CPs Move Rightward, Not Leftward

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Abstract

Moulton (2015) proposes that CPs appear rightmost in many languages by a two-step leftward movement process: first the CP moves leftward, and then a remnant Asp(ect)P carries all other material to the left of that moved position. I show here that this analysis faces insurmountable problems in English. In contrast, a simple rightward movement analysis explains all the facts. I also show that if binding is computed on the basis of precede-and-command rather than c-command (Bruening 2014), the rightward movement analysis accounts for all binding facts, too. The remnant movement analysis fails to account for binding, since apparent rightward movement does not pattern with clear cases of remnant movement like partial VP fronting. This result indicates that apparent rightward movement is actual rightward movement, and is not remnant movement as many recent analyses propose.

1 Introduction

In many languages, including English, CP complements prefer to appear as far to the right as possible, following all other clausemate material (e.g., Stowell 1981). Moulton (2015) proposes that this positioning is due, not to rightward movement, but to CP complements moving leftward. In this proposal, a subsequent step of remnant movement of Asp(ect)P results in the CP appearing on the right. In the following derivation, first CP moves out of AspP, and then the remnant AspP moves to a higher position, leaving the CP rightmost in the clause (Moulton 2015, 310, (16)):

(1)
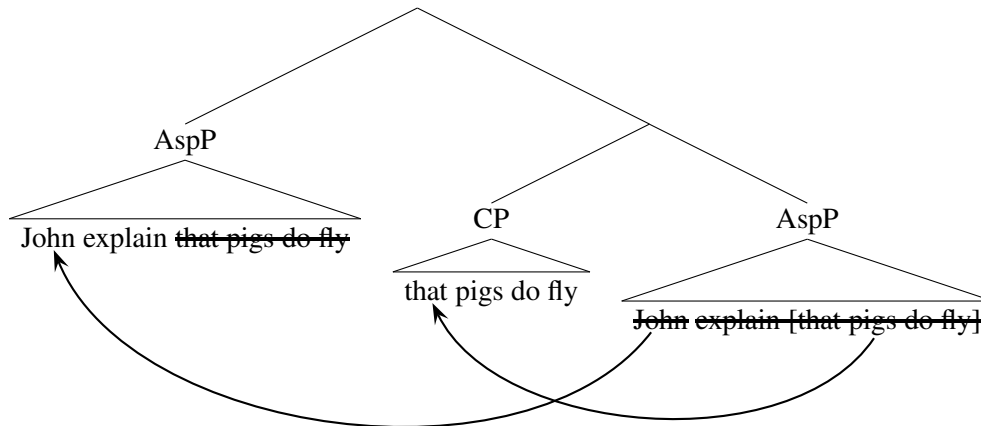
Moulton proposes essentially the same derivation for heavy NP shift, following a 1995 unpublished manuscript by Marcel den Dikken.

Moulton's empirical argument for this derivation in English involves preposition stranding. I reexamine the data and show that Moulton's proposed derivation is incompatible with new facts that I introduce regarding this phenomenon. It also fails to explain some of the facts that were taken to motivate it. I propose instead that there are two different derivations when CPs appear to have shifted rightward. First, if the only other element in the VP is a PP, that PP shifts leftward, while the CP never moves. Second, if there is other material, the CP moves to the right, with nothing else moving. These two possible derivations explain the pattern of preposition stranding that we find in English. This is the topic of section 2.

Moulton's (2015) theoretical argument for remnant movement involves a proposed semantics for CP complements that explains their distribution with respect to nouns and verbs. I show that we can not only maintain this proposed semantics in the alternative syntactic proposal, we can greatly simplify the combinatorics if we adopt Champollion's (2015) hypothesis that verbs are existential quantifiers over events. With this hypothesis, Moulton's second step of movement, remnant movement of AspP, is unnecessary for semantic interpretation to go through. CPs only need to move to the edge of VoiceP to be interpreted in Moulton's semantics. I argue that this movement is rightward movement when it takes place, but it can also be LF movement, in which case its direction is unknowable. In either case, the proposed semantics can be maintained within the rightward movement analysis. This is shown in section 3

I also take a closer look at binding facts, which Moulton (2015) claims are problematic for a rightward movement approach. I show that, once we recognize that the structural relation involved in binding is not c-command but precede-and-command (Bruening 2014), the facts are exactly as predicted by the rightward movement account. The remnant movement account in fact runs into trouble with binding, since the proposed remnant movement does not pattern with clear cases of remnant movement like partial VP fronting (section 4).

Finally, I discuss some extraction and word order facts that Moulton (2015) claims are also problematic for a rightward movement analysis. I show that these facts are compatible with rightward movement, and do not favor the remnant movement analysis (section 5).

The conclusion from all of this is that the rightward movement analysis fares much better than the remnant movement analysis in accounting for all of the facts of CP complements of verbs. This result is an indication that remnant movement analyses of other apparent rightward movement phenomena are probably also on the wrong track.

2 Preposition Stranding

Moulton's (2015) empirical argument for remnant movement in English involves preposition stranding. I first show the facts that motivated Moulton's analysis, and then present problems and propose an alternative.

2.1 P-Stranding and the Remnant Account

The primary datum in need of explanation is the fact that shifting a CP complement rightward across a PP makes extracting from that PP impossible (Kuno 1973, 381; Stowell 1981; Wexler and Culicover 1980):

(2) (Stowell 1981, 208, (177))

   a. * Who did you say to that I would buy the guitar?
   b. * Who will Andrews disclose to that he is married?

Shifting of CPs patterns with heavy NP shift, which has the same effect:

(3) (Stowell 1981, 211, (185))

   a. * Jim, I said to a few words about his workmanship.
   b. * Who will he disclose to his marriage with Jane?

Moulton (2015) proposes that this follows from the remnant movement account. Both CPs and heavy NPs move leftward, followed by remnant movement of AspP. The PP is located inside the AspP, and so cannot be extracted from, since moved phrases are islands to extraction (Wexler and Culicover 1980). We know that a PP inside a fronted constituent like a VP cannot be extracted from, for instance:

(4) a. She said that [$_{VP}$ talk to him] though we might, it will make no difference.
   b. * Who did she say that [$_{VP}$ talk to t] though we might, it will make no difference?

So, Moulton (2015) accounts for the P-stranding effect as following from a constraint that bans extracting from a moved constituent (see Corver 2006 for discussion of such *freezing effects*). In this case, AspP has moved, and so a PP within it cannot be extracted from.

2.2 Some Problems

An immediate problem arises from data noted by Moulton (2015) and taken to support the remnant movement analysis. This is that extraction from the PP seems to be acceptable if it follows the CP, especially if the P is stressed (I use my own examples, since Moulton's are not very good, in my judgment):

(5) a. A: I already said that I would!
    b. B: OK, but who did you say that you would TO? (Depending on who it was, we might be able to get you out of it.)
    c. * B: OK, but who did you say to that you would?

According to Moulton (2015, 323–324), PPs that have extraposed can be extracted from. Moulton gives some data from German to support this contention, but we know that shifting a PP to the right in English blocks extraction (e.g., Wexler and Culicover 1980):[1]

(6) a. * Who did you speak on Thursday to?
    b. * What did they depend last summer on?
    c. * What did they put the knives yesterday in?

In fact, extracting from an extraposed PP is an instance of the very freezing effect that Moulton uses to explain the ungrammaticality of extraction from the PP when it precedes the CP (see Corver 2006).

If PPs that extrapose cannot actually be extracted from, then examples like (5b) are problematic for Moulton's remnant movement analysis. There is no way in that analysis for the PP to occur on the right without having moved, since AspP carries everything but the CP to the left when it moves.

This is the first problem. The second problem is that adding more material after the PP but before the CP greatly improves extraction from the PP:

(7) a. Who did she say to on Tuesday that she would leave on Thursday?
    b. That's the person that you need to make clear to before you can leave that you truly feel remorse about your actions.
    c. That's the guy that she shouted to down the stairs that she was in love with him.
    d. Who did she hint to in a very subtle way that she wanted to dance?
    e. Which official does he need to disclose to in writing that he is married?

This is also true of heavy NP shfit:

(8) a. It's that official that you should disclose to in writing all your financial dealings with this company.
    b. How many people is he going to reveal to in his big announcement at noon his intent to resign within the month?
    c. That's the person that you need to make clear to before you can leave your resolve to make amends with everyone you have hurt.

The problem for the remnant movement analysis is that all this extra material should just move with the remnant AspP, and P-stranding should still be ungrammatical. In the remnant movement analysis, the amount of material in the AspP should make no difference to extraction from a PP within it. Said extraction would still violate the ban on moving out of a moved constituent.

A third problem is that the order PP–CP is possible even when VP fronting has taken place, stranding both the PP and the CP:

(9) a. Complain though he will to anyone who will listen that he has been treated most unfairly, it will make no difference.

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[1]The German facts are also not clear, because such examples have been argued not to be P-stranding at all (e.g., Abels 2012).

b.   Hint though she might to all her superiors that she deserves a raise for all her hard work, it will make no difference.

In Moulton's analysis, the PP only gets to the left of the CP by being moved along with the AspP remnant. But then moving the verb minus the PP to a higher position should not be possible. Either the verb would have to move out of AspP, or the PP would have to move out and the remnant then move further. Either derivation would violate the ban on moving out of a constituent that has undergone movement already.

2.3   A Simpler Alternative

The analysis that I propose takes as a starting point the following generalization about English: When a PP can be extracted from, stranding the P, that PP has not moved. Moving a PP in any direction, rightward or leftward, blocks P-stranding (Postal 1972; Koster 1978, 573; Wexler and Culicover 1980; see Corver 2006):

(10)   a.   * Who did you speak on Thursday to?

       b.   * Whose heads do you think that over we should put a sack?
            (cf. I think that over their heads we should put a sack.)

       c.   * Which bridge did he say that under is living a troll?
            (cf. He said that under that bridge is living a troll.)

This means that, when a PP can be extracted from, that PP could not have moved but must be in its base position. Conversely, when a PP that can in principle be extracted from cannot in some context, it has moved, either by itself or as part of a larger phrase.

   I propose that there are two different derivations for placing a CP or a heavy NP to the right:

1. If all that is to the right of the CP or the heavy NP is a PP, that PP moves leftward. The PP cannot be extracted from.

2. If there is more material present, then the CP or the heavy NP has to move. It moves rightward. The PP never moves anywhere, and can be extracted from.

   The first derivation works as follows. First, I assume that verbs that take NP/CP and PP arguments have the following structure:

(11)
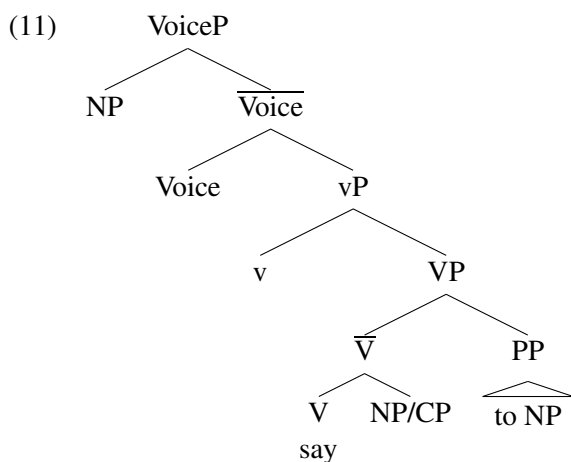
The external argument is projected by Voice (Kratzer 1996), while the internal arguments are projected as shown. The verb moves through v to Voice. Binding facts do not rely on c-command, but precede-and-command (Bruening 2014):

(12)   a.   Binding: A binds B iff A and B are coindexed and A precedes and phase-commands B. (Bruening 2014, 344, (5))

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b. 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. (Bruening 2014, 343, (2))

c. Phasal Nodes: CP, VoiceP, NP. (modified from Bruening 2014, 343, (3))

This has the result that the NP or CP binds into the PP and not vice versa, even though the PP is structurally higher. NP/CP and PP phase-command each other, but NP/CP precedes PP.

If nothing moves, the PP can be extracted from. This explains the grammaticality of (5b), repeated here as (13b), while maintaining that rightward shifted PPs are islands to extraction:

(13) a. A: I already said that I would!

b. B: OK, but who did you say that you would TO? (Depending on who it was, we might be able to get you out of it.)

The PP can also move to the left. I propose that this is movement to Spec-vP:
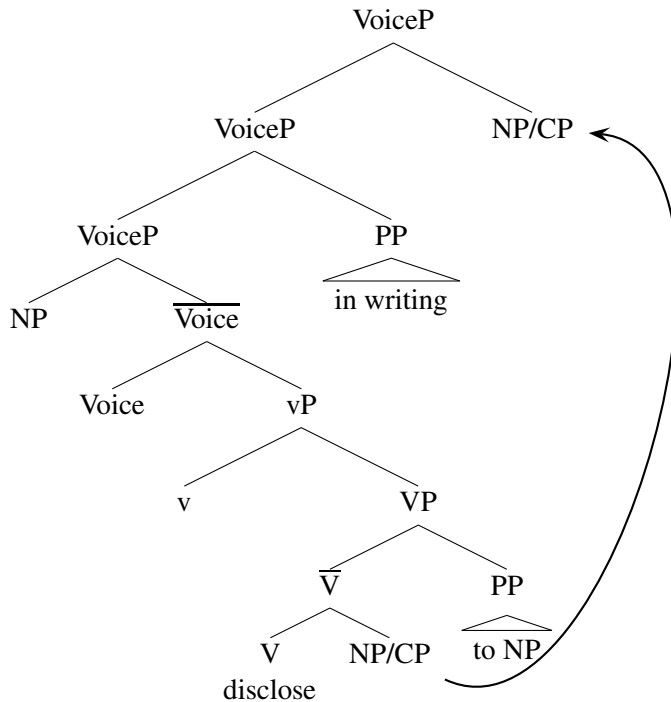
(14)
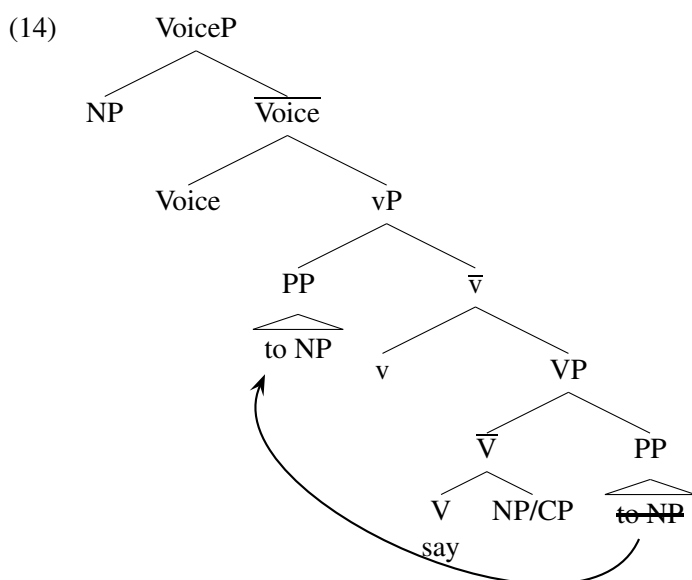
This movement is dispreferred if the NP argument is not heavy, but is overwhelmingly preferred if the argument is a CP. The verb moves through v to Voice, giving the correct order. Since the PP has moved, it cannot be extracted from. This results in the P-stranding effect that motivated Moulton's remnant movement analysis:

(15) a. * Who did you say to that I would buy the guitar? (Stowell 1981, 208, (177))

b. * Who will he disclose to his marriage with Jane? (Stowell 1981, 211, (185))

The second possible derivation involves rightward movement. If there is more material to the right of the CP or heavy NP besides a single PP, then moving the PP to the left will not help to achieve the goal of putting the heavy NP or CP as far to the right as possible. The grammar then does not bother with moving the PP, but instead moves the CP or the heavy NP to the right. This movement can cross a number of different types of adjuncts and so must carry the moving NP or CP fairly high in the tree. Simply to be concrete, I will suggest that one possible target of movement is adjunction to VoiceP:

(16)

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                              VoiceP
                        ┌────────┴────────┐
                     VoiceP            NP/CP  ←
                 ┌──────┴──────┐
              VoiceP          PP
            ┌───┴───┐        ╱‾‾╲
           NP     V̄oice    in writing
                 ┌──┴──┐
              Voice    vP
                    ┌───┴───┐
                    v       VP
                         ┌───┴───┐
                        V̄        PP
                     ┌──┴──┐    ╱‾‾╲
                     V    NP/CP  to NP
                  disclose
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In cases of adjunction, I will assume that only the *highest* VoiceP counts as the phasal node for the computation of phase-command. This means that the NP inside PP precedes-and-commands the extraposed NP/CP, as would any other argument inside the VoiceP (see section 4).

The position of the adjunct is not that important; it could be adjoined to VoiceP, as I have shown it above, or it could be adjoined to vP or to VP. What is important here is that, since the PP argument has not moved anywhere, it can be extracted from:

(17) a.   Which official should he disclose to in writing that he is married?
      b.   It's that official that you should disclose to in writing all your financial dealings with this company.

Finally, *both* the PP and the CP can be shifted rightward, followed by remnant VoiceP movement:

(18) Complain though he will to anyone who will listen that he has been treated most unfairly,...

This fact was problematic for the remnant movement account, but follows as a simple case of stranding in VP fronting on the current account.

We can also account for another fact mentioned by Moulton (2015), although this fact does not favor either analysis. This is that extraposition from NP across a PP does not render that PP impermeable to extraction (Drummond 2009):

(19) a.   Who did you give the impression to that you were happy?
      b.   Who did you give the book to that Mary wanted?

We can see from the word order that the PP has not moved leftward, since it follows the NP. The extraposed material has instead moved to the right. Since the PP has not moved, it can be extracted from.
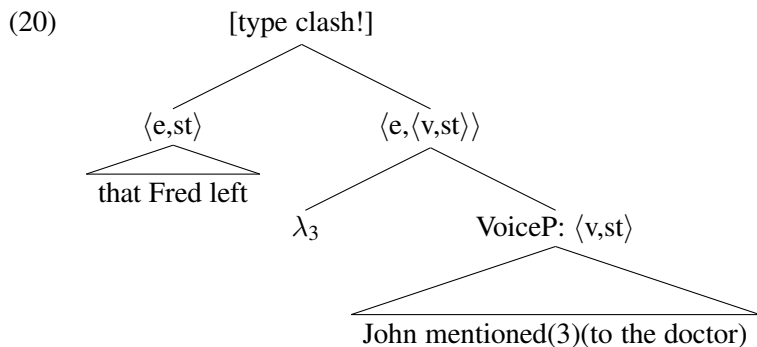
This alternative analysis therefore accounts for all of the facts that are problematic for the remnant movement analysis, as well as the facts that were taken to motivate it and all related facts. It does so with a minimum number of movements in every case.[2]

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[2]Moulton (2015) notes that extraction from an NP complement to a PP in the presence of a CP to the right is much better than simply stranding the P:

(i)   ? Who did you say to the brother of that you would buy the guitar? (Moulton 2015, 324, (73))

3   Moulton's Semantic Motivation for Movement

Moulton (2015) proposes (following Kratzer 2006) that CP arguments are predicates of propositional content, type $\langle e,\langle s,t\rangle\rangle$. They can combine directly with nouns, also of type $\langle e,\langle s,t\rangle\rangle$, by predicate modification. This explains their ability to combine with nouns that do not accept arguments, for instance *idea* (see Moulton 2015 for details). Verbs that take CP arguments, however, also take an event argument, and so are not the right type to combine in the same way (they are type $\langle e,\langle v,st\rangle\rangle$[3]). The type mismatch is resolved by movement. First, the CP moves, leaving a trace of type e. This saturates the individual argument of the verb. However, moving the CP creates the same type mismatch in the moved position (based on Moulton 2015, 319, (52)):

(20)   [type clash!]

      $\langle e,st\rangle$ $\langle e,\langle v,st\rangle\rangle$

    that Fred left

          λ_3 VoiceP: $\langle v,st\rangle$

          John mentioned(3)(to the doctor)

This is because the VoiceP (vP, for Moulton) still has an open event argument, and movement abstracts over that, creating a predicate with an individual argument.

The remnant movement of AspP that Moulton proposes is motivated by the need to fix this mismatch. The Asp head is a quantifier over events. As such, when it moves, its trace is an event, type v. This saturates the event variable of the VoiceP, so that at the node where the CP adjoins (higher than Asp), the type is $\langle e,st\rangle$, and the CP and its sister can combine by predicate modification, since they are the same type. (See Moulton 2015, 328–329.)
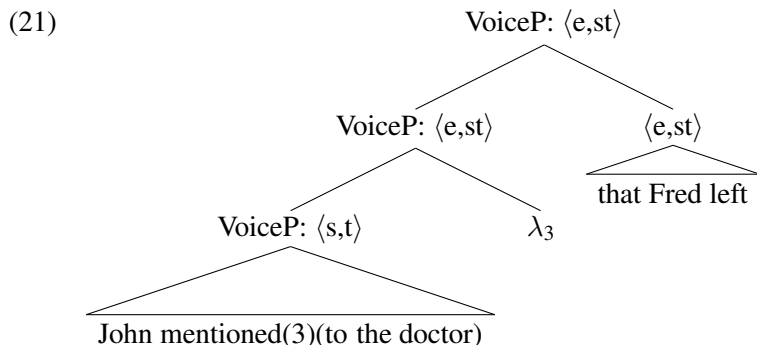
Let us suppose that Moulton is correct about the semantic type of CPs. This proposal does have some nice results, for instance how it treats CPs combining with nouns. We can maintain this proposal in the current analysis, but simplify it to do without remnant AspP movement, if we simply follow Champollion (2015) in treating verbs as existentially quantifying over events rather than being predicates of events. I will modify this proposal slightly to locate the existential quantifier in Voice. The V itself takes an event argument, as in Moulton (2015), but Voice existentially closes it. This means that, as in Moulton's analysis, the CP cannot combine with the verb in situ, because the verb is the wrong type. However, VoiceP is type $\langle s,t\rangle$, since it has closed the event argument, and the CP can adjoin to it and abstract over it:[4]

A possible approach to this within the current account is to say that the derivation with leftward movement of the PP is only forced when the PP is relatively light. If it is heavier, as it is in (i), then rightward CP movement is preferred, and the PP never moves. Consistent with this account is the fact that a PP that has moved rightward does not improve in the same way:

(ii)   * Who did they depend last summer on the brother of?

[3]Moulton (2015) makes event arguments type "l"; I have replaced this with the more common "v."

[4]Technically, Champollion (2015) proposes that verbs are sets of sets of events, so type $\langle vt,t\rangle$. However, sentences are too, so the CP and the VoiceP are the same type and can still combine by predicate modification.

(21)

VoiceP: $\langle$e,st$\rangle$

VoiceP: $\langle$e,st$\rangle$ $\langle$e,st$\rangle$

VoiceP: $\langle$s,t$\rangle$ λ_3 that Fred left

John mentioned(3)(to the doctor)

The CP can move rightward, resolving the type mismatch and saturating the verb's individual argument. No further movement is necessary. In particular, we do not need the remnant AspP movement proposed by Moulton (2015).

It is also not necessary that this type-resolving movement take place overtly. It could take place covertly, at LF. So, in the first derivation proposed above, where the PP moves leftward and the CP does not move, there is no need for the CP to move on the surface. It can move at LF to resolve the type mismatch.[5] In the second derivation, overt rightward movement of the CP to VoiceP will resolve the mismatch. Allowing the CP to move only covertly also permits extraction from a PP following a CP, as in example (5b). This was problematic for Moulton, who had to say that PPs can move rightward and still be extracted from, when we know that they cannot (6). The problem arose because in Moulton's analysis CPs must move to the left on the surface and so must the remnant AspP; the only way the PP could be on the right was to extrapose. In the current analysis, a PP starts on the right, and nothing has to move on the surface.[6]

Another crucial ingredient in Moulton's (2015) analysis is that existential closure has to take place, closing off the individual argument. This happens immediately above the adjunction site for the CP, turning type $\langle$e,st$\rangle$ into type $\langle$s,t$\rangle$ (see Moulton 2015, 329, (89)). According to Moulton, this explains why CPs cannot move further, as CPs; if they were to adjoin above the existential quantifier, there would be a type mismatch again. Apparent CPs as subjects (moving to Spec-TP) or as topics are actually NPs, as much recent literature has shown (Alrenga 2005, Davies and Dubinsky 2009, Takahashi 2010, Moulton 2013). NPs have a different type, and therefore combine in a very different way from CPs. This same explanation carries over without alteration to the present proposal.

This discussion shows that the present proposal is compatible with Moulton's proposed semantics, and retains all of the advantages thereof. At the same time, it is simpler, doing without the step of remnant movement, and it does not face the same problems.

Now, one might object that the present proposal does not actually *explain* the tendency of CPs to move rightward in numerous languages, since it does not require overt CP movement and AspP movement to fix the type mismatch. However, I contend that this is a good thing, since, as we have seen, there are reasons to think that CPs do not always move. In the present proposal, appearing on the right must just be desirable for heavy constituents generally, including heavy NPs, presumably for processing reasons. Note that in Moulton's proposal, heavy NP shift has to have a very similar derivation, since it gives rise to the same P-stranding effect; yet there is no type motivation for a

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[5]Alternatively, we can say that the verb is type $\langle$e,st$\rangle$ from the beginning, and there is no need for movement at all. I believe that there are reasons to think that the event argument is open below Voice, so I will pursue the movement analysis in the text.

[6]Moulton (2015, note 17) states that gerunds in English disallow many movement operations and so reflect the base order of complements. According to Stowell (1981), a CP complement must follow a PP complement inside a gerund:

(i) (Stowell 1981, 109, (12))

    a.   Did [Sally's mentioning to the doctor that there will be a problem] surprise you?

    b.   * Did [Sally's mentioning that there will be a problem to the doctor] surprise you?

I disagree with this judgment, and find (ib) very awkward, but not ungrammatical. If the CP is shorter while the PP is longer, this order seems fine:

(ii)   That Sally was pregnant didn't surprise me, but [her mentioning that she was to one of her co-workers] did.

Gerunds do not appear to differ from finite clauses in this regard.

heavy NP to move, or for the remnant to move around it. Moulton's analysis does not actually explain all the facts, either; it still requires a statement about heavy constituents preferring to be on the right.

Note that we can go part of the way to explaining the facts in the current proposal. Type mismatches can be resolved at LF. English often resorts to LF movement, as scope mismatches at the surface show us. English therefore sometimes moves CPs overtly and sometimes does not, the same way it may or may not move heavy NPs, and for the same reason (heaviness). In contrast, German seems to *require* that CPs move on the surface, but heavy NPs do not have to. This follows the pattern of German generally, where scope is usually isomorphic to surface order (e.g., Frey 1993, Krifka 1998). German, it seems, prefers to resolve type mismatches overtly. This explains why heavy NPs and CPs pattern together in English, but differently in German; Moulton gives them the same remnant movement analysis, and so fails to capture their behavior in the two languages.

4   Binding

According to Moulton (2015), the fact that datives bind into extraposed CPs in German is incompatible with rightward movement of the CP:

(22)   (Bayer 1995, 56, (17a–b))

    a.   … weil   der Direktor [jeder Putzfrau]$_1$ persönlich mitteilte [dass sie$_1$ entlassen sei].
            because the director each cleaning.lady personally told   that she fired   was

        '… because the director told each cleaning lady$_1$ personally that she$_1$ was fired.'

    b.   * … weil   der Direktor ihr$_1$ persönlich mitteilte [dass [die Putzfrau]$_1$ entlassen sei].
            because the director her personally told   that the cleaning.lady fired   was

        '… because the director told her$_1$ personally that the cleaning lady$_1$ was fired.'

The dative NP can be a quantifier binding a pronoun in the extraposed CP, and if it is a pronoun, it gives rise to a Condition C effect when coindexed with an NP within the CP.

The argument here appears to be that, if the CP had moved rightward, it would necessarily be outside the command domain of the dative NP. That is not true in the current account. Condition C depends on the structural relation of precede-and-command, not c-command (Bruening 2014), as explained above. The CP can have moved to a position on the right that is higher than the position of the dative, and still be in its command domain, so long as they are dominated by the same phrasal node. Here is one possible analysis of the German sentences above, where the dative NP is projected by an Appl(icative) head (Marantz 1993), the CP adjoins to VoiceP, and the verb moves through Appl to Voice:

(23)
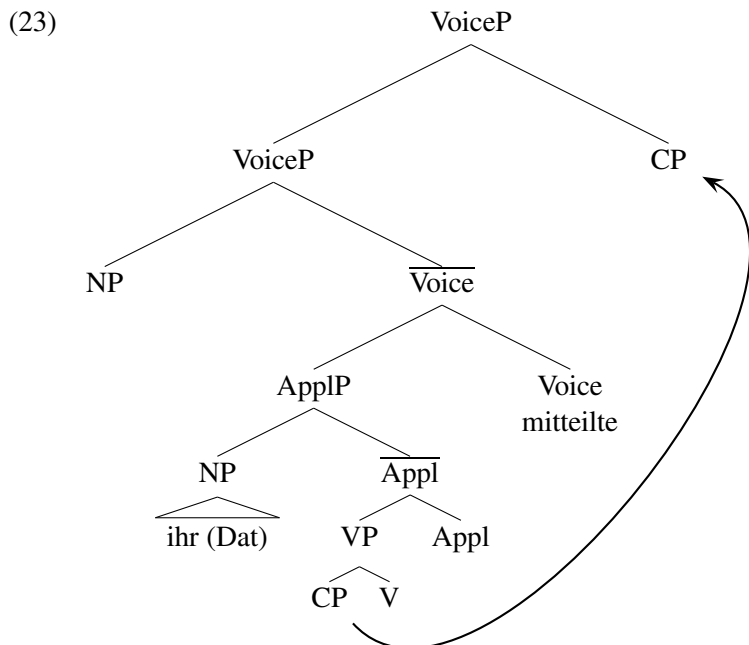
Only the highest VoiceP is a phasal node, so there is no phasal node that dominates the dative and does not dominate the CP. The dative therefore phase-commands the CP and also precedes it, giving rise to a Condition C violation. (In the actual example, the dative precedes an adverb; this means it has probably moved higher than its base position, and from that position most definitely phase-commands the shifted CP.)

As for quantificational binding, quantifiers can bind pronouns as variables that they do not c-command or even phase-command, as Barker (2012) and Bruening (2014) show. The binding data are therefore not problematic for a rightward movement analysis.

Moreover, it is possible to show that binding facts are as predicted by the current account, but are problematic for a remnant movement analysis. Observe first that an NP object that has apparently not moved at all still gives rise to a Condition C violation when it is coindexed with an NP inside a PP or CP that has moved rightward:

(24) a. * I convinced her$_1$ very easily of my good intentions toward Melinda$_1$'s family.

  b. * We discussed it$_1$ yesterday with the inventor of the Segway$_1$.

(25) a. * I convinced her$_1$ very easily that I was well disposed toward Melinda$_1$'s family.

  b. * I told her$_1$ on Tuesday that Melinda$_1$'s family was broke.

Movement upward and to the right is consistent with these Condition C violations, since Condition C depends on precede-and-command and not c-command. Again, see the tree in (16) and the discussion there.

In a remnant movement account, the PP or CP would have to first move leftward, and then a remnant phrase (AspP again) would move further to the left. The question is whether a pronoun inside that moved phrase should still bind into the CP or PP. To answer that, we can look at partial VP fronting. We can strand a CP or PP that contains an R-expression, while moving the remnant VP with a pronoun coindexed with that R-expression. This coindexation is banned when nothing has moved, but becomes acceptable in partial VP fronting (Lechner 2003, Landau 2007, 148):

(26) a. * He hinted to her$_1$ that he wants Melinda$_1$'s apartment when she moves.

  b. Hint to her$_1$ though he might that he wants Melinda$_1$'s apartment when she moves, she still won't give it to him.

(27) a. * I convinced her$_1$ of my good intentions toward Melinda$_1$'s family.

  b. . . . but convince her$_1$ I must of my good intentions toward Melinda$_1$'s family.

(28) a. * John promised to give the books to her$_1$ on Mary$_1$'s birthday.

  b. John promised to give the books to her next year, and give the books to her$_1$ he did on Mary$_1$'s birthday. (Lechner 2003, (31))

That is, remnant VP movement bleeds Condition C: a pronoun in the fronted VP no longer binds into stranded material (PP or CP).[7]

The remnant movement analysis treats apparent rightward movement of CPs and PPs as almost identical to these cases of partial VP fronting; it is therefore mysterious why a Condition C effect would arise with apparent rightward movement but not with stranding plus VP fronting as in (26b), (27b), (28b). In contrast, the rightward movement analysis gets the facts exactly right, assuming precede-and-command. I assume that in stranding, the PP or CP has to move out of the VoiceP in order for the remnant VoiceP to move; there is then a phasal node, VoiceP, that dominates the pronoun but does not dominate the CP or PP.

The binding facts then are not problematic for a rightward movement analysis. In fact, they are exactly as would be predicted, if binding is precede-and-command. Binding is actually problematic for the remnant movement analysis, since clear cases of remnant movement do not behave in the same way as rightward movement.

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[7]Pesetsky (1995) claimed that an element inside a fronted VP could still bind into a stranded phrase, but his only example involved an exempt anaphor. Exempt anaphors do not require binding (Pollard and Sag 1992). See Janke and Neeleman (2012) and Bruening (2014) for discussion. Phillips (2003) and Lechner (2003) added examples of quantificational binding, but quantifiers can bind pronouns that they do not c-command or even phase-command (Barker 2012, Bruening 2014).

5 Some Other Facts

In this section I address two other facts that Moulton (2015) claimed were problematic for both in-situ analyses of CPs and rightward movement analyses. These are extraction and surface word order in OV languages like German. I show that neither favors the remnant movement analysis.

5.1 Extraction

A fact that, according to Moulton (2015), is incompatible with a rightward movement analysis of CPs is that they are permeable to extraction. For instance, in English, a CP that has moved rightward across both an argument PP and an adjunct PP can still be extracted from:

(29) Which politicians do you need to disclose to the agency in writing that you have had financial dealings with?

This is the situation which, in the current analysis, is derived by rightward movement of the CP, not leftward movement of the PP(s).

Of course, this extraction is not, on the face of it, compatible with Moulton's remnant movement analysis, either. In that analysis, the CP moves leftward, followed by remnant movement. Moulton has to simply stipulate that a CP moved to the left can still be extracted from, while the remnant AspP cannot. This loses the generality of the constraint against moving out of a constituent that has itself undergone movement. Only some moved phrases become islands to extraction.

In the current analysis, we are forced to say the same thing: not all moved phrases are islands to extraction. In particular, a CP moved to the right can still be extracted from. As we saw above, a PP that is moved to the right cannot be extracted from; I see no principled explanation for this difference, and so it has to be stipulated for the moment. But the rightward movement analysis and the remnant movement analysis are in the same boat here; neither fares better than the other.

5.2 Order in OV Languages

Moulton (2015) also cites word order in OV languages as an argument against alternatives to remnant movement. In some OV languages like German, finite CP complements have to appear rightmost, following all higher auxiliaries and even higher infinitive-embedding verbs:

(30) (Büring and Hartmann 1997, 74, (35))

    a.   ... weil   er behaupten **muss** [CP dass er Hemingway geschlagen hat].
             because he claim   must   that he Hemingway beaten   has
        '... because he must claim that he has beaten Hemingway.'

    b.   ... weil   er behaupten können **wollte** [CP dass er Hemingway geschlagen hat].
             because he claim   can   wanted   that he Hemingway beaten   has
        '... because he wanted to be able to claim that he has beaten Hemingway.'

However, this positioning is only problematic for an in-situ analysis of CP complements. There is no problem here for a rightward movement analysis. In fact, this positioning is problematic for Moulton's remnant movement analysis, since in that analysis, the CP should only move as far as AspP. There is no reason for it to move further, above modals and higher infinitive-embedding verbs, and as we saw above, moving higher is supposed to be impossible. Moulton has to say (p.335) that there is a PF constraint against interrupting the verbal cluster in German, and so further PF movement dislocates the CP further from its position above AspP. As PF movement, this movement has no effect on the semantics, and so it is allowed. Once again, Moulton has added an additional stipulation that can also be added to the rightward movement analysis. The facts therefore do not favor either analysis.

6 Conclusion

This paper has shown that the remnant movement analysis that Moulton (2015) proposes for CP complements runs into insurmountable problems. An alternative involving rightward movement is much simpler and gets all of the facts right. It is also compatible with Moulton's proposed semantics for CPs, and can therefore reap all of the benefits of that analysis without suffering from its empirical drawbacks.

I have also shown that binding facts are exactly as we would predict, if apparent rightward movement is in fact rightward movement, and binding depends on precede-and-command and not c-command (Bruening 2014). This is an important result, since binding facts have often been taken to motivate complex remnant movement analyses. This motivation was based on the mistaken assumption that c-command was the relevant structural relation for binding. The results of this paper indicate that remnant movement analyses in general are unmotivated and elements on the right can be structurally higher than elements on the left.

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