

Larson assumes that the licenser of the NPI (here, *rarely*) must c-command the NPI (here, *any*). His radically right branching structure ensures that it does.

However, many examples have been given in the literature that show that c-command is not required for NPI licensing. Hoeksema (2000), in particular, cites many examples (many naturally occurring) where there is no c-command relation between the licenser and the NPI. For instance, in (38), the verb *need* is an NPI with a bare VP complement (as opposed to a *to* infinitive). However, it does not need to be c-commanded by its negative licenser, an object quantifier in (38a):

(38) a. You need say no more. (Hoeksema 2000: 131, (39a))
b. * You need tell Fred that he is not invited. (Hoeksema 2000: 131, (40))

In contrast, negation in a lower clause is not sufficient to license NPI *need* in (38b). What definitely is necessary for NPI licensing is scope, and the scope of negation can be no higher than the clause it occurs in. What is definitely not necessary is (surface) c-command, since *no more* does not c-command *need* in (38a). Precedence is not necessary, either, since the negative licenser does not precede *need* in (38a). Note also that Larson's radically right branching VPs will not help in (38a): *No more* is the object of *say*, not the object of *need*, so no copy of *no more* will c-command any copy of *need* even in a radically right-branching structure.

Here are some more (attested) examples that counterexemplify a c-command condition on NPIs. The NPI is in boldface, while its licenser is underlined:

(39) a. However, an Emergency Response lawyer said Wednesday that **any such tactics** had only been practiced by rogue salespeople who violated company policies. (Hoeksema 2000: 136, (67))

b. A resemblance between genitive and relative marking is even reconstructible for Indo-European, though it is rare in the Indo-European descendant languages, appearing with **any regularity** only in Iranian. (Hoeksema 2000: 139, (75))

Examples of NPIs in subjects, like that in (39a), are also given by Linebarger (1980) and de Swart (1998) (see below).

An NP embedded inside a PP inside another NP can license an NPI:

(40) a. ? [$_{NP}$ The author [$_{PP}$ of no linguistics article]] **ever** wants it to go unread. (Kayne 1994: 25)

b. [$_{NP}$ Fathers [$_{PP}$ of few sons]] have **any** fun. (Acquaviva 2002: (30a))

Fronting of a phrase containing a negative item can also feed NPI licensing, for instance of an NPI in subject and object position:

(41) a. * **Anyone** said **anything** about the very clear conflict of interest at no point.

b. [At no point] did **anyone** say **anything** about the very clear conflict of interest.

Since *[at no point]* has moved as a constituent, it must be a constituent, and the negative element within it could not c-command out of that constituent. One could stipulate that PPs do not count for c-command, but the same configuration can be replicated with other types of phrases as well:

(42) [Left unmentioned] was **any** recognition of the Electoral College vote in Georgia and across the nation that affirmed Joe Biden's victory.
(https://www.ajc.com/politics/ossoff-hammers-newt-republicans-oppose-braves-name-change-as-early-voting-starts/IFAAKJAACZH7RPXX6WWK65EFPU/)

The licenser here is *unmentioned*, which does not c-command out of the fronted constituent. One could stipulate that a negative feature can percolate to a containing node, so that the negative licenser here is the entire constituent *[left unmentioned]*, but this would require a theory of feature percolation to appropriately constrain it, and such a theory is currently lacking. Without such a theory, one could just percolate the licensing feature from *rarely* to a c-commanding node in Larson's (7b) (example 37), and there would be no need for c-command or the right branching structures that Larson proposes. It is worth emphasizing this point, because a proponent of c-command might assert that once we have the proper understanding of feature percolation, we can maintain a c-command condition. In (37), there is a VP, *[speak rarely]*, that contains a negative element as an immediate daughter. On the analysis where adjuncts adjoin high, the NPI-containing PP *at any of the meetings* is the sister of this VP. In (42), what has fronted is also a VP, or perhaps an adjectival passive AP derived from a VP. One of its daughters is a negative element, *unmentioned*. If the negative feature can percolate from *unmentioned* to the mother VP/AP node in (42), then I see no reason the negative feature from *rarely* could not percolate to the dominating VP in (37). In other words, once we allow feature percolation, the motivation for the right branching structures disappears. They are motivated by a desire to maintain a *surface* c-command condition, but if one

allows feature percolation, then there is no reason to expect any given licenser to c-command the NPI that it licenses on the surface.

Other examples of NPIs being licensed without (surface) c-command have also been noted in the literature. Branigan (1992) presents examples where an adjunct on the right licenses an NPI in an adjunct to its left:

(43) (Branigan 1992: 49, (53a,c))
  a. John paints pictures **at all** well only rarely.
  b. Jay tells jokes with **any** gusto only occasionally.

On the face of it, these examples are incompatible with the radically right branching structures that Larson (2024) proposes for VPs.

Now, one will naturally wonder why we find such strong contrasts as the following:

(44) a. No one said anything.
  b. * Anyone said nothing.

(45) (Barss & Lasnik 1986: 350, (18–19))
  a. I gave no one anything.
  b. * I gave anyone nothing.

These are the kinds of contrasts that motivated the c-command requirement in the first place. If neither c-command nor precedence is required, then what is behind this contrast?

I do not have a complete account to offer, but I believe that something along the lines of Acquaviva (2002) is probably correct. According to Acquaviva (2002), all NPIs must be in the semantic scope of their semantic licenser. In addition, some NPIs must meet a morphological licensing condition. The verb *need* does not need to, so scope is sufficient for it in (38a). Expressions with *any* do need to meet a morphological licensing condition. Acquaviva (2002) suggests that this licensing condition is linear precedence. The examples presented above have shown that it certainly cannot be c-command; witness the lack of c-command in (40a–b), (41b), (42). It does appear that linear precedence plus scope is sufficient to license an NPI that needs morphological licensing. In all cases, where an NPI is within the scope of its licenser and it is preceded by its licenser, that NPI is licensed.

In addition, in cases of non-subject arguments, linear precedence seems to be *necessary*. Changing the word order changes the licensing direction, as examples like the following show:

(46) a. I will give none of my Magic the Gathering trading cards to anyone.
  b. * I will give any of my Magic the Gathering trading cards to no one.
  c. I will give to no one any of my Magic the Gathering trading cards.
  d. * I will give to anyone none of my Magic the Gathering trading cards.

(47) a. I will offer no one any of my dual lands cards.
  b. * I will offer anyone not one of my dual lands cards.
  c. Not one of my dual lands cards will I offer anyone.
  d. * Any of my dual lands cards will I offer no one.

This is what will be most important in this paper (in section 7 in particular): With arguments inside the VP, linear precedence is what matters.

There are cases where linear precedence does not appear to be necessary. These include NPIs inside subjects, like the following examples:

(48) a. [A doctor who knew **anything** about acupuncture] was not available. (Linebarger 1980)

b. [A good solution to **any** of these problems] does not exist. (Hoeksema 2000: 136, (63a))

Acquaviva (2002) proposes that the morphological licenser in these cases is the existential quantifier at the left edge of the subject (while the scope licenser is negation). He claims that an NPI in a subject is only licensed if overt material precedes it within the subject:

(49) (Acquaviva 2002: (19), (20a–b))

a. * Anything else was not available.

b. * Any tickets to the afternoon concerts were not available.

c. * Any DOCTOR was not available.

However, this claim is counterexemplified by (39a) and the following example:

(50) [**Any** real interest in the murk and challenge of the real world] was missing. (Hoeksema 2000: 142, (86b))

It appears, rather, that NPIs in subjects can be licensed by reconstruction, as de Swart (1998) proposes. The exact conditions under which they can be so licensed are not important here, since the concern here is the structure of the VP.

Reconstruction also serves to license NPIs without precedence in cases of topicalization:

(51) a. A solution that is any better, I have not been able to find. (Hoeksema 2000: 130, (35a))

b. A fireman who has ever used this equipment, we don't have available right now. (Hoeksema 2000: 130, (35b))

c. In his wildest dreams, George Washington coach Mike Jarvis couldn't have imagined this scenario. (Hoeksema 2000: 134, (53b))

Again, the constraints on this will not be of much importance here. I will just state a description of the facts: Subjects and topicalized phrases can reconstruct for NPI licensing.

This leaves cases like (39b) and (43a–b). It appears from these cases that *only* is an exceptional licenser. It can license NPIs to its left. Indeed, I find examples online that are exactly like Acquaviva's in (49), except that the licenser is *only* rather than negation:

(52) a. If my job as a cook was a marriage, anything else would only be a brief affair. (https://blog.chefworks.com/uniforms/chefs-of-chef-works-chef-tamara-westerhold/)

b. Any tickets will only be made available to fully paid-up Full Club Members,... (https://www.tynedalerfc.co.uk/news/guinness-six-nations-2023-tickets-2723695.html)

c. Any doctor will only be able to suggest how they would like to proceed after understanding the stage your disease has reached. (https://www.tataaig.com/health-insurance/oesophageal-cancer-insurance)

In these examples, *only* adjoined at the left edge of VP licenses an NPI in subject position to its left. In (39b) and (43a–b), *only* is part of an adjunct and it licenses an NPI in another adjunct to its left. I find that *only* in an adjunct can license an argument NPI to its left, as well:

(53) a. Some sources say that Charles granted Grifo anything at all only at the insistence of Swanahild. (https://www.8thcentury.com/the-blood-court-judge-carloman-presiding/)

b. They accomplish anything at all only with direct and constant supervision (https://www.coursehero.com/file/p6pcoh7/Leadership-is-a-reciprocal-influence-process-Leaders-not-only-influence/)

I will not attempt to explain the exceptionality of *only* as a licenser, but will leave it as an observed exception.

As can be seen, NPI licensing is not homogeneous. There are NPIs like *need* that only need to be in the semantic scope of their licenser. There are other NPIs that require a morphological licenser in addition, but the conditions on them are quite complex. Subjects and topicalized phrases can reconstruct, while *only* can license elements to its left. Otherwise, the NPI must linearly follow its licenser.

One might wonder if we can replace linear order with c-command once we recognize the exceptionality of NPIs like *need*, reconstruction of subjects and topicalized phrases, and leftward licensing by *only*. The answer is no, because of cases gone through above where the licenser precedes but does not c-command the NPI: (40a–b), (41b), (42). And, to reiterate, accounting for these by allowing feature percolation removes any expectation for surface c-command to be necessary, and therefore it also removes the the motivation for Larson's radically right branching VPs.

The takeaway for the rest of this paper (section 7 in particular) is that NPI licensing is largely a matter of linear order. Within the VP, which is the topic of this paper, the licenser is required to precede the NPI, so long as we do not use *only* as a licenser. Going back to Larson's example in (37), there is no reason to think that the licenser *rarely* c-commands the NPI *any*. It precedes it and is able to take scope over it, which is sufficient to license it.

6.5 Superiority

Superiority is also often thought to involve c-command. The claim is that, in a multiple question in English, only the structurally higher wh-phrase can undergo movement to Spec-CP (Chomsky 1973):

(54) a. Who should see what?

b. * What should who see?

C-command is relevant because the restriction is often stated in such a way that a wh-phrase cannot cross another wh-phrase that c-commands it.

The nature of this condition is not clear at all. Clifton et al. (2006) find numerous attested violations of superiority online, including the very one in (54b) (their (14c)). Various factors besides

c-command have also been to found to play a role. See Pesetsky (1987) on D-linking, and Clifton et al. (2006) on stress clash. Bhattacharya & Simpson (2007) argue that factors like animacy, thematic relations, and prosody are actually more important than c-command. C-command is also typically confounded with linear order, so it is not clear that c-command plays any role at all.[4]

Relevantly for this paper, within the VP, the facts are incompatible with Larson's radically right branching structures. For instance, Larson (1988) claims that with a verb that takes both an NP and a PP object, only the NP object can move, the object of the preposition cannot, either by itself or with the preposition:

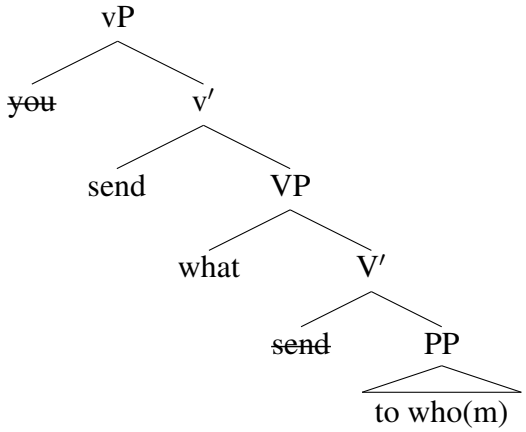
(55) (Larson 1988: 338, (5d))
- a. Which check did you send to who?
- b. * Whom did you send which check to?
- c. * To whom did you send which check?

However, Bruening (2001) reports that many speakers permit pied-piping of the PP over an object wh-phrase:

(56) (Bruening 2001: 264, (66))
- a. What did you send to who?
- b. * Who did you send what to?
- c. ? To who(m) did you send what?

This judgment is incompatible with Larson's right branching VP. In that structure, the PP is the most deeply embedded constituent:

(57)



[4] I find it difficult to construct examples where neither wh-phrase c-commands the other, without introducing other factors like D-linking (Pesetsky 1987) that also interfere with superiority. Here is one attempt:

(i)
- a. What will [no solution to *t*] ever be found by who?
- b. Who will [no solution to what] ever be found by?
- c. By whom will [no solution to what] ever be found?

I find (ia) better than (ib), in keeping with linear order being a factor. However, (ic) seems as good as (ia). I will have to leave these sorts of examples to future research.

Only the NP object should be able to move in this structure. The PP should not be able to, if wh-phrases cannot cross other wh-phrases that c-command them.

While this judgment might be controversial, what is uncontroversial is that the adjunct wh-phrases *where* and *when* can cross an object wh-phrase. The famous example from Baker (1970) has exactly this configuration (this is the version of it presented in Pesetsky 1987: (2)):

(58) Who knows where we bought what?

Kuno & Robinson (1972) give the following pairs as equally grammatical:

(59) (Kuno & Robinson 1972: 474, (3-4a))
  a. Where did you buy what?
  b. What did you buy where?

(60) (Kuno & Robinson 1972: 474, (3-4b))
  a. When did you buy what?
  b. What did you buy when?

Similar examples abound in the literature, and I find numerous attested examples of both *where to buy what* and *what to buy where* online (searches performed 1/9/2025).

Note that *where* and *when* must both follow the object if the subject is the other wh-phrase:

(61) a. Who bought a car where/when?
  b. * Who bought where/when a car?

The answer to *where* and *when* also appears *after* the NP object:

(62) a. Where did they buy what?
  b. They bought the car in Honolulu, and the motorcycle in Las Vegas.

(63) a. When did they buy what?
  b. They bought the car at some point last year, and the motorcycle at some point this year.

This means that *where* and *when* must be more deeply embedded than the object in Larson's radically right branching structures. That being the case, we would expect only the object to be able to move in (59–60), incorrectly.

One might propose that structures with locative and temporal adjuncts like *where* and *when* and their answers are structurally ambiguous, with object *what* either c-commanding the adjunct or vice versa. However, syntactic dependencies like NPI licensing go rightward and not leftward with these same phrases:

(64) a. They bought few cars in any city in Hawaii.
  b. * They bought any cars in few cities in Hawaii.

(65) a. They bought few cars in any of the last few years.
  b. * They bought any cars in few of the last few years.

This is inconsistent with a structural ambiguity approach to the multiple wh-question facts (if one is simultaneously trying to maintain that NPI licensing requires c-command).

It is therefore not possible to simultaneously maintain that a wh-phrase cannot cross a c-commanding wh-phrase, and that rightward is downward in the VP. Larson's (2024) analysis where all syntactic dependencies are about c-command and VPs are radically right branching leads to incoherence in this case. The only possible conclusion is that superiority is not about c-command.

I will have to leave a full exploration of superiority to future work. What is important for this paper is the fact that patterns of extraction in multiple wh-questions are completely inconsistent with Larson's right branching VPs.

6.6 Summary

None of the syntactic dependencies that are supposed to be defined in terms of c-command actually require c-command. The data in Bruening (2014) show this, as do all the data summarized in this section (some of it new, but most of it old). Since none of these syntactic relations refer to c-command, there is no point in positing radically right branching structures in order to maintain c-command. Adjuncts can be adjoined high on the right, as constituency tests tell us, and still participate in syntactic dependencies with elements to their left that do not c-command them. The proposal of Bruening (2014) gets this right, while the proposal of Larson (2024) leads to incoherence.

7 Adverb Scope *Again*

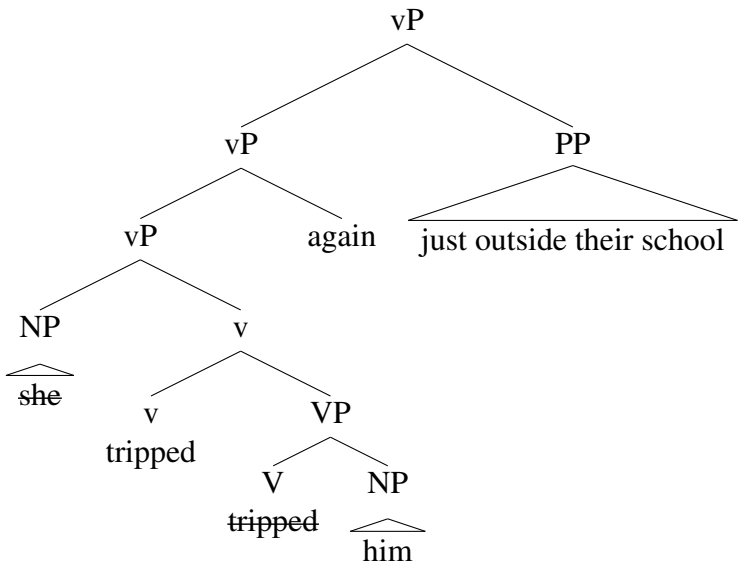
In Larson's (2024) radically right branching structures, adjuncts merge low in the VP, and they get lower as they go rightward. This contrasts with views where adjuncts adjoin higher than objects, and get higher as they go rightward (as in the comparison analysis here, that of Bruening 2014). Larson (2024) refers to his earlier work (Larson 2004) which, he claims, shows that apparent scope effects of quantificational adverbs are consistent with the "rightward is lower" view. However, Larson (2004) only talks about the adverbs *twice* and *intentionally* (in response to Andrews 1983). There are other adverbs that have been argued to be truly scopal, like *again*.

Bale (2007) argues extensively that the scope of *again* is what it adjoins to (its sister). Its at-issue meaning is just an identity predicate, but it adds a presupposition to the effect that an eventuality of the type described by its sister held before. Importantly, when *again* is adjoined to the right of VP material, it takes everything to its left as its scope (what it presupposes), but excludes material to its right. In the following example, Esme previously tripped George, but not outside their school:

(66) I think Esme has a crush on George but she expresses it in the oddest way. For example, last week Esme tripped George in the park. Then just yesterday, [she tripped him] **again** just outside their school. (Bale 2007: 457–458, (18))

This is consistent with *again* adjoined to vP, with *just outside their school* adjoined above that:

(67)



(I assume that the subject moves to Spec-TP, but this movement does not take it outside the scope of *again*; see Asami & Bruening to appear.)

Importantly, Bale (2007) shows that what is to the left of right-adjoined *again* is always within its scope (and is therefore presupposed), while what is to its right is always outside its scope (and not presupposed):

(68) (Bale 2007: 459, (21))

a. Two weeks ago, I met Esme at her house on a Wednesday. At that time, we planned to meet the following week. So . . .

b. I met her again in Jeanne-Mance Park on a Tuesday.

c. # I met her in Jeanne-Mance Park again on a Tuesday.

d. # I met her in Jeanne-Mance Park on a Tuesday again.

(69) (Bale 2007: 460, (22))

a. Two weeks ago, I met Esme at her house on a Wednesday. At that time, we planned to meet the following week. So . . .

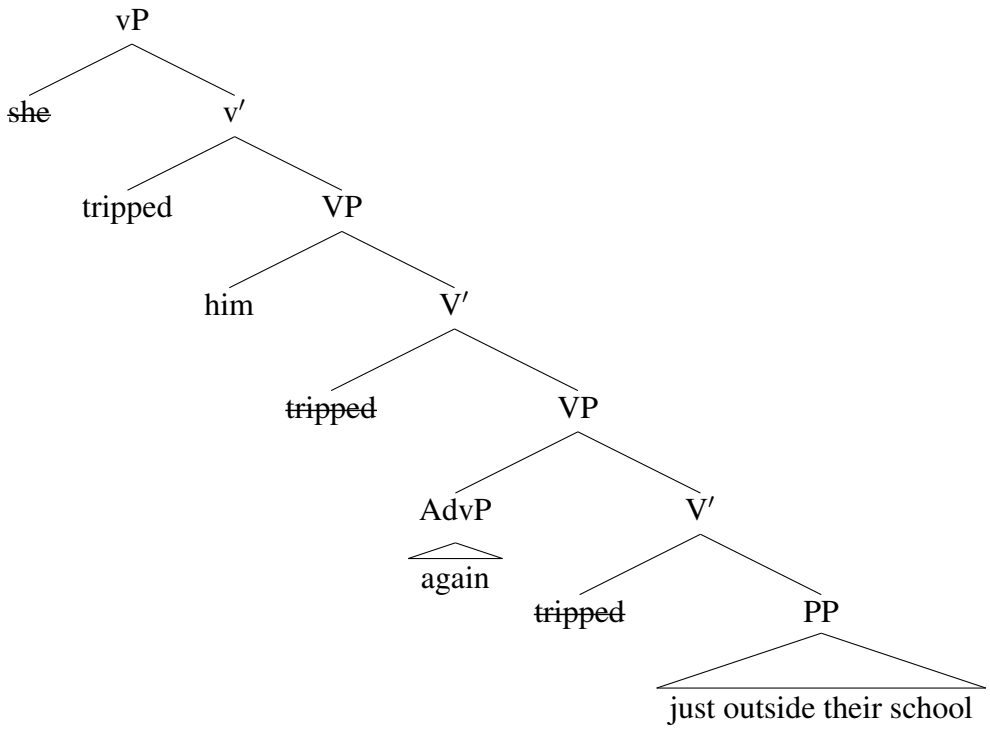
b. I met her at her house again on a Tuesday.

c. I met her at her house on a Wednesday again.

d. # I met her at her house on a Tuesday again.

In Larson's radically right branching structures, the example in (66) would presumably have the following structure:

(70)



The first point to make is that Larson has to give up scope being sisterhood. This is in direct conflict with his claim that c-command (which is based on sisterhood) is the most important relation in syntax. That is, in order to maintain that c-command holds between elements in the VP, he has to give up the simplest account of scope, where elements take scope over what they merge with. I take this to be a major strike against this account, as it undermines its conceptual motivation entirely.

Moreover, *again* can also adjoin on the left, in which case its scope is the material to its right:

(71) a. Again Esme didn't hit Harry. (negation must be included in the presuppostion; Bale 2007: 459, (19))

b. On Tuesday, Esme tripped Seymour. On Wednesday, she AGAIN tripped Seymour!

c. Esme and Seymour like to play sports in George's backyard. For example, last week Seymour played badminton in his backyard. Then just yesterday Esme played soccer, AGAIN in George's backyard. (Bale 2007: 456, (16))

On the view that right-adjoining *again* adjoins high on the right, as in (67), we have a uniform account of the scope of *again*: Its scope is its sister, or what it has adjoined to, regardless of its directionality. On Larson's radically right branching analysis, left-adjoining and right-adjoining *again* would have to take scope differently.

The second point is that the analysis of apparent adverb scope in Larson (2004) will not work for *again*. Larson (2004) proposes that apparent scope is actually due to the structured focus-background partition of a sentence with focus. Following von Stechow (1991), Krifka (1992), Herburger (2000), Larson (2004) divides the proposition into a background and a focus. He claims that the focus is typically the most deeply embedded constituent. Consider the following examples from Andrews (1983):

(72) (Andrews 1983: 695, (1a–b))

a. John knocked on the door intentionally twice.

b. John knocked on the door twice intentionally.

According to Larson (2004), the final adverb is what is focused, while the rest is the background. For (72a), this partitions into a background of *John knocked on the door intentionally* and a focus of *twice*, which yields a meaning where John's intentional knockings on the door were two in number. For (72b), the background is *John knocked on the door twice* and the focus is *intentionally*, which yields a meaning where John's two knockings on the door were intentional. Thus, Larson (2004) captures the apparent effect of adverb scope in a radically right branching structure by referring to focus/background partition rather than scope.

This initially appears promising for *again*. In (70), the lowest constituent, the PP, would be the focus, while the rest would be the background. One could say that the scope of *again* is the background (minus *again*).

There are two problems with this. The first is cases where there are multiple constituents to the right of *again*, as in (68b). If focus falls on the most deeply embedded constituent, while everything else is the background, we expect at most one constituent to be excluded from the presupposition of *again*. We definitely do not expect that multiple constituents to the right of *again* would be excluded.

The second problem is that changing the focus does not change the presupposition of *again*. Consider the following, where capitalization indicates focus stress:

(73) a. I missed the bus two days ago. #Then I missed the TRAIN again.

b. I met Mary in HER office. #Then I met her in MY office again.

Where the focus is placed does not change the presupposition of *again*: It is always the constituent to its left. The structured meaning for (73a) has a background something like $\lambda x.I\ missed\ x$ and focus *the train*. If *again* were sensitive to focus-background structure, such that it presupposed the background of the clause it occurs in, then (73a) should be felicitous (it should only presuppose that I previously missed something). It is not, and *again* can only presuppose that I previously missed the train. *Again* itself can also be focused, as in (71b–c); this also does not change its scope.

I conclude that partitioning the clause into focus and background is not a viable account of the scope of *again*. When it is adjoined on the right, *again* takes the constituent to its left (the constituent it has adjoined to) as its scope. Constituents to its right are outside of this scope. This can only be explained in a left-branching structure, as in (67).

At the same time, syntactic dependencies like NPI licensing and binding work rightward across *again*, not leftward:

(74) *NPI Licensing*

a. Last semester, Guido completed few assignments in Syntax 1. This semester, he completed few assignments again in any of his classes.

b. Last semester, Guido completed (some) assignments in some classes. *This semester, he completed any assignments again in few classes.

(75) *Binding Condition A*

a. The therapist explained her clients to each other. Then she explained them again to themselves.

b. . . . *Then she explained themselves again to them.

(76) *Binding Condition C*

a. * We won't talk about her$_1$ again near the dean$_1$.

b. We won't talk about the dean$_1$ again near her$_1$.

(77) *Variable Binding*

a. I met each girl at her house last week. I met each girl$_1$ again this week at her$_1$ school.

b. I had to meet each girl's parents without her last week. *This week, I will meet her$_1$ parents again with each girl$_1$.

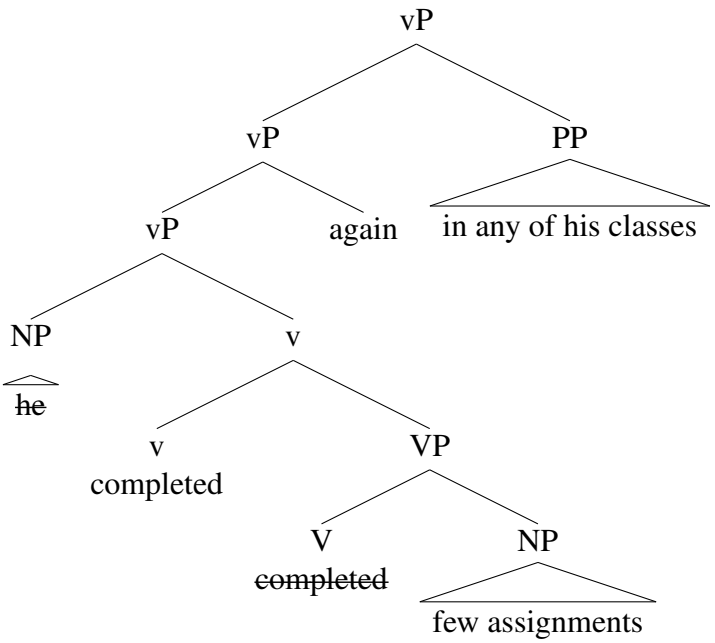
(78) *Each. . . the Other*

a. That pundit critcized those two future presidents during an interview. Then he criticized each again during the other's inauguration.

b. . . . *Then he criticized the other again during each's inauguration.

The only coherent response to these data is to give up the idea that c-command plays any role in these dependencies, as advocated by Bruening (2014) and as justified there and in section 6. In section 6, we saw that NPI licensing in the VP refers to linear order. Binding Conditions A and C require precedence and phase-command (Bruening 2014). Variable binding requires semantic scope and linear precedence. The *each. . . the other* construction requires that *the other* follow *each* and occur within its scope. All of these facts are consistent with a structure like the following:

(79)



In this structure, *few* precedes *any*, and it is able to take scope over it. The NPI is licensed, while the scope of *again* excludes the PP.

8 Pronouncing an Adjunct Twice

Larson (2024) states that some speakers allow double pronunciation of an adjunct in VP preposing, one in the fronted position and one stranded:

(80) John said he would give them the box in the garden, and
give them the box in the garden he DID in the garden on TUESday.
(Larson 2024: 684, (59b))

Larson (2024) says that this is strong evidence for his analysis involving distributed pronunciation in the copy theory of movement.

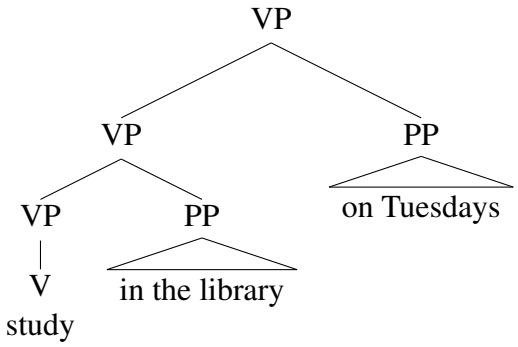
While I am skeptical that this is the right account,[5] even if it is, it does not provide an argument in favor of Larson's right branching structures. Any theory with movement can adopt the same account. In particular, one can believe that adjuncts are adjoined high on the right, and can front along with the VP but be pronounced in both locations. In other words, this fact is completely neutral on the structure involved.

Additionally, I refer the reader back to the examples in (11) and (12), where an adjunct is shared by coordination and stranded by ellipsis. Since there is no movement involved in coordination and ellipsis, distributed pronunciation in the copy theory of movement will not help to explain the stranding there (Larson does attempt to explain stranding in ellipsis, but his account will not extend to coordination).

9 Featural Minimality

In the traditional description of constituency tests like VP preposing, strandable adjuncts are said to be adjoined successively higher on the right:

(81)



[5] In footnote 24 in Larson (2024), a reviewer notes that the two occurrences of the adjunct can differ. Larson claims that this is vehicle change (Fiengo & May 1994). However, I find that the two occurrences can differ even more than is noted in that footnote:

(i) a. John said he would meet them in the garden, and
meet them in the garden he did in the sculpture garden.
b. . . . and meet them in the garden he did in the rose garden on TUESday.

I suspect that this phenomenon is repetition, which is rendered more acceptable by the distance between the two occurrences, not movement in particular.

(82) a. . . . and study she does in the library on Tuesdays.
b. . . . and study in the library she does on Tuesdays.
c. . . . and study in the library on Tuesdays she does.

VP preposing is then supposed to be able to front any of the VP nodes (or vP, in the analysis considered here).

Larson (2024) criticizes this approach on the grounds that it is inconsistent with current approaches to movement, which view movement as feature driven and subject to minimality. According to Larson, the highest VP node would always block lower ones from fronting. In (81), only the highest VP could ever move, and stranding should never be possible. Giving a lower node and not a higher one a feature like [Topic] will not work to get around this problem, according to Larson (2024), because what fronts and what strands does not always align with new versus old information.

This is not a serious objection to the type of left-branching structures in (81) that this paper has argued for at length. There are three points to make. First, our theory should follow the facts, and not the other way around. If the facts tell us that something like (81) is correct, then our theory had better allow it. Second, featural minimality is rather contentless in practice. If something moves in some language, then the typical response is to posit a feature to drive that movement. In the current case, [Topic] might be the wrong feature, but there is apparently some other feature that is behind the movement. There must be some desire to front a constituent that does not have anything to do with old versus new information. We could create a feature called [Emph] that can be freely attached to any constituent that a speaker wishes to emphasize, and this feature triggers movement to a preposed position to realize that emphasis. In the kind of tree in (81), the syntax can freely put this feature on any of the VP nodes.

Third, there have already been proposals for VP preposing that do not have this problem. Landau (2007) and Bruening (2016) propose that the stranded material is actually adjoined late, to the lower copy, *after* the movement takes place. This approach does not encounter any difficulty with featural minimality, because at the point where movement takes place, the only VP node present is the one that preposes. It is only at a later stage that the stranded material adjoins. If one wished, one could also adopt Larson's own theory of distributed pronunciation of copies (section 8) in conjunction with a left branching structure. This would also have no problem with featural minimality.

I conclude that featural minimality is not an issue for the traditional view. All of the data indicates that the traditional view (appropriately updated) is correct, and whatever theory of movement we adopt had better allow for it.

10 Conclusion

Larson (2024) proposes a solution to phrase structure "paradoxes" that attempts to preserve the view that syntactic dependencies like binding and NPI licensing require strict c-command. The other approach, proposed by Bruening (2014), is instead to reject the involvement of c-command in all of these dependencies. I have shown here that the latter approach is the one that is supported by all of the data. No syntactic dependency refers to c-command, and all of the data indicate that adjuncts are adjoined high on the right.

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