

Gapping Is Not (VP-) Ellipsis

Kyle Johnson

Pseudogapping is no misnomer. Despite their many tempting similarities, gapping and pseudogapping are distinct constructions. Pseudogapping is a special instance of VP-ellipsis, while gapping, I argue, is a special instance of across-the-board movement. Squeezing gapping into across-the-board movement has its own discomforts, however, which I suggest can be remedied by retailoring our syntax to include string-based output constraints. I sketch one such alteration that involves apparent Left Branch Condition violations.

Keywords: gapping, coordination, ellipsis, across-the-board movement

1 Gapping and Ellipsis: The Issue

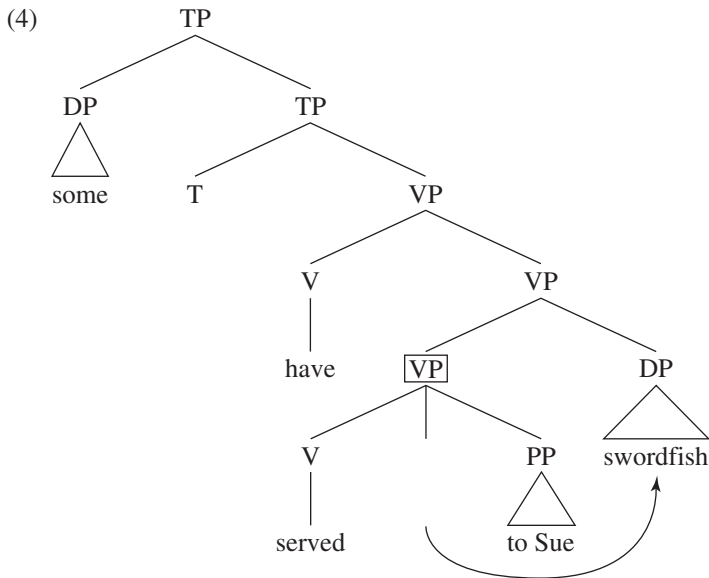
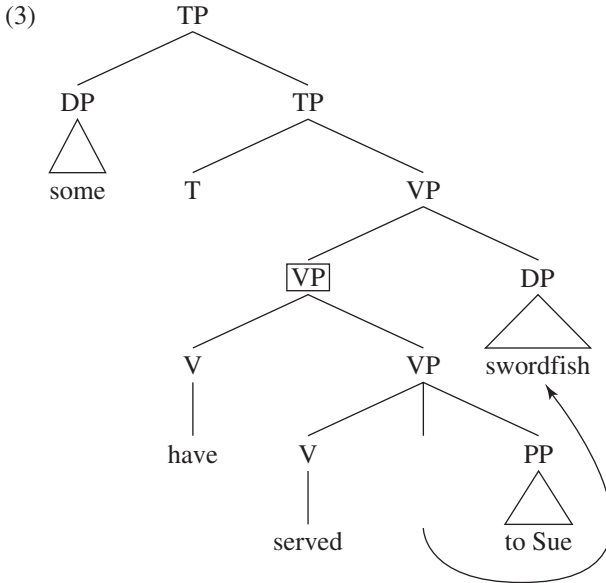
There are two forms of ellipsis in English that are so similar in outward appearance that it is tempting to see them as versions of the same thing. One of these is what Ross (1970) called *gapping*, illustrated by (1), and the other is what Levin (1986) called *pseudogapping*, illustrated by (2).

- (1) Some have served mussels to Sue and others swordfish.
- (2) Some have served mussels to Sue while others have swordfish.

A way of seeing both these constructions as deriving from VP-ellipsis—an idea that goes back to Sag 1976—is to let the movement operations that reorder arguments feed VP-ellipsis.¹ In (1) and (2), this might be achieved by letting heavy NP shift form the representations in (3) and (4), to which VP-ellipsis would apply, eliding the boxed phrases.

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¹ There is now a rich literature on this approach to these cases. See, among others, Pesetsky 1982, Jayaseelan 1990, Lasnik 1999, Baltin 2003, Johnson 2000, and Takahashi 2004.



There are other ways of characterizing the strings that gapping and pseudogapping affect, but the differences in these approaches are not significant enough to matter for my purposes. I will adopt the movement-based view that (3) and (4) illustrate. We can take as our starting point the hypothesis that whatever it is that determines which strings can pseudogap is the same

mechanism that determines which strings can gap.² I will also take for granted that pseudogapping is a special instance of VP-ellipsis; throughout this article, I will use the terms *pseudogapping* and *VP-ellipsis* to refer to the same process. What I will focus on is whether the mechanism that achieves the ellipsis in gapping is the same mechanism that achieves it in pseudogapping. Are both gapping and pseudogapping reducible to VP-ellipsis?

There are some reasons for believing that they are. Coppock (2001) points out, for example, that the identity conditions on pseudogapping play a part in the identity conditions on gapping as well. For instance, just as VP-ellipsis fixes scope ambiguities, so does gapping. To see this, let's begin by considering the effects of VP-ellipsis on scope. VP-ellipsis prevents the first clause of (6) from having the wide scope interpretation for the object that (5) does.³

(5) A student will talk to every alumna.

(6) A student will talk to every alumna first and Dean Edwards will immediately afterwards.

The reasons for this are complex and controversial—see Fox 2000 and Tomioka 1997 for two approaches—but they certainly have to do with the fact that the identity conditions on VP-ellipsis require the clause with the ellipsis to have quantifier scope relations that match those in the clause holding the antecedent VP. However the scope relations are fixed in the second clause of (7), they are fixed the same way in the first clause.

(7) A student will talk to every alumna first and a dean will immediately afterwards.

Because the object in the second clause of (6) cannot take scope over the subject with similar semantic effects, the antecedent conditions on ellipsis seem to prevent the object of the first clause in (6) from likewise taking scope over the subject. Coppock's observation is that these effects hold in gapping as well. The object of the first clause in (8) cannot have a wide scope reading, parallel to what is found in the VP-ellipsis case in (6).

(8) A student will talk to every alumna first and Dean Edwards immediately afterwards.

Similarly, whatever scope relation is understood between subject and object in the gapped sentence in (9), a parallel scope relation is fixed in the antecedent clause.

(9) A student will talk to every alumna first and a dean immediately afterwards.

To the extent that these effects are diagnostic of the antecedence conditions unique to VP-ellipsis, then, they speak on behalf of crediting VP-ellipsis with a role in gapping.

Coppock also points out that gapping shares with VP-ellipsis a constraint on how sloppy anaphora is invoked. Dahl (1974) discovered that when an ellipsis has two pronouns in it, the

² This is not completely true, however. I will examine one place where they diverge in section 6.

³ I have changed Coppock's examples to facilitate making minimal pairs and, hopefully, in the direction of making the judgments more obvious. My examples are fashioned after her (15).

first cannot have a strict interpretation if the second has a sloppy interpretation.⁴ All other combinations of interpretations are possible, however. (10) and (11) illustrate.

- (10) James said he'd rob his constituents and Peter did too.
- a. James said, "I will rob my constituents," and Peter said, "I will rob my constituents," too.
 - b. James said, "I will rob my constituents," and Peter said, "James₁ will rob his₁ constituents," too.
 - c. James said, "I will rob my constituents," and Peter said, "I will rob James's constituents," too.
 - d. *James said, "I will rob my constituents," and Peter said, "James will rob my constituents," too.
- (11) James will explain how he'd robbed his constituents to the police detectives and Peter will to the federal prosecutors.
- a. James₁ will explain how he₁'d robbed his own constituents and Peter₂ will explain how he₂'d robbed his own constituents.
 - b. James₁ will explain how he₁'d robbed his own constituents and Peter₂ will explain how James₁ had robbed his₁ constituents.
 - c. ?James₁ will explain how he₁'d robbed his own constituents and Peter₂ will explain how he₂'d robbed James₁'s constituents.
 - d. *James₁ will explain how he₁'d robbed his own constituents and Peter₂ will explain how James₁ had robbed Peter₂'s constituents.

Gapping shows the same constraint.

- (12) James will explain how he'd robbed his constituents to the police detectives and Peter to the federal prosecutors.
- a. James₁ will explain how he₁'d robbed his own constituents and Peter₂ will explain how he₂'d robbed his own constituents.
 - b. James₁ will explain how he₁'d robbed his own constituents and Peter₂ will explain how James₁ had robbed his₁ constituents.
 - c. ?James₁ will explain how he₁'d robbed his own constituents and Peter₂ will explain how he₂'d robbed James₁'s constituents.
 - d. *James₁ will explain how he₁'d robbed his own constituents and Peter₂ will explain how James₁ had robbed Peter₂'s constituents.

Like the quantifier scope facts, these facts suggest that VP-ellipsis is implicated in forming gaps—at least to the extent that they are emblematic of VP-ellipsis.

⁴ Certain other conditions must hold to manufacture this effect. See Ristad 1992, Kehler 1993, Fiengo and May 1994:147–165, Fox 2000:sec. 4.1.3, and Hardt 2003.

As the term *pseudogapping* indicates, Levin (1986) herself did not think it likely that (1) and (2) have the same underlying cause. And there are good superficial reasons for thinking she was right. Gapping, but not pseudogapping, is restricted to coordinations, as the contrast in (13) demonstrates (see Jackendoff 1971, Hudson 1976).

- (13) a. Some had eaten mussels because others had shrimp.
b. *Some had eaten mussels because others shrimp.

And, as Oehrle (1987) and McCawley (1993) discovered, gapping seems to invoke different scope relations than does pseudogapping. The subject of the first conjunct in (14a), for instance, is able to bind the pronoun in the second conjunct.⁵ But this is not possible in the similar (14b).

- (14) a. No woman can join the army and her girlfriend the navy.
b. No woman can join the army and/but her girlfriend can the navy.

Also, pseudogapping, like VP-ellipsis generally, is possible in embedded contexts, while gapping is not (see Koutsoudas 1971, Hankamer 1979, Wilder 1994, Williams 1997).

- (15) a. Some had eaten mussels and she claims that others had shrimp.
b. *Some had eaten mussels and she claims that others shrimp.

Finally, an antecedent can occur within an embedded clause in pseudogapping, but not in gapping.⁶

- (16) a. ?She's said Peter has eaten his peas, and Sally has her green beans, so now we can have dessert.
b. *She's said Peter has eaten his peas, and Sally her green beans, so now we can have dessert.

If gapping and pseudogapping are both forms of VP-ellipsis, then these differences need to be explained.

Here's a way of doing that which is a hybrid of proposals by Coppock (2001) and Lin (2002); I call this the *low-coordination reduction*, as it attempts to reduce gapping to VP-ellipsis through an underhanded use of coordination.⁷ The key to the idea is to find what it is about coordination that allows the syntax of pseudogapping to produce gapping. That property of coordination is its

⁵ As an anonymous reviewer points out, however, this isn't always possible. In *Every boy will eat his packed lunch but a girl his chocolate*, it isn't possible to understand *his* as a variable bound to *every boy*.

⁶ The second conjunct in these examples is to be read as conjoined with the *she's said* clause. (16b) is grammatical if the second conjunct is understood as conjoined with the embedded clause. The constraint illustrated by these examples is one that prevents the antecedent for a gap from being embedded relative to the site of conjunction.

⁷ My discussion here departs in many details from the proposals in these two works. Coppock explicitly gives a role to VP-deletion, and shares with Lin the idea that coordinations are small enough to put material that appears to be in the first coordinate outside the coordination. Lin also invokes a combination of small coordinates and ellipsis, but argues that the ellipsis process involved is distinct from that found in VP-ellipsis. (For proposals in a similar direction,

ability to produce the illusion of ellipsis by conjoining relatively small phrases. For instance, (17) might look like an instance of preposition deletion, but it probably involves just the coordination of two DPs, as in (18).

(17) Sally stood on the table and the chair.

(18) . . . [_{PP} on [_{DP}[_{DP} the table] and [_{DP} the chair]]]

On the low-coordination reduction of Gapping, the finite auxiliary lies outside the coordination in a way parallel to (18). VP-ellipsis can then be credited with deleting the rest of the material. To work out the details of this idea requires the following two assumptions:

- (19) a. A subject starts out lower than its surface position (the Derived-Subjects Hypothesis).
I will assume that subjects start out in the specifier of vP, a phrase that determines the subject θ -role and voice of the clause.
b. Argument movement can violate Ross's (1967) Coordinate Structure Constraint.

There is considerable evidence to support (19a), and it is a commonplace ingredient in most frameworks. There is also considerable evidence that the Coordinate Structure Constraint has exceptions that require its modification, and a number of proposals have been made in response to these exceptions that could derive (19b). According to one proposal, some coordinations are "asymmetric" in a way that permits apparent violations of the Coordinate Structure Constraint (see, e.g., Büring and Hartmann 1998, Hartmann 1998). Gapping would have to be seen as a special instance of these asymmetric coordinations for (19b) to emerge. So far as I can see, that does seem possible. Another possibility would be to derive the Coordinate Structure Constraint from a well-formedness condition on logical forms along the lines of (20).

- (20) Let α be a term outside a coordination, C . If α binds a variable in one conjunct of C , then it must bind a variable in all conjuncts of C .

(See Muadz 1991, Ruys 1992, Fox 2000, and their references for some examples.) Because (20) holds of logical forms, it need not hold of surface forms when these two representations differ. Thus, (19b) would require that argument movement form surface representations that violate the

see also Williams 1997 and Ackema and Szendrői 2002.) Lin's approach therefore avoids those elements of my critique that target VP-ellipsis. However, it does so at the cost of invoking a new ellipsis process.

Another proposal that shares some of the attributes of Coppock's and Lin's is found in Hartmann 1998. Hartmann argues that gapping is phonological ellipsis that arises in contexts where two clauses share an "assertion" feature in an across-the-board fashion. The logic of her proposal is the same as Coppock's and Lin's, though the execution differs in interesting ways.

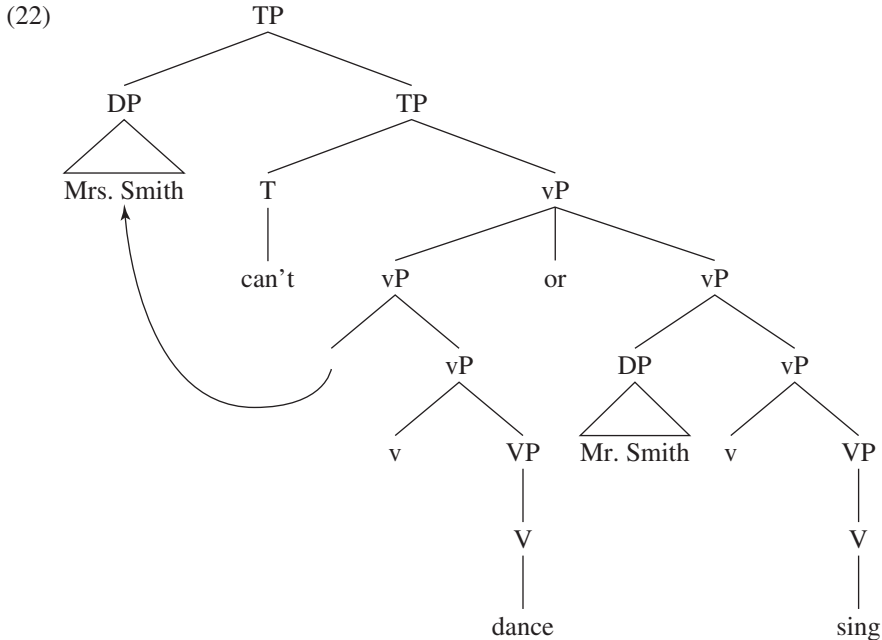
David Pesetsky was the first, I believe, to put the low-coordination reduction into my mind.

Coordinate Structure Constraint just when the associated logical forms do not. Lin (2001) argues that this is what happens in gapping. I will assume, therefore, that (19b) is sound.

I will illustrate the low-coordination reduction with examples of ‘‘auxiliary gapping,’’ studied by Siegel (1987) and characterized by her in just those terms.⁸ (21) is an example.

(21) Mrs. Smith can’t dance or Mr. Smith sing.

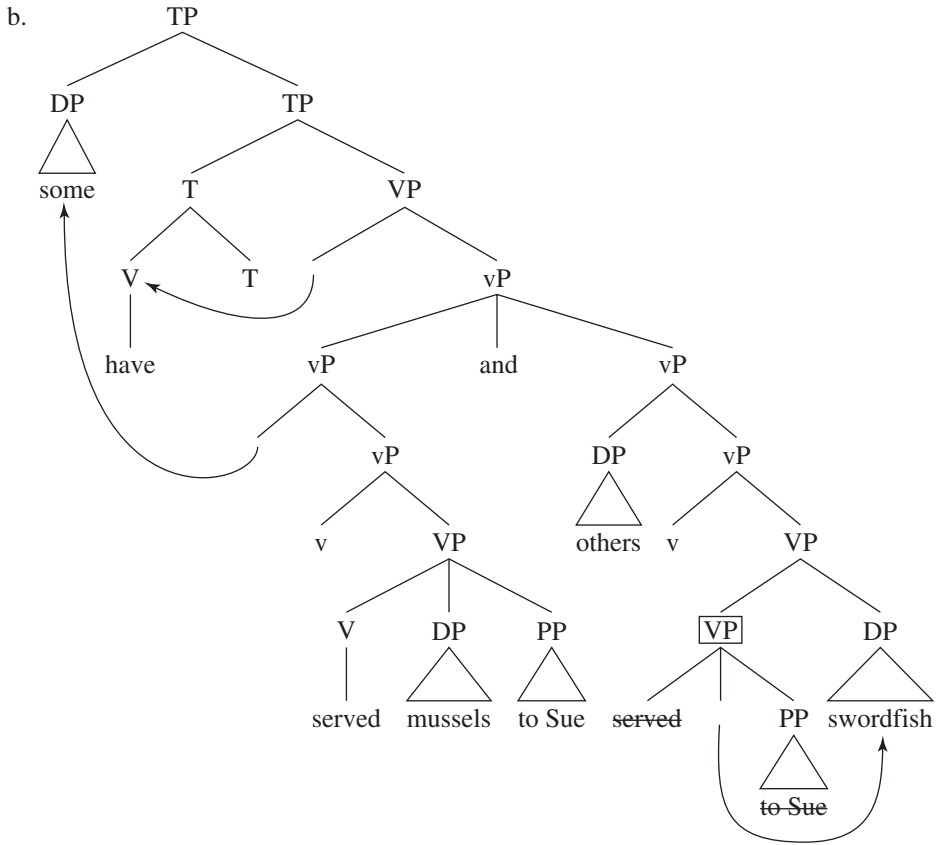
On the low-coordination reduction, there is no ellipsis in this case. Instead, *can’t* embeds coordinated vPs, from which *Mrs. Smith* has moved, as indicated in (22).



This placement of the coordination can be combined with the syntax of pseudogapping to produce bigger gaps. (1), for instance, could be given the representation in (23).

⁸ Although Siegel rejected the conclusion that auxiliary gapping and ‘‘normal’’ gapping are the same.

(23) a. Some have served mussels to Sue and others swordfish. (= (1))



Exploiting low coordinations to account for gapping in this way has several virtues. It allows one to derive some of the peculiar properties of gapping, such as those I noted above as standing in the way of reducing gapping to VP-ellipsis. I will review those virtues first before turning to how they are not quite sufficient.

2 Virtues

If the low-coordination reduction is combined with something that ensures (24), we can explain why gapping is only found in coordinations.⁹

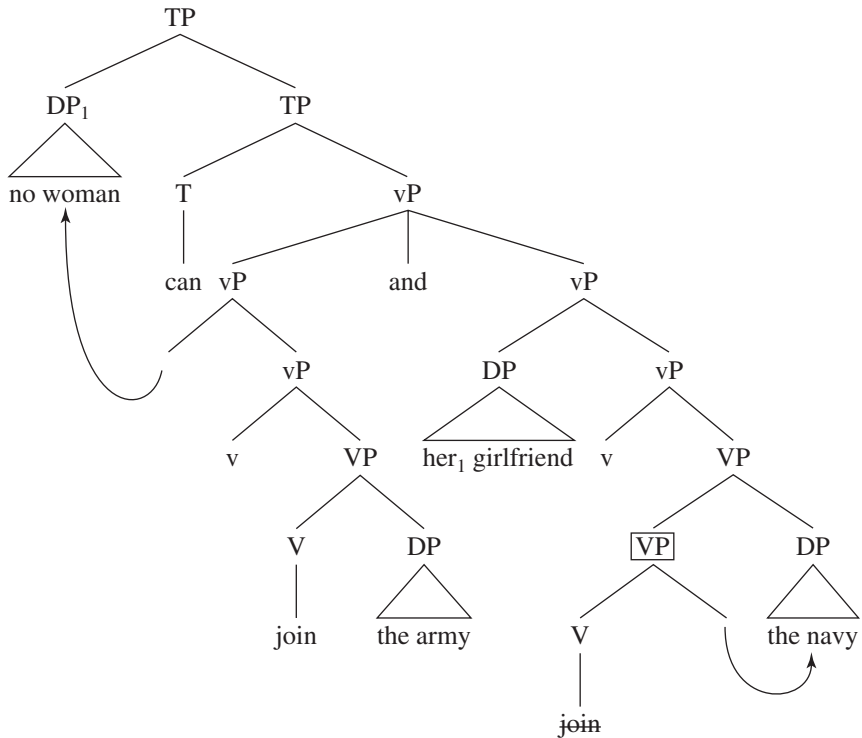
⁹ Something more needs to be said about the cases of gapping where there is no auxiliary verb, hence no verb movement to T. To cover all the cases, we need to find something that ensures that VP-ellipsis always strands a well-formed T. For the narrow range of cases we will examine, (24) will do.

- (24) a. VP-ellipsis can elide VPs but not TPs.
 b. Verb movement to T must feed VP-ellipsis.

(24) will prevent finite auxiliary verbs from being elided by VP-ellipsis. The only way they can appear to elide is by way of the syntax indicated in (23): standing outside a coordination. Because gapping appears to elide a finite auxiliary, it will arise only in coordinations.

This account also captures McCawley's (1993) scope fact, illustrated by (14). The reason the subject of the first conjunct in a gapping construction can have a pronoun in the second conjunct in its scope is that it c-commands that pronoun. The representation for (14a) will be (25b).

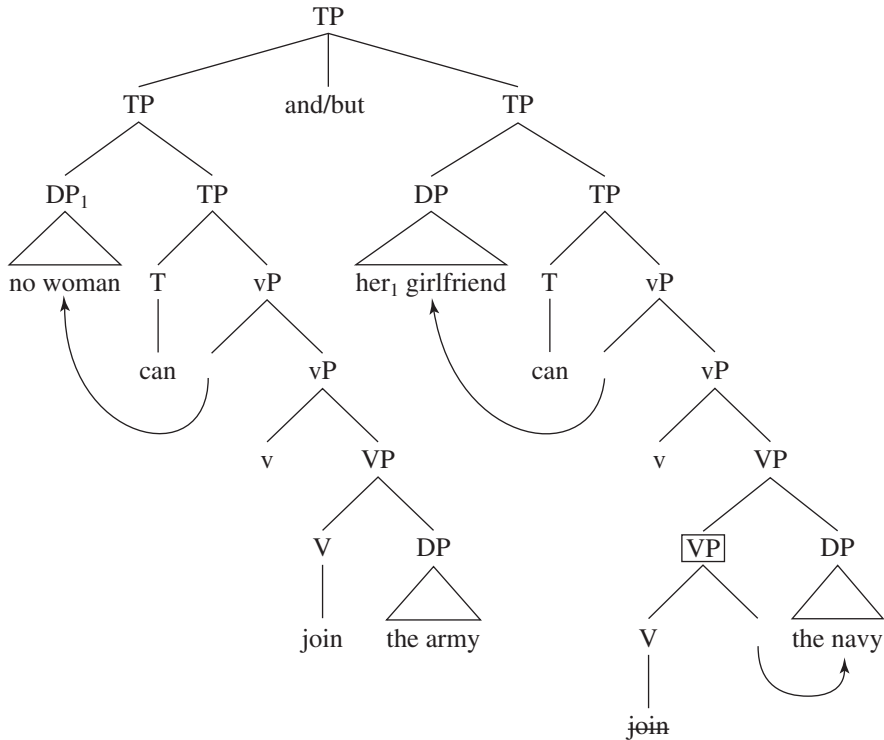
- (25) a. No woman can join the army and her girlfriend the navy. (= (14a))
 b.



This does not happen in the pseudogapping example because the coordinated phrases must be large enough to include the auxiliary in this case. This means that they must be TPs, and this will put the pronoun of the second clause outside the c-command domain of the subject of the first clause, as (26b) (the representation for (14b)) indicates.

- (26) a. No woman can join the army and/but her girlfriend can the navy. (= (14b))

b.



This solution dovetails nicely with Siegel's (1987) account of why (21) can have the interpretation in (27a) and not the interpretation in (27b).¹⁰

- (27) Mrs. Smith can't dance or Mr. Smith sing. (= (21))
 a. Mrs. Smith can't dance and Mr. Smith can't sing.
 b. Mrs. Smith can't dance or Mr. Smith can't sing.

¹⁰ The matter is more complex than this simple example lets on. Siegel points out that there are some examples—(i), for instance—in which negation can be understood to be present in both conjuncts.

(i) Max didn't read the book and Martha the magazine.
 (Repp 2006:41, (2a))

These cases might arise because gapping has removed the negation from the second conjunct. More directly problematic for the accounts I will advocate here are cases where negation takes scope in just the first conjunct. Repp (2006) discovered speakers who get this reading for cases such as (ii).

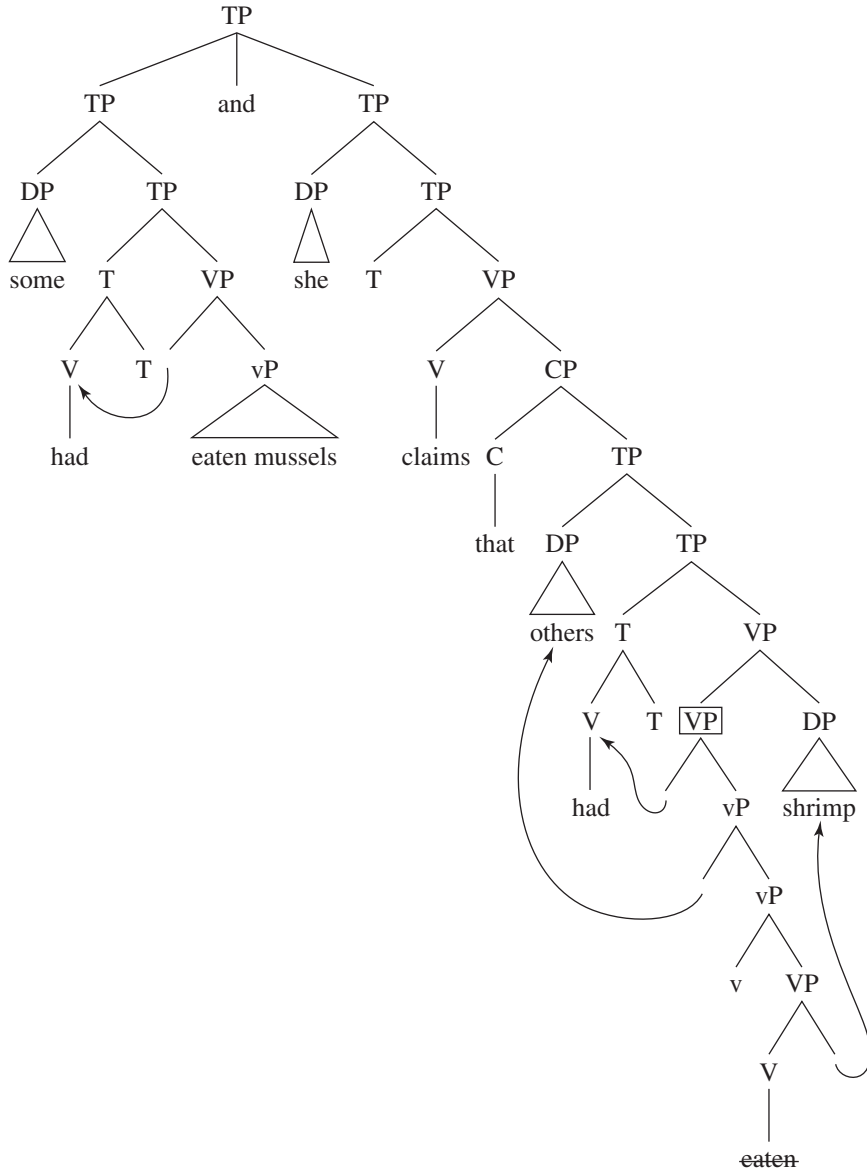
(ii) Pete wasn't called by Vanessa but John by Jessie.
 (Repp 2006:91, (1))

Siegel suggests essentially the structure in (22) as an analysis of (21), and this puts *can't* outside the disjunction, which is semantically equivalent to (27a).

Finally, this proposal also accounts for why gapping cannot occur in embedded contexts: the fact that (15b) illustrates. In these situations, the coordination must include the finite auxiliary, as (15b)'s representation in (28b) indicates, and (24) prevents it from eliding.

(28) a. *Some had eaten mussels and she claims that others shrimp. (= (15b))

b.



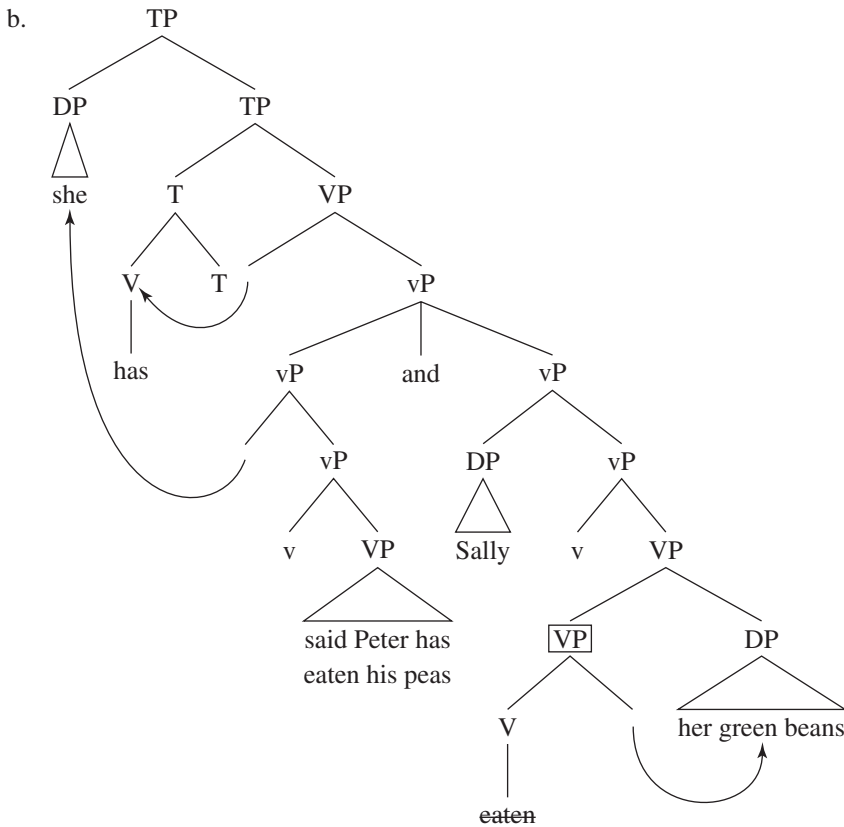
The largest VP that can be elided is the one boxed in (28b), and this does not include the finite auxiliary. The best that can be achieved with this syntax is a pseudogap.

These are the successes of the low-coordination reduction. They are extensive enough that I believe we should adopt at least some version of it. But they are not extensive enough, as I will now show.

3 Vices

The low-coordination reduction does not derive the fact—illustrated in (16b)—that the antecedent for a gap cannot be embedded. (16b) should be able to have the representation in (29b).

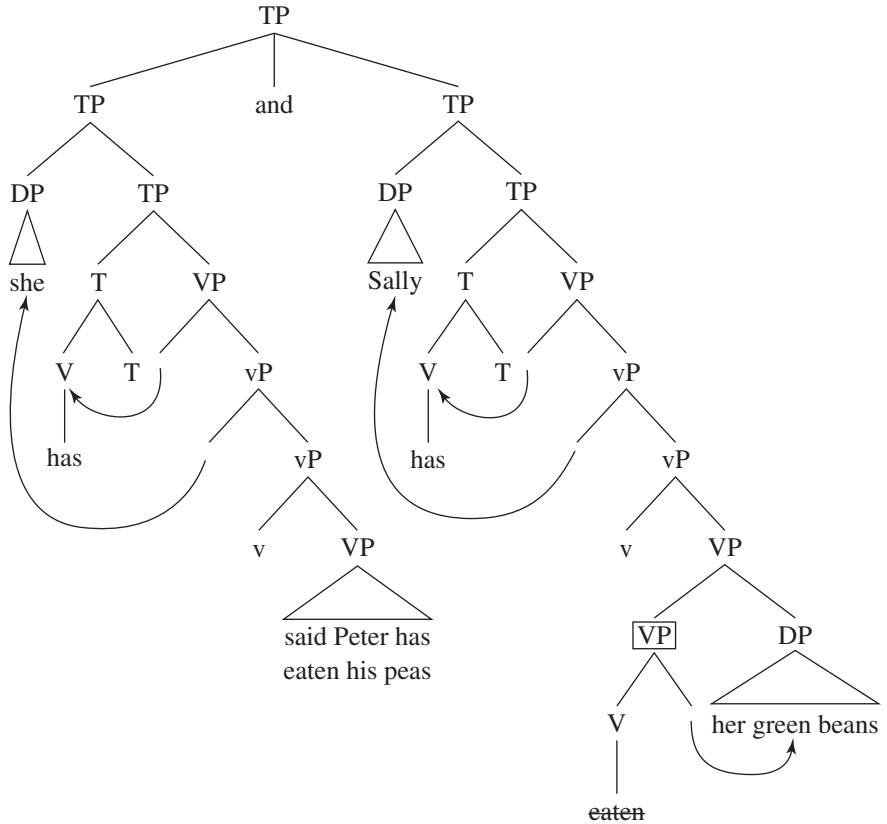
- (29) a. *She's said Peter has eaten his peas, and Sally her green beans, so now we can have dessert. (= (16b))



The similar, but grammatical, instance of pseudogapping in (16a) would have a representation like that in (30b). If pseudogapping can apply in (30), it should also be able to apply in (29).

- (30) a. ?She's said Peter has eaten his peas, and Sally has her green beans, so now we can have dessert. (= (16a))

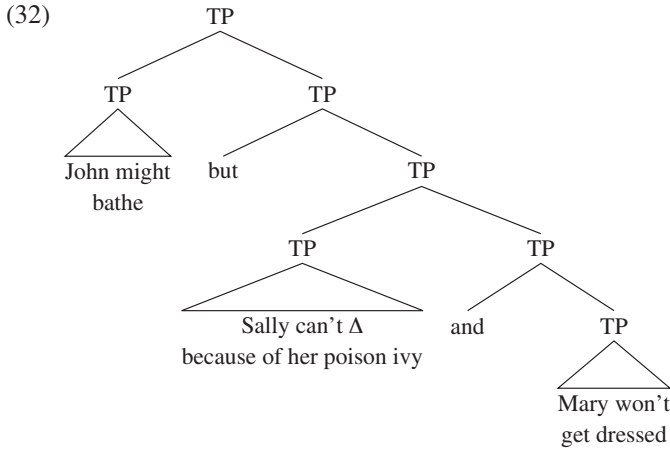
b.



In addition, there is evidence that the low coordination that is required by the low-coordination account destroys the environment that licenses VP-ellipsis. To see this, we must consider examples with three conjuncts. In triple coordinations, it is possible to elide the middle VP, as (31) indicates.

- (31) John might bathe, but Sally can't Δ because of her poison ivy and Mary won't get dressed, so we may as well give up.

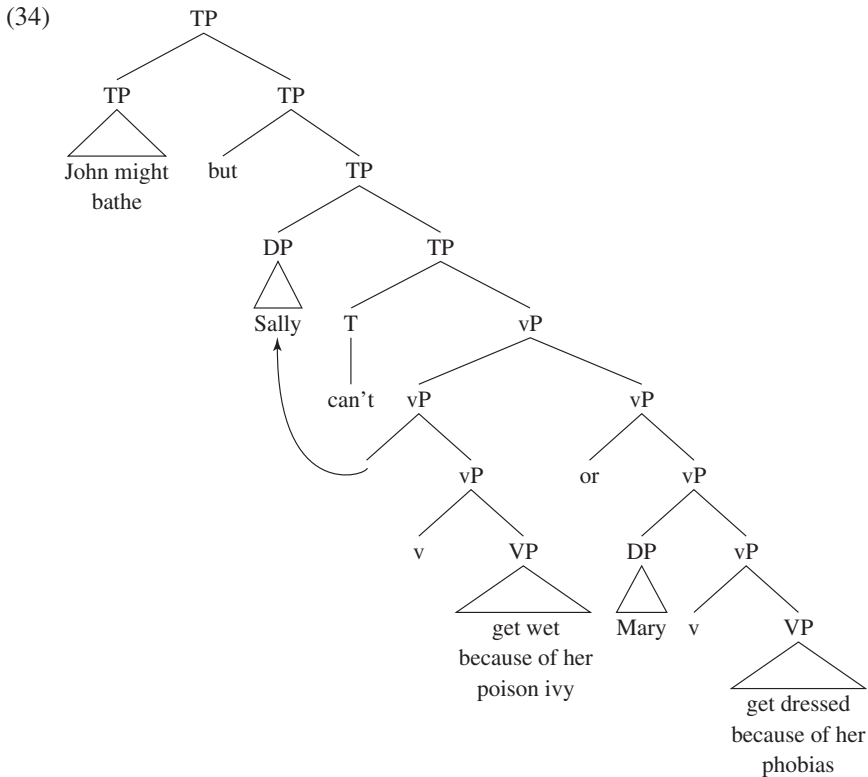
Assume that this example has a structure like (32). (I will revert to a binary-branching representation for coordinations, so they may fit more easily onto the page. See Ross 1967 and Munn 1993 for arguments supporting these binary-branching representations.)



It is also possible for the auxiliary to gap in the embedded coordination, as (33) shows.

- (33) John might bathe, but Sally can't get wet because of her poison ivy or Mary get dressed because of her phobias, so we may as well give up.

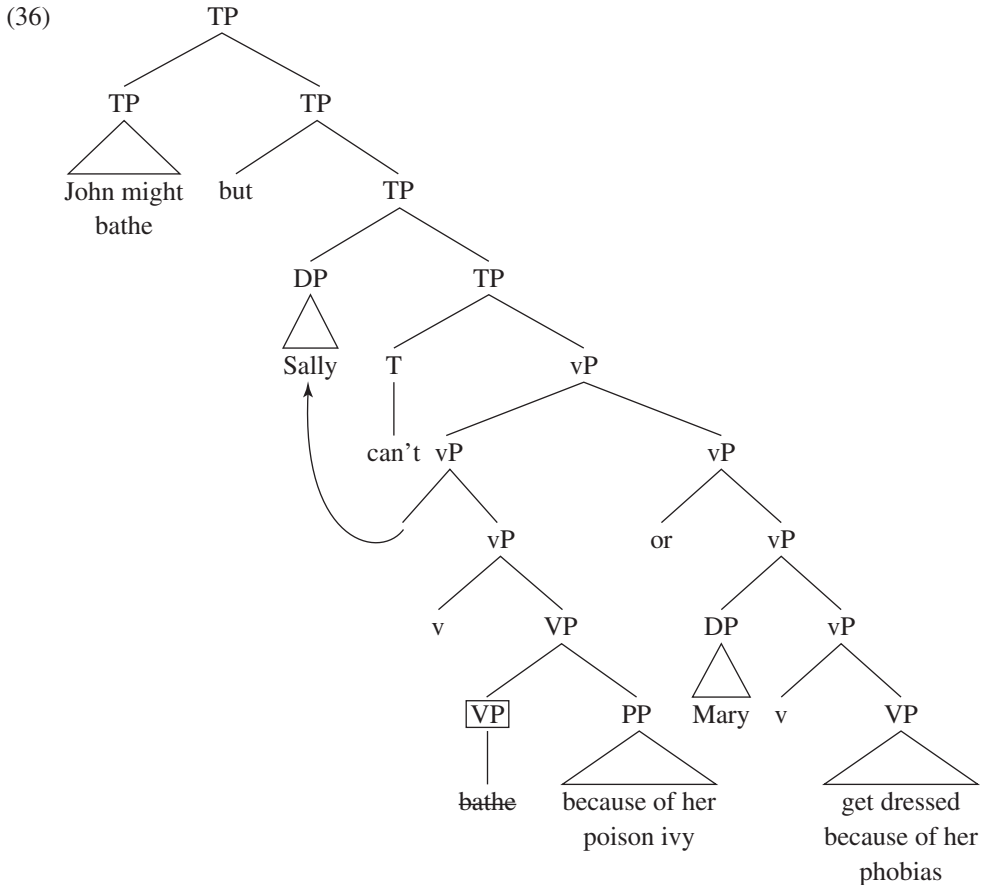
I assume this has the representation in (34).



But it is ungrammatical to mix these two properties.

- (35) *John might bathe, but Sally can't because of her poison ivy or Mary get dressed because of her phobias, so we may as well give up.

Under the low-coordination reduction, this should be possible. It would combine the VP-ellipsis in (32) with the low coordination in (34) to give (35) the representation in (36).



We have discovered (37).¹¹

- (37) VP-ellipsis is blocked in clauses with gapping.

¹¹ Constructions involving three coordinations raise another issue that is relevant for judging whether gapping is ellipsis. Coppock (2001) suggests that gapping is capable of fashioning an antecedent from two preceding VPs in the way that VP-ellipsis can in examples such as (i), made famous by Webber (1978).

This might be expected, as VP-ellipsis is constrained by (38),¹² which is not met in (36).

(38) An elided VP must be a sister to a licensing X.

Licensing Xs in English include T and certain instances of *have* and *be*.

If gapping destroys the environment for VP-ellipsis, then it seems clear that VP-ellipsis cannot be what is responsible for eliding the main verb in gapping. The low-coordination reduction fails, then, to the extent that it relies on VP-ellipsis. Its successes derive from the use of a low coordination, however, and so that part of the account we should keep. It should be wedded to something other than VP-ellipsis, though, if it is to derive the properties of gapping we've just seen.

4 What to Replace Ellipsis With

The two facts about gapping discussed in section 3 suggest that we should find a way of removing the main verb in a gapping construction that is parallel to the method used for removing the finite auxiliary. That method is the use of a low coordination. If a main verb gaps only if the coordination is low enough to place it outside the coordination, then we could explain the fact that the antecedent of a gap cannot be embedded. We need to find a way of making a gapped sentence like (39a) have a representation like (39b). It's not always just a verb that gaps, however, and so we'll need to find a way of letting an entire VP stand outside the coordination, as in (40b).

In unpublished work that Coppock's and Lin's proposals are a reaction to (Johnson 1996/2004), I suggested achieving these representations by letting VPs move leftward in English, a hypothesis that is sometimes entertained for other reasons (see, among many others, Zwart 1993, Kayne 1994, Koopman and Szabolcsi 2000). On this proposal, simple sentences like (41a) and (42a) would have the representations in (41b) and (42b).

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- (i) Wendy is eager to sail around the world and Bruce is eager to climb Kilimanjaro, but neither of them can because money is too tight.

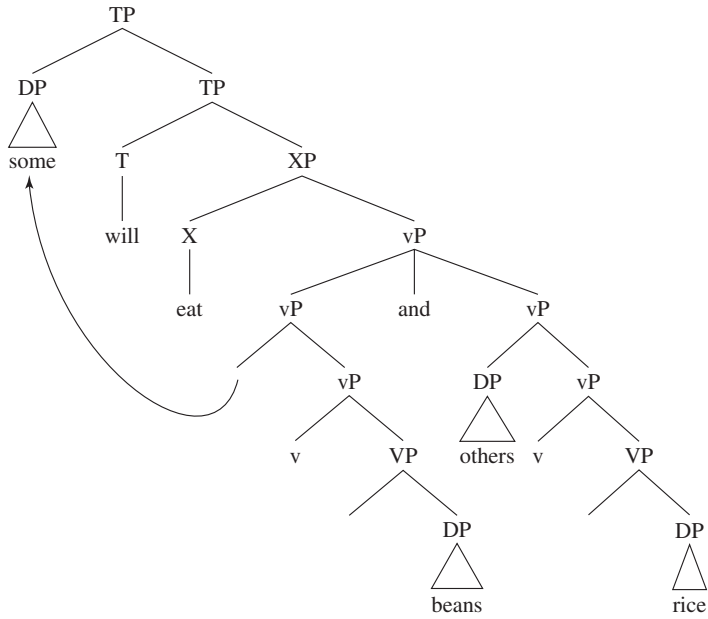
Coppock offers the examples in (ii) to illustrate that gapping has the same ability.

- (ii) a. Wendy wants to sail around the world because she loves travel, and Bruce wants to climb Kilimanjaro in order to prove to himself that he can, but neither in order to show off for anyone.
 b. Fred bought Suzy flowers in order to thank her, and Bob took her out to eat because they both like sushi, but neither because they want to date her.
 c. John calls home on Sundays, and Jill balances her checkbook every other week, but neither very consistently.
 (Coppock 2001:140, (24))

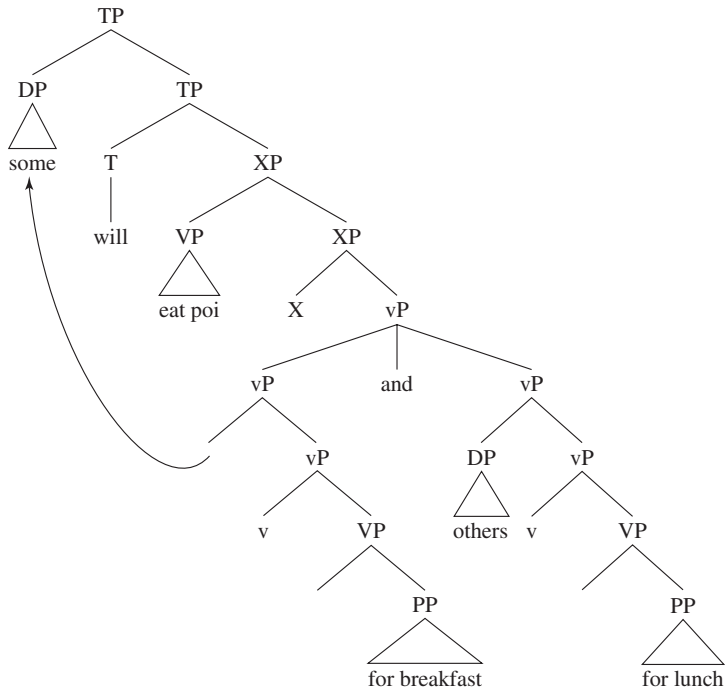
I find these examples ungrammatical. If they are grammatical, I cannot see how they could be accommodated by the proposal I will make below.

¹² See Lobeck 1991, 1999 and Zagona 1988 for justification, and Merchant 2001 for setting this idea in a general theory relating ellipsis with its anaphoric requirements.

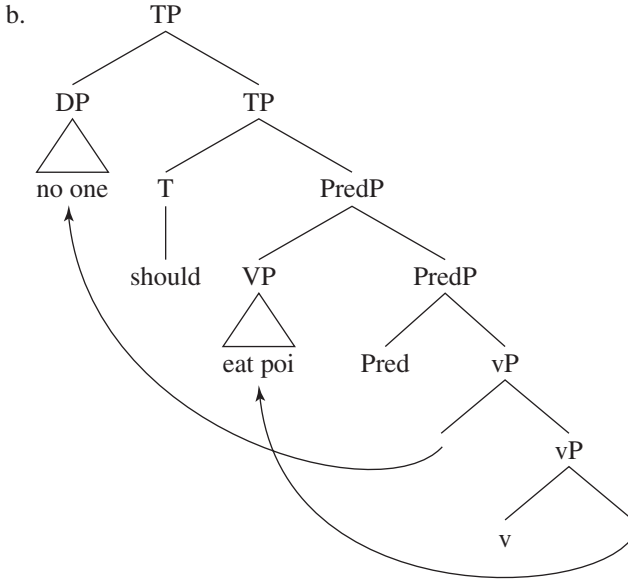
- (39) a. Some will eat beans and others rice.
 b.



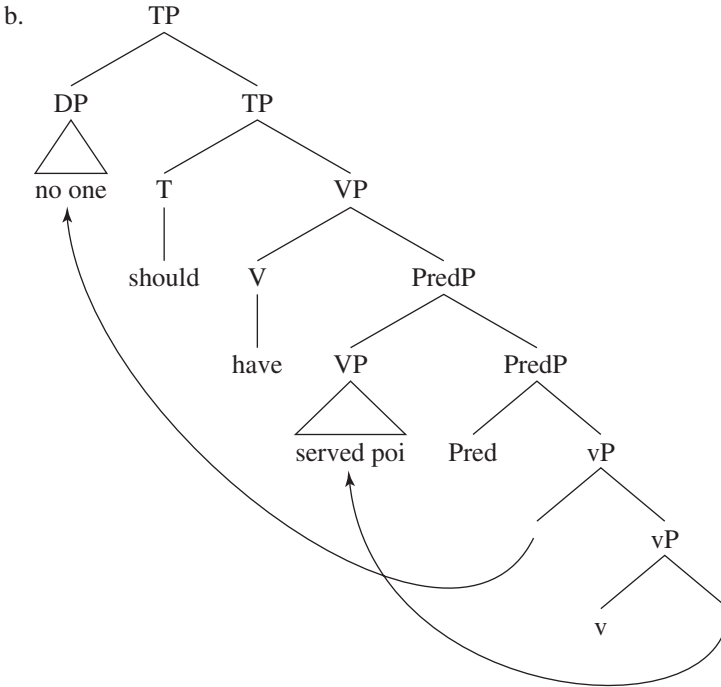
- (40) a. Some will eat poi for breakfast and others for lunch.
 b.



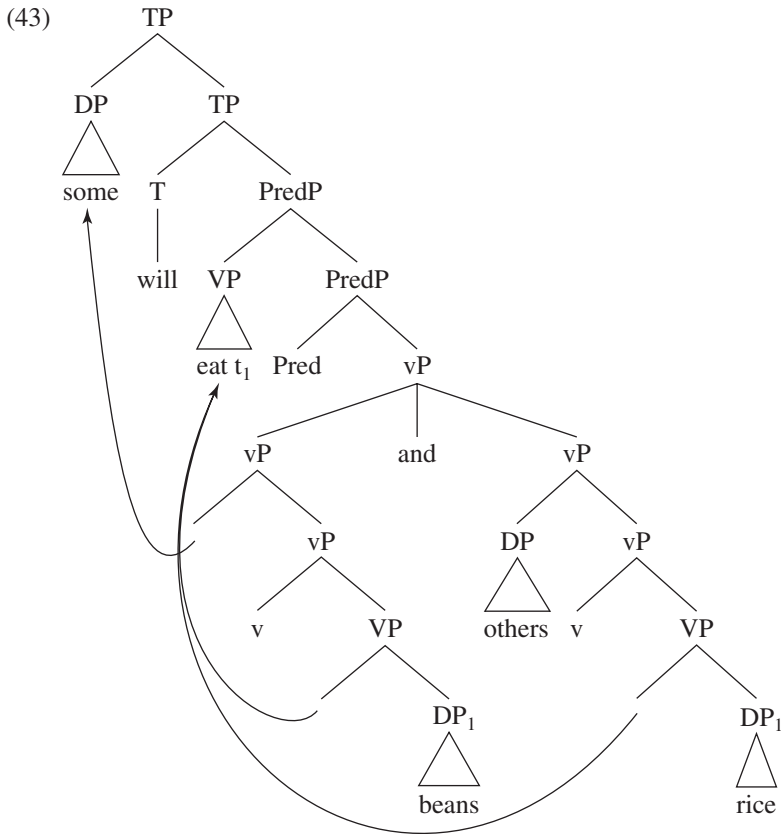
(41) a. No one should eat poi.



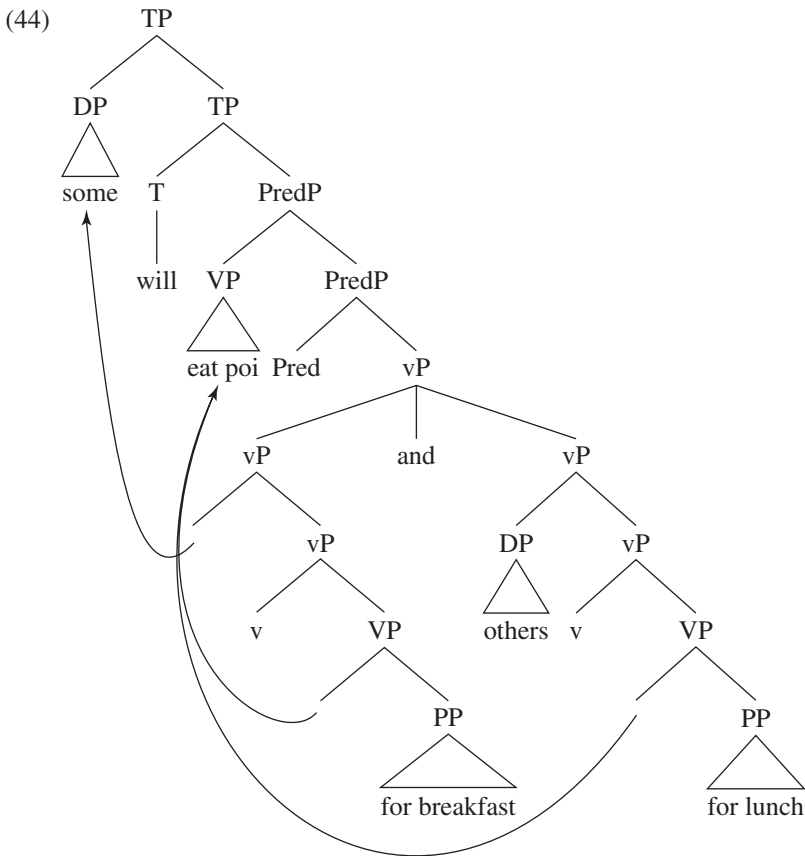
(42) a. No one should have served poi.



Gapping, then, arises when vPs have been coordinated, and the VP-movement indicated in (41) and (42) occurs across the board. Movement of the VP can be fed by operations—such as heavy NP shift—that are also found in pseudogapping. The gaps in (39a) and (40a) will have the representations in (43) and (44). (43) illustrates a case in which the objects of the moved VPs move out first, the same way they do in pseudogapping contexts (cf. (4)).¹³



¹³ The idea that gapping involves, or is related to, across-the-board movement has several precedents; see, for example, Goodall 1987, Steedman 1990, 1996, and Zoerner 1995. Also, a number of interesting applications of the idea have been used to derive some of its typological and/or interface properties; see Abe and Hoshi 1997, Paul 1999, and López and Winkler 2003.



If the position that VPs move to—which I have called PredP here, following Zwart (1997)—is found immediately above vP, then we should change the description in (38) of where VP-ellipsis is licensed to (45).

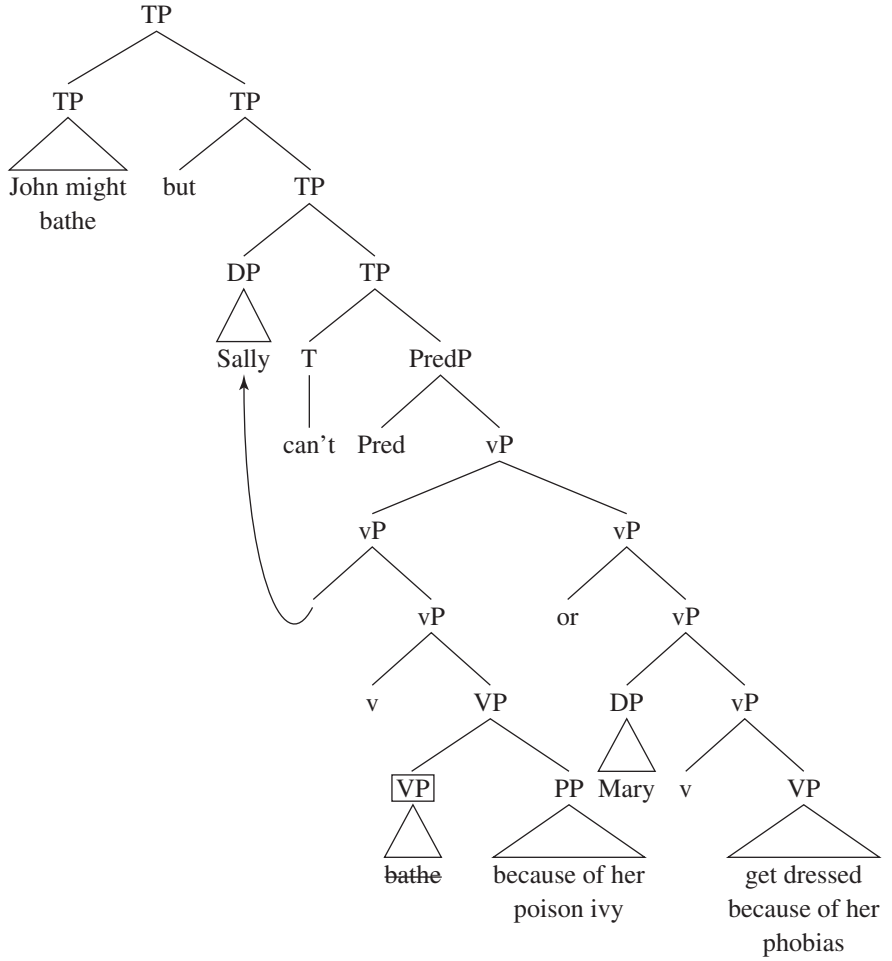
- (45) An elided VP must be located in the specifier of a licensing X.
Licensing Xs in English include Pred.

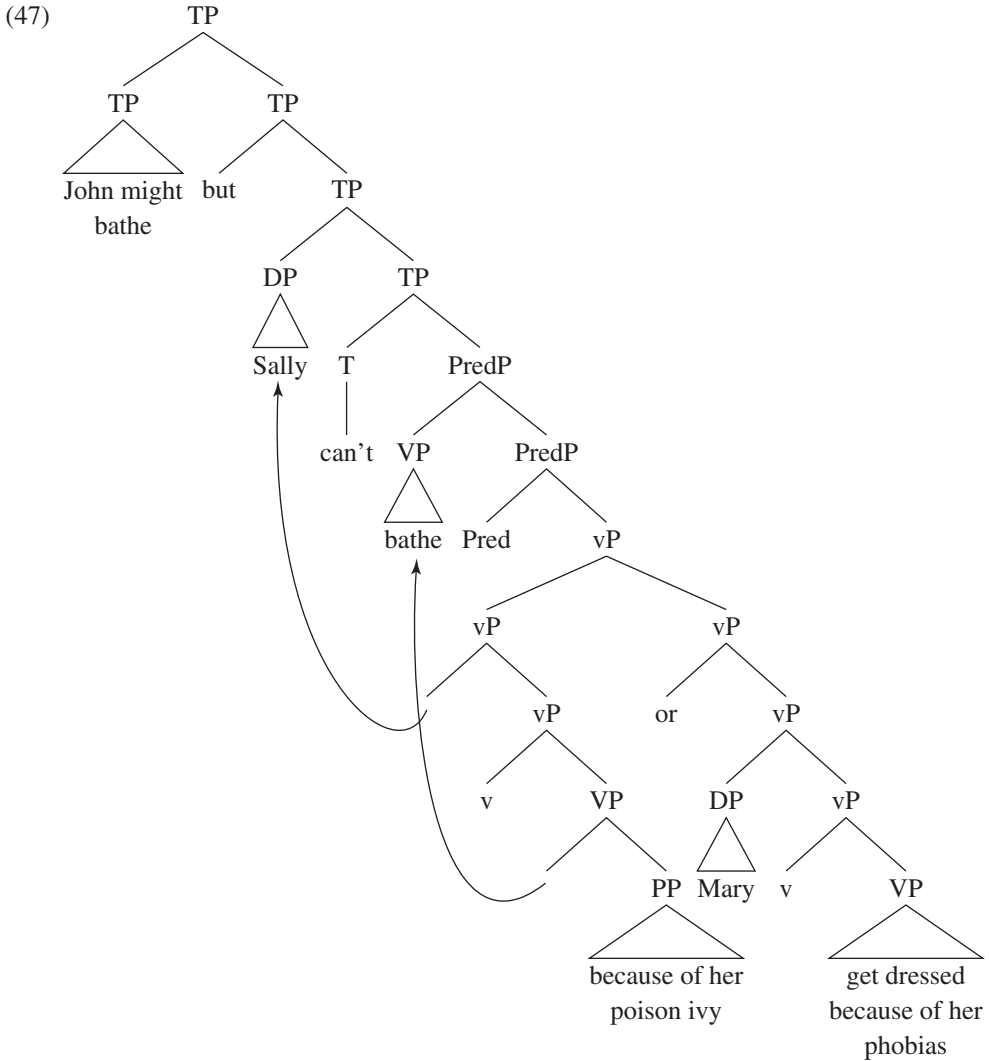
This maintains the prediction that VP-ellipsis is not possible in gapping contexts. For example, the ungrammatical (35), repeated here, will receive the representation in (46), which fails (45). However, (45) raises the possibility that (35) might also conceivably be produced by moving the VP of the first conjunct into the specifier of PredP, as in (47). While this does obey (45), it will violate the Coordinate Structure Constraint if VP-movement of this sort leaves variables.¹⁴

¹⁴ The variables left by VP-movement must, on a simple semantics, be of the same semantic type as the VPs that leave them. This will have the desired effect of causing the VPs that have moved to be semantically interpreted as if they haven't. (See Cresti 1995 for a clear presentation of this technique.)

- (46) a. *John might bathe, but Sally can't because of her poison ivy or Mary get dressed because of her phobias, so we may as well give up. (= (35))

b.





So far as I can see, (45) has the same empirical footprint as (38).¹⁵ This account of gapping, then, is consistent with the impossibility of VP-ellipsis in gapping constructions,¹⁶ but preserves the consequences of standard accounts of VP-ellipsis.

Furthermore, this account predicts that if both VPs in these examples gap—that is, both move in across-the-board fashion to the specifier of PredP—they will become capable of undergoing

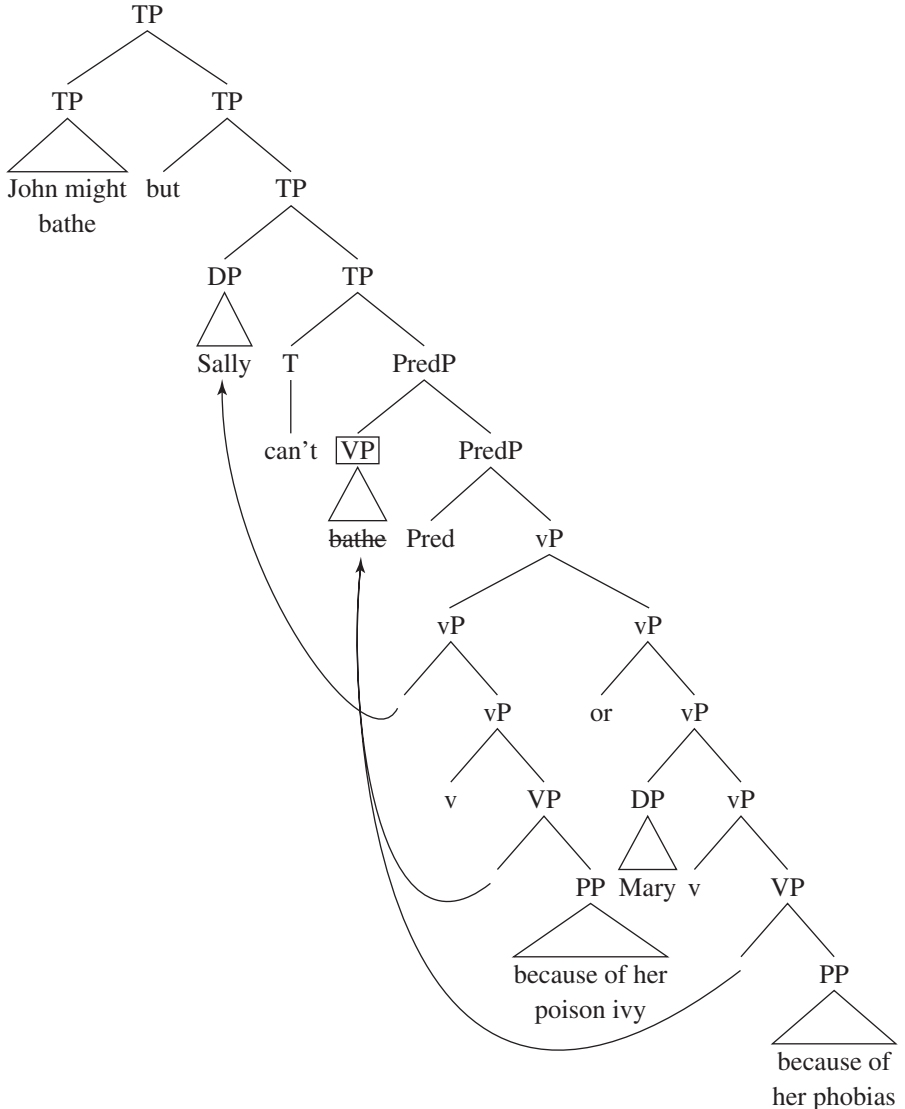
¹⁵ Because PredP is situated immediately above vP, a VP that resides in its specifier position will have the same position as the VPs that (38) says can be elided.

¹⁶ Jason Merchant (pers. comm.) points out that in addition to the two derivations that are discussed in the text, it is also necessary to block ones in which PredP has coordinated. If PredP can coordinate, it should be possible to front the VPs in both of them and thereby produce a structure in which (45) would allow either VP to elide.

VP-ellipsis. I believe this prediction is confirmed by the relative grammaticality of (48a), with representation (48b).¹⁷

- (48) a. John might bathe, but Sally can't because of her poison ivy or Mary because of her phobias, so we may as well give up.

b.



¹⁷ Maribel Romero (pers. comm.) points out that (48) permits a reading in which both *because*-clauses are outside the scope of *can't*. The reading in which the *because*-clauses are inside the scope of *can't* is also available. The representations I have provided make available only the second of these readings. The first might involve a derivation in which *can't*

This seems to me to be striking confirmation that across-the-board movement plays a role in producing gapping constructions.

So much for my case against VP-ellipsis being responsible for gapping, and for the across-the-board alternative. What now of Coppock's (2001) arguments that a component of gapping is VP-ellipsis? Is the across-the-board proposal consistent with her observations?

5 Ways in Which Gapping Looks Like Ellipsis

Coppock's (2001) arguments reported here consist of observations about the similarity in the "identity conditions" on VP-ellipsis and gapping. Are these similarities lost in an across-the-board treatment of gapping?

Recall that one of these similarities is a ban in VP-ellipsis and gapping contexts on interpreting the first of two pronouns as strict when the second is interpreted as sloppy. Neither of the ellipsis sentences in (49) can be interpreted as indicated in (50), nor can the gapping sentence in (51).

- (49) a. James said he'd rob his constituents and Peter did too. (= (10))
 b. James will explain how he'd robbed his constituents to the police detectives and Peter will to the federal prosecutors. (= (11))
- (50) a. *James said, "I will rob my constituents," and Peter said, "James will rob my constituents," too.
 b. *James₁ explained how he₁'d robbed his own constituents and Peter₂ explained how James₁ had robbed Peter₂'s constituents.
- (51) James will explain how he'd robbed his constituents to the police detectives and Peter to the federal prosecutors. (= (12))
 ≠ James₁ explained how he₁'d robbed his own constituents and Peter₂ explained how James₁ had robbed Peter₂'s constituents.

This is explained on the low-coordination reduction. On that account, gapping is just a special instance of VP-ellipsis, and we therefore should expect them to share properties. My proposal, by contrast, claims that gapping is a special instance of across-the-board movement and so it should have the same constraints on the strict/sloppy interpretations that across-the-board movement does. Interestingly, the constraint illustrated by (49) and (50) is indeed found in across-the-board movement, as (52) illustrates.

- (52) It's [_{VP} explain how he'd robbed his constituents] that James can and Peter can't.
 a. James₁ can explain how he₁'d robbed his own constituents and Peter₂ can't explain how he₂'d robbed his own constituents.
 b. James₁ can explain how he₁'d robbed his own constituents and Peter₂ can't explain how James₁ had robbed his₁ constituents.

moves in across-the-board fashion, as main verbs always do. On such a derivation, the modal could plausibly be interpreted in its premovement position, and this would presumably include a position in which it would be interpreted within the scope of the *because*-clauses. See Lechner 2007 for the semantics of moved modals.

- c. ?James₁ can explain how he₁'d robbed his own constituents and Peter₂ can't explain how he₂'d robbed James₁'s constituents.
- d. *James₁ can explain how he₁'d robbed his own constituents and Peter₂ can't explain how James₁ had robbed Peter₂'s constituents.

Whatever is responsible for this constraint on pronoun interpretation does not distinguish between a VP-ellipsis account of gapping and an across-the-board account.

The other similarity between VP-ellipsis and gapping is the effect they have on the relative scopes of quantificational DPs. Just as the relative scopes of subject and object in the first clause of (53a) match the relative scopes of subject and VP-elided object in the second clause of (53a), so do the relative scopes of subject and object in each of the clauses of the gapping construction in (53b).

- (53) a. A student will talk to every alumna first and a dean will immediately afterwards.
(= (7))
- b. A student will talk to every alumna first and a dean immediately afterwards.
(= (9))

And just as the presence of a name in the subject position of the second clause of the VP-ellipsis in (54a) blocks an interpretation that gives the object wide scope, so also does the presence of a name in the parallel position block that reading for the gapping construction in (54b).

- (54) a. A student will talk to every alumna first and Dean Edwards will immediately afterwards.
(= (6))
- b. A student will talk to every alumna first and Dean Edwards immediately afterwards.
(= (8))

I have not found a way of demonstrating for these phenomena that across-the-board movement displays the same properties. A confounding factor stands in the way: movement of VPs disambiguates otherwise scopally ambiguous sentences. Thus, while (55a) is ambiguous, the VP-topicalization in (55b) removes the inverse scope reading. See Barss 1986 and Sauerland and Elbourne 2002 for discussion.

- (55) a. Some girl will visit every boy.
- b. It's visit every boy, that some girl will.

Because movement of VPs seems to have this effect, we should expect across-the-board movement of VPs to also have nonstraightforward effects.

However, I can demonstrate that these scope-fixing phenomena are not restricted to VP-ellipsis (and gapping). As Fox (2000) points out, they are also found in contexts of deaccenting. In (56), for instance, where reduced italic text indicates deaccenting, we find the same effects illustrated in (53) and (54) for VP-ellipsis and gapping.

- (56) a. A boy admires every teacher. A girl *admires every teacher* too.
- b. A boy admires every teacher. Mary *admires every teacher* too.
(Fox 2000:33–34, (25)–(26))

We cannot take these phenomena, then, to ensure that VP-ellipsis is involved in gapping.

In summary, none of the ways in which gapping behaves like pseudogapping are unique enough to pseudogapping to be taken as diagnostic. Whatever is responsible for these behaviors is too indiscriminate to use as a tool for discovering the identity of gapping.

6 The Future

6.1 Remaining Problems

While across-the-board movement does a better job than VP-ellipsis of capturing the conditions under which gapping can affect main verbs and their projections, interesting problems remain for both approaches. Consider, for instance, the fact that the word order in the phrase with the gap, as well as the phrase with the gap's antecedent, is the same as it would be if there were no gap. Gapping never produces word orders that are not otherwise attested. The across-the-board account sketched here does not transparently derive this. How, for example, can the account produce, from (57), the gapping construction in (58)?

(57) Ice cream gives me brain-freeze if I eat it too fast and beans give me indigestion if I eat them too slow.

(58) Ice cream gives me brain-freeze if I eat it too fast and beans ~~give me~~ indigestion if I eat them too slow.

Producing the required constituency, one in which gapping affects *give me* and strands the rest of the VP, will require a complex suite of movements. That suite of movements must allow *give me* to be separated from the second object of *give* by the subject; this step is needed to move *give me* out of the second conjunct past that conjunct's subject. But if that is possible in this gapping construction, why do we not, in other contexts, find the subject or any other material between *give*'s first and second objects?

(59) a. *There can give me some kinds of foods brain-freeze if I eat them too fast.

Compare: There have been some kinds of foods delivered.

b. *Ice cream gives me in the morning brain-freeze.

Similarly, on an account that uses VP-ellipsis to generate (58), the second object must move out of the VP that elides. But this too leads to the conclusion that material should be able to fall between the first and second objects under normal circumstances and therefore that examples like (59b) should be grammatical.

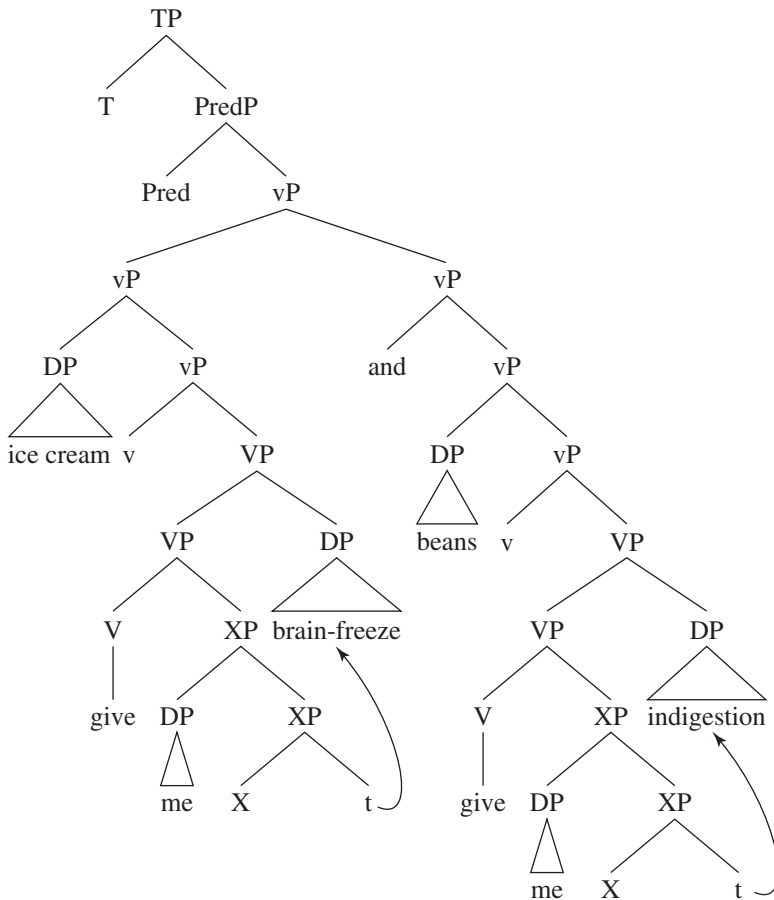
A solution to this class of problems might be found in recent proposals about how movement interacts with the component of the grammar that interprets phrase markers as strings.¹⁸ For

¹⁸ David Pesetsky and Jason Merchant have independently urged this direction upon me.

instance, Müller (2000) and Williams (2003) argue for a principle of “shape conservation” that steers how movement operations can combine to form outputs. Their constraints require that canonical shapes for certain phrases be preserved under movement. Fox and Pesetsky (2004) express a similar idea, but frame the condition as a result of linearizing phrase markers cyclically, from the bottom up, at certain points during their construction. Takahashi (2004) has employed this technique to solve word order problems for pseudogapping that resemble those discussed above, and his ideas might be deployable for gapping as well. Let me briefly sketch how.

For concreteness, I will adopt the across-the-board movement account of gapping, and I will illustrate the technique with a simplified version of (58). Before across-the-board movement applies, (58) has the representation in (60).

(60)



(I assume that the double object construction has a hidden small clause in it, represented here by XP. See Kayne 1984, Larson 1988, and Harley 1996 (among others) for justification.) On Fox and Pesetsky's proposal, the linear order of constituents in each of the conjuncts will by this point have been determined by the conjuncts' geometries. If we express a linearization as a set of ordered pairs, then these linearizations can be expressed with the ordered pairs in (61). ($\alpha > \beta$ is to be understood as 'α precedes β'.)

(61) a. *For left conjunct*

ice cream > v	v > give	give > me	me > X	X > brain-freeze
ice cream > give	v > me	give > X	me > brain-freeze	
ice cream > me	v > X	give > brain-freeze		
ice cream > X	v > brain-freeze			
ice cream > brain-freeze				

b. *For right conjunct*

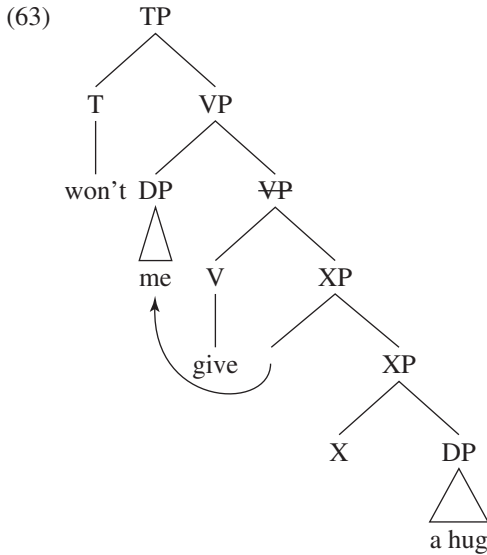
beans > v	v > give	give > me	me > X	X > indigestion
beans > give	v > me	give > X	me > indigestion	
beans > me	v > X	give > indigestion		
beans > X	v > indigestion			
beans > indigestion				

These linearization statements must be honored by subsequent movement operations. Among other things, this will require that the subjects in each conjunct precede the contents of the VPs in their conjuncts. Under normal circumstances, this will have the desired consequence of preventing movement from putting the contents of these VPs in a position that requires them to precede the subjects.¹⁹ Across-the-board movement circumvents this consequence, so we need to find the property of across-the-board movement that explains why.

It is useful to compare our case of across-the-board movement with Takahashi's (2004) analysis of pseudogapping. Takahashi shows how Fox and Pesetsky's system can account for cases where ellipsis permits linearizations of geometries that are not otherwise allowed. For instance, Takahashi argues that the pseudogap in (62) involves the structure in (63), which would normally lead to an illicit linearization.

(62) He might give YOU a hug, but he won't ME.

¹⁹ \bar{A} -movement can have this consequence, however: an object, for instance, can topicalize past a subject. \bar{A} -movement, then, requires derivations different from those discussed here, ones in which the moved item is left-adjoined to vP before the linearization algorithm applies. See Fox and Pesetsky 2004 for details.



Before movement of *me* generates (63), the linearization statements that will have been gathered include (64).

$$(64) \left\{ \begin{array}{lll} \text{give} > \text{me} & \text{me} > \text{X} & \text{X} > \text{a hug} \\ \text{give} > \text{X} & \text{me} > \text{a hug} & \\ \text{give} > \text{a hug} & & \end{array} \right\}$$

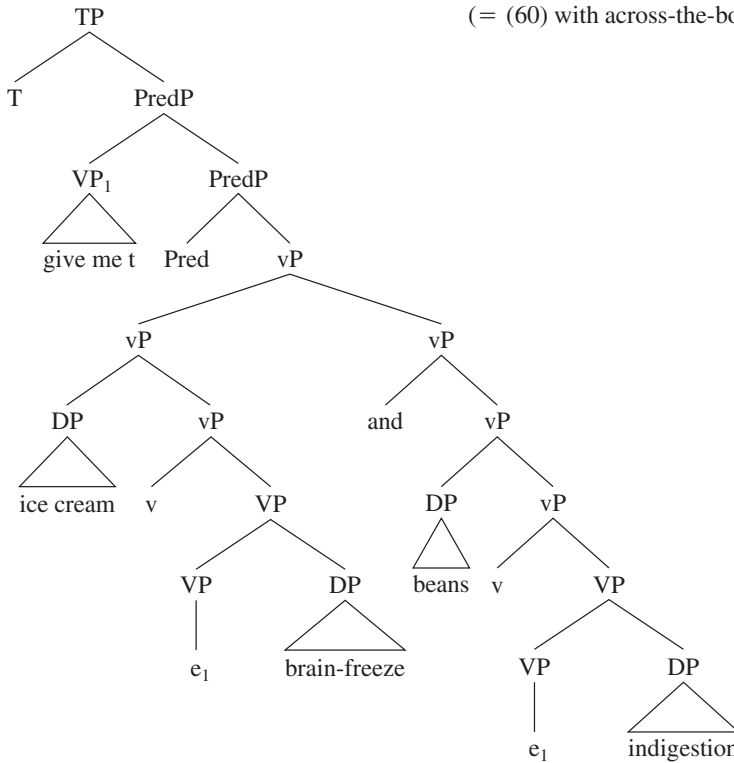
If all of the words in (63) were spoken in the positions indicated, then when the linearization algorithm was reinvoked, it would produce, among other things, *me* > *give*. Because this would conflict with the *give* > *me* entry in (64), that outcome is blocked. This, then, is why objects cannot overtly move to the left of verbs in English. Takahashi suggests that (63) is permitted to lead to a linearization that places *me* to the left of the VP when that VP elides because ellipsis removes linearization statements for elided terms. Eliding the VP in (63) will consequently remove *give* from all linearizations and thereby remove all conflicts involving *give* when it is pronounced.

The guiding intuition in Takahashi's proposal is that material that is not spoken need not conform to constraints that guide the syntax-to-string mapping.²⁰ To extend this system to the gapping structure in (60), we need to let across-the-board movement's effect on the linearization statements in the right conjunct be like the effect that ellipsis would have. This should emerge, I speculate, from whatever it is that allows across-the-board movement to take more than one phrase and map it onto a single string. Accounts of across-the-board movement like Munn's (1992) come close to doing what's needed.

With this assumption in place, consider how the result of across-the-board movement of the VPs in (60) will interact with linearization.

²⁰ And see Richards 1997 for the same idea applied to sluicing.

(65) (= (60) with across-the-board VP-movement)



Moving *give me* as indicated in (65) will have two consequences. It will remove from the linearization statements gathered from the right conjunct before movement (i.e., the set in (61b)) all those statements that involve *give* and *me*. It will also introduce a set of statements that position *give* and *me* before everything else in the coordination. Because the statements that place *give* and *me* after the subject of the right conjunct are removed, there will be no conflict in introducing statements that place *give* and *me* to the left of this subject. A conflict *will* be introduced, however, with respect to *give* and *me* and the position of the subject of the left conjunct. The linearization statements gathered from the left conjunct prior to movement (i.e., (61a)) include ones that put the subject of this conjunct (*ice cream*) to the left of *give* and *me*. This conflict is repaired, however, by moving the subject of the left conjunct into the specifier of TP.

In illustrating this technique for solving the word order problems that (58) invokes, I have assumed an across-the-board treatment of gapping, but the same technique would work under an ellipsis-based treatment as well. There are quite a few cases where a word order problem looms, and I do not know whether all of them can be addressed in this way. It is possible that some will show that the across-the-board analysis I am advocating fails.

6.2 Left Branch Condition Violations

Let me close this article by considering one particularly difficult case and sketching how this technique might be applied to it. The case is another on Coppock's (2001) list of problems for non-

ellipsis-based treatments of gapping—though, as we will see, it furnishes a reason for abandoning a VP-ellipsis-based account. It has not, so far as I know, been given an analysis.

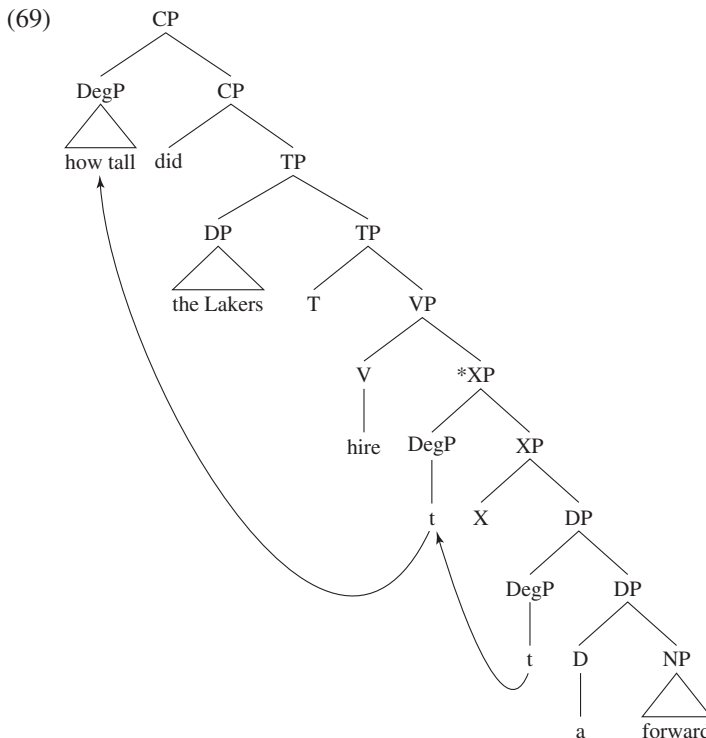
The case furnishes Coppock with an argument for an ellipsis-based account of gapping because it indicates that gapping licenses violations of island conditions in a way characteristic of certain ellipses. In particular, just as sluicing can void Left Branch Condition violations like those in (66) (witness the improvement in (67)), so also can gapping (see (68)).

(66) *How tall did the Lakers hire [t a forward]?
(Coppock 2001:142, (31))

(67) The Lakers hired a tall forward, but I don't know how tall ~~the Lakers hired a forward~~.
(Coppock 2001:142, (32))

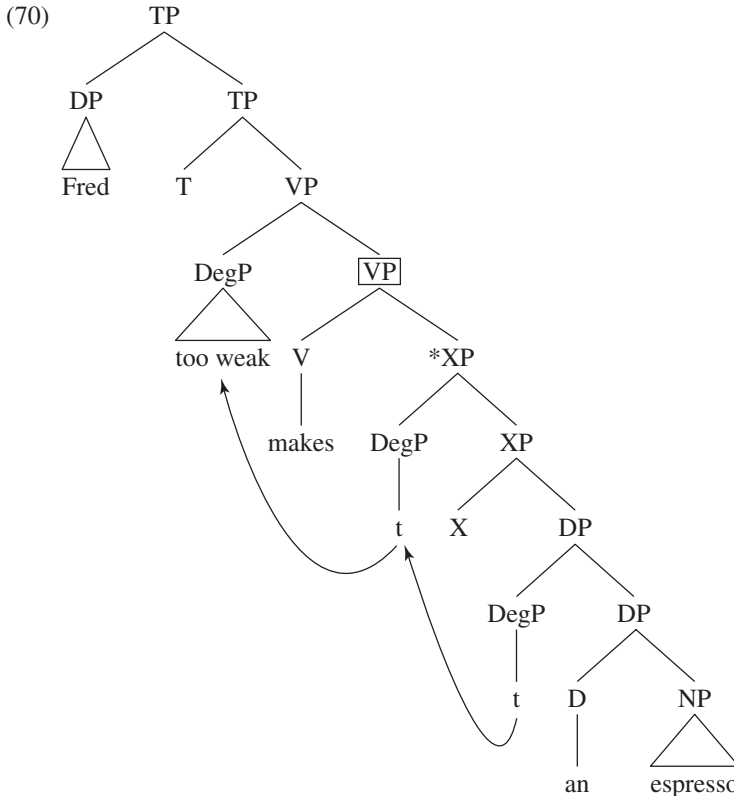
(68) a. I make too strong an espresso, and Fred too weak.
b. *I make too strong an espresso, and Fred makes too weak.
(Coppock 2001:143, (35))

Coppock's argument builds on Kennedy and Merchant's (2000) characterization of the contrast between (66) and (67). Their central idea is that (66) has a derivation that requires the Degree Phrase (DegP) to move through the specifier of the object, which I will call XP here, and that there is no head for XP in English that allows a *wh*-phrase in its specifier. The result is a representation like (69), where “*” marks where the violation occurs.



Because what makes XP ungrammatical is the absence of an appropriate lexical item for X, the violation can be avoided if there is a way of neglecting to fill X. Ellipsis is just such a way, and that is why (67) is grammatical.

This account can be imported to (68) if gapping is ellipsis. We can imagine that the DegP moves as shown in (70). Then let VP-ellipsis delete the boxed VP, and the ill-formed XP will not affect the grammatical status of the sentence, just as it doesn't in sluicing examples.



Interestingly, pseudogapping does not seem to work this way: (71) contrasts with (68a).

(71) *I might make too strong an espresso but I won't too weak.

In fact, that Left Branch Condition violations are preserved in pseudogapping but not gapping could be used as an argument that gapping does not involve (VP-) ellipsis. In any case, an account of how gapping manages to void the Left Branch Condition violation while pseudogapping does not is wanted.

An across-the-board movement analysis of gapping would not lead us to expect these examples, and it unhelpfully blocks Coppock's strategy of exploiting properties of sluicing. What is needed is an account of Left Branch Condition violations that explains why sluicing and gapping behave one way and VP-ellipsis another. Let me assemble some ingredients that when mixed will produce such an account.

6.2.1 *A Solution: Ingredient 1, Phonology Prevents the Degree Phrase from Moving* Kennedy and Merchant's (2000) proposal is wrong about what allows sluicing to overcome Left Branch Condition violations. The problem with (66) is not that a *wh*-phrase cannot move into the specifier of XP in English. This is counterexemplified by (72), an example Kennedy and Merchant discuss.

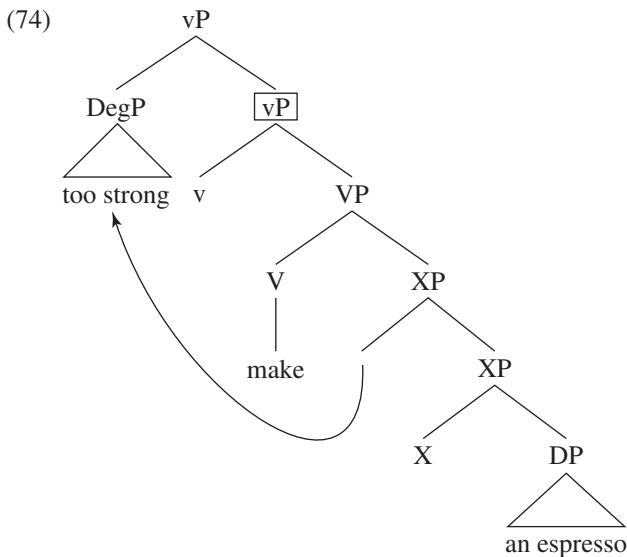
- (72) Who made how strong an espresso?
(based on Kennedy and Merchant 2000:113n17)

Instead, let us imagine that the problem with (66) is that the syntax-to-phonology rules do not allow a DegP to be spoken when material in the string intervenes between it and the DP it originates in. Concretely:

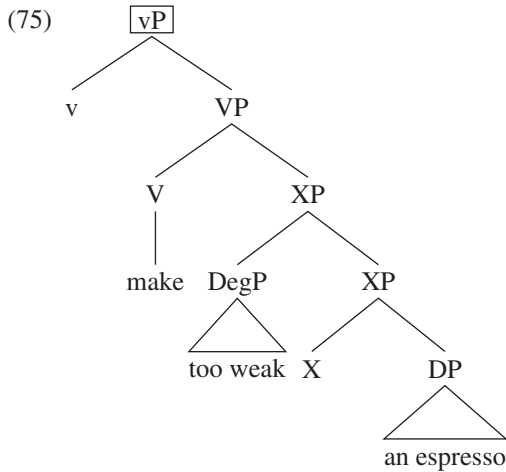
- (73) *The Deg-XP Adjacency Condition*
If DegP merges with XP and both DegP and XP are pronounced, then DegP must be left-string-adjacent to XP.

This condition could be derived from the cyclic linearization proposal of Fox and Pesetsky (2004) if one of the points where linearization statements are gathered is a phrase that contains both XP and terms that are linearized to the left of XP. In any case, if the reason DegP cannot overtly move out of the XP it originates within is that phrase markers are linearized in a particular way, then we have the beginnings of an account for why sluicing rescues Left Branch Condition violations: sluicing removes the material that intervenes between DegP and the XP it has merged with.

This, then, is what allows a DegP to get separated from its DP in ellipsis contexts. But this would also permit a structure like (74), which might be expected to be the source for the ungrammatical pseudogap in (71).



There is nothing wrong with the ellipsis in (71), then, if the Deg-XP Adjacency Condition is the reason DegPs cannot normally be moved out of the XPs they originate in. Instead, the reason pseudogapping cannot produce Left Branch Condition violations is that there is no way to produce an antecedent with the right form. The antecedent for (71), for instance, would have to have the shape in (75).



The meaning of the boxed vP in this representation is not sufficiently close to that of the boxed vP in (74) for the former to serve as antecedent, however. And there is no way to create an antecedent vP with a close enough form to be an antecedent that also manages to satisfy the Deg-XP Adjacency Condition.

This is why VP-ellipsis cannot produce Left Branch Condition violations of the sort that (71) illustrates. Now we need to see what differences between VP-ellipsis, on the one hand, and sluicing and gapping, on the other, are responsible for letting Left Branch Condition violations occur in the latter constructions.

First, consider sluicing. We have already seen that sluicing overcomes the Deg-XP Adjacency Condition in the clause containing the sluice. We should now see why a problem involving the Deg-XP Adjacency Condition is not found for the antecedent of a sluice as it is for the antecedent of an elided VP. For (67) (repeated here), the antecedent will have the form in (76), and the ellipsis the form in (77).

(67) *The Lakers hired a tall forward, but I don't know how tall ~~the Lakers hired a forward~~.

(76) The Lakers hired a tall forward.

(77) The Lakers hired $t_{\text{how tall}}$ a forward.

There is a mismatch between antecedent and ellipsis here of the very same sort that is lethal to VP-ellipsis. But other examples show that this kind of mismatch is not lethal to sluicing. Sluices treat the trace of a moved term in the ellipsis as equivalent, for the purposes of licensing the ellipsis, to that term in the antecedent. Examples like (78) are run-of-the-mill sluices.

(78) Sally likes a certain dessert. I won't tell you which dessert Sally likes-*t*, though.

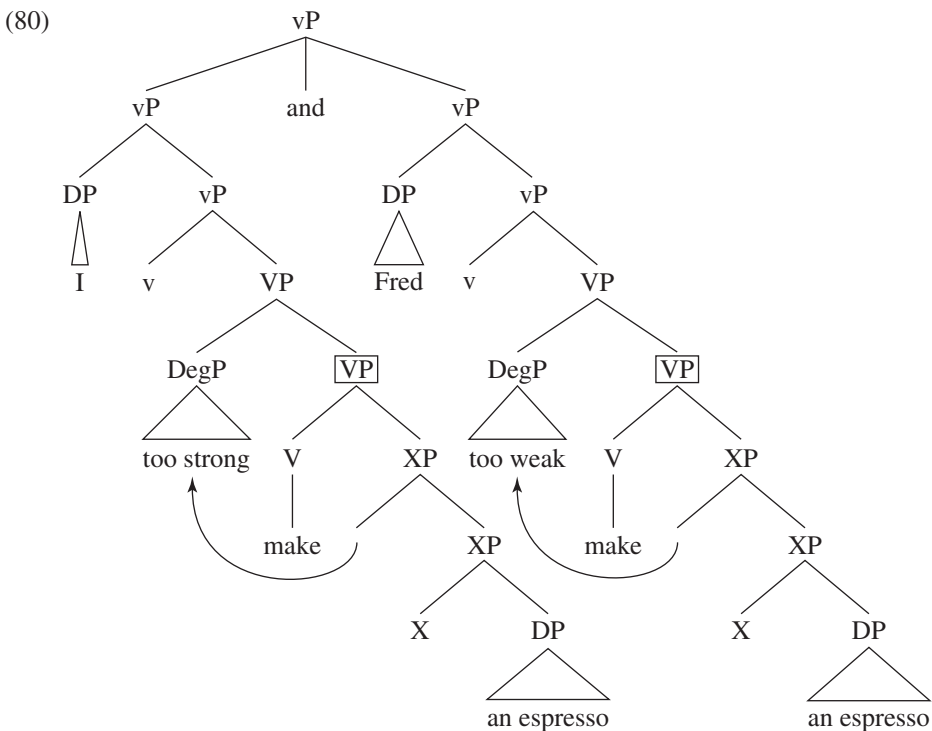
By contrast, VP-ellipsis does not tolerate this equivalence.

(79) *Sally likes a certain dessert. I won't tell you which dessert I do like-*t*, though.

The difference between VP-ellipsis and sluicing with respect to tolerating Left Branch Condition violations, then, boils down to an independent difference between these processes' antecedence conditions. The antecedence condition on VP-ellipsis forces a violation of the Left Branch Condition in the antecedent, whereas the antecedence condition on sluicing does not.

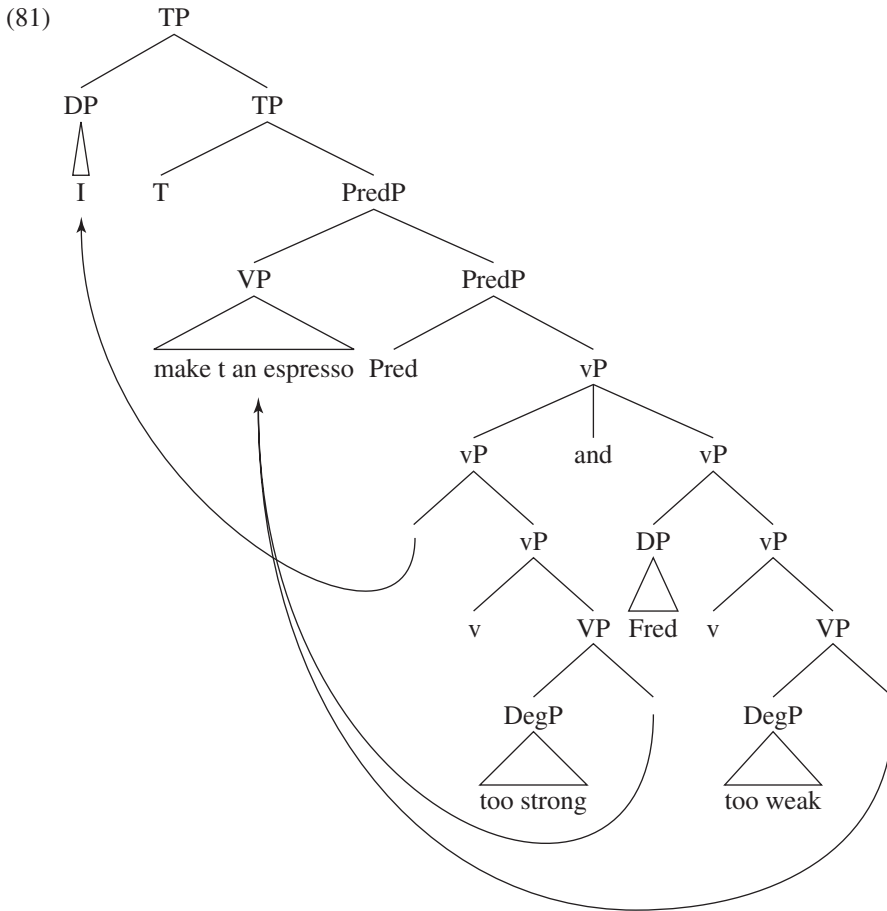
We are left with the task of understanding what difference between VP-ellipsis and gapping is responsible for their contrasting abilities to overcome Left Branch Condition violations.

6.2.2 *A Solution: Ingredient 2, Semantically Vacuous Movement Can Repair Linearization Violations* The Left Branch Condition violations that gapping licenses are produced from representations like (80), on the across-the-board account.



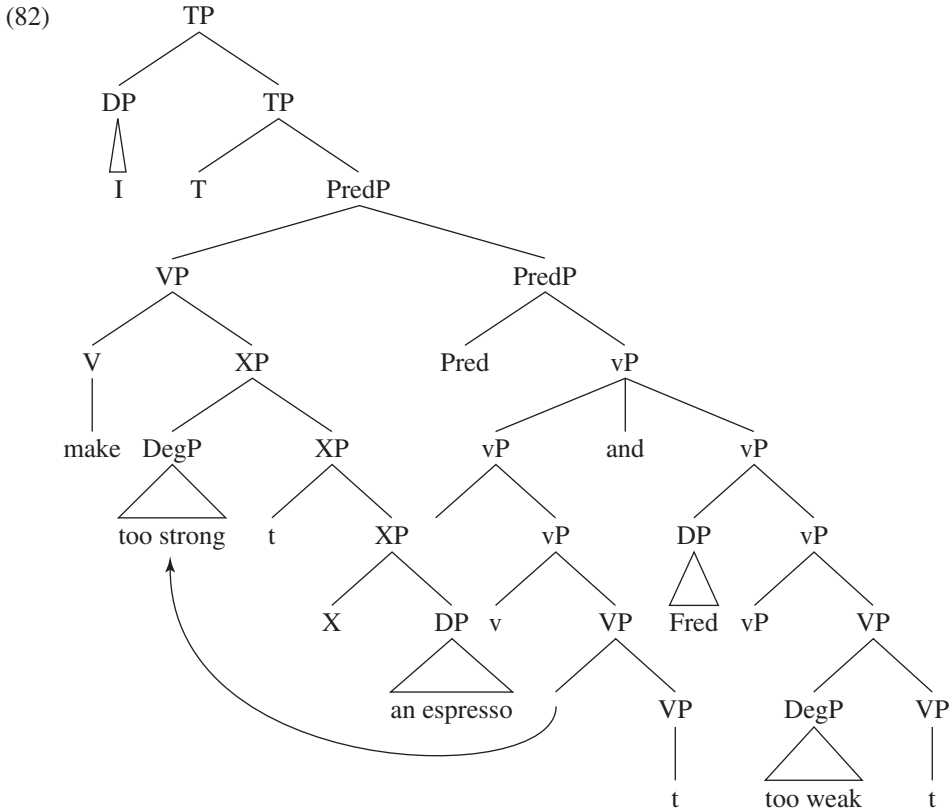
The boxed *VP*s here are identical and can therefore undergo across-the-board movement, setting the stage for gapping.

Both the first and the second conjuncts of (80) contain violations of the *Deg-XP Adjacency Condition*.



For (80) to surface as a grammatical instance of gapping, then, requires that there be a method for overcoming these violations in both conjuncts. Consider what will emerge once across-the-board movement of the VPs and raising of the left conjunct's subject have occurred. If across-the-board movement removes the linearization requirements for the material moved from the right conjunct in the way described above, then the violation of the Deg-XP Adjacency Condition in the right conjunct will be alleviated in (81). The violation remains in the left conjunct, however, and this is why *too strong* is not pronounced in the position indicated by (81). Indeed, *too strong* is pronounced in a position that complies with the Deg-XP Adjacency Condition. What is missing from the account, then, is how that compliance is achieved.

One possibility would be to let movement do the job. On this view, movement would generate from (81) the representation in (82).



The movement of *too strong* in (82) would have to be semantically vacuous, and therefore of the same type that is found in the “lowered” reading for A-moved subjects in examples like (83).

- (83) A problem seems to be left.
 ≈ There seems to be a problem left.

Sauerland and Elbourne (2002) argue that this reading arises when the subject moves after the semantic interpretation occurs but before the linearization rules have been completed. This is what would be required of the movement of *too strong* in (82). We might speculate that such movements are permitted when it is solely constraints on linear form that are requiring them, as is presumably the case in (83) and as is the case for (82) under the present account.

Here, then, is a sketch of how to rework the syntax of certain English degree phrases so that an across-the-board treatment of gapping correctly produces apparent violations of the Left Branch Condition, while not letting this ability spread to pseudogapping. It is not easy to see an alternative reworking that would allow VP-ellipsis to generate gaps but not pseudogaps, and so these are also cases that weigh against an ellipsis-based account of gapping.

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