

Gapping isn't (VP) Ellipsis*

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

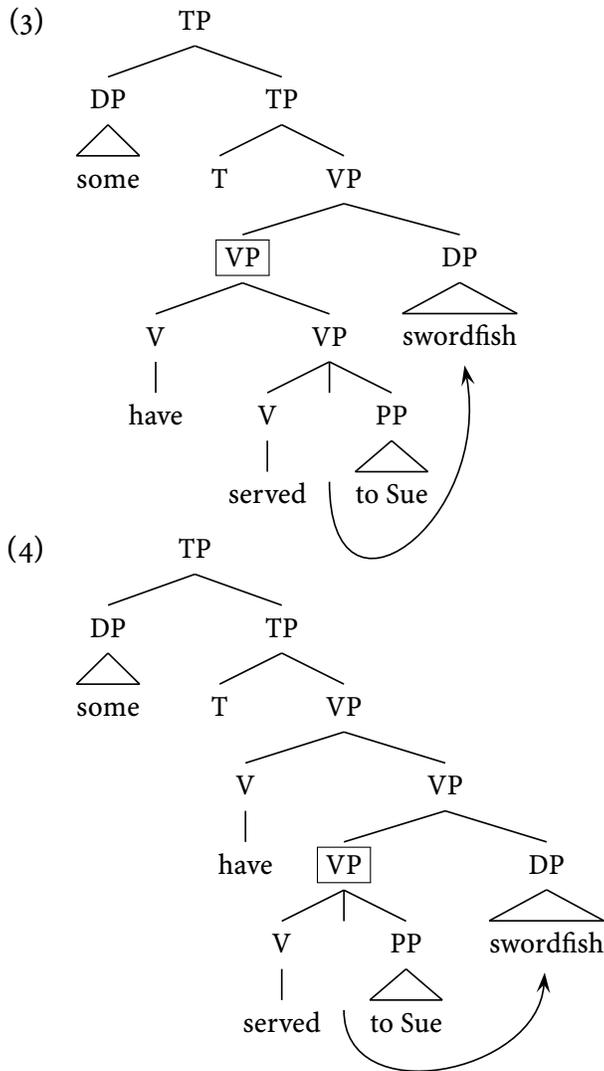
1 Gapping and Ellipsis: The Issue

There are two forms of ellipsis in English which are so similar to each other 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.



There are other ways of understanding how to characterize 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 paper 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 also 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 recent 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), so also are they fixed in the first clause of (7).

- (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 scope over the subject with similar semantic effects, this seems to prevent the object of the first clause in (6) from likewise scoping over the subject. Coppock's observation is that these effects hold in Gapping as well. (8) does not permit a wide scope reading for the object of the first clause, parallel to what is found in the VP ellipsis in (6).

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

And similarly, in (9) whatever scope relation between subject and object is understood in the Gapped sentence, 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 first of them cannot get a strict interpretation if the second gets 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' 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 explained how he₁'d robbed his own constituents and Peter₂ explained how he₂'d robbed his own constituents.
 - b. James₁ explained how he₁'d robbed his own constituents and Peter₂ explained how James₁ had robbed his₁ constituents.
 - c. ? James₁ explained how he₁'d robbed his own constituents and Peter₂ explained how he₂'d robbed James' constituents.
 - d. * James₁ explained how he₁'d robbed his own constituents and Peter₂ explained 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 explained how he₁'d robbed his own constituents and Peter₂ explained how he₂'d robbed his own constituents.
- b. James₁ explained how he₁'d robbed his own constituents and Peter₂ explained how James₁ had robbed his₁ constituents.
- c. ? James₁ explained how he₁'d robbed his own constituents and Peter₂ explained how he₂'d robbed James' constituents.
- d. * James₁ explained how he₁'d robbed his own constituents and Peter₂ explained how James₁ had robbed Peter₂'s constituents.

As with the quantifier scope facts, these facts also suggest that VP ellipsis is implicated in forming Gaps — at least to the extent that they are emblematic of VP ellipsis.

As the slur “Pseudogapping” indicates, Levin herself did not think it likely that (1) and (2) have the same underlying cause. And there are good superficial reasons for thinking she is right. Gapping, but not Pseudogapping, is restricted to coordinations, as the contrast in (13) demonstrates.⁵

- (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.⁶ 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.⁷

- (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, Pseudogapping differs from Gapping in being able to have an antecedent within an embedded clause.⁸

- (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 Coppock (2001) and Lin (2002); I'll call this the "low coordination reduction," as it attempts to reduce Gapping to vP ellipsis through an underhanded use of coordination.⁹ 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 ability to produce the illusion of ellipsis by conjoining relatively small phrases. For instance, (17) might look like an instance of preposition deletion, but is probably 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 coördination reduction of Gapping, the finite auxiliary lies outside the coördination 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. The Derived Subjects Hypothesis: subjects start out lower than their surface position. I'll 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 Coördinate Structure Constraint.

There is considerable evidence in support of (19a), and it is a commonplace ingredient in most frameworks. There is also considerable evidence that Ross's Coördinate Structure Constraint has exceptions which require its modification, and there have been a number of proposals made in response to these exceptions that could derive (19b). One proposal has it that some coördinations are "asymmetric" in a way that permits apparent violations of the Coördinate Structure Constraint. Buring and Hartmann (1998) and Hartmann (1998) are good illustrations of this analysis. Gapping would have to be seen as a special instance of these asymmetric coördinations for (19b) to emerge. So far as I can see, that does seem possible. Another possibility would be to derive the Coördinate Structure Constraint from a well-formedness condition on Logical Forms along the lines of (20).

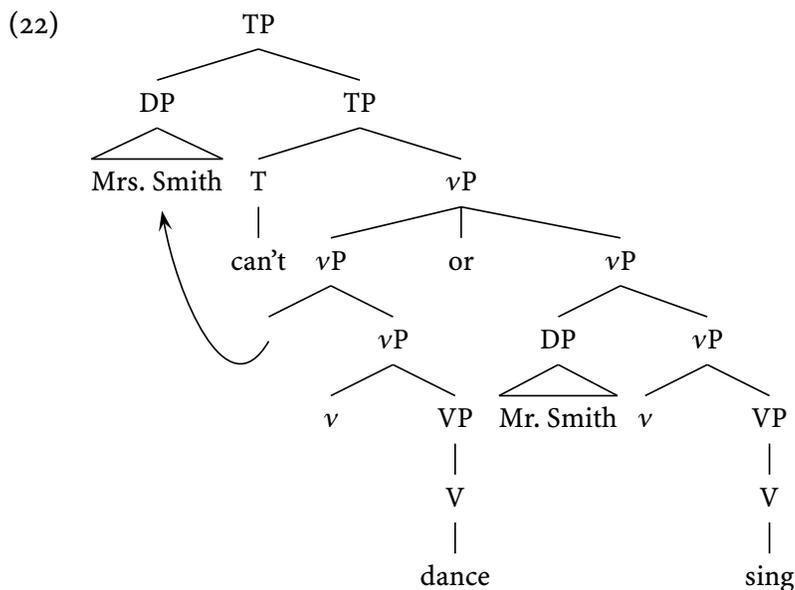
- (20) Let α be a term outside a coordination, C . If α binds a variable in one conjunct of C , then it must bind a variable in all conjuncts of C .

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, (20b) would require that Argument Movement form surface representations that violate the Coördinate Structure Constraint just when the associated Logical Forms don't. Lin (2001) argues that this is what happens in Gapping. I'll assume, therefore, that (20b) is sound.

I'll illustrate the low coördination reduction with examples of "auxiliary Gapping," studied in Siegel (1987) and characterized by her in just those terms.¹⁰ (21) is an example.

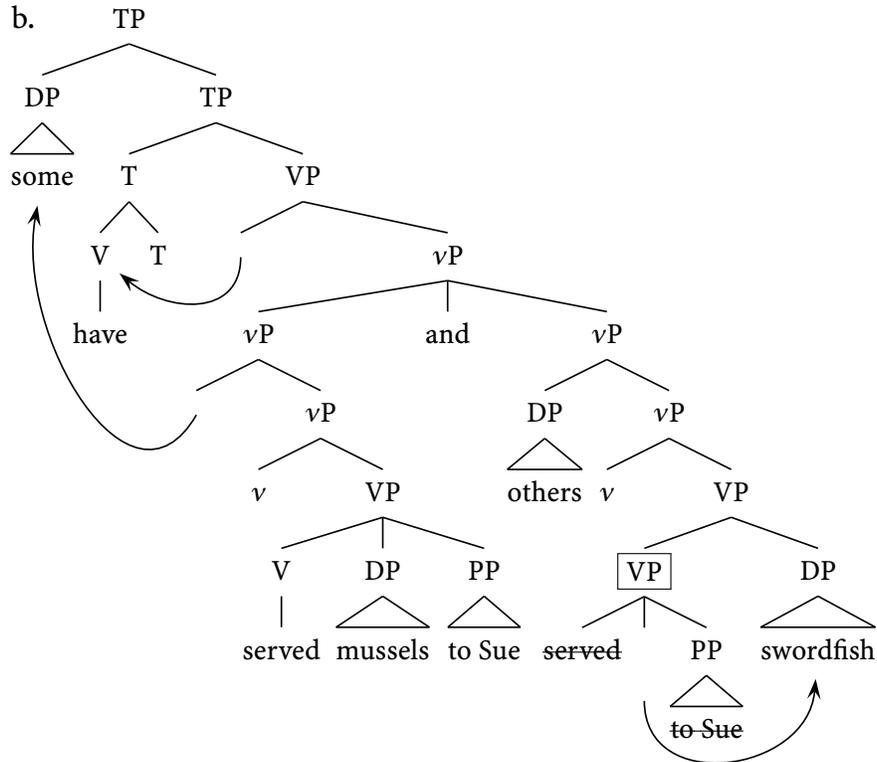
(21) Mrs. Smith can't dance or Mr. Smith sing.

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



This can be combined with the syntax of Pseudogapping to produce bigger Gaps; (1), for instance, could be given the representation in (23).

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



Exploiting low coördinations to account for Gapping in this way has a variety of virtues. It allows one to derive some of the peculiar properties of Gapping, such as those I set out above as standing in the way of reducing Gapping to vP Ellipsis. I'll review those virtues first before turning to how they are not quite sufficient.

2 Virtues

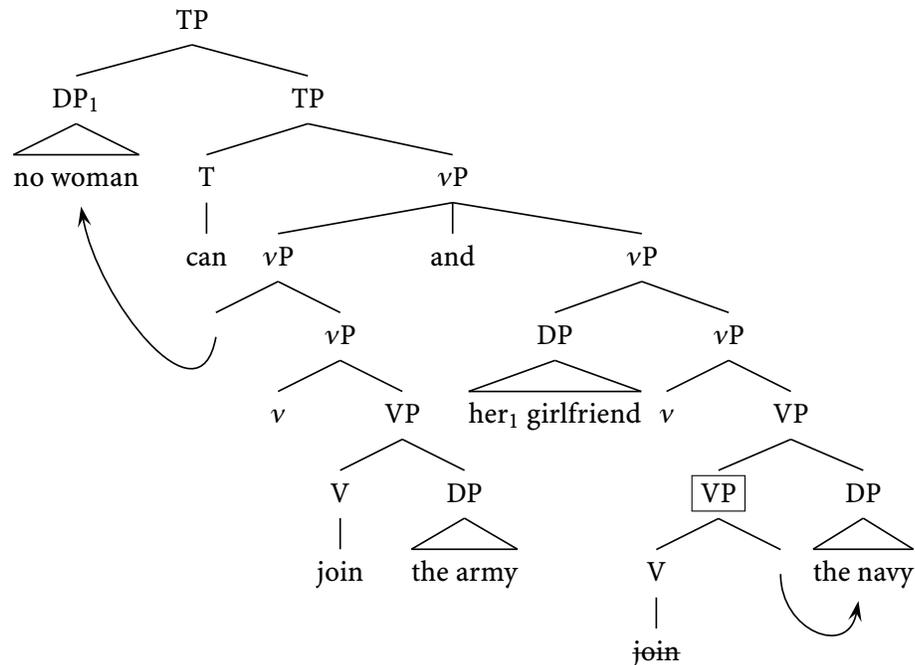
First, if the low coördination reduction is combined with something that ensures (24), it will produce an explanation for why Gapping is only found in coördinations.¹¹

- (24) a. vP ellipsis can elide vPs but not TPs.
 b. Verb movement 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 coördination. Because Gapping appears to elide a finite auxiliary, it will arise only in coördinations.

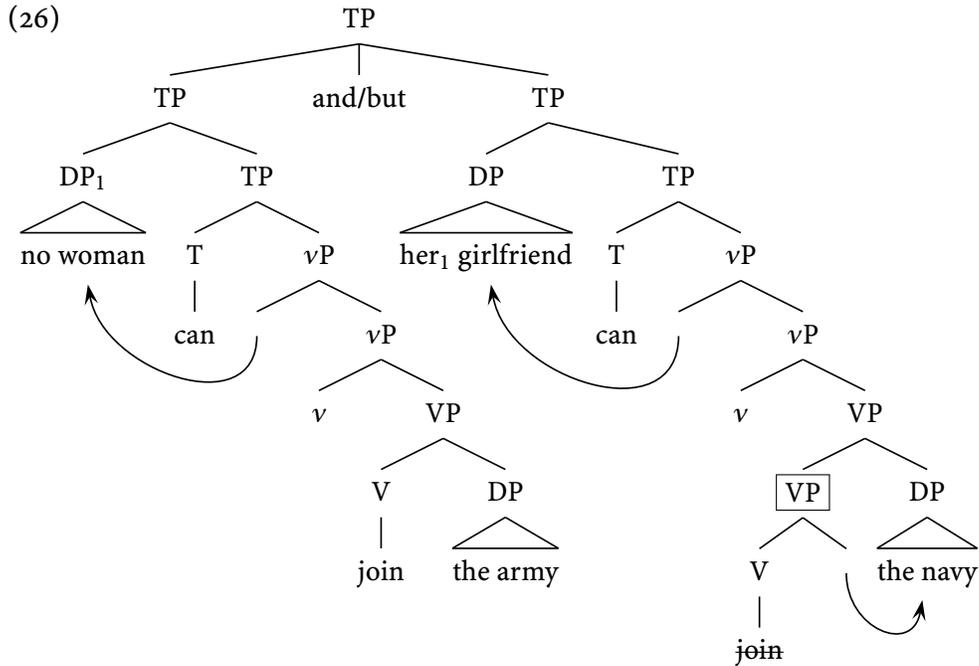
This account also captures McCawley's scope fact, illustrated by (14). The reason the subject of the first conjunct in a Gapping construction can have a pronoun in the second conjunct in its scope is because it will c-command that pronoun. The parse for (14a) will be (25).

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



This doesn't happen in the Pseudogapping example because the coördinated 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 out of the c-command domain of the subject of the first clause, as the parse for (14b) indicates.



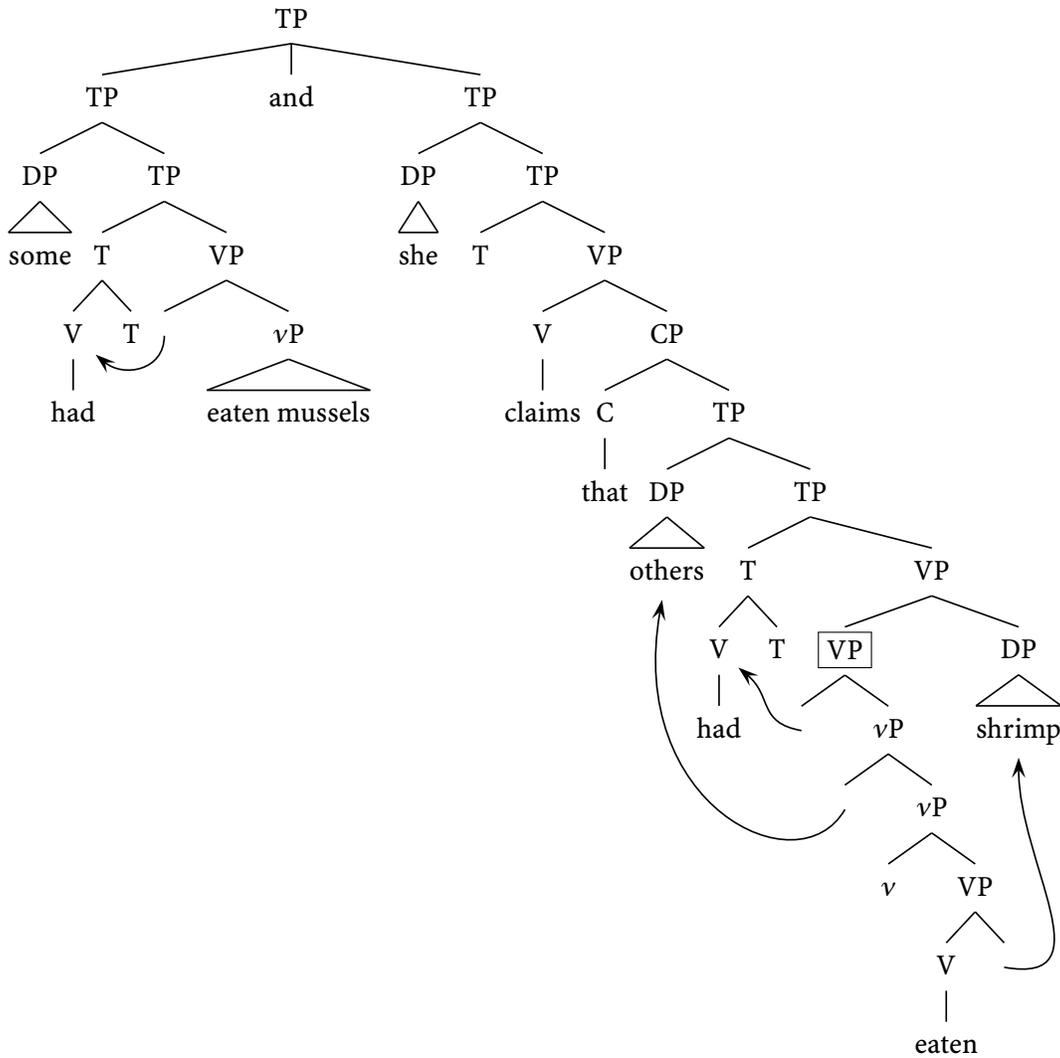
This solution dovetails nicely with Siegel’s account of why (21) can get the interpretation in (27a) and not the interpretation in (27b).¹²

- (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.

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

Finally, this proposal also provides an account 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 parse below indicates, and (24) will prevent it from eliding.

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



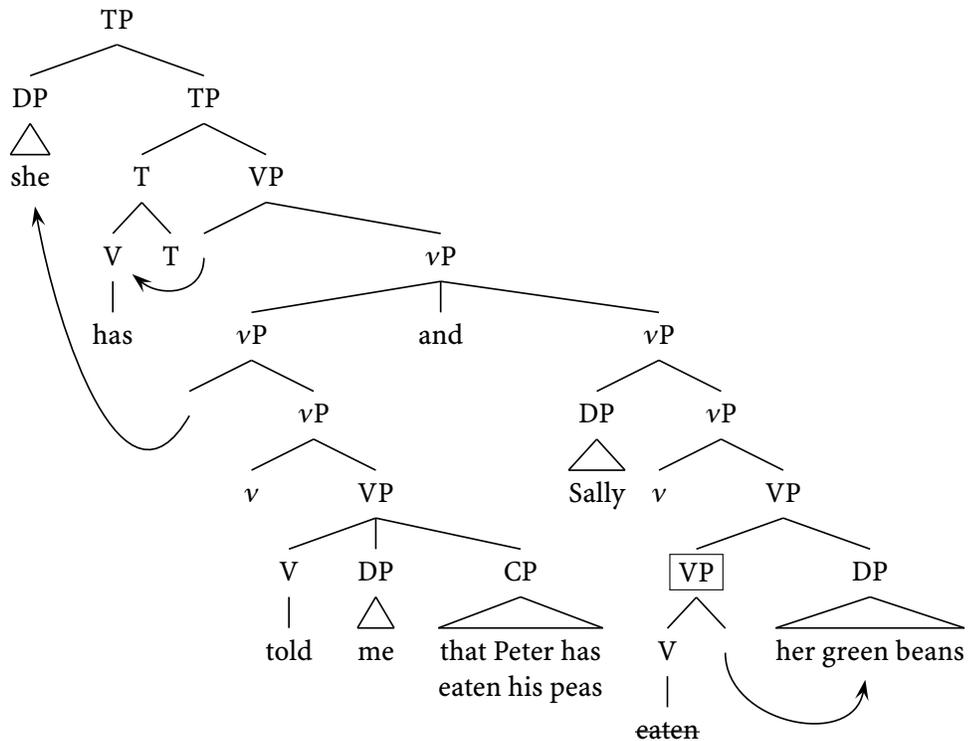
The largest *vP* that can be elided is the one boxed, and this won't include the finite auxiliary. The best that can be achieved with this syntax is a Pseudogap.

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 coördination reduction does not derive the fact — illustrated in (16b) — that the antecedent for a Gap cannot be embedded. (16b) should be able to get the representation in (29).

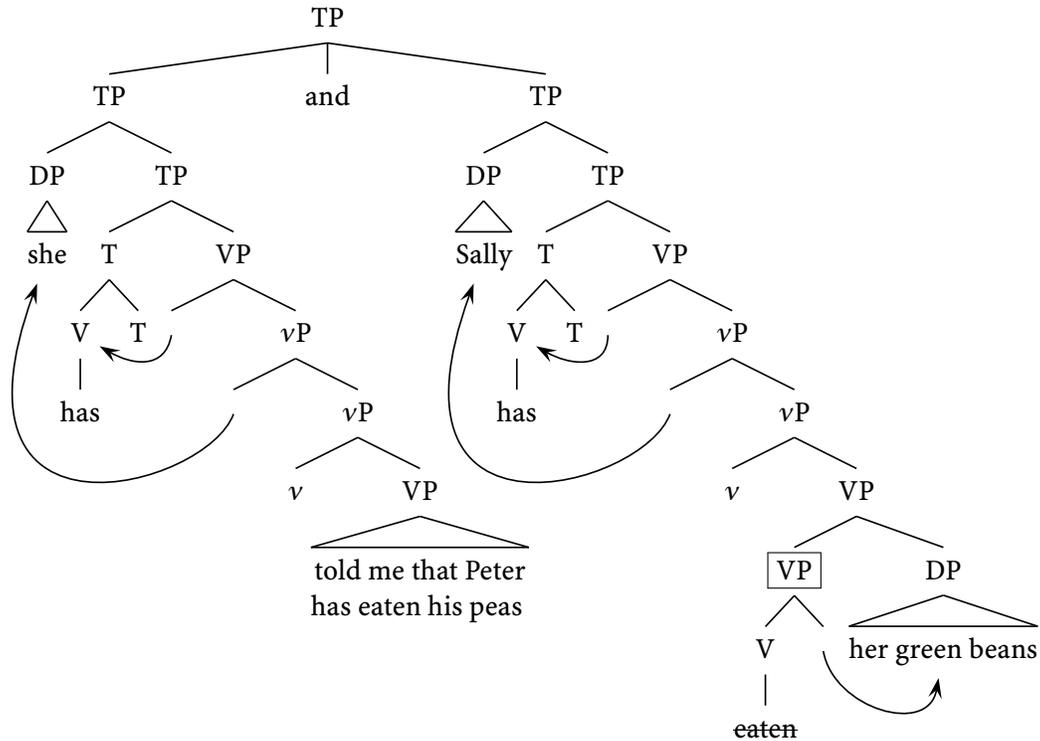
- (29) * She's told me that Peter has eaten his peas, and Sally her green beans, so now we can have dessert. (= (16b))



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

In addition, there is evidence that the low coördination which is required by the low coördination account destroys the environment which licenses vP Ellipsis.

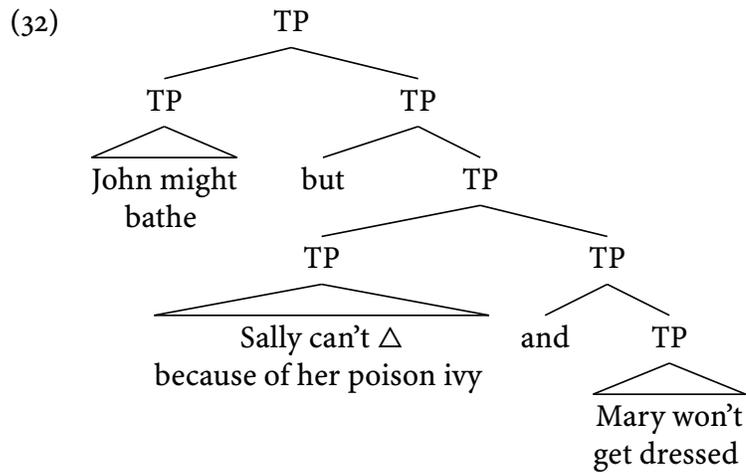
- (30) ? She's told me that Peter has eaten his peas, and Sally has her green beans,
so now we can have dessert. (=16a)



To see this we must consider examples where there are three conjuncts. In triple coördinations 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.

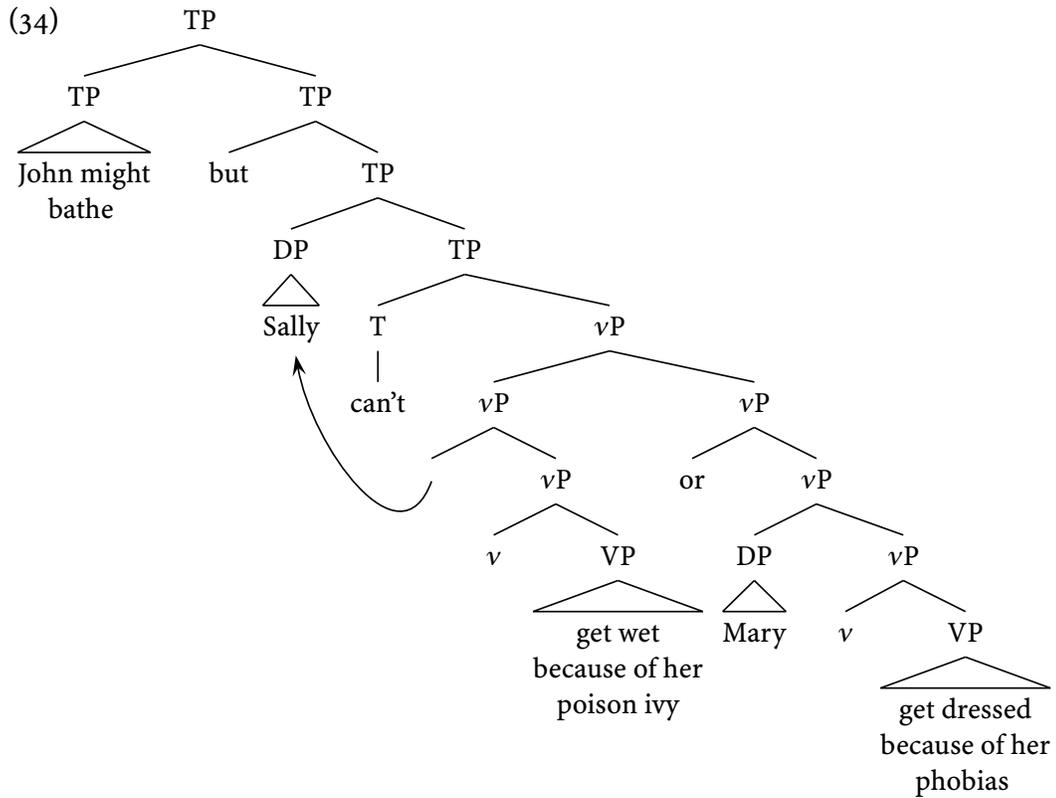
Assume that his example has a structure like (32). (I will revert to a binary branching representation for coördinations, so that they may more easily be fit onto the page. See Ross 1967 and Munn 1993 for arguments in support of these binary branching representations.)



It's 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.

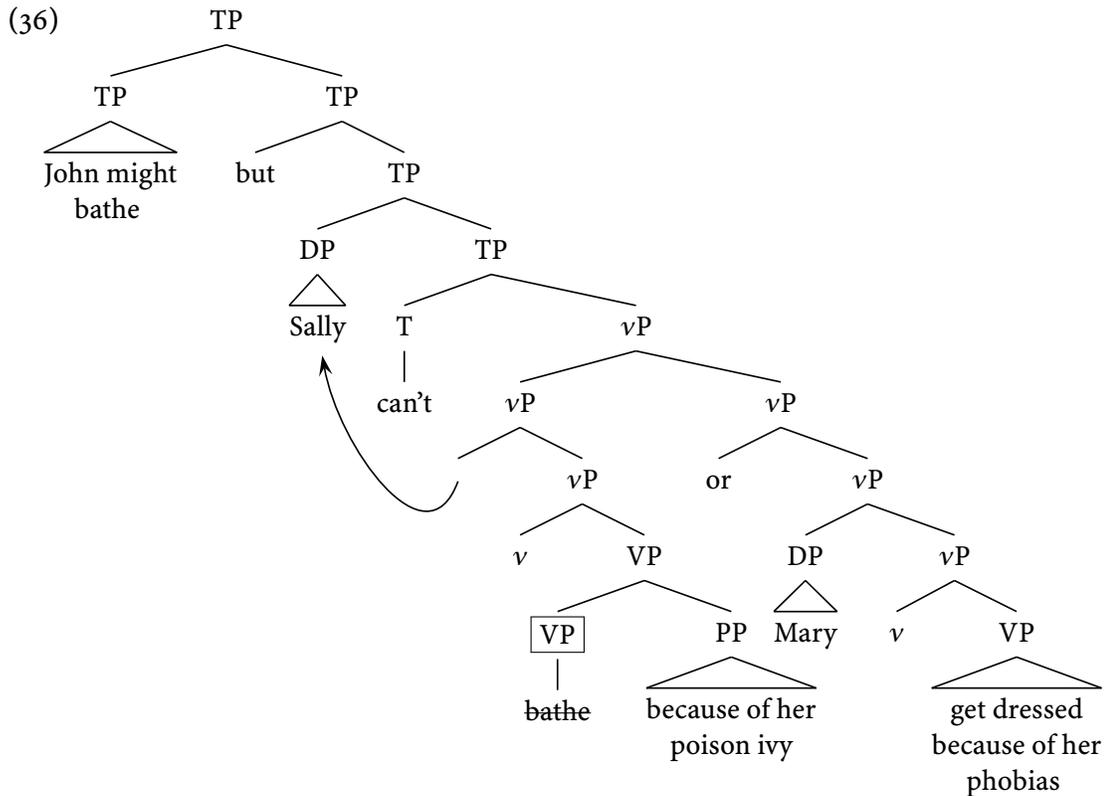
I assume this has the representation in (34).



But it's 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 coördination reduction this should be possible. It would combine the vP ellipsis in (32) with the low coördination in (34) to give (35) the representation in (36).



We have discovered (37).¹³

(37) VP ellipsis is blocked in clauses with Gapping.

This might be expected, as VP ellipsis is constrained by (38),¹⁴ and this condition isn't met in (36).

(38) An elided vP must be a sister to a licensing X^0 .

Licensing X^0 's in English include I^0 and certain instances of *have* and *be*.

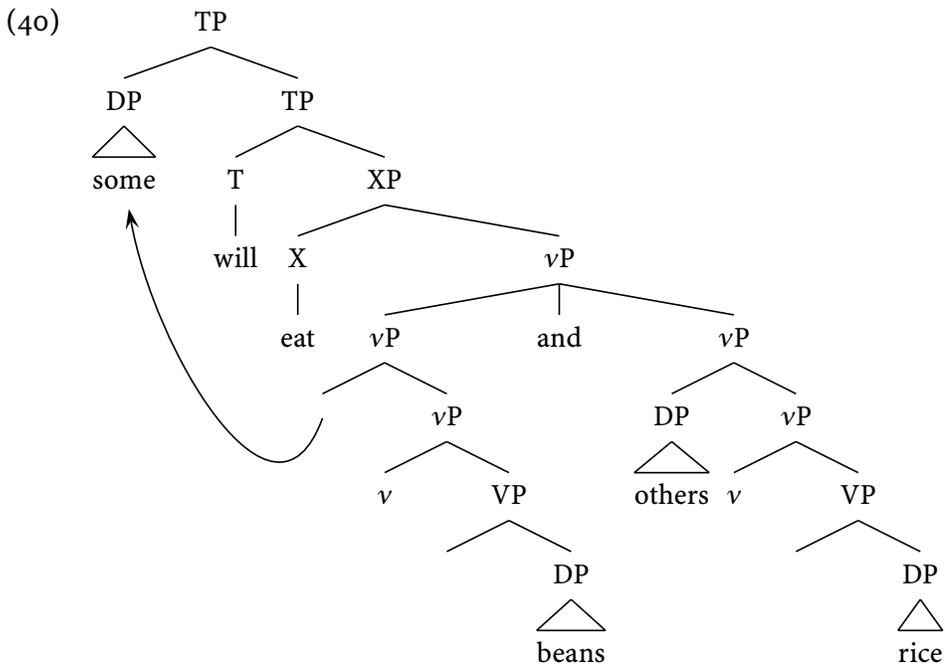
If Gapping destroys the environment for VP ellipsis, then it seems clear that VP ellipsis cannot be what's responsible for eliding the main verb in Gapping. The low coördination reduction fails, then, to the extent that it relies on VP ellipsis. Its successes derive from the use of a low coördination, however, and so that part

of the account we should keep. It should be wedded to something other than VP ellipsis, however, if it is to derive the properties of Gapping we've just seen.

4 What to replace ellipsis with

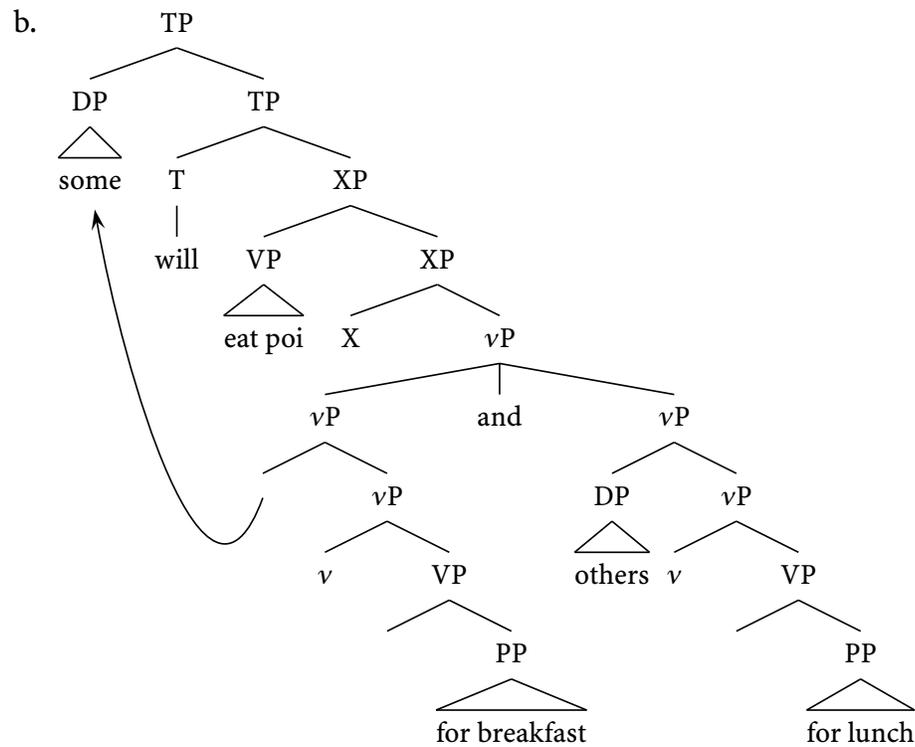
The two facts about Gapping discussed in the previous section suggest that we should find a way of removing the main verb in a Gapping construction that is parallel to the method used for removing the finite auxiliary. That method is the use of a low coördination. If a main verb gaps only if the coördination is low enough to place it outside the coördination, then we could get an explanation for the fact that the antecedent to a Gap cannot be embedded. We need to find a way of making a Gapped sentence like (39) get a representation like (40).

(39) Some will eat beans and others rice.



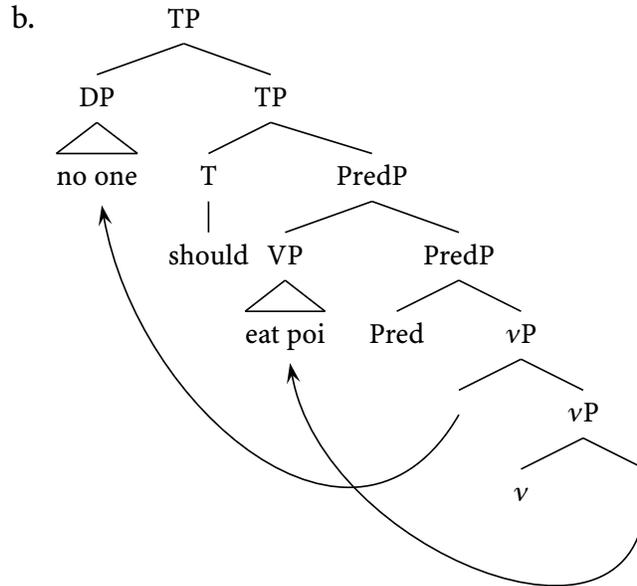
It's not always just a verb that Gaps, however, and so we'll need to find a way of letting an entire vP stand outside the coördination, as in (41).

(41) a. Some will eat poi for breakfast and others for lunch.

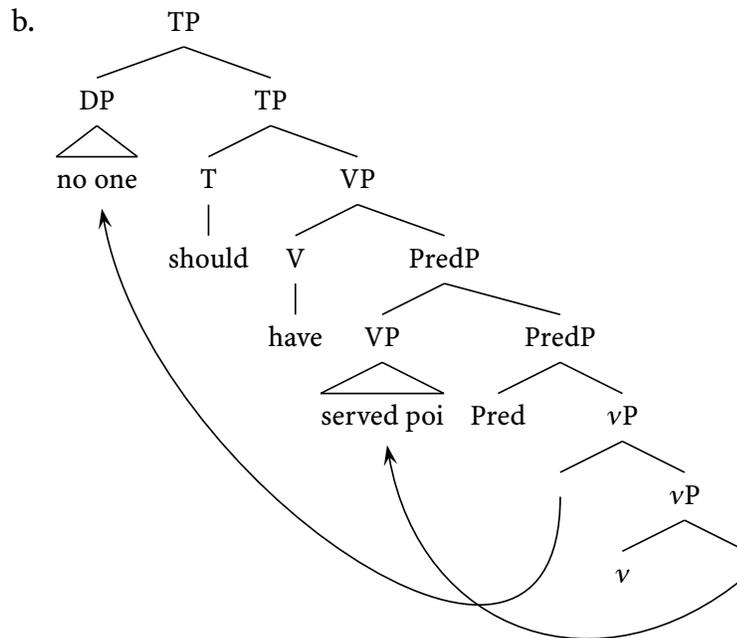


In unpublished work that the Coppock and Lin proposals are a reaction to, I suggested achieving these representations by letting vPs move leftwards in English, an hypothesis that is sometimes entertained for other reasons.¹⁵ Simple sentences, like those in (42) and (43), would, on this proposal, get the representations indicated below.

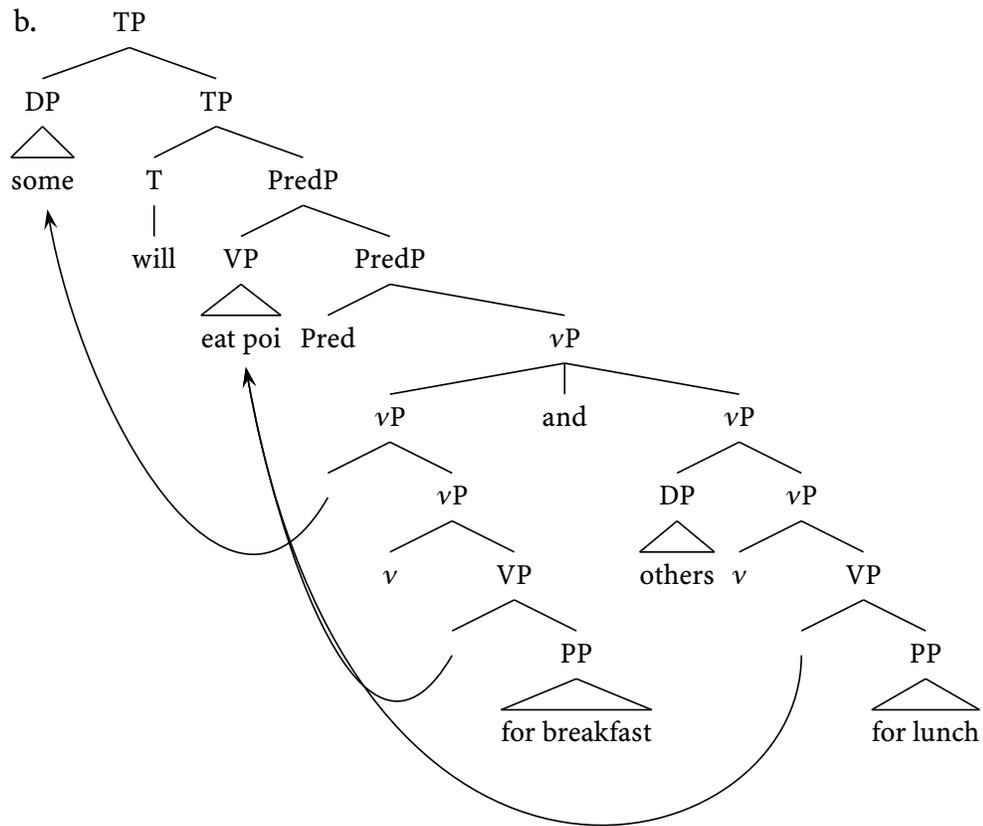
(42) a. No one should eat poi.



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



Gapping, then, arises when *v*P's have been coördinated, and the *vp* movement indicated above occurs across the board. Movement of the *vp* can be fed by op-



(44a) illustrates a case in which the objects of the moved vPs move out first, in the same fashion that they do in Pseudogapping contexts (cf. (4) on page 2).¹⁶

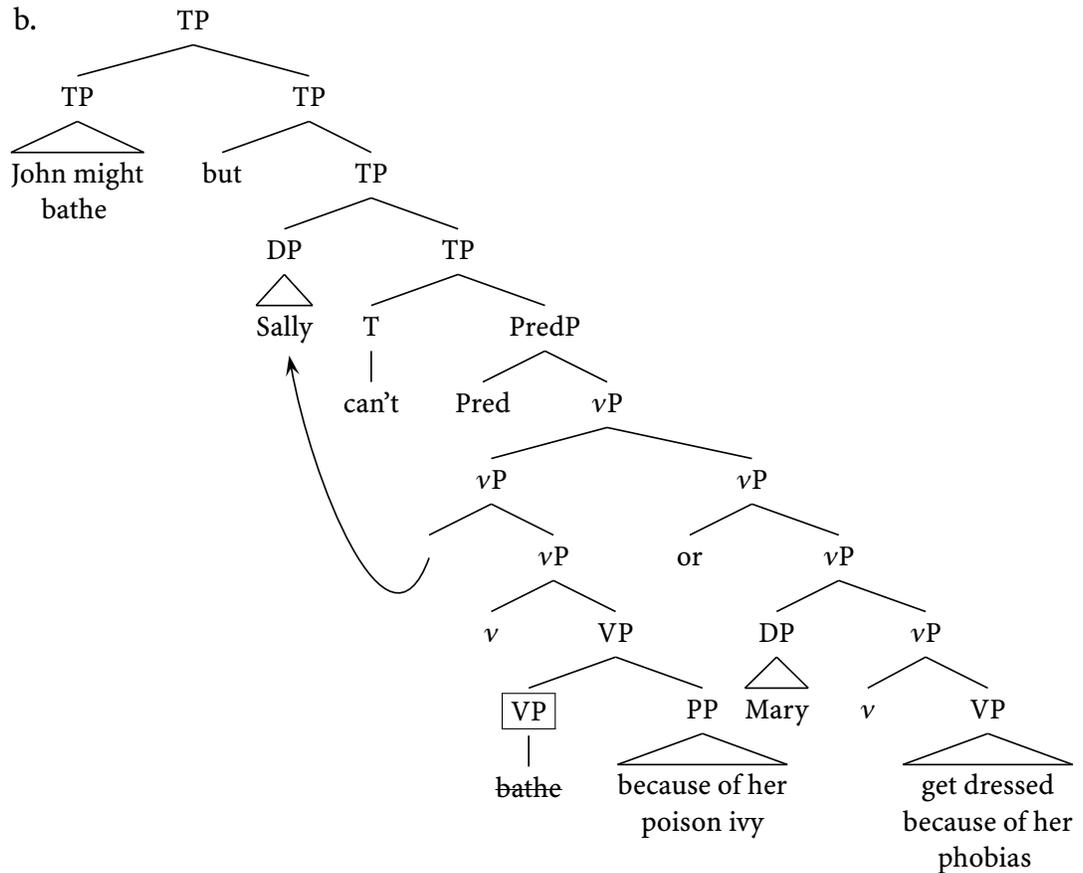
If the position that vPs move to — I’ve called it PredP here following Zwart (1997) — is found immediately above vP, then we should change the description of where vP ellipsis is licensed in (38) to (45).

(45) An elided vP must be in Specifier of a licensing X^0 .

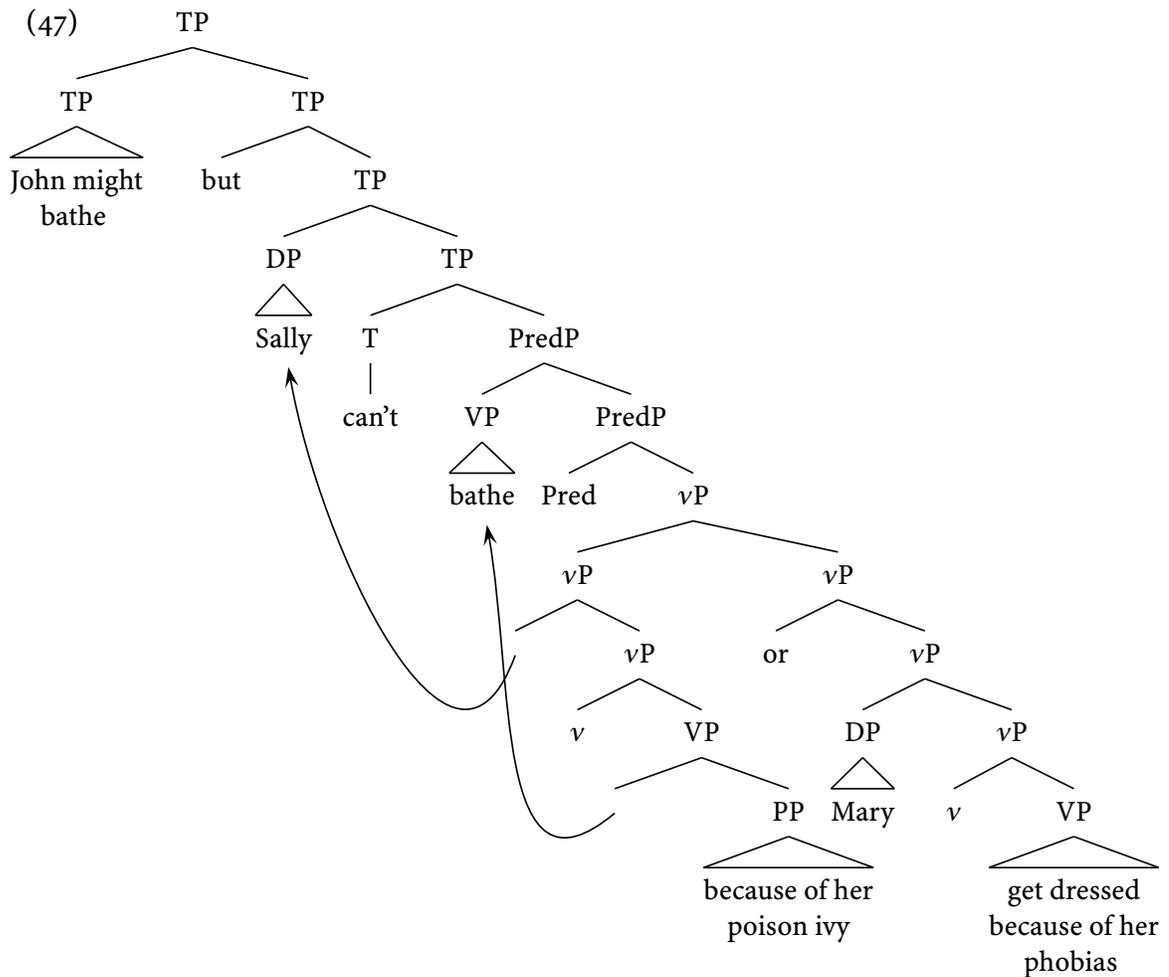
Licensing X^0 s in English include Pred⁰.

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).

- (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))



However, (45) raises the possibility that (35) might also conceivably be produced by moving the **vP** of the first conjunct into Specifier of **PredP**, as in (47).



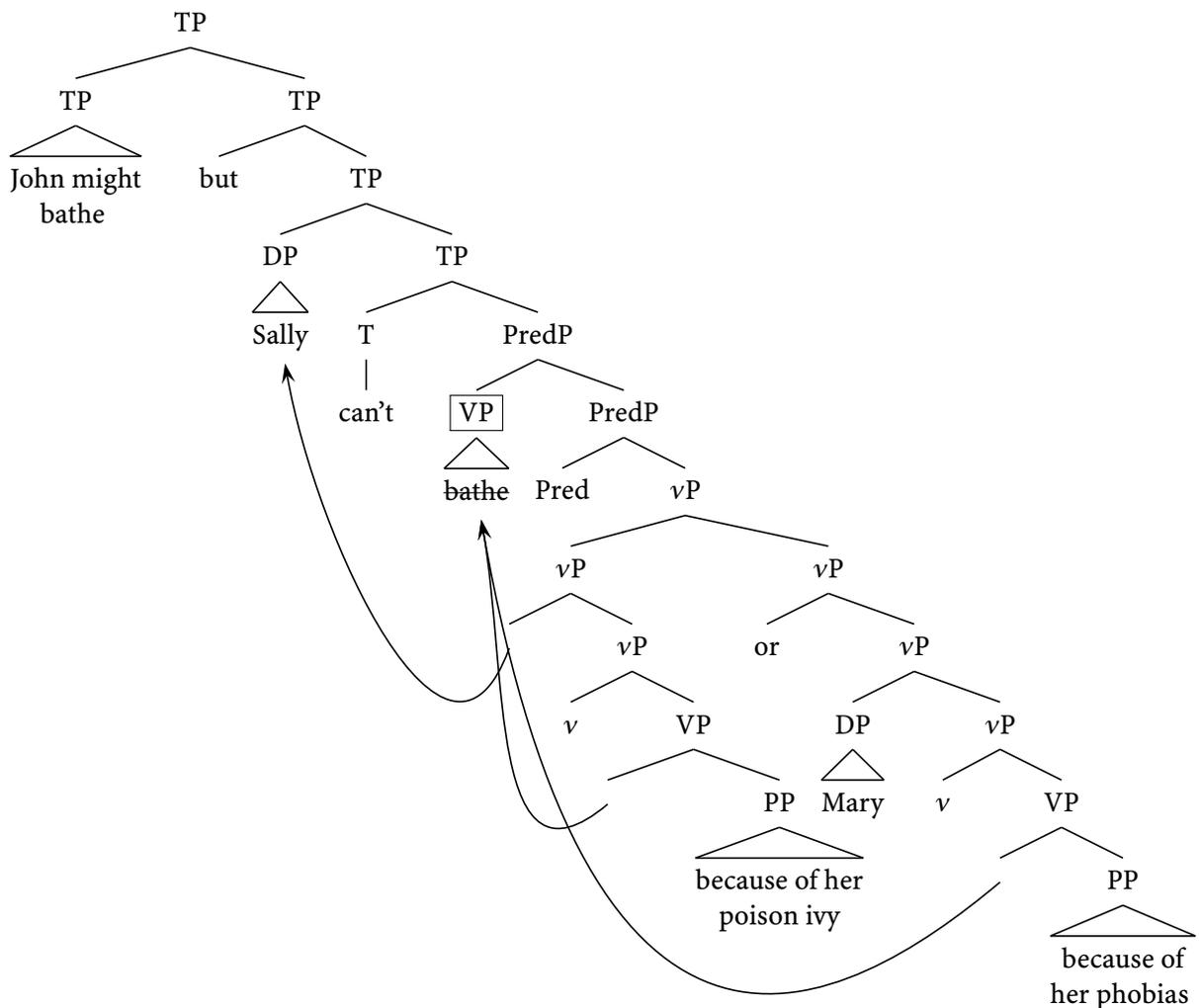
While this does obey (45), it will violate the Coördinate Structure Constraint if vP movement of this sort leaves variables.¹⁷

So far as I can see, (45) has the same empirical footprint as (38).¹⁸ This account of Gapping, then, is consistent with the impossibility of vP ellipsis in Gapping constructions,¹⁹ but preserves the consequences of standard accounts of vP ellipsis.

It predicts, furthermore, that if both vPs in these examples Gap — that is both move across-the-board to Specifier of PredP — they will become capable

of undergoing vP ellipsis. I believe this prediction is confirmed by the relative grammaticality of (48).²⁰

- (48) Peter might bathe, but Sally won't because of her allergies or Mary because of her phobias, so we may as well give up.



This seems to me to be striking confirmation that cross-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 arguments on behalf of vP ellipsis being part of Gapping? Is the across-the-board proposal consistent with her observations?

5 Ways in which Gapping looks like Ellipsis

The arguments of Coppock's which I've reported here consist of observations about the similarity in the "identity conditions" on vP ellipsis and Gapping. Are these similarities lost on 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 in the way 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 coördination reduction. On that account Gapping is just a special instance of VP ellipsis and we should expect them, therefore, to share properties. My proposal, by contrast, claims Gapping to be a special instance of across-the-board movement and so it should have this property to the same extent that across-the-board movement does. Interestingly, this constraint is found in across-the-board movement, as (52) illustrates.

- (52) It's [_{VP} explain how he'd robbed his constituents] that James can and Paul 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.
 - c. ? James₁ can explain how he₁'d robbed his own constituents and Peter₂ can't explain how he₂'d robbed James' 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 treatment of Gapping.

The other similarity between VP ellipsis and Gapping is the effect they have on the relative scopes of quantificational DPs in them. 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 of 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. There's a confounding factor that 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.

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

See Barss (1986) and Sauerland and Elbourne (2002) for discussion. Because movement of VPs seems to have this effect, we should expect across-the-board movement of VP to also have non-straightforward 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 de-accenting. In (56), for instance, where *slanted* text indicates de-accenting, we find the same effects illustrated for VP ellipsis and Gapping in (53) and (54).

- (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, (25) & (26):33-4)

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 ways that 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

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, there remain interesting problems 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 just the same as would arise if there were no gap. Gapping never produces word-orders that aren't otherwise attested. The across-the-board account that I've sketched here does not transparently derive this. How, for exam-

ple, 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.

To produce 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; that 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 isn't it possible in other contexts to find the subject, or 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.

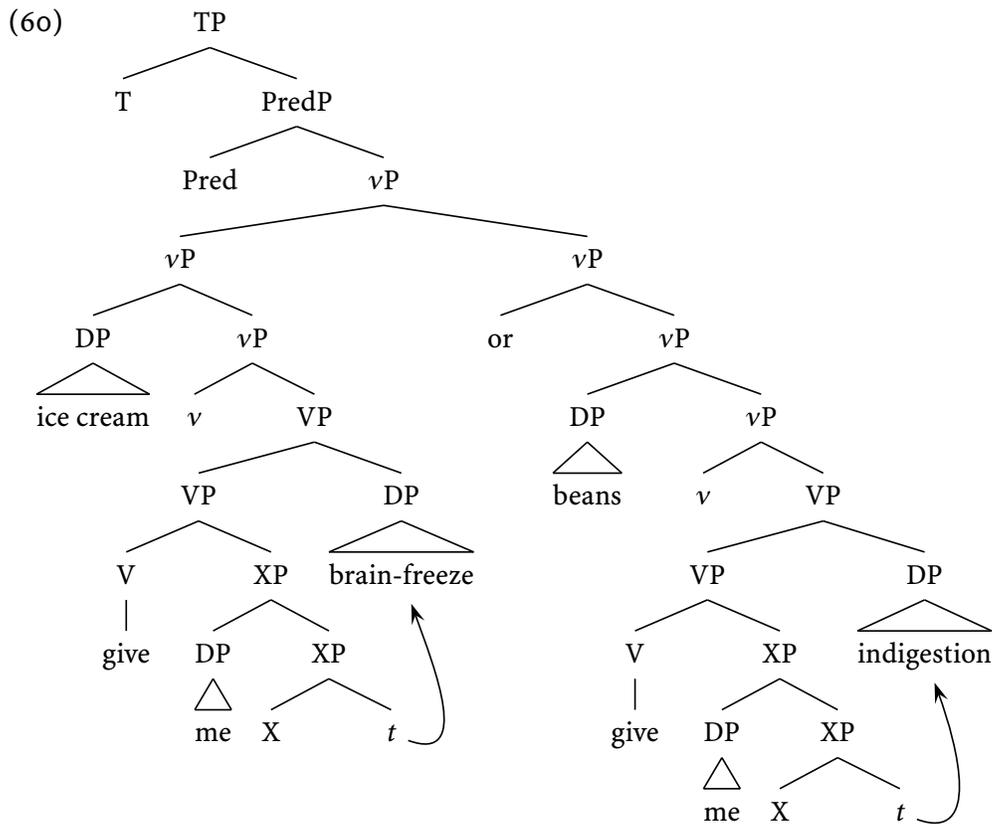
b. * Ice cream gives me in the morning brain-freeze.

Similarly, on an account that uses VP Ellipsis to generate (58), it is necessary for the second object to move out of the VP which elides. But this too leads to the conclusion that material should be able to fall between the first and second object 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 that component of the grammar which interprets

phrase markers as strings. For 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) expresses a similar idea, but frames 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. I’ll briefly sketch how.

For concreteness, I’ll adopt the across-the-board movement account of Gapping, and illustrate the technique with a simplified version of (58). Before across-the-board movement applies, (58) has the representation in (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 the Fox and Pesetsky proposal, the linear order of constituents in each of the conjuncts will by this point have been determined by their 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					

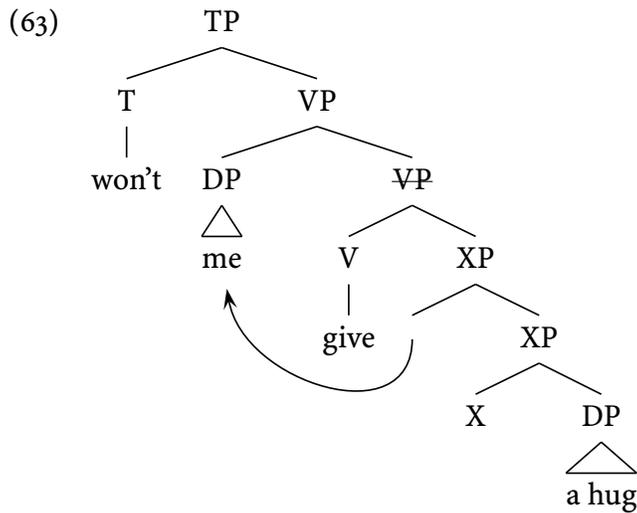
b. *for right conjunct:*

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.²¹ Across-the-board movement circumvents this consequence, so we need to find that property of across-the-board movement that explains why.

It's useful to compare our case of across-the-board movement with Takahashi's (2004) analysis of pseudogapping. Takahashi shows how the Fox and Pesetsky 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.



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

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

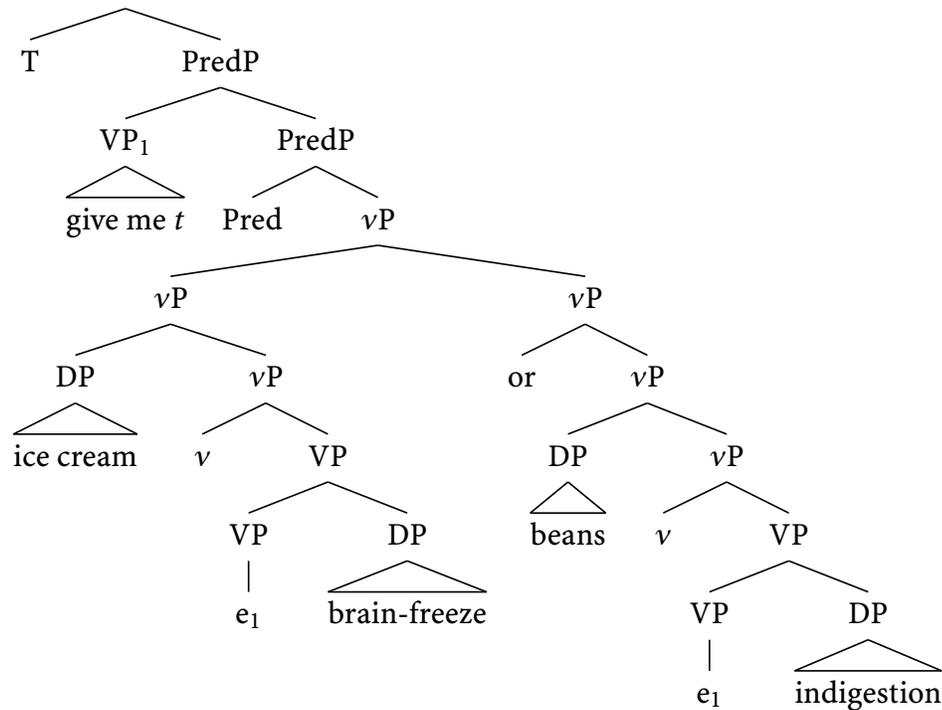
If all of the material in (63) were spoken in the positions indicated, then when the linearization algorithm is re-invoked, it will produce, among other things, “me>give.” Because this will conflict with the “give>me” entry in (64), that outcome is blocked. This, then, is why objects cannot overtly move to the left of verbs in English. Takahashi suggests that (63) is permitted to lead to a linearization that puts *me* to the left of the *VP* when that *VP* elides because ellipsis removes linearization statements for the terms elided. 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 which is not spoken need not conform to constraints which guide the syntax-to-string mapping.²² To extend this system to the Gapping structure in (60), we need to let the outcome

of across-the-board movement have a similar outcome for the material moved out of the right conjunct. That is, across-the-board movement should have the same effect on the linearization statements for the right conjunct that ellipsis does. 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 that in Munn (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.

(65) TP (= (60) with across-the-board vP movement)



Moving *give me* in the way 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 in the coördination. Because the statements which put *give* and *me* after the subject of the right conjunct are removed, there will be no conflict in introducing statements that put *give* and *me* to the left of this subject. There will, however, be a conflict introduced 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 Specifier of TP.

I've illustrated this technique for solving the word-order problems that (58) invokes under the assumptions of an across-the-board treatment of Gapping, but the same method could be employed under an ellipsis-based account as well. There are quite a number of 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 they include cases which show that the across-the-board analysis I am advocating fails.

Let me close this paper by considering one particularly difficult case, and sketch how this technique might be applied to it. The case is another to be found among Coppock's list of problems for a non-ellipsis based treatment of Gapping, though, as we will see, it furnishes a reason for abandoning a VP ellipsis-based account. It hasn't, 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 that is characteristic of certain ellipses. In particular, just as Sluicing is capable of voiding Left Branch Condition violations like those in (66) (witness the

improvement in (67)), so also can Gapping, as (68) indicates.

(66) * How tall did the Lakers hire [*t* a forward]?

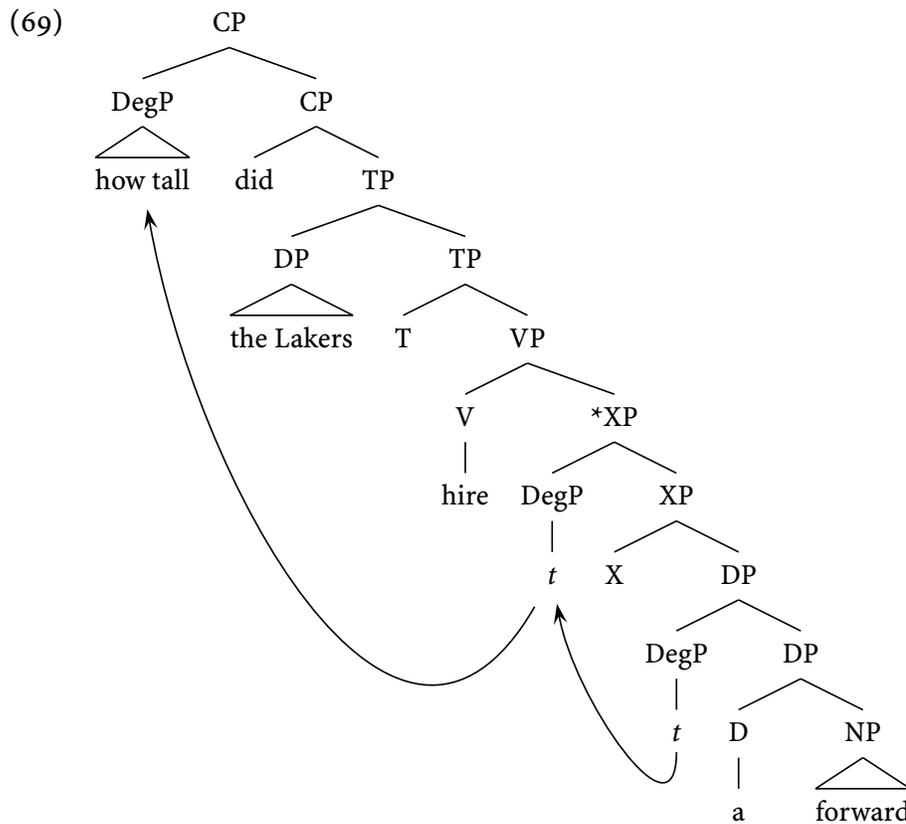
(67) The Lakers hired a tall forward, but I don't know how tall ~~the Lakers~~
~~hired a forward~~.

(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, exx (31), (32) & (35))

Her 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 which requires the degree phrase to move through the Specifier of the object, which I'll call *xP* here, and there is no head for *xP* in English that allows a *wh*-phrase in its Specifier. The result is a representation like (69), where the "*" marks where the violation occurs.

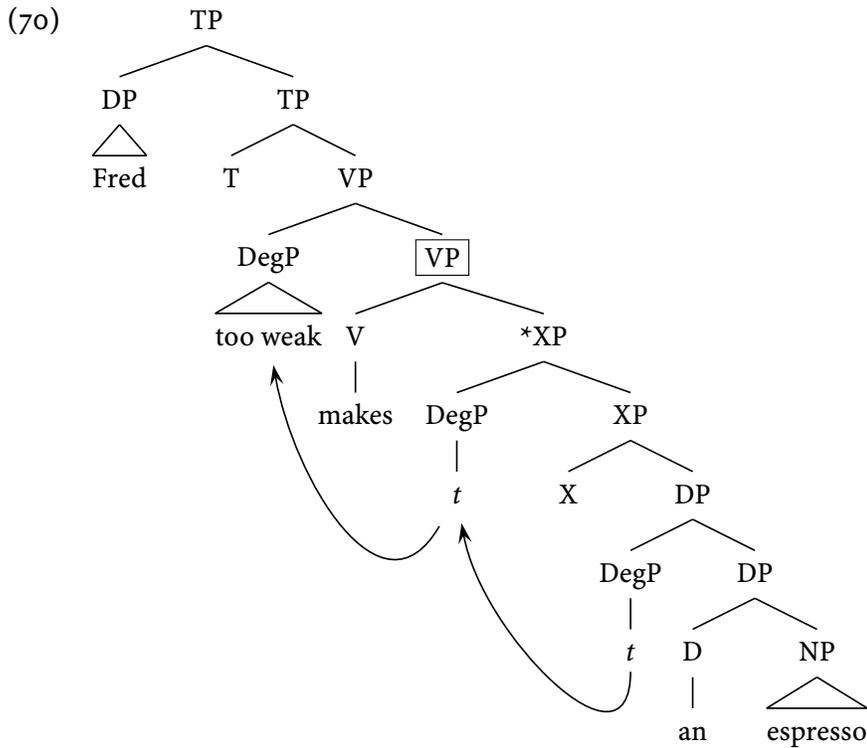


Because what makes xP ungrammatical is the absence of an appropriate lexical item for X^0 , the violation can be avoided if there is a way of neglecting to fill X^0 . Ellipsis is just such a way, and that is why (67) is grammatical.

This account can be imported to (68) if Gapping is ellipsis. We can imagine that the degree phrase moves as shown in (70) on the next page. 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 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 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.

6.1 *Ingredient 1: Phonology prevents the Degree Phrase from moving*

Kennedy and Merchant (2000) is wrong about what allows Sluicing to overcome Left Branch Condition violations. The problem with (66) is not that moving into Specifier of XP isn't available to a wh -phrase in English. This is counter-exemplified by (72), an example they discuss.

(72) Who made how strong an espresso?

(based on Kennedy and Merchant 2000, note 17: 113)

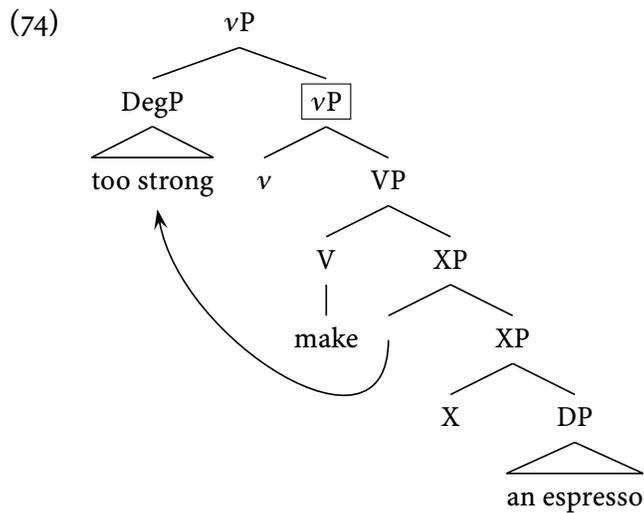
Instead, let us imagine that the problem with (66) is that the syntax-to-phonology rules don't allow a Degree Phrase to be spoken when there is material in the string between it and the DP it originates in. Concretely:

(73) The Deg- XP Adjacency Condition

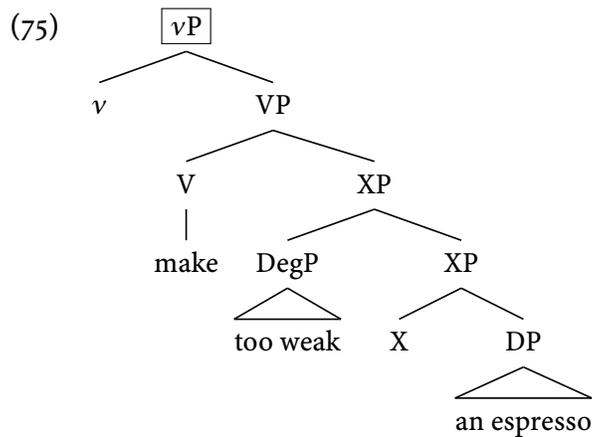
If $DEGP$ merges with XP , and both $DEGP$ and XP are pronounced, then $DEGP$ must be left string-adjacent to XP .

This 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 because of how phrase markers are linearized, 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 Degree Phrase to get separated from its DP in ellipsis contexts. But this would also permit a structure such as (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 DEPs cannot normally be moved out of the XPs they originate in. Instead, the reason Pseudogapping cannot produce Left Branch Condition violations is because 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 boxed vP in this representation doesn't have a sufficiently close meaning to the boxed vP in (74) to serve as antecedent, however. And there is no way to create an antecedent vP with close enough a 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.

Consider first Sluicing. We've 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), 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 it can be shown from other examples 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, as that term in the antecedent. Examples such as (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:

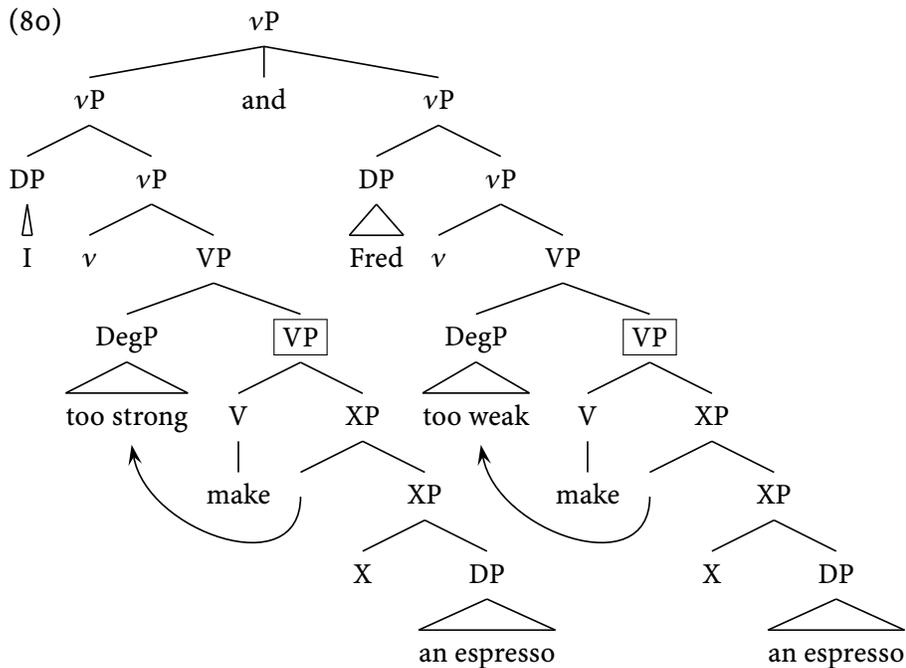
(79) * Sally likes a certain dessert. I won't tell you which dessert I do ~~like t~~ , though.

The difference between *VP* ellipsis and Sluicing with respect to tolerating Left Branch Condition violations, then, boils down to an independent difference these processes have in their 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're 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.

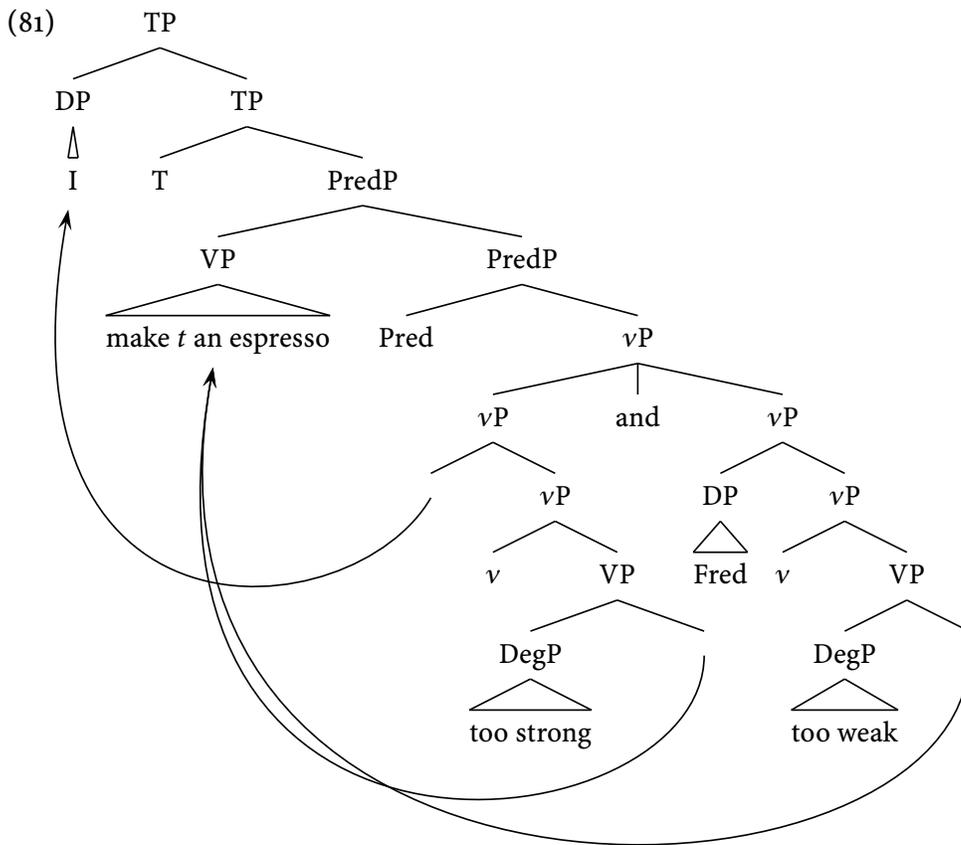
6.2 *Ingredient 2: Semantically Vacuous Movement can repair linearization violations*

The Left Branch violations that Gapping licenses are produced from representations like (80), on the across-the-board account.



The boxed vPs here are identical enough to be susceptible to across-the-board movement, and the stage is therefore set for Gapping.

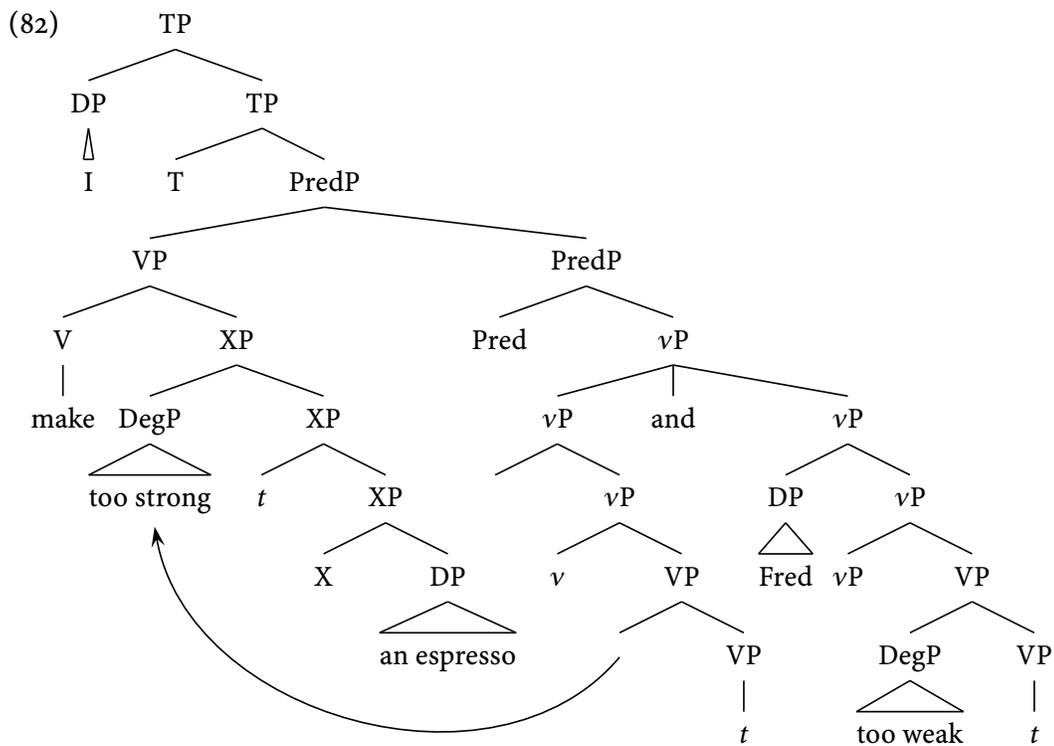
There are violations of the Deg-XP Adjacency Condition in both the first and second conjuncts of (80). For this to surface as a grammatical instance of Gapping, then, requires that there be a method for overcoming these violations in both conjuncts. Consider, then, what will emerge once across-the-board movement of the vPs, and the 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 so 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) argues 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 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 Left Branch Conditions, while at the same time not letting this ability spread to Pseudogapping. It's 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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Notes

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¹There 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).

²This is not completely true, however. We will examine one place where they diverge in the final section of this paper.

³I've 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).

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

⁵See Jackendoff (1971) and Hudson (1976).

⁶An 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*.

⁷See Koutsoudas (1971), Hankamer (1979), Wilder (1994) and Williams (1997).

⁸The 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 being illustrated by these examples is one that prevents an antecedent for a Gap from being embedded relative to the site of conjunction.

⁹My discussion here departs in many details from the proposals in these two works. Coppock is explicit in giving a role to vP Deletion, and shares with Lin the idea that coördinations are small enough to put material that appears to be in the first coordinate outside the coördination. Lin also uses a combination of small coördinates and ellipsis, but argues that the ellipsis process involved is distinct from that found in vP Ellipsis. (For a similar direction, see also Williams (1997) and Ackema and Szendrői (2002).) Her approach will therefore be able to avoid those elements of my critique that target vP ellipsis. On the other hand, it does so at the cost of invoking a new ellipsis process. Another proposal that shares some of the attributes of Lin and Coppock’s is found in Hartmann (1998). She 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 and Lin’s, though the execution has interesting differences. David Pesetsky was the first, I believe, to put the low coördination reduction into my mind.

¹⁰Although, Siegel rejected the conclusion that auxiliary Gapping and “normal” Gapping are the same.

¹¹Something additional has to be said about the cases of Gapping where there is no auxiliary verb, and so no verb movement to T⁰. To cover all the cases, we need to find something that ensures that VP ellipsis always strands a well-formed T⁰. For the narrow range of cases we will examine, (24) will do.

¹²The matter is more complex than this simple example let's on. Siegel pointed 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.

(from Repp 2006, (2a):41)

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 ones in which negation scopes 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, (1):91)

¹³Constructions involving three coördinations raise another issue that is relevant for judging whether Gapping is ellipsis. Coppock 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).

- (i) Wendy is eager to sail around the world and Bruce is eager to climb Kili-manjaro, 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, example (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.

¹⁴See Lobeck (1991, 1999) and Zagana (1988) for justification, and Merchant (2001) for setting this idea in a general theory relating ellipsis with its anaphoric requirements.

¹⁵See Kayne (1994), Zwart (1993), Koopman and Szabolcsi (2000) among many others.

¹⁶That Gapping involves, or is related to, across-the-board movement has several precedents. See, e.g., Goodall (1987), Zoerner (1995) and Steedman (1990, 1996). There have also been a number of interesting applications of the idea that 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).

¹⁷The 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.)

¹⁸Because PredP is situated immediately above vP, the VPs that reside in their Specifier position will have the same position that the VPs which (38) says can be elided.

¹⁹Jason Merchant 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 coördinated. If PredP can coördinate, 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.

²⁰Maribel Romero 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 parses I've provided make available only the second of these readings. The first might involve a derivation in which *can't* moves across-the-board, in the way that main verbs always do. On such a derivation, the modal could plausibly be interpreted in its pre-moved position, and this would presumably include a position in which it would be interpreted within the scope of the *because*-clauses.

²¹ \bar{A} Movement can have this consequence, however: an object, for instance, can

topicalize past a subject. \bar{A} Movement, then, requires derivations different than 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.

²²And see Richards (1997) for the same idea applied to Sluicing.