Syntax 5: Assignment 7

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I. Introduction

The aim of this paper is to account for the operation of gapping. This entails a number of varying problems, depending upon the theoretical framework adopted to (try to) account for the facts. While we'd like to arrive at a consistent, coherent, and complete conclusion, the situation is sufficiently complex that such a goal has proved largely unattainable. Nevertheless, we have picked the most sane of the possible approaches and analyzed their merits and shortcomings extensively in hopes of teasing apart some of the strings from this knot.

In this paper, we will be comparing two main theoretical approaches: an Across-the-Board (ATB) movement-based approach, and one appealing to focus features in order to have gapping applying to constituents despite deleting non-constituents. There are numerous other ways to account for this data that we will not be discussing in this paper, including an approach similar to one taken by Jayaseelan (1990). For an in depth review of such an approach, c.f. Syntax 5 Assignment 6. This paper will instead compare the ATB and focus theories to determine which of these theories works better for explaining the data. Before diving into the numerous problems with each of these, as well as describing the mechanisms involved in them, we'll first lay out a reminder of the basics of Gapping as well as enumerating the specific facts which any analysis thereof must account for.

II. Gapping Basics

Gapping is typically referred to as an ellipsis process that takes place in coordinate structures, deleting all but two of the constituents within the second conjunct. Crucially, the two remnants must display contrastive stress. A typical example of gapping is as follows:

1. I wrote a novel, and Louise _ a play.

Although gapping can take place in more complex sentences, it always leaves behind two remnants that bear contrastive stress.[1]

As gapping is typically taken to be an ellipsis process it would behoove us to ask whether it is an operation that is bounded, able to go backwards, and whether or not it obeys island constraints. If gapping is unbounded, it ought to be able to take place across a number of clauses or across speaker boundaries.

2. *I wrote a novel, and Harvey told me that he thought that Louise _ a play.

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[1] Some people find examples of gapping that leave behind more than two remnants to be grammatical. However, since none of us find these sentences to be grammatical, we have decided not to focus on these sentences in this particular paper.

3. A: I wrote a novel.

   B: *And Louise _ a play.

As both of these sentences are ungrammatical, gapping must be bounded. If gapping is able to go backwards, then the conjunct that contains the two remnants ought to be able to precede its antecedent.

4. *Louise _ a play, and I wrote a novel.

Since this results in an ungrammatical sentence, gapping must not be able to go backwards. This is consistent with our observation that ellipsis processes that are able to go backwards are generally not able to go backwards in coordinate structures. We must then ask whether or not gapping obeys island constraints. This is much trickier to test. Given the fact that we know gapping to be an incredibly *Is this word needed?* bounded process, it is difficult to find many situations in which this could be tested. That being said, we can see whether or not the two remnants can be found within either a relative clause or a complex subject.

5. *Harvey knows a man who likes peaches and Bill _ beans.

6. *That Harvey is an idiot is expected and Bill _ surprising.

The fact that these sentences are ungrammatical shows that gapping obeys island constraints.

     Since gapping is bounded, unable to go backwards, and island sensitive, it is a canonical example of Type B ellipsis.

III. Problems

     Although gapping appears to be a straightforward ellipsis process, there are a number of issues that we will encounter when developing a theoretical account of it, due to the fact that it is Type B ellipsis, rather than Type A.

     The first of these issues, is that gapping does not delete a constituent. There is no situation in which gapping could delete an entire constituent. For instance, in the sentence:

1. I wrote a novel, and Louise _ a play.

In this example of gapping, the T, v, and V of the second conjunct were deleted. If this were to be analyzed as constituent deletion, then at the very least an entire TP would have to be deleted. However, this would be extremely problematic as the two remnants should both originate within that TP. Consequently, we must either assume that gapping is an operation that does not delete a constituent, or that both of the remnants are moved before constituent deletion takes place, in which case it would be something more akin to Type A ellipsis processes in that it would be head licensed. That being said, it is important to recognize that even if gapping were to be analyzed as a head licensed process, it would still differ from Type A ellipsis in a number of ways. Namely, Type A ellipsis processes tend to be unbounded, able to go backwards, and insensitive to island constraints. Gapping is none of these things.

     The second issue that we must consider is the fact that gapping is not head licensed. If gapping does not delete a constituent, it cannot, by definition, be head licensed, as a licensing head permits the deletion of its complement, which will always be a constituent. That being said, under an analysis in

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which the remnants were moved before constituent deletion took place, it would be possible to have a licensing head. Although the presence of a licensing head would be permitted under some possible theoretical approaches to this problem, it is still unclear what that licensing head would be, and how a theory would prevent that licensing head from permitting constituent deletion before the remnants move.

   The third issue to consider is that of the remnants left behind by gapping. Specifically, we must determine whether or not there are any restrictions as to what can be left behind as a remnant. A remnant can either be an argument of the verb, or a temporal adjunct, but nothing else.

2. I ate an apple, and Joe _ a pear.
3. I gave a daffodil to Molly, and _ a lily to Sue.
4. Today I'll drive to work, and tomorrow _ bike _ .

Sentences 2 and 3 illustrate that the two remnants can be any argument of the verb: subject, direct object, or indirect object. Sentence 4 shows that a temporal adjunct, such as *today, tomorrow, right now, next year*, etc. can also be a remnant. Besides the fact that the two remnants must be either arguments of the verb or a temporal adjunct, it's also the case that there must be contrastive stress between the two remnants and their correlates in the antecedent conjunct.

5. *I ate an apple, and I _ a pear.
6. * I ate an apple, and Joe _ an apple.
7. * I gave a daffodil to Molly, and _ a lily to Molly.
8. *Today I'll drive to work, and today _ to the store.

The ungrammaticality of sentences 5 through 8 is due to insufficient contrast between the remnants and their correlates. The remnants that are left behind must be contrastive to their correlates in the preceding conjunct, whether that concept is encoded in a feature, such as [+contrast], or in some other way, it must be encoded in the grammar.

   Now that we have determined what elements can be left behind by gapping, we must consider what gapping takes with it. Namely, we must determine what is deleted by gapping. The short answer to this question is that everything in the second conjunct that is not marked out to be one of the remnants gets deleted. While this is most certainly true, it is also incredibly vague. Although there seems to be no good definition for what precisely gets deleted, it is always the case that all of the elements that are deleted are identical to their correlates in the first conjunct. Additionally, the C, T, Asp, v, and V of the second conjunct will, without fail, get deleted.

   An issue which rears its head in examples 9 through 11 (and which is exemplified later in 12) is that of the can't-seem-to puzzle, and of scoping in conjuncts. A typical example is shown below:

1337. Sam can't seem to get his life on track.

Here, there's an otherwise inexplicable theta role being assigned to Sam. The reading is that Sam is not capable of getting his life on track. We suspect that this abilitative is related to the deontic 'can' as below:

1338a. Medications based on synthetic opiates can be dangerous and fun.
1338b. Bill can drink six bottles of Robitussin without going crazy.

In (1338a), there is no notion of animacy or capacity being assigned to the subject; dissimilarly, Bill is read as having the capability of Robitussin-drinking. Our analysis of this phenomenon is not actually necessary to explain the facts as seen above, but we do have to say that any ,,. *?*

That said, a fledgling analysis of the phenomenon would be to claim that there is a head in the downstairs clause of (9) which intervenes between the T and the V(or v, if you like those things), just as might an auxiliary and much like a modal verb would in any Latinate or Germanic language. When Sam is brought up from the downstairs clause, and here's the tricky part, that abilitative head and its associated Neg move up with him to take scope over the whole lower clause (as well as *seem*). It then gets pronounced as 'can' (after moving to T, perhaps by way of a similar though vacant Abil head) since English doesn't have a VI entry for abilitative auxiliary; thus, an under- (or over-?)specified feature bundle would just be pronounced "can't". The specifics of the analysis don't actually seem to matter here, though: either a relationship is binding down *into* both conjuncts, or is raising *out of* both; either way, we have a new reading in, eg, (11), where the *can't*-ness is definitely a part of the second conjunct without appearing to be so on the surface. This is discussed somewhat more in the ATB section.

11. One person can't get all the money and everybody else nothing.

The reason that this is important is that it gives us some explanation of the phenomena seen in section II. (9) is a relatively easy-to-explain (though extremely interesting) case of this: Since 'few' appears to be across-the-board moved (at least in scope) out of the sentence "Few dogs eat Whiskas or cats Alpo," we are unsurprised to find that the vocabulary item used in coordination is *not* the 'and' that one might expect[2], but rather a DeMorgan-ified 'or'! This shows that the negation has moved up out of (or is being mapped down into) both conjuncts[3]. Semantically, this would be modelled something like (1339) below.

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[2] Assuming the reading "Few cats eat Alpo and few dogs eat whiskas."
[3] Basically, everything in the first conjunct appears to have a command relationship with everything in the second. Similarly, we can test this with strong NPIs as in "Few cats ate any Alpo, nor dogs any Whiskas."

1339a. map(few, map(\x.eat'(x, whiskas), {x|x ← {cats, dogs}})))

1339b. "Map the quantificational relationship 'few' onto the set of elements yielded by mapping the lambda expression 'eat-whiskas' onto the set of variables such that those variables refer to cats, dogs."

Obviously, a semantically minded and LF-sensitive treatment of some, if not all, of these phenomena would be beneficial. We'll strive to keep this in mind as we go forward.

IV. Possible theoretical approaches

Now that we have established the various issues with respect to gapping that must be addressed, we can consider possible theoretical approaches to the problem. Due to the complexity of the operation, it is difficult to determine which theoretical account explains the data best. For this reason, we will be comparing an ATB and an ellipsis based approach and we will explain to the best of our abilities the strengths and weaknesses of each theory. These theories are further discussed below.

V. ATB

The Across the Board theory we are presenting is greatly inspired by Kyle Johnson's paper, *Gapping is not (VP) Ellipsis*. ATB movement does not involve any type of deletion. Instead, the coordination occurs at the vP level, moving any identical material into the H-head which selects for the coordinated vP structure. ATB movement would account for example (1) as follows:
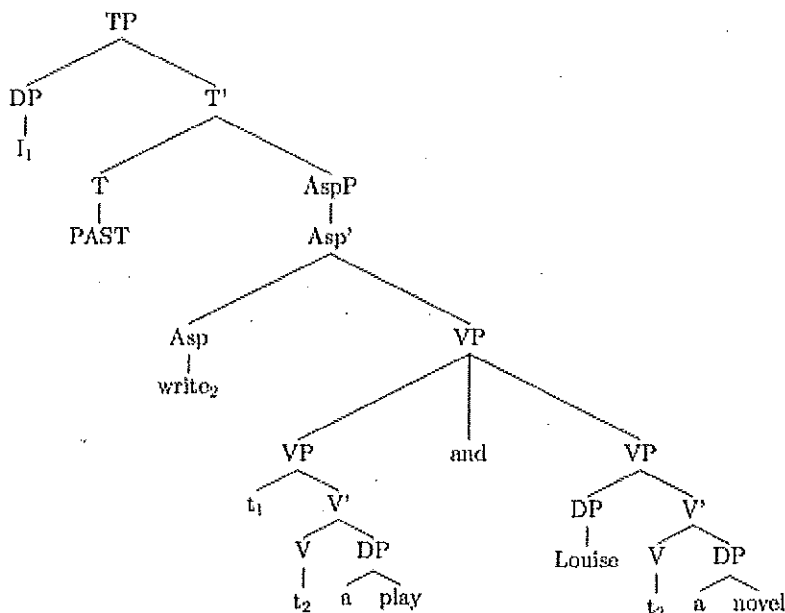
When we witness two separate external arguments, only the leftmost raises into spec TP, leaving the

remnant in its original structural position as specifier of v^4. We operate under the assumption that since T selects coordinate vPs, T can assign case downward to both of them at the same time. As displayed by the structure, there isn't a deletion process in gapping; *Write* originates in both VP coordinates.

This is motivated by introducing a new functional head, H (which is equivalent to "Asp" in the above tree), that c-commands the coordinated vP and is c-commanded by the T head. When H is present, it searches within a vP coordinate structure for nodes with identical features. Once identical nodes have been found, both are pulled out of the coordinate structure and into H, merging to form a single head. This is the basis for our ATB theory. If identical nodes are not found, we will say that H does not do anything. Notice that the advantage of this is that it codifies the fact that the remnants must be contrastive in gapping.

Alone, it overgenerates wildly however. For instance, if the sentence at hand is,
(2) "Bob broke his$_i$ vase and Mary broke his$_i$ vase."
H would raise the main verb, find that "his vase" in the second conjunct has a correlate in the first conjunct, and give us the sentence *"Bob broke his vase and Mary." (H, we must claim based on examples (6) and (7) below, can raise more than one thing from a gap clause.) The latter sentence is ungrammatical in case it is supposed to be interpreted as Mary having broken the vase in question as opposed to Bob having broken Mary. We could restate this objection to be that H codifies the necessity of the remnants being contrastive, but it does not guarantee the minimal number of remnants required in gapping constructions. Indeed, H does not guarantee that there will not be a thousand remnants in the second conjunct. In order to rule out the above example, we would have to posit that H cannot raise constituents that are coreferent (though it raises constituents that are identical at the feature level and not coreferent). Furthermore, we would have to argue that H only selects coordinated vPs that are transitive. Ideally, this would prevent sentences like (2) from being generated, as well as other possible cases such as "Bob swam and Jill swam," from becoming *"Bob swam and Jill." Beyond this, we believe that an ATB movement theory of gapping cannot succeed in making sure that exactly two remnants must exist in the gap clause after ATB movement. We concede that this is a serious defect of the ATB movement approach to gapping.

When we look at examples with three remnants, the same results are found. In the example *I gave a daffodil to Sue, and Jorge a lily to Susan*, *gave* is able to escape both VPs through H-raising. Since all other information lacks an equivalent, nothing else is able to move out of the coordinated structure with the exception of the leftmost spec v. The following data set will further investigate the Across the Board hypothesis, examining if it is a viable candidate to be accepted into our grammar.
(3) I wanted to try to begin to write a novel, and Bill _ a play.
(4) We persuaded Louise to kiss a toad, and Mary _ to swallow a goldfish.
(5) Today I'll wash the car and tomorrow _ the tractor.

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[4] We are aware that this is not compliant with Ross's coordinated structure constraint. However, we will choose to forget CSC in the presence of gapping, that is when H selects for a coordinate structure.

ATB has no problem generating examples (3) and (4). However, when we try to account for (5) using ATB, we need to make an adjustment to our accepted placement of temporal PPs. Currently, Temp PPs adjoin at the TP level causing a ripple in ATB. Because the coordination is applying to the vPs, and we see a temporal P within this vP, it is impossible for tempPP to adjoin at the TP level. Therefore, we will adjust our current speculation to left adjoin TempPPs to the vP at DS. In the case of (5), *Today* must raise to adjoin to TP otherwise we would generate *I'll wash today the car and tomorrow the tractor*. This movement is obligatory with any null spec vP. Thus, the following constraint will be added to our ATB grammar:

 * TempP t   Isn't this related by (5)?

(6) Bill thinks Barry should be fired and Tom _ Martha _ .

(7) I'll send my nephew to Greece right now and _ my niece _ next year.

Examples (6) and (7) present a problem for the ATB hypothesis. Let us first examine the structure of (6), mid-derivation.
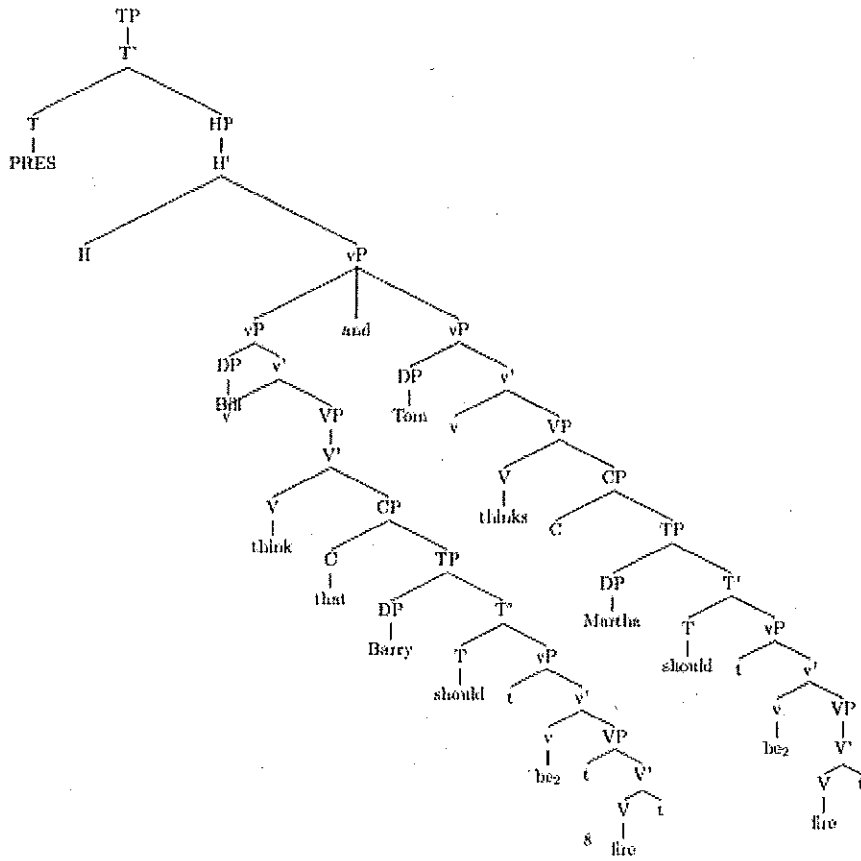
As we can see, more than just the verb needs to move out of this structure. In (6), *Tom* is the external argument of *think*, meaning that *think* ought to be one of the verbs that raises to the matrix clause in this

construction. If only *think* were to raise, assuming A movements have occurred, we would be left with the sentence *"Bill thinks Barry should be fired and Martha Louise should be fired."

Several different approaches to dealing with the CP in the second conjunct present themselves. On the one hand, raising "should be fired" via ATB movement might not seem very appealing. Certainly, allowing this to happen would make our approach to gapping for sentences like the above much less elegant than our previous analyses. However, the alternatives are limited. Claiming that no such CP exists in the second conjunct from the outset would give us no position from which to raise"Martha" while getting the passive interpretation of the gap that we do. Claiming a deletion process gets rid of the remainder of the CP is not appealing either, since we currently have no elision process that gets rid of material at higher than the VP level and *should* is in T position, we would have to introduce a new transformation to accomplish this. Since as 6 shows, wherein the second gap corresponds to an indirect object rather than a T', this new transformation would not be able to account for all cases in which there is a second gap, this transformation would be ad hoc and of limited utility. For this reason, we are backed into claiming that there is additional ATB movement that takes place in the sentence.

There are two challenges to providing an ATB account for sentences (6) and (7), neither of which an ATB account succeeds in solving. The first is that we must make sure the second constituent under identity has somewhere to raise to. Given that H raises verbs to adjoin to it at the head level, given that we can't adjoin maximal projections at the head level, and given that maximal projections such as TP and PP are being raised in (6) and (7), we will claim a second raising operation by H moves the constituent to SPEC H. In (6), however, if we were to raise "should be fired" to SPEC H and "think" to H, we would generate completely the wrong word order. This could only be partially remedied if we claimed that H can iteratively select for an HP in whose SPEC "should be fired" can raise. However, there is no reason as to why the higher H can't have "should be fired" in its SPEC and select an HP to whose head "think" adjoins.

The second challenge is in explaining what things get raised and which do not. Given that H raises elements that are identical at the feature level, we assume that *to Greece* is raised in example (7) because this constituent is identical with a correlate at the feature level. However, "should be fired" in (6) is a T'. *Martha* is in its SPEC, and Martha cannot raise. Unless we were claim a T' can raise to the SPEC of H, it is difficult to see how a raising operation can take care of everything in TP except for the T SPEC.

These are both failures of the ATB movement approach to gapping. However, the ATB movement approach to gapping makes consistent and correct predictions for many other kinds of examples.

(8) *Harvey knows a man who likes peaches and Bill _ beans.

ATB effectively disallows the generation of (8). We already know that relative clauses form islands. In order for (8) to be generated, ATB needs to move material out of both relative clauses, thus

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causing the ungrammaticality of (8) and not allowing for its production.

Note that "Harvey knows a man who likes peaches and Bill _ a man who likes beans," is grammatical. ATB movement of the main predicate here would be accounted for within our theory.

(9) *That Harvey is an idiot is expected and Bill _ surprising.

ATB also properly rejects the generation of (9). Because ATB requires coordination at the vP *Why?* level, coordination is not licit in (9). In order to see this more clearly, let us look at the DS: _ *is expected that Harvey is an idiot and _ surprising that Bill is an idiot.* (9) is easily refused because of the mismatch of the syntactic categories to which *expect* and *surprising* belong. *Expect,* being a verb and *surprising* being an adjective cannot be coordinated, therefore ATB does not allow any form of gapping in (9). *If is expected that you will turn in your homework on time and*

In addition, the following three sentences have been seen as providing a problem for a deletion account of gapping: *surprising that you might think otherwise.*

(10) Few dogs eat Whiskas or cats Alpo. *Sounds pretty good to me.*

(11) Harvey can't live in New York and his wife in Chicago.

(12) One person can't get all the money and everybody else nothing.

The available interpretation of (10) is 'Few dogs eat Whiskas and few cats eat Alpo'. Even though there is no overt quantifier in the right conjunct, it is clear that 'cats' is bound by 'few'. The interpretation 'Few dogs eat Whiskas; cats eat Alpo' of (10) is impossible.

In a deletion account of ellipsis, it would seem difficult to claim that *few* exists in the D-Structure of the second conjunct in (10) because of these limitations on interpretation, and that it is somehow deleted. Because we believe that there is coordination at the vP level and that "few dogs" raises from the first conjunct such that it scopes over both clauses, this is not a problem for an ATB account of gapping.

In (11) and (12), both the modal "can" and the sentential NEG are scoping over the coordinated vPs in D-Structure. This effectively rules out readings in which only the first coordinated vP is negated. Few would paraphrase (11) as meaning that Harvey can't live in New York and his wife can live in Chicago or (12) as meaning that one person can't get all the money and everybody else can get nothing. Because the negation c-commands the coordinated vPs, this also explains how two readings are possible in (11) and (12), though one is dominant for each. Though most of the authors of this paper get a reading for (11) in which Harvey can't live in New York nor can his wife live in Chicago, there is a second possible reading in which Harvey can't live in New York while his wife is living in Chicago. Both of these types of interpretations exist in (12), though the dominant and subordinate readings are switched. A deletion account of gapping would have to predict that there is some form of identity between the first and second conjuncts whereby either of these interpretations is possible. In (12), the D-Structure would have to be "One person can't get all the money and everybody else can't get nothing," as well as a different D-Structure for the more dominant paraphrase. It is not clear that syntactic identity could exist between the two conjuncts while preserving the identity condition that must

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exist for gapping to be licensed. If "One person can't get all the money and everybody else can't get nothing at the same time," was the D-Structure, or even something cleverer, there would not be syntactic identity and gapping would not be licensed. Fortunately, because both *can* and the negation scope over each conjunct in an ATB account of gapping, and because we can semantically parse each respective interpretation from the different ways negation and modality interact with a coordinate structure, this is easily accounted for within an ATB account of gapping.

But you have acknowledged that this structure must land here. What about that?

In conclusion, an ATB account of gapping would involve a new functional head, H, which is the landing site for a raising operation undergone by constituents from a two conjuncts of a vP coordinate structure that are in syntactic identity with respect to features. While this account deals quite well with semantic scope relations that a deletion account of gapping would struggle to handle, it is not as successful when addressing examples in which multiple constituents are raised to H.

VI. Ellipsis Theory

a. Intro

In this section, we will begin to explore the process of Gapping, in which we will discuss an overall general deletion process, how the identity condition is formulated and a brief discussion of the quantifier scope facts.

b. Deletion in Ellipsis Phenomena

One goal of this approach is to unify all ellipsis processes to some extent. While it is clear that the identity condition for ellipsis processes varies, it may be possible to treat all deletions the same. Different ellipsis processes will license ellipsis in different ways, but once an ellipsis domain has been identified, the way in which ellipsis affects that domain is the same. At least, that is what this analysis proposes.

For VPE, that domain is a VP. The deletion is characterized in the following way: delete anything that is not new information. Nothing is ever new information in an elided VP, except in the case of partial VPE. In partial VPE, certain constituents can survive deletion if they are different from the constituents in the antecedent VP. The notion that becomes difficult here is what makes something "different". In this analysis, we will make use of "contrastive stress". Contrastive stress marks an element as different, and in the case of VPE allows it to be a remnant of the deletion. While VPE usually elides a full VP, in some cases contrastive stress allows constituents to survive deletion:

(501) Mother hasn't baked the pie, but she has __ the potatoes.
(502) Johnny doesn't seem to like his girlfriend, but he does __ his teacher.

Analyses on this phenomenon vary, but we will adopt the view that the remnants do not move. They do not need to escape the ellipsis site; rather, the ellipsis needs to be such that it preserves contrastively stressed elements. One way to achieve this is to analyze ellipsis not as deletion, but a silencing of elements, or any other method that does not involve erasing the entire structure. With a "silencing" analysis, for instance, contrastively stressed elements could be marked with a feature that forces their phonological realization, despite having been targeted by ellipsis.

[margin handwritten note: Interesting when?]

 This approach works for sluicing, as well. Without the need for elements to escape the ellipsis domain, it cannot be clear whether sluicing targets TP or CP. If it targets CP, the WH element will still be able to survive. An elision that allows elements to survive is needed for sluicing anyway, because stranded prepositions do not get elided:

(503) Mary was arguing, but we don't know who with.

"With" is the P of the PP "with who", stranded after WH-raising. The default assumption is that "with" never moves; this is the case in a unsluiced sentence such as:

(504) Mary was arguing, but we don't know who she was arguing with.

Thus, in order to get "with" to escape the ellipsis site, there would need to be an operation that moves the stranded preposition only when sluicing occurs. The analysis that allows contrastively stressed elements to survive ellipsis does not run into this problem.

 Now to look at how this analysis of ellipsis deals with gapping. The identity condition for gapping under this analysis is detailed in the following section, but take into consideration the basic form of a gapping sentence. Gapping deletes pretty much everything, leaving only 2 remnants. These remnants quite clearly do not need to form a constituent, thus the only way to achieve a constituent-eliding analysis would be to have the remnants escape the ellipsis site. This would require a special kind of movement that occurs only when gapping does, and such an approach is what we aim to avoid with this approach. Instead, remnants in gapping survive ellipsis because they are contrastively stressed. This is necessary: non-new elements cannot be remnants in gapping:

(505) Sally baked a pie this morning and [a meatloaf] [this afternoon].
(506) *Sally baked a pie this morning and [a meatloaf] [this morning].

[handwritten checkmark in margin]

Thus, the deletion process in gapping can be accounted for by requiring that everything but contrastively stressed elements be deleted. This is the same story that we have told for VPE, partial VPE, and sluicing. Contrastive stress is only applicable to new information. The requirement for there to only be 2

[handwritten note at bottom: Interesting. This approach might shed some light on why Sluicing only happens in Sprouting cases: She want to the movies, but we don't know who with. / with someone / who (with)]*

such elements is relation to the identity condition for gapping, which sets gapping apart from other ellipsis processes.

With this approach we hope to better unify ellipsis processes. Our claim is that all deletion in ellipsis processes is the same. How ellipsis varies is in how it is licensed. Licensing for ellipsis involves meeting the identity condition, which is different for each phenomenon. *Tell how.*

c. Identity Condition

While our analysis unifies ellipsis processes on the basis of the actual deletion process, it is necessary to distinguish each phenomenon based on when it can occur. This is the identity condition of the phenomenon. For instance, and without going into great detail or precision, VPE requires a VP as the domain for ellipsis, and for that VP there must exist an identical (again, without going into great detail) VP as its antecedent. Roughly the same is true for sluicing but with CP's, and the ellipsis domain CP must contain a WH word. *Why no sluicing in Relative Clauses?*

For gapping, there are three requirements:

1. There must be coordinated CP's; target domain is second conjunct
2. At least two contrastively stressed elements in the second conjunct
3. All other elements must be identical.

As part of the identity condition, there are four main points worth discussing, which include the overall structure of Gapping in relation to coordination, identical verbal elements, contrastive stress and its relation to new information.

We are assuming that the overall structure of coordination in regard to Gapping is a CP. We *Why do you assume it?* assume that conjunction is coordinating two CPs rather than two VPs, because of the following sentences.

85) I didn't give the ball to Sally nor did I give the bike to Jim.

86) *I didn't give the ball to Sally nor I did give the bike to Jim.

87) I didn't give the ball to Sally nor the bike, to Jim.

In these sentences it's clear that we have a CP structure, because example (85) shows that there is T-->C movement, otherwise it's ungrammatical, as in example (86). Moreover, if Gapping was only coordinating over VPs, then we would have a difficult time explaining the facts attested in example (85-87). Additionally, the second part of the identity condition for Gapping requires both of the verbal elements to be the same. For example, "I gave the ball to Sally and the bike to Jim," cannot *interpret* the missing elements in the second conjunct to be anything else other than "...I gave..." In fact, if the second conjunct had a different element, then Gapping couldn't occur, since there isn't a strict verbal identity. For instance, the sentence "*I gave the ball to Sally and [I sent] the bike to Jim" is ungrammatical with regard to a different verb in the second conjunct and trying to Gap that verb. Therefore, Gapping must have two identical verbal elements in order to the silence or deletion to occur.

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I guess I should tell you about N-gapping.

Contrastive Stress

      Contrastive Stress seems to be just another name for focus and not a restriction on Gapping. For example, one can find contrastive stress outside of a Gapped clause, such as the following examples demonstrate.

88) A: John went to the park.

B: No, *Bill* went to the park.

89) A: It was Sandra who ate our cookies.

B: No, It was *the large, black dog* that ate your cookies.

90) A: Who ate the pie?

 B: *John* ate the pie.

      In all three of these examples, it can be seen that the contrastive stress can appear outside of a coordination structure, in which it is probably a general property of the Grammar, rather than just a constraint upon Gapping. However, the two remnants in Gapping *must* bear contrastive stress in order to survive the elision process and this seems to be the case for most of the examples in the assignment. Moreover, there is a further constraint about where contrastive stress can appear. For instance, neither the antecedent nor the stressed element can be embedded, as seen in examples (7) and (8)..

(7) *Harvey knows a man who likes peaches and Bill __ beans. *[handwritten: There's an island here.]*

[handwritten: Harvey likes there are wolves in the mountains and Bill __ complex __ .]

(8) *That Harvey is an idiot is expected and Bill __ surprising.

[handwritten: Again, an island.]

      Additionally, it needs to be stipulated which elements can take this contrastive stress marker, which seems to be at least anything in the DP domain, such as APs or NP, VPs can take contrastive stress, as the following demonstrates.

91) A: Was it the tree that fell?

B: No, it was *the building*.

92) A: Did the gray squirrel steal your peanuts?

B: No, it was the *albino* squirrel that stole my peanut.

93) A: Did the woman break the table?

B: No, it was the *man* who broke the table.

94) I want to go swimming, but Mary wants to go *skiing*.

      However, it is not the case that contrastive stress can appear with any element, notice the following CP examples. *[handwritten: Huh?]*

95) John knew that polar bears are tall and Betty that the name of Earth's moon is Luna.

96) *Miguel wondered if Team Fortress 2 would run on his

[handwritten: There's nothing wrong with these sentences.]

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[handwritten: Maybe my ear has gone bad, but I don't think so.]

computer and Sandra if video games were taking over her life.

97) *Sandra said that she isn't going to the party and Paul that Stephen is giving him a ride.

Examples (95-97) show that one of the remnants in Gapping cannot be an entire CP, because CPs cannot take contrastive stress. Yet, on the surface it might seem that way, as in example (3).

(3) We persuaded Louise to kiss a toad, and Mary to swallow a goldfish.

In this example, there are at least two remnants, namely the DP *Mary* and the TP *to swallow a goldfish*. Since this structure meets the requirements for Gapping, the elision process can take place eliding *we persuaded*. Moreover, example (3) has to be analyzed as two remnants; because that's one of the basic requirements for Gapping that it must leave behind at least two remnants.

Finally, it should be stated that the information in the second conjunct in Gapping must be 'new' information, as the following examples illustrate.

98) *The fat cat slept on the bed and the owner, on the bed.

99) *Tomorrow I will wash my car and tomorrow the tractor.

100) *I gave the ball to Sally and the ball to Jim.

In all of three of these cases, contrastive stress is trying apply to the old elements in the second conjunct. However, the stipulation is that contrastive stress can only appear with a new element; moreover, that element cannot be embedded, as in example (7). Additionally, it must also be stipulated that for examples such as "the woman ate pie and the man, cake," the determiner in the second conjunct has to remain, despite the notion that it's considered to be 'old' information. In fact, it would be ungrammatical to omit the determiner, "*the woman ate the pie and man, the cake." This is probably due to the fact that singular count nouns in English require the determiner and that it cannot be considered to be old information, but rather it is considered to be new information. Thus, the identity for Gapping requires at least a CP coordinator, identical verbal elements, two remnants bearing contrastive stress, and for those remnants to be new information.

[margin handwritten note:] Determiners are neither new nor old. There's not information in them.

d. Quantifier Scope and such (9)-(11)

In this subsection, we will discuss how the scope facts are explained in the ellipsis theory. We will first determine that gapping operates in a different structure than pseudogapping and that generates the scope facts found. Secondly, it seems quantifiers, and not determiners, allow this scope data. This bears crucially on the identity condition because under our story, this means that QPs aren't being selected for by gapping. DPs and PPs are. There will be some slight problems about that that will be addressed further in the questions section. The main data under investigation here is (9)-(11):

[handwritten note:] Heads select for their arguments. I don't know what it means to say that a process selects for something.

*But that's not what
it means !*

(9) Few dogs eat Whiskas or cats Alpo.

(10) Harvey can't live in New York and his wife in Chicago.

(11) One person can't get all the money and everybody else nothing.

      Let's start with (9). In (9), *few* is able to scope into the other coordinate, which means that (9) means *Few dogs eat Whiskas or few cats eat Alpo*. But how does one get *few* to scope down in there? Similarly, (10) and (11) have sentential negation scoping into the right coordinate. One could say this is a general property of coordinate clauses: the subject of first coordinate in coordinate clauses takes scope over the whole coordinate clause. But this can't be the case. If you minimally change (9) to a pseudogapping example, you no longer get these scoping effects:

(9') *Few dogs have eaten Whiskas and/or cats have Alpo.   *Nice observation.*
(601) Few dogs have eaten Whiskas and/or **few** cats have Alpo.

      As you can see in (601), you need to say *few* to get the lower subject to get the meaning of *few cats*. Why do these scope facts work with gapping and not pseudogapping? The answer that we will adopt is that the structure for pseudogapping is different from the structure for gapping and that causes the difference. Contrary to the ATB theory, the ellipsis theory will be assuming coordinated CPs. But we should consider whether coordinated vPs works better. The schema is as below:

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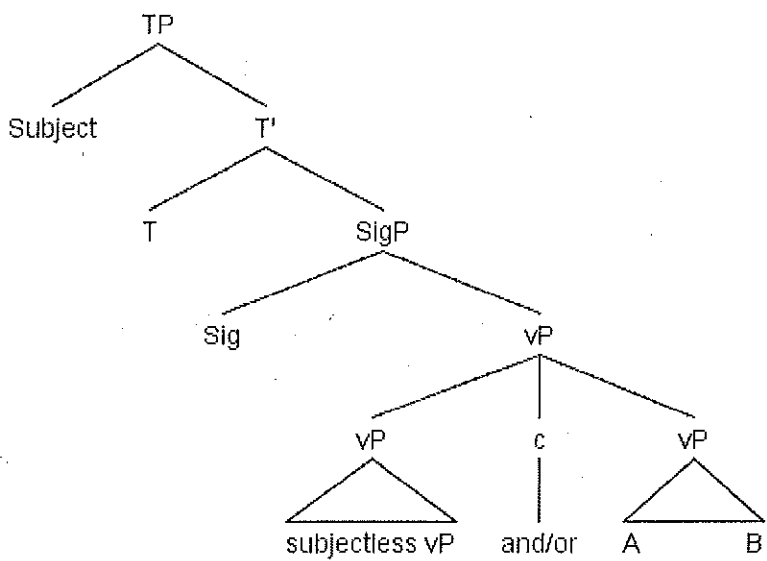
There are some advantages and disadvantages to choosing this structure. The biggest problem with this structure is that you need to violate the CSC (coordinate structure constraint). That will be taken up in a little bit. One really good thing about coordinated vPs is that it successfully gets the quantifier scope facts. The subject raises out of the first conjunct and is able to take scope over the whole coordination. Secondly, this does well for the sentential negation scope facts too. The sentential negation is above the coordination and this structure can generate those facts. There's a third good thing, but since it involves questionable grammaticality judgments, be wary.

Not true.

This third good thing involves case in English. Case in English shows up on pronouns. Pronouns usually can't get stress and thus are difficult to gap. But there is a case where pronouns can get stress. The problem with pronouns getting contrastive stress is that pronouns are a variable that refer to a contextual entity. When you contrast two things, you seem to need to specify exactly who/what you are talking about and since pronouns are variables, their ability to be ambiguous breaks the exactness requirement of contrastive stress. But, if you point at a person in your context while you say a pronoun, you can get a contrastive reading. Compare (602), (603), and (604), all responses to speaker A's sentence:

A: Sally ate the hamburger.
(602) B: #No, he ate the hamburger.
(603) B: #No, he$_F$ ate the hamburger
(604) B: No, he$_F$(--->) ate the hamburger.

Here, subscript F means that element has focus stress and (--->) means the speaker is pointing at an appropriate individual at the time of saying *he*. If these judgments are correct, then contrastive stress is allowed on pronouns in with both F and (--->). This means you can test for the case in gapping.

I wanted to try to begin to write a novel, and ...
(605) #he$_F$ a play.
(606) #he$_F$(--->) a play
(607) #him$_F$ a play.
(608) him$_F$(--->) a play

Nice observations.

In (605)-(608), all continuations of the sentence above, only (608) seems to be grammatical. These judgments are tough, but if true, they bear incredibly on the question of whether or not gapping coordinates vPs. The biggest way in which it relates is that the subject of the second conjunct gets ACC case. If two TPs were being coordinated, then we would expect the subject of both clauses to

Don't you know a better adjective?

get NOM. If the subject of the embedded clause gets ACC case, then vP coordination looks better. T probes down, finds the subject of the first conjunct, gives it NOM and raises it up while ignoring the other conjunct. This means the CSC seems to be violated in the way the vP coordination story needs for the vP coordination story to work.

The question comes up: if one doesn't want to violate the CSC, what other way can one get this difference between gapping and pseudogapping? Look at (602):

(602) John ate pie and Molly a banana.

In (602), the subject is able to move out of the left vP without an identical correlate moving out of the right vP. As I said before, it can't just be some restriction on how coordination works in general. If you have a process of quantifier raising, then could these facts be obtained because the first coordinate is higher in the structure and the quantifiers see that in their scope domain first? Maybe you could have a binary CoP and have the first coordinate be in spec CoP? This is a possible way to avoid the CSC violation. But the veracity of a CoP is dubious as the CoP still has to appear in all the places you'd expect the two coordinates to show up. If you try to extend CoP to other languages, you run into problems. Trying to do CoP for a SOV language like Japanese would suggest the CoP should be [XP XP Co]. But you find [XP Co XP] (*Takeshi to Michiko*). The facts about 'neither, nor' from the last section need to be further examined but until these problems are dealt with, a violation of the CSC seems like a better option. *Anyway, you'd have a violation of the constraint against moving out*

So if the CSC violation is better than other options, then coordination of vPs is part of the *of speakers.* identity condition for gapping. But this quantifier data has other interesting implications for an identity condition for gapping. Notice the difference between quantifers and determiners in gapping. Compare (9) and (603/604):

(9) Few dogs eat Whiskas or cats Alpo.
(603) The dog ate biscuits and the cat cheese.
(604) *The dog ate biscuits and cat cheese.

Interesting.

There needs to be some sort of restriction that forces you to say *the* in (604) to mean *the cat*. This restriction must be for determiners, but not for quantifiers like *few*. The way our theory deals with this data is by saying that the remnants being selected for gapping are DPs and PPs (possibly KPs), but crucially not QPs. This explains the difference between quantifiers and determiners in respect to gapping. A possible problem with this will be brought up in the questions section.

Overall, the scope data shows that we need a different structure for gapping as compared to

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pseudogapping and we need gapping to be selecting DPs and PPs, not QPs.

e. Questions/wrap-up/conclusion

A big question that remains is what XP is being coordinated. One of the authors in the section seemed to prefer CPs but another prefered vPs. That conflict needs to be resolved.

A question that remains is do all quantifiers in the subject of the first conjunct scope over the second conjunct? We saw before that quantifiers like *few* and sentential negation are able to scope in exactly this way.

(9) Few dogs eat Whiskas or cats Alpo.
(10) Harvey can't live in New York and his wife in Chicago.

We also saw that determiners were not participating in this scoping:

(9) Few dogs eat Whiskas or cats Alpo.
(603) The dog ate biscuits and the cat cheese.
(604) *The dog ate biscuits and cat cheese.

A nice observation.

Especially for examples like (605), you want determiners to be scoping in general:

? What does that mean?

(605) Every boy ate from a cake.

So we said that the identity condition for gapping took DPs and PPs as remnants. But it's not this clean. Some quantifiers seem to be acting like determiners in needing to be pronounced in the second conjunct:

(606) All dogs go to heaven and all cats to hell
(607) *All dogs go to heaven and cats to hell.
(608) Some dogs go to heaven and some cats to hell.
(609) *Some dogs go to heaven and cats to hell.

More nice observations.

Why *some* and *all* are patterning with determiners and not with *few* is a fascinating, but difficult question.

Fascinating. Should be worked on. Nobody else knows about this.

VII. Conclusion

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We have just considered several different solutions to the problems presented by gapping. In an ATB account, there is a functional head H that raises elements from each conjunct that are under syntactic identity. This head forces the contrastive stress be on the remaining remnants and this H head only moves up coreferent things. Unfortunately, this theory fails to give a reasonable account for why any number of remnants can't exist in a gap clause. Furthermore, it isn't optimal for addressing cases in which multiple ATB movements to H have to be posited.

In an ellipsis account of gapping, there is a silencing of all elements in a gap clause that are not under contrastive stress. The identity condition for this silencing/deletion process is characterized by a requirement that there be coordinated CPs, at least two contrastively stressed elements in the second conjunct, and identity of all other elements. It has also been shown that coordination at the vP level must exist to get the correct scopal relations under this conception of ellipsis.

In the ATB account, don't you have to assume that (a) it's not head raising, but rather phrasal movement and (b) not to H, but to Spec H?

Nice work. You noticed some interesting things, and in a couple of cases things that, so far as I am aware, have not been noticed before.

Now you see how hard Gapping is?