

To Gap and Strip

Kyle Johnson

University of Massachusetts at Amherst

1 Introduction

This chapter looks at two constructions which are sometimes characterized as involving ellipsis. One is known as Gapping, a name Ross (1970) suggested. The other is variously known as Stripping or Bare Argument Ellipsis.¹ An example of Gapping is (1), and Stripping is illustrated by (2).

(1) Jones likes seafood and Smith, bread.

(2) Jones likes seafood a lot, and bread too.

The second conjunct of (1) is understood to have the same verb that the first conjunct has: *likes*. Similarly, in the second conjunct of (2), there is understood to be both a verb and a subject, each identical to those found in the first conjunct: *Jones likes*. These constructions are sometimes alleged to have the same source. They each involve material in a conjunct that is allowed to go unexpressed when there is identical material in the preceding conjunct.

Gapping and Stripping are typically described as being found only in conjunctions or disjunctions. Cases like (1) and (2) contrast with examples such as (3) and (4).

¹The term “Stripping” might have been first coined in Hankamer (1971), though he uses it only to refer to the cases that would today be called “fragment answers” (see below).

- (3) a. * Jones likes seafood because Smith, bread.
 b. * Jones likes seafood whenever Smith, bread.
 c. * Jones likes seafood although Smith, bread.
 d. * If Jones eats seafood, then Smith, bread.
- (4) a. * Jones likes seafood because bread too.
 b. * Jones likes seafood whenever bread too.
 c. * Jones likes seafood although bread too
 d. * If Jones eats seafood often, then bread too.

To the extent that this is correct, Gapping and Stripping fit the description of a process that has been hypothesized to give conjunctions and disjunctions their meaning. This process is sometimes called “Conjunction Reduction”, which allows the mappings in (5).

- (5) Smith left and Jones left \longrightarrow Smith and Jones left.

Smith ate seafood and ate bread \longrightarrow Smith ate seafood and bread.

Hankamer (1979) is the first attempt to reduce Gapping and Stripping to Conjunction Reduction.

One fact such an account might be able to capture is the putative generalization in Hernández (2007) that for a language to have Gapping it must use the same morpheme for coördinating DPs and clauses. English, for instance, uses *and* for both clausal coördination and DP coördination, as do all the other Germanic languages, the Romance languages, Hindi, Persian, and Turkish. Yoruba, Wolof, Chinese, Korean, and Japanese, however, have one morpheme

that coordinates DPs and another that coordinates clauses. The first group of languages all have Gapping and the second does not.² If Conjunction Reduction cannot change the morphological form of the coordination morpheme, then this typology would be explained.

An important component of Hernández's survey is her assumption that Gaps only arise in the second conjunct; she assumes that what Ross (1970) calls "Backwards Gapping" doesn't exist. Ross argued that examples like the Japanese (6) arise from Gapping the verb from the first conjunct.

- (6) Watakusi-wa sakana-o soshite Biru-wa gohan-o tabeta.
I-top fish-acc and Bill-top rice-acc ate.
'I ate fish and Bill ate fish.'

Ross suggested that whether a language has "Forward Gapping", where the Gap shows up in the second conjunct, or Backwards Gapping, correlates with whether the language has Verb-Object word order or Object-Verb word order.³ Hankamer (1971, 1979) and Maling (1972) argue, however, that examples like (6) are not Gapping, but have a different source: Right Node Raising. Right Node Raising is a process that causes material at the right edge of an initial conjunct to be expressed in a conjunct that follows.⁴ Because languages whose VPs end with the verb will allow Right Node Raising to apply to their verbs, Right Node Raising and Backwards Gapping will produce the same surface strings. Ross's

²See Paul (1999) for discussion of a limited form of Gapping in Chinese.

³Koutsoudas (1971) supports this correlation and seeks to build it into Gapping.

⁴See Hartmann (1998), Wilder (1999, 2008), Phillips (2003), Bachrach and Katzir (2009), Sabbagh (2007), and Ha (2008) for discussions of Right Node Raising.

observation that only verb final languages have Backwards Gapping can be explained if all such cases are in fact Right Node Raising. Hernández adopts this now standard view and for this reason doesn't classify Japanese as a language that has Gapping.⁵

Reducing Gapping to Conjunct Reduction predicts that it will be found only in coördinations and disjunctions, but there are examples which resemble Gapping and Stripping in other environments. For instance comparatives include cases like (7).

- (7) a. Jones eats seafood more often than Smith bread.
- b. Jones eats seafood more often than bread.

And there are dialogues whose independent sentences, like those in (8), appear to arise from Gapping and Stripping.

- (8) a. Elizabeth: Who ate what?
Claire: Jones seafood.
- b. Elizabeth: Jones ate seafood.
Claire: Bread too.

For the most comprehensive investigation of Gapping in the context of comparatives, see Lechner (1998, 2004). For a recent sketch of how Gapping might arise in question/answer pairs, see Reich (2007), Boone (2014) and Weir (2014). Those analyses of Gapping and Stripping that tie them directly to coördinations would require these cases to have a different source.

⁵But see Abe and Hoshi (1997) for a recent reinvocation of Ross's typology.

Gapping and Stripping also have superficial resemblances to certain other ellipsis processes. Gapping, for instance, looks similar to “Pseudo-gapping”, which (9) illustrates.

(9) Jones likes seafood and Smith does bread.

Pseudo-gapping, given that name by Stump (1977), and investigated more extensively with corpora in Levin (1986), in turn resembles “VP Ellipsis”, exemplified by (10).

(10) Jones likes seafood and Smith does too.

The salient difference between Pseudo-gapping and Gapping is the presence of the word that stands in the highest position of what I’ll call the “verbal series”. In (9), that word is *does*; in non-tensed sentences, that word is a modal or the infinitival marker *to*.

- (11) a. Jones should like seafood and Smith should bread.
b. ? For Jones to like seafood and for Smith to bread is improbable.

Gapping examples, by contrast, do not have this word. One strategy we’ll see is to make Gapping the name we give to examples of Pseudo-gapping in which the highest word in the verbal series is also elided.

Stripping also looks very much like various forms of clausal ellipses. The short answers to questions like that in (12), for instance, can have the superficial appearance of Stripping.

(12) Elizabeth: Who left?

Claire: Jones!

See Merchant (2004) for an account of (12) that involves ellipsis. There are also discourses like those in (13) which have a superficial similarity to (12).

(13) a. Elizabeth: Jones left.

Claire: Smith too!

b. Elizabeth: Jones left.

Claire: No, Smith!

Questions themselves can, in the right contexts, involve an ellipsis that appears like Stripping. Ross (1969) called these cases “Sluicing”, examples are in (14).⁶

(14) a. Jones ate something but I won’t tell you what.

b. Jones: I’ve eaten something!

Smith: What?

How to situate Gapping and Stripping among the panoply of ellipsis types remains open, as does the question of whether they belong together as two cases of the same process. We examine below some of the problems that remain in understanding how to classify Gapping and Stripping.

⁶See Hoji and Fukaya (1999) for the relationship between Sluicing and Stripping in Japanese.

2 Stripping

One early analysis of Stripping, in Ross (1967), is that it involves a rightward movement rule. This putative rule would move the string made up of *and* and the second conjunct to the right in the way indicated in (15). See Hudson (1976a,b) for an extended defense of this approach.

- (15) a. Jones ate seafood [and Smith] too.
 └──────────────────┘↑
 b. Jones ate seafood today [and bread] too.
 └──────────┘↑

Reinhart (1993)'s proposal is similar; it suggests that Quantifier Raising (QR) can create an unspoken, but semantically interpreted, representation by moving a nominal into the *and* phrase, as illustrated in (16).

- (16) a. ate seafood Jones and Smith too.
 └──────────────────┘↑
 b. Jones ate today seafood and bread too.
 └──────────┘↑

Under both views, the idea is to generate a representation that would make these sentences semantically equivalent to (17).

- (17) a. Jones and Smith ate seafood.
 b. Jones ate seafood and bread.

But the meaning of Stripping sentences and sentences with conjoined nominals are not exactly the same, suggesting that they shouldn't be equated.

For instance, because the subject argument of (17a) and the object argument of (17b) are plurals, they can support semantic material that depends on a plurality. (18) are therefore grammatical.

- (18) a. Jones and Smith ate seafood together.
 b. Jones ate seafood and bread together.

This isn't true of the Stripping versions, however.

- (19) a. * Jones ate seafood together and Smith too.
 b. * Jones ate seafood together and bread too.

Stripping has two “singular” conjoined clauses rather than one “plural” clause, like these accounts claim. There are other, more syntactic, problems with an approach that gives Strips an underlying form like (17) – Depiante (2000) has a good list – but this is reason enough to abandon it.⁷

The other approach to Stripping gives the second conjunct of a Stripping construction its meaning through anaphora. This view is perhaps first defended in Ross (1969), and given more extensive support in Hankamer and Sag (1976), Fiengo and May (1994), Heim and Kratzer (1998), Depiante (2000), Kolokonte (2008) and Algryani (2012). It assumes that there is a silent anaphor in the second conjunct whose meaning is recovered from the material in the first conjunct. If we represent that anaphor with “ Δ ”, the hypothesis is that Stripping involves representations like those in (20).

- (20) a. Smith ate seafood, and Jones Δ too.
 Δ = ate seafood
 b. Smith ate seafood yesterday and Δ bread too.
 Δ = ate yesterday

⁷See Merchant (2004) for a similar semantically based argument against accounts like these.

This correctly captures the fact that Stripping can involve the conjunction of singular sentences.

If (20) is correct, the anaphor involved is one that Hankamer and Sag (1976) dubbed a “surface anaphor”. Surface anaphors get a denotation from their antecedent instead of referring independently to their antecedent’s referent. Thus, for instance, in (21), “ Δ ” is understood to have a denotation that, like its antecedent, includes an indefinite.

(21) Smith ate some seafood, and Jones Δ too.

Δ = ate some seafood

As a consequence, the event of seafood eating that Smith and Jones participate in doesn’t have to be the same one in (21), and the seafood they eat can, thankfully, be different. One way of deriving the fact that the anaphor in Stripping is a surface anaphor is to let it be an ellipsis. Ellipses are uniformly surface anaphors, and this is typically derived by taking ellipses to be unspoken syntactic phrases. The antecedence conditions on ellipsis require that the elided phrase have a denotation that “follows” from the denotation of its antecedent. In the limiting case, the denotations of antecedent and ellipsis are the same. It’s this view of Stripping that dominates, and it’s the one we shall explore more fully here.

If Stripping removes a portion of the second conjunct whose meaning follows from that of an antecedent, then the words it elides should combine to have a meaning. This poses a problem for those examples in which the words that have elided don’t seem to form a constituent, as in (20b). If the string “ate

yesterday” which has elided in (20b) is to form a meaningful constituent, we should expect the spoken form of (20b) to be (22).

(22) Smith ate yesterday bread.

But the word order in (22) is generally judged ungrammatical, though the meaning it has is precisely the one needed in (20b). There are cases of Stripping and, as we shall see, Gapping too, in which the meaningful constituent that is alleged to have elided is difficult to find among the corresponding ellipsis-less sentences of English.

This is a cloud that hangs over the view that Strips are kinds of surface anaphors. If they are anaphors, then the material that has elided must form a semantically contentful phrase, and in many cases the phrase cannot be found in unelided sentences. This occasionally encourages the idea that what has elided is merely a collection of words, and that how those words compose semantically is irrelevant. On this view, what would have elided in (20b) are the words *ate* and *bread* independently. Williams (1997) proposes a system like this and Ackema and Szendrői (2002) employ it to analyze cases of determiner Gapping that we will see in (49). There are two problems that lie in taking up an approach along these lines however.

First, it needs to be prevented from running amok. In the majority of cases of Stripping, the set of words that elide is very nearly just those that can compose into meaningful phrases. From (23), for instance, only (23a) is a possible Strip.

- (23) Smith ate the stale bread before noon and ate the stale roll before noon too.
- a. Smith ate the stale bread before noon and the stale roll too.
 - b. * Smith ate the stale bread before noon and the stale too.
 - c. * Smith ate the stale bread before noon and the too.

This follows if only strings that form meaningful phrases can Strip.

A second problem is that there are cases which suggest that it's not just the words that make up a Strip and its antecedent that matter, but also how they combine semantically. For instance, (24) is four ways ambiguous.

- (24) Smith read Jones the riot act and Smith read Wier the riot act.

“read the riot act” has an idiomatic meaning, roughly equivalent to “chastise”, as well as its compositional meaning: to read that famous 1714 act of the British Parliament to a riotous assembly in order to dispel it. Both meanings are available to each of the conjuncts in (24), and they can be independently chosen. But this is not the case for the Stripped version of (24).⁸

- (25) Smith read Jones the riot act and Wier too.

⁸The word *too* is present in (25), but not (24). Without *too*, (25) is either ungrammatical or requires an intonation (stress on *and*). If either this intonation, or the word *too* is added to (24), then (24) also loses the meanings in which “read the riot act” has a different denotation in each conjunct. I interpret this to mean that Stripping requires either intonation or something equivalent to *too* to signal that the meanings of the deaccented portions of the two conjuncts are the same. That amounts to the same problem for the semantically independent theory of ellipsis that I am describing in the text.

Whatever meaning is given to the words “read the riot act” in the first conjunct must be applied to those elided words in the second conjunct. Strips seem to depend on how the elided words are put together. We should restrict the groups of words that can Strip to just those that make phrases.

A virtue of taking Strips to be ellipsis is that it provides a ready-made analysis of the cases where the strings that have elided do not seem to make a meaningful phrase. Because elided phrases are just those phrases unspoken, it is possible for material within them to move out. This provides a way of characterizing the strings that have elided in Stripping constructions that is consistent with normal views of constituency. The sentence in (2b), for instance, could arise from moving the object out of the elided constituent, as indicated in (26).

(26) Smith ate the stale bread before noon and ate ~~before noon~~ the stale roll.



This correctly predicts that the elided material in a Strip should not contain an island from which the remnant moves. The ungrammaticality of the Stripping examples in (27) matches the ungrammaticality of the island violations in (28). (The sentence final adverbs in the first conjuncts of (27) must be understood as belonging to the root clause, otherwise we cannot be sure that the elided phrase will contain the island.)

- (27) a. * Smith asked who ate seafood once, and ~~asked who ate once~~ bread too.
- b. * Smith danced after he ate seafood wildly, and ~~danced after he ate wildly~~ bread too.
- c. * Smith complained about the person who ate seafood unfairly and ~~complained about the person who ate unfairly~~ bread too
- d. * Smith noticed that eating seafood is dangerous suddenly and ~~noticed that eating bread is dangerous suddenly~~ too.
- (28) a. * What did he ask who ate?
- b. * What did she dance after she ate?
- c. * What did she meet the person who ate?
- d. * What did he notice eating is dangerous?

Island effects are diagnostic of movement, and their presence in Stripping implicates movement in forming the strings that elide.

There are different kinds of movement operations, however, and they are sensitive to slightly different locality conditions. If the movement of the remnant out of the phrase which elides in Stripping is like the movement of the interrogative pronouns which form the questions in (28), then we should expect the phrases that can elide under Stripping to be just those that this kind of movement can escape. We should expect, for example, the strings traversed by movement in (29) to be Strippable.

- (29) a. What did he tell Jones that Smith ate in a letter?
 ↑
 b. What did he tell Jones to eat in a letter?
 ↑

But that doesn't seem to be the case; (30) are degraded. (In these examples, *in a letter* must be understood to be part of the root clause, otherwise the Stripped material would include only the embedded clause.)

- (30) a. * He told Jones that Smith ate seafood in a letter, and ~~told Jones that Smith ate~~ bread too.
 b. ?* He told Jones to eat seafood in a letter, and ~~told Jones to eat~~ bread too.

If movement of the remnant is what is responsible for producing the constituents that Stripping can elide, then the type of movement operation involved must be different than that used to form constituent questions.

To identify what movement operations are implicated, one might try to match the constraints on these strings with the constraints that identify different kinds of movement operations. Indeed, there is a rough match between the strings that can Strip and those that can elide in Pseudo-gapping (= (31)).

- (31) a. Smith will eat seafood, but he won't Δ bread.
 b. * Smith will tell Jones that Smith ate seafood, but he won't Δ bread.
 c. * Smith told Jones to eat seafood, but he won't Δ bread.
 d. * Smith asked who ate seafood, but he didn't Δ bread.
 e. * Smith danced after he ate seafood, but he didn't Δ bread.

- f. * Smith complained about the person who ate seafood, but he didn't
 △ bread.
- g. * Smith noticed that eating seafood is dangerous, but he didn't △
 bread.

A popular account of Pseudo-gapping (see Jayaseelan 1990, Lasnik 1999, 2003, and Aelbrecht 2010) is that it is simply VP Ellipsis, from which the phrase that doesn't elide has moved. Takahashi (2004) argues that the operations responsible for moving the remnant out of a Pseudo-gap are "Heavy NP Shift" and "Object Shift". These two operations obey Ross's islands and also cannot move things out of (most) clauses, so they have the same properties we've seen necessary for Stripping. This also correctly captures the fact that Pseudo-gapping cannot strand a preposition or move a predicate, as (32) shows.

- (32) a. * Smith stood near Jones, but he didn't △ Brown.
- b. * Smith made Jones a judge, but he didn't △ an executioner.

Neither Heavy NP Shift nor Object shift can strand prepositions or move predicates.

Interestingly, the grammaticality judgments for Stripping a preposition without its complement, as Kuno (1976, note 3, p. 301) first noted, are not clearcut. There are speakers who find (33) grammatical.

- (33) a. John talked about Mary but not Susan.
- b. This article appeared in the NY Times but not the Daily Telegraph.

Depiante (2000) argues that the cross-linguistic grammaticality of examples in which the preposition is included in the Strip, leaving its complement behind, correlate with the ability of the language to strand a preposition with movement. She finds that English examples like (33) contrast with Spanish examples like (34).

- (34) a. * Pedro sabe sobre geografía más que nadie y/e historia
Peter knows about geography more than anyone and history
también.
too
'Peter knows more than anyone about geography and history too.'
- b. * Juan escribe para Clarín y La Nación también.
John writes for Clarín and La Nación too
'John writes for Clarin and La Nacion too.'

(Depiante, 2000, (12),(13a,b): 107)

Unlike English, Spanish doesn't allow preposition stranding under any kind of movement.

- (35) a. Who did you talk to?
- b. * Quién hablaste con?
who you talked to
'Who did you talk to?'

(Depiante, 2000, (14a,c): 107)

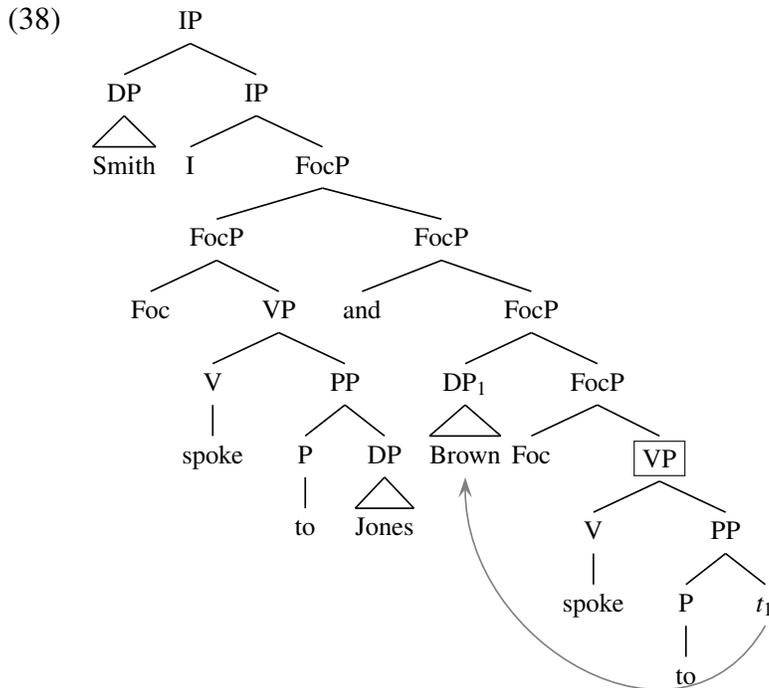
Similarly, I believe Stripping has the ability to strand predicates too. I and my consultants find examples like (36) grammatical.

- (36) Smith made Jones a judge yesterday, and an executioner too.

If Stripping has the ability to strand prepositions and predicates, and Pseudo-gapping doesn't, then a movement account of the strings that can elide must involve more movement kinds than just Heavy NP Shift and Object Shift: the movement operations that allegedly feed Pseudo-gapping. One popular view is that Stripping employs a movement operation that is tied to the information structure of the construction. Depiante (2000), Kolokonte (2008), and Algryani (2012), among others, argue that the movement involved is to a position reserved for focus marked phrases. This responds to the observation that the material left over from the Strip is focus marked, and the fact that in many languages, focused phrases are moved leftwards to either the edge of the local clause or the edge of the local VP. (See, e.g., Rizzi (1997, 2004) and Belletti (2004).)

While this movement doesn't occur overtly in English, we might speculate that it is nonetheless available. Adopting the view that the Focus position is at the left edge of VP, this would give to examples like (37), representations like (38).

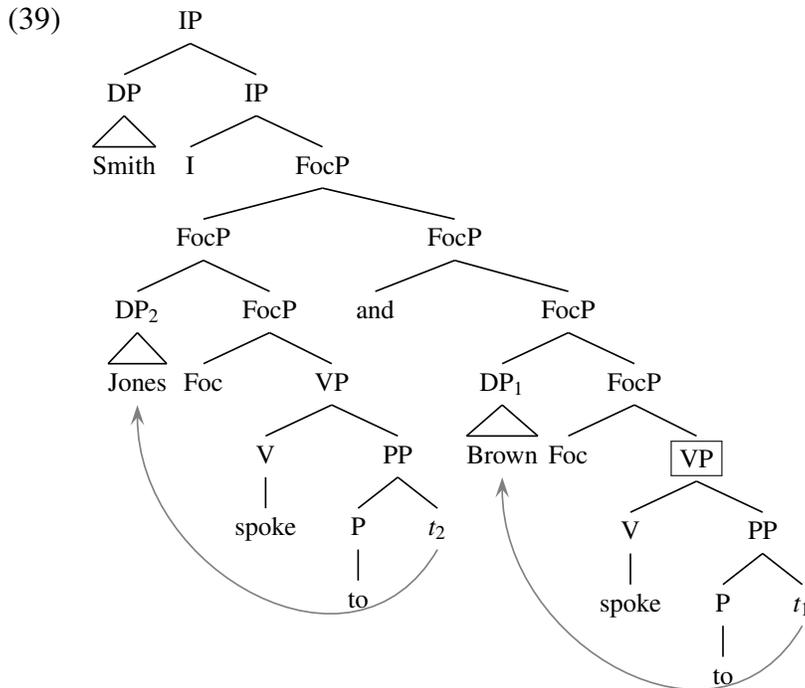
(37) Smith spoke to Jones today and Brown too.



Brown has moved to the Specifier of a Focus Phrase in (38), leaving a variable (=“*t*”) in the position it moves from. Stripping would presumably elide the boxed VP in the second conjunct. Recall that ellipsis is allowed just when the denotation of the elided constituent matches, or follows from, the denotation of an antecedent constituent. This requirement is not trivially satisfied in (38): the constituent that elides has a trace of the moved phrase *Brown* in the same place that the antecedent has the DP *Jones*.

One way of addressing the issue is to recognize that *Jones* in (37) is focused too, and allow it to covertly move, forming the representation in (39).⁹

⁹The way this hypothesis is usually expressed is by positing a Focus position at the left edge of the clause, rather than the left edge of a VP. (See Depiante (2000) for instance.) But there’s no



It is known from other kinds of ellipses that phrases with variables in them can be in the right matching relationship for one to serve as the antecedent to the other even if those variables are bound by different things. When an elided phrase, and its antecedent, have different bound variables in them, we have a situation that Ross (1967) called “sloppy identity”.

Another solution would be to use an antecedence condition on ellipsis that allows focused phrases to behave like bound variables and partake in sloppy identity without moving. That would allow the focus marked *Jones* in (38) to “match” the trace of *Brown*. Merchant (2001) offers an account of this type.

reason for this, so far as I can see, and assuming a lower position enables a “low conjunct” analysis of Stripping – see the following section.

If movement to a focus phrase can make Strippable strings, we should understand why this normally non-overt movement becomes possible in ellipsis contexts.¹⁰ And if it is to give us a handle on the locality conditions – like the inability of Strips to include part of an embedded finite clause – then we should be able to discover that this locality condition holds of covert focus movement too.

This is presently the most popular view of Stripping. It is a form of ellipsis that results when a movement operation removes a focused item from the ellipsis. Many of the considerations that lead to this conclusion show up again in Gapping. Indeed, certain of the properties that seem diagnostic of Stripping – that it is confined to certain kinds of coördinations, for instance – are found in Gapping too, fueling the hypothesis that they are the same phenomenon.

3 Gapping

Like Stripping, Gapping is a surface anaphor, as can be seen from the fact that two books can be involved in (40).

(40) Some read a book to Melissa and others, to Paul.

This example also demonstrates that the verb Gapping elides can be part of a longer string. Just as with Stripping, it is necessary to find a way of characterizing

¹⁰See Weir (2014) for a solution to the similar problem in Fragment Answers that could be applied here.

the strings that can Gap, and there is a rough match with the strings that can Strip. Neijt (1979) showed, for instance, that island effects are obeyed.

- (41) a. * Some asked who ate seafood, and others asked ~~who ate~~ bread.
b. * Some danced after they ate seafood, and others ~~danced after they~~
ate bread.
c. * Some complained about the person who ate seafood, and
others ~~complained about the person who ate~~ bread.
d. * Some noticed that eating seafood is dangerous and others ~~noticed~~
~~that eating~~ bread is dangerous.

As with Stripping and Pseudo-gapping, then, we can hypothesize that the second phrase left behind by Gapping has moved from the constituent that elides.

Neijt also discovered that, as in Stripping, the constraints on Gapping are stricter than the islands which govern Wh-movement would predict. For instance, the remnant of a Gap cannot have moved out of an embedded finite clause, though, as we've seen, that is possible for wh-phrases.¹¹

- (42) * Some decided that she liked beans and others ~~decided that she liked~~
beans.

Most of the literature takes Gapping to be like Pseudo-gapping in not permitting preposition stranding. Lasnik and Saito (1991), Jayaseelan (1990) and Abe and Hoshi (1997) characterize examples like (43) as ungrammatical.

¹¹She notes, however, that there are exceptions that arise when the embedded clause has a subject that corefers with the subject of the higher clause. See Moltmann (1992) for discussion.

- (43) a. * Some talked about Jones, others \triangle Brown.
b. * Some built it with a hammer, and others \triangle a crowbar.
c. * Some put it on Jones, and others \triangle Brown.

Steedman (1990), by contrast, provides examples of preposition stranding in English that seem perfectly grammatical, such as (44).

- (44) Harry went to London and Barry, Detroit

Vanden Wyngaerd (2009) argues that the availability of preposition stranding in Gapping tracks a language's ability to strand prepositions under movement. I will assume that Gapping in English does permit preposition stranding, but it is worth noting that this requires more investigation. Predicates are also capable of being stranded by Gapping.

- (45) Some made Jones a judge, and others \triangle an executioner.

If the remnants of Gapping can include predicates and separate prepositions from their complements, then the class of remnants for Gapping matches that for Stripping. Like the remnants in Stripping, the remnants of Gaps are also contrastively focus-marked. Kuno (1976) argued that the remnants of a Gap must present discourse new information, and Hartmann (1998) and Winkler (2003, 2005, 2006) show that the remnants of a Gap must be in a contrastive focus relationship to matching material in the antecedent. If the explanation for this fact in Stripping is that the remnant focus-moves to a position outside the ellipsis, then we should be tempted to give the same explanation for Gapping. An important question to be settled is what are the focus structures of Gapping and

Stripping and to what extent they can be wedded to a theory of what remnants are possible. This is especially well discussed in Susanne Winkler's work.

There is an interesting argument in Yoshida (2005) for the more general conclusion that the remnants of a Gap have moved from the elided phrase. His argument is based on the generalization that the contents of phrases that have moved cannot themselves be moved. For instance, if (46b) is derived from (46a) by rightward movement of the PP, then the contrast in (47) indicates that the PP becomes impenetrable for movement in its derived position.

- (46) a. John talked about something yesterday.
b. John talked yesterday [about something].
- (47) a. I wonder which topic John talked about yesterday.
b. *I wonder which topic John talked yesterday about.

Using this as a diagnostic for movement, Yoshida argues that the remnant of a Gap has moved. His centerpiece example is (48).

- (48) a. I wonder which topic John talked about and Mary talked about too.
b. *I wonder which topic John talked about and Mary about too.

(Yoshida, 2005, (10))

In (48a), *which topic* has moved in across-the-board fashion out of a PP that resides in its unmoved position. ("Across-the-Board Movement" describes a scenario in which one term moves from two parallel positions in conjoined or disjointed phrases. See Ross 1967.) The contrast with (48b) suggests that when

the verb gaps, the PP that remains has become an island. If this PP moved, then this will follow from whatever is responsible for the contrast in (47).

As in the case of Stripping, then, there is evidence that the strings which can Gap correspond to those that are phrases from which something has moved. There are, however, a class of cases discovered by McCawley (1993) which seem to be clear counter-examples. In these are cases a determiner seems to Gap leaving the rest of its nominal behind.¹²

- (49)
- a. Too many Irish setters are named Kelly and German shepherds Fritz.
 - b. The duck is dry and mussels tough.
 - c. Your daughter is 16 and son 17 1/2.
 - d. No representative voted for the proposition or senator against it.
 - e. Few dogs eat Whiskas or cats Alpo.

If the Gapped predicate is restored in these examples, they either become ungrammatical, or acquire a different meaning.

- (50)
- a. Too many Irish setters are named Kelly and German shepherds are named Fritz.
 - b. The duck is dry and mussels are tough.
 - c. * Your daughter is 16 and son is 17 1/2.
 - d. * No representative voted for the proposition or senator voted against it.

¹²(49a-c) are from McCawley (1993). Determiner Gapping has not been discovered in Stripping, and this has no explanation if Gapping and Stripping have the same source.

- e. Few dogs eat Whiskas or cats eats Alpo.

The grammatical (50a,b) and (50e) differ semantically from the corresponding examples in (49) in having bare plurals as the subject of the second conjuncts. In the matching (49) examples, the subject of the second conjunct is understood to have a determiner: *too many* in (49a), for instance. The absence of pronominal material in (50c) and (50d) is what makes these cases ungrammatical.

McCawley's conclusion is that Gapping has removed the determiner from the subject of the second conjunct in (49). While that might be a way of characterizing the examples in (49a-c), which are synonymous with the examples in (51), it doesn't extend to (49d-e) which aren't synonymous with (52).

- (51) a. Too many Irish setters are named Kelly and too many German shepherds are named Fritz.
b. The duck is dry and the mussels are tough.
c. Your daughter is 16 and your son is 17 $\frac{1}{2}$.
- (52) a. No representative voted for the proposition or no senator voted against it.
b. Few dogs eat Whiskas or few cats eat Alpo.

Instead (49d) and (49e) have the meanings indicated in (53).

- (53) a. \neg [any representative voted for the proposition or any senator voted against it]
b. \neg [many dogs eat Whiskas or many cats eat Alpo]

The negation part of the meaning of *no* and *few* falls outside the scope of the disjunction. McCawley noted a similar fact about his (54).

- (54) Not enough linguists study Russian, literary scholars French or engineers Japanese.

(McCawley, 1993, (12a): 247)

(54) is not a disjunction of denials (“Not enough linguists study Russian or not enough literary scholars study French or..”) but a denial of disjunctions (“It’s not the case that enough linguists study Russian or enough literary scholars study French..”). An account of these cases should derive the fact that the negation part of these determiners must be outside the coördination.

Johnson (2000a,b) suggests that what is happening in (49d) and (49e) involves a more complicated syntax for the determiners *no* and *few*. If we adopt the view in Bech (1983) that the determiner *no* is the exponent of two morphemes, one of which has the meaning of *not* and the other the meaning of *any*, then we can see (49d) as involving a surprising way of spelling out that exponent. Suppose, for instance, that we assume *no* to arise when the *not* and *any* parts of the meaning are adjacent at some point of the derivation.

- (55) Let:

- a. $[[\phi]] = [[\text{not}]]$, and
- b. $[[\psi]] = [[\text{any}]]$

pronounce ϕ as *not* and a ψ in the scope of ϕ as *any*, unless ϕ and ψ are adjacent, in which case pronounce ϕ as *no* and leave ψ silent.

If (49d) is parsed as in (56), then (55) causes the ψ in the first subject to be pronounced as *no*, but leaves the ψ in the second subject silent.

- (56) ϕ [[_{DP} ψ representatives] voted for the proposition or [_{DP} ψ senator] voted against it.]

A parallel syntax-semantics can be put together for (49e); *few* could be seen as the exponent of a morpheme that means *not* and another that means *many*.

Because this account lives on the complex, two-part, syntax of the determiners, it predicts that the only prenominal material that should be able to “Gap” in this way are those terms which have this two-part syntax. McCawley discovered that neither prenominal adjectives nor the determiner *a* is able to Gap.

- (57) a. * A soup too salty and pie too sweet, but otherwise the food was outstanding.
b. * An Irish setter should be called Kelly and German shepherd Fritz.
c. * Italian red wines are outstanding and white wines excellent.
d. * Red wines from Italy are outstanding and wines from France excellent.

(McCawley, 1993, (5): 245 & (19): 246)

Many other determiners, however, can.

- (58) a. Every child carried a toy and father a box.
b. Several women saw the accident and men the aftermath.
c. Each marble rolled down the chute and ping-pong ball around the loop.

- d. Most students read books and professors articles.
- e. Which boy left and girl stayed?

The list of terms that can Gap roughly match the class of items that trigger Quantifier Raising (QR) – the rule that fixes the scope of quantificational determiners. In some analyses of Quantifier Raising, the determiner involved does indeed have two syntactic parts: one that makes the DP involved a variable and the other that creates a binder for that variable. One possibility, then, is that the complex syntax of determiners quite generally is responsible for their ability to appear to Gap. The implementation of this idea won't be straightforward. It's not clear, for instance, how to get it to remove the possessive pronoun in (49c), or how to reconcile the ability of indefinite DPs headed by *a* to scope in the way that QR predicts but not be able to Gap.

A fact that may follow from an account along these lines is that a determiner may Gap only if it is in a position consistent with it being at the left edge of the coördination. McCawley points out, for instance, that a determiner associated with an object cannot be Gapped.

- (59) a. * The cat chased the mouse and Fido ~~chased the~~ cat.
 b. * Tabby chased the mouse and Fido ~~chased the~~ cat.

But if that object is at the left edge of the coördination, then its determiner can Gap.

- (60) a. She told [the girl to stay] and [boy to leave].
 b. He'll give [no book to Smith] or [pamphlet to Jones].

If the relationship between the two parts of these complex determiners is part of the syntax of QR, then one way of viewing this fact is that it follows from conditions on across-the-board movement. Williams (1977) shows that across-the-board movement is subject to a condition that requires the moved item to come from parallel positions in the coördinations. For instance, an item cannot move across-the-board from a subject position in one conjunct and an object position in the other conjunct; examples like (61) are ungrammatical.

(61) * Who did she say [*t* left] and [Mary visited *t*]?

compare:

Who did she say [*t* left] and [*t* visited?]

Who did she say [he left *t*] and [you visited *t*]?

If the relationship between the part of the complex determiner that is outside the coördination (the ϕ in (55)) and the parts of the determiner within the coördination (the ψ s in (55)) is subject to the same condition, then the parts of the determiner inside the coördination will have to be in parallel positions. Because the two parts of the determiner must be adjacent to get mapped onto their exponent, the DP in the left conjunct will have to be at the left edge of that conjunct. This will force the DP in the right conjunct to also be at the left edge of its conjunct.

On this view, the determiners have not Gapped in (49). Instead, the coördinations allow for a syntax that reveals the otherwise hidden complex relationship between the morphology of a determiner and its syntactic/semantic

components. If that is the case, then we must understand why the coordinations in (50) without Gapping do not allow this revelation: what is it about Gapping that allows a determiner to be unexpressed? Kubota and Levin (2016) argue that Gapping is not required, but instead that a kind of parallelism which Gapping is a special instance of is the relevant requirement. They offer the examples of successful determiner Gapping without any obvious Gap in (62).

- (62) a. Some dog barked and donkey brayed last night.
b. No dog barked or donkey brayed last night.

Similarly, Centeno (2011) finds that wh-determiners in Spanish can also Gap without an accompanying predicate Gapping.

- (63) Cuántos estudiantes acuden a la clase de sintaxis y profesores
how many students go to the class of syntax and profesores
faltan a la reunión de cada mes?
miss to the meeting of each month
'How many students go to the syntax class and how many professors
miss the monthly meeting?'

(Centeno, 2011, (368): 168)

Note that in both of these examples, the tenses of the conjoined clauses are the same, and at least for the English cases, this looks like a requirement. So whereas (62) and (64) are grammatical, cases like (62) where the tenses are different are worse.

- (64) Some dogs bark and donkeys bray at night.

- (65) a. * Some dogs bark and donkeys brayed at night.
b. * Some dogs barked and donkeys bray at night.

A feature of Gapping that Hankamer (1979) discovered is that the tenses must be the same. In (66), he noted, the conjuncts are either both present or both past.¹³

- (66) The Tunisians cut off the tails of their cattle and the Muranians the testicles of their prisoners.

(Hankamer, 1979, p. 228)

If, as is standardly assumed, the highest functional head in a clause is the one that carries the tense morpheme, then we might see this sameness in tense as a sign that Gapping has applied to just this tense morpheme, leaving the rest of the clause behind. Perhaps, then, the Gapped determiners in (62) and (63) are accompanied by a Gapped portion of the verb: its tense.¹⁴

If this method of analyzing Gapped determiners is successful, then our working hypothesis can be that a movement operation is responsible for forming the strings that Gap. Those same movement operations also form the strings that Strip. Gapping and Stripping are then cases of remnant ellipsis, just like Pseudo-gapping, but with a wider inventory of movement rules. If the conclusion that Gapping cannot elide material in the first coördinate is correct, then this also matches the inability of a Pseudo-gap to be in this position:

¹³See also Chao (1987).

¹⁴For accounts of determiner Gapping, see also Lin (2002), Ackema and Szendrői (2002), Citko (2007), and Arregi and Centeno (2005); Centeno (2011).

(67) * Some have beans and others have eaten rice.

These similarities encourage the view that Gapping, and Stripping too, are kinds of remnant ellipsis constructions.

A salient difference between Gapping and Pseudo-gapping is that the highest term in the verbal sequence elides in Gapping but not Pseudo-gapping. This is related to another property that distinguishes Gapping and Stripping from Pseudo-gapping. If Gapping or Stripping occurs in the second of two conjuncts, then it must elide the highest term of the verbal sequence in that conjunct. Examples like (68) are ungrammatical.

- (68) a. * Smith left and everyone thought that Jones too.
b. * Smith ate sushi and everyone thought that Jones rice.

Their pseudo-gapping correlates, by contrast, are fine:

- (69) a. Smith left and everyone thought that Jones had too.
b. Smith ate sushi and everyone thought that Jones had rice.

Hankamer (1979, p. 20), who discovered the constraint, calls it “downward bounding”. I’ll formulate it with (70)

(70) Downward Bounding

Let α be some member of the verbal sequence of the right conjunct, and β be the set of elements in the sequence that c-command α . If Gapping or Stripping includes α then it must include β . (A “verbal sequence” of X is the set of functional heads and auxiliary verbs that includes X and

the main verb of X. This might be the same thing that Grimshaw (1991) calls an “extended projection”.)

Downward Bounding is violated in (68) because *thought* is not included in the ellipsis. The Downward Bounding Constraint has inspired one class of analyses of Gapping that sometimes goes by the name of the “Small Conjuncts” account.

4 Accounts

4.1 Small Conjuncts Account

The Small Conjuncts account gets started with Siegel (1987)’s observation that some cases of Gapping can be captured with no ellipsis at all. In these cases, just the highest item in the verbal sequence is missing from the second conjunct.¹⁵

(71) Smith can’t make natto or Jones eat it.

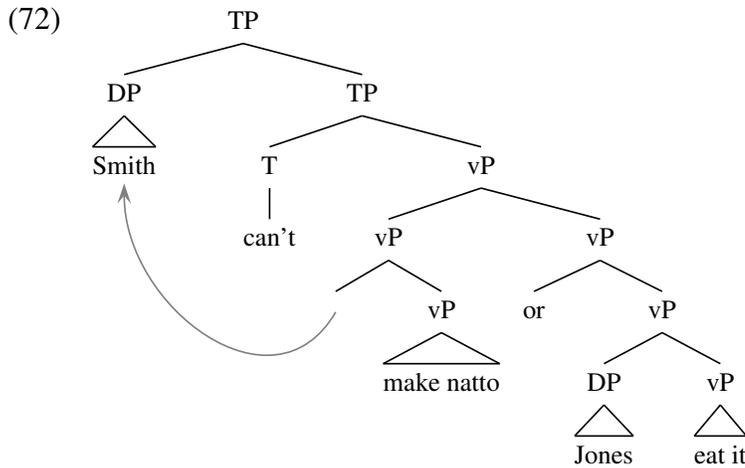
Siegel argues that (71) should be given a representation that, in today’s syntax, would look like (72).¹⁶

¹⁵A reviewer points out that similar examples can be found in Dutch:

- (i) Ik heb Stein het boek getoond, maar de foto niet gegeven.
I have Stein the book shown but the foto not given
'I have shown Stein the book but not given the photo.'

See Heycock and Kroch (1994), Büring and Hartmann (1998), and Johnson (2002).

¹⁶Siegel did not have the “derived subjects hypothesis” at her disposal, but conjectured that the right conjunct in (72) is what is called a small clause in contemporary syntax.



This syntax assumes that the Specifier of TP requires a subject argument to move into it. For the account illustrated in (72) to work, there must be a constraint on this movement that would prevent the subject of the second conjunct from moving into the Specifier of TP, for otherwise we would expect the ungrammatical “Jones can’t Smith make natto or eat it” to arise as well.

The movement of the subject in (72) appears to violate John Ross’s Coördinate Structure Constraint, which prohibits movement out of a single conjunct. But Lin (2001) argues that (72) satisfies the Coördinate Structure Constraint, once it is formulated properly. She follows Ruys (1992), who argues that the Coördinate Structure Constraint is a condition that holds of binders rather than movement. We can formulate it with (73).

(73) Coördinate Structure Constraint

Let C_1 and C_2 be two coördinates of the coördination C . If α is outside C and binds a variable in C_1 , then it must also bind a variable in C_2 .

If movement of *Smith* in (72) leaves a variable bound by *Smith*, this condition is violated. Lin argues that in contexts like (72), the movement of the subject is semantically vacuous, leaving no bound variable in the first conjunct. This can be seen by considering examples like (74).

(74) Bob or Mary can't eat rice and Jeremy eat potatoes.

(Lin, 2001, (22a): 368)

If the first conjunct of (74) occurs on its own, it is ambiguous.

(75) Bob or Mary can't eat rice.

The two readings of (75) depend on the relative scope of the subject and *can't*.

When *Bob or Mary* scopes outside of *can't*, the meaning can be paraphrased by (76a). When it scopes within *can't*, the resulting meaning can be paraphrased by (76b).

(76) a. Bob can't eat rice or Mary can't eat rice.

b. Neither can Bob eat rice nor can Mary eat rice.

Lin's consultants report that (74) only permits a reading in which the first conjunct has the meaning paraphrased by (76b). That would follow if the movement of the subject in (76) is forced to be semantically vacuous because of the Coordinate Structure Constraint in (73).

The syntax in (72) seems like a viable analysis of (71), then. Siegel (1987) argues on its behalf from the observation that *hasn't* and *can't* in (77) scopes over the conjunction.

- (77) a. Oh, no! The villain hasn't ended up with the whole ranch and the hero ended up with only one horse!
- b. Ward can't eat caviar and his guest eat dried beans.

(Siegel, 1987, (1)-(2): 52)

This is just what the constituency in (72) predicts. There are, however, apparent counterexamples to this prediction studied by Hulseley (2008), that involve disjunctions. One of these is (78).

For the Red Sox to make the playoffs . . .

- (78) The Sox must beat the Yankees or the Angels lose to the Mariners.

This sentence is ambiguous. It has a reading in which *must* scopes over the disjunctions in line with the meanings found in (77). On this interpretation, (78) describes a requirement that can be met in one of two ways: what must happen for the Red Sox to make the playoffs is either that they beat the Yankees or that the Angels lose to the Mariners. This interpretation arises if *must* scopes over the disjunction. But (78) can also get an interpretation in which the disjunction scopes over *must*. It can be synonymous with *The Sox must beat the Yankees or the Angels must lose to the Mariners*. On this interpretation, (78) is expressing ignorance about which of two requirements hold; this meaning allows the continuation: *but I don't know which*. Hulseley explains this apparent counterexample by making appeal to an analysis of disjunctions that uses an "alternative semantics". On this analysis of disjunctions (see Alonso-Ovalle 2006 and references therein), the semantic scope of disjunctions can be wider than

their syntax alone would allow. Crediting the disjunct-wide reading of (78) to this analysis of disjunctions explains why we don't find a similar wide-scope reading for conjunctions, whose scope is constrained more rigidly by the syntax.¹⁷ If Hulsey is right, the generalization that emerges is that the modal and negation which appears to be in the first coördinate is in fact outside the coördination. This supports Siegel's proposal that these sentences have the structure in (72).

Putting (72) together with the version of the Coördinate Structure Constraint in (73) predicts that when the second conjunct contains something that the moved subject of the first conjunct can bind, it will be able to do so. That is correct, as (79) shows.¹⁸

(79) No father should make okonomiyaki or his daughter eat it.

In this context, the Coördinate Structure Constraint is satisfied when (79) has the representation in (80). (*no father* binds a variable in both conjuncts: its trace in the first, and the pronoun *his* in the second.)

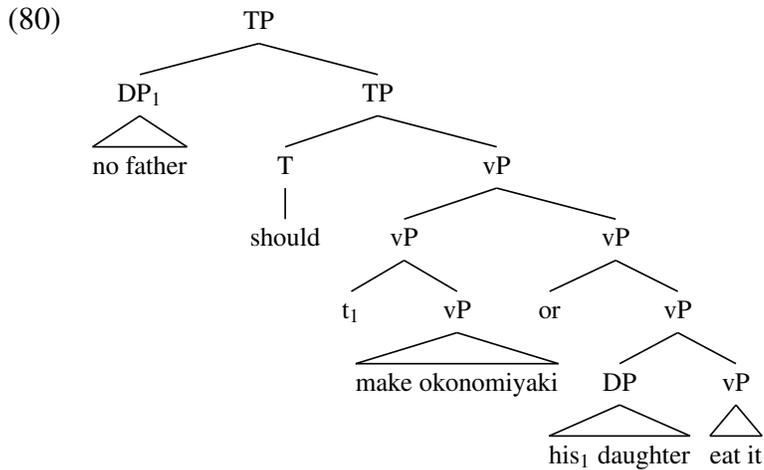
¹⁷It also explains (i), where the disjunction cannot include the negated modal.

(i) John hasn't seen Harry or Bill Sue.

(Oirsouw, 1987, (55b): 208)

Negation blocks the scope widening effect of an alternative-based semantics for disjunction.

¹⁸Although, as Jeroen van Craenenbroeck notes, this is inconsistent with the account I offered for the ungrammaticality of (59).



And, indeed, (79) does have an interpretation in which *his* is a variable bound by *no father*. (That this is possible in Gapping contexts is discovered by Oehrle (1987) and McCawley (1993) and part of Lin (2001)'s discussion.)

This class of cases, then, could be handled without ellipsis of any kind. The material that is shared by both conjuncts is simply outside the coördination; the appearance of ellipsis is achieved by letting the material that has conjoined be sufficiently small. If this is the only way Gaps of this kind can be formed, then we also have an understanding of why they only arise in coördinations and why they obey Downward Bounding. An example like (81), which illustrates a violation of Downward Bounding, cannot be formed from a low coördination.

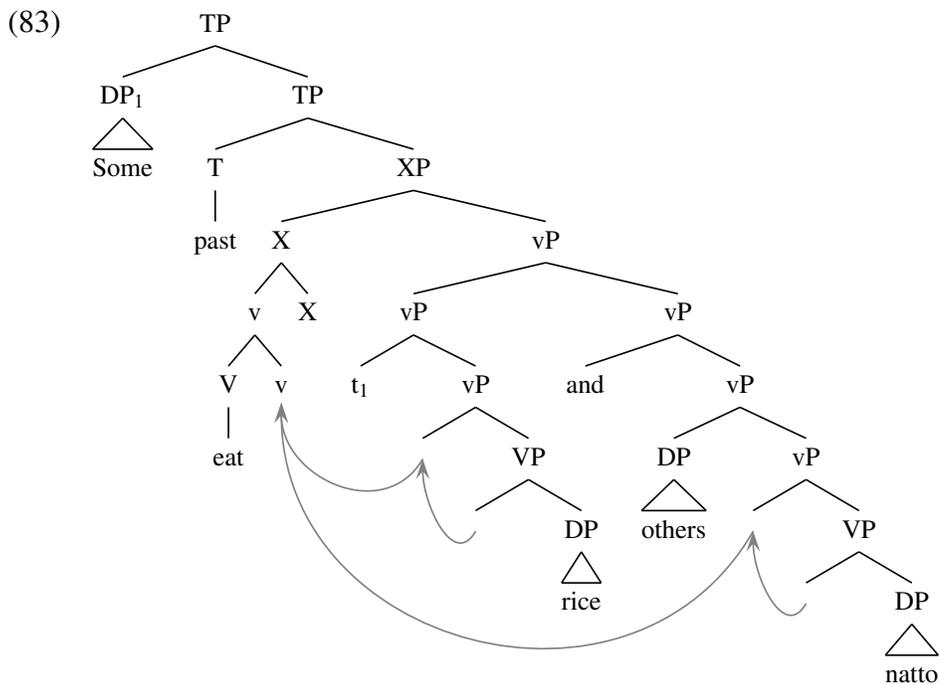
(81) * Smith can't make natto or everyone knows that Jones eat it.

If a way of spreading this treatment to all other Gaps can be found, then we could derive these attributes for all Gaps.

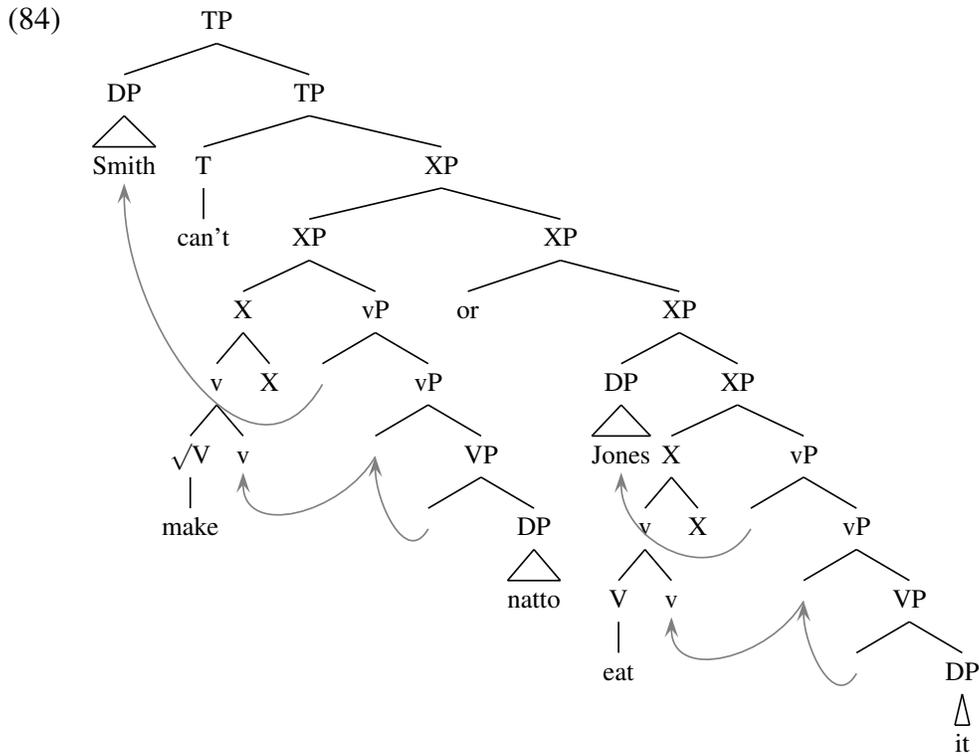
Consider first how the low conjuncts account might be applied to a case, like (82), in which the highest term in the verbal sequence is the main verb.

(82) Some ate rice and others natto.

One approach to this case involves the hypothesis that main verbs move a short distance in English. Imagine, for instance, that the verbal root combines with the external θ -role assigner, “v”, and they jointly move to a higher head position, X^0 . This would allow a small conjuncts analysis of (82) like that in (83), where the complex made of the verbal root and v have, in each conjunct, moved in across-the-board fashion into X.



With the addition of verb movement and the presence of XP, the cases of Gapping that Siegel described would have the slightly different analysis shown in (84).



The coördinates are large enough in (84) that movement of the main verb does not remove them from the coördination. As before, the subject of the first conjunct moves into the Specifier of TP. But we must now also conjecture that the subject of the right conjunct also moves, for otherwise it would remain lower than the main verb of that conjunct. There is no satisfactory account for this. (But see the discussion of (117) below.)

This technique for producing a Gap out of the main verb, in addition to an object which has shifted, preserves the account of Downward Bounding, as well as ensuring that Gaps only occur in coördinations. We are left with the task of extending this account to more complex Gaps, where more than just the highest

term in the verbal sequence, plus, possibly, a shifted object, Gaps. There have been two approaches: Ellipsis and rampant across-the-board movement.

4.1.1 Ellipsis

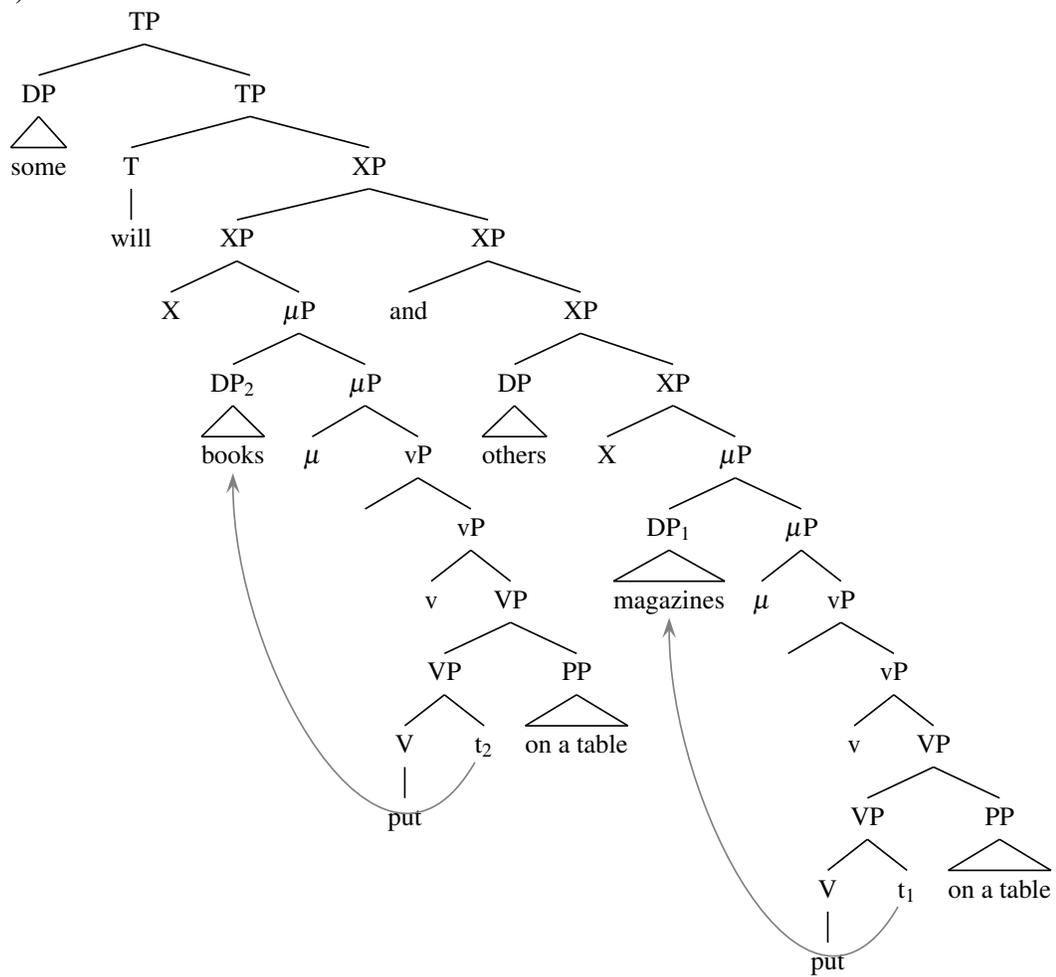
Adding Ellipsis to a small conjuncts analysis generates many of the cases we've seen. In Coppock (2001), this ellipsis is just garden variety Pseudo-gapping; in Lin (2002), it is a purpose-built ellipsis process. In either case, the remnant moves out of the phrase to be elided in the way we've reviewed in the previous sections.

To see how this works, let's walk through (85), which cannot be produced with just low coördination and movement of the main verb and/or object.

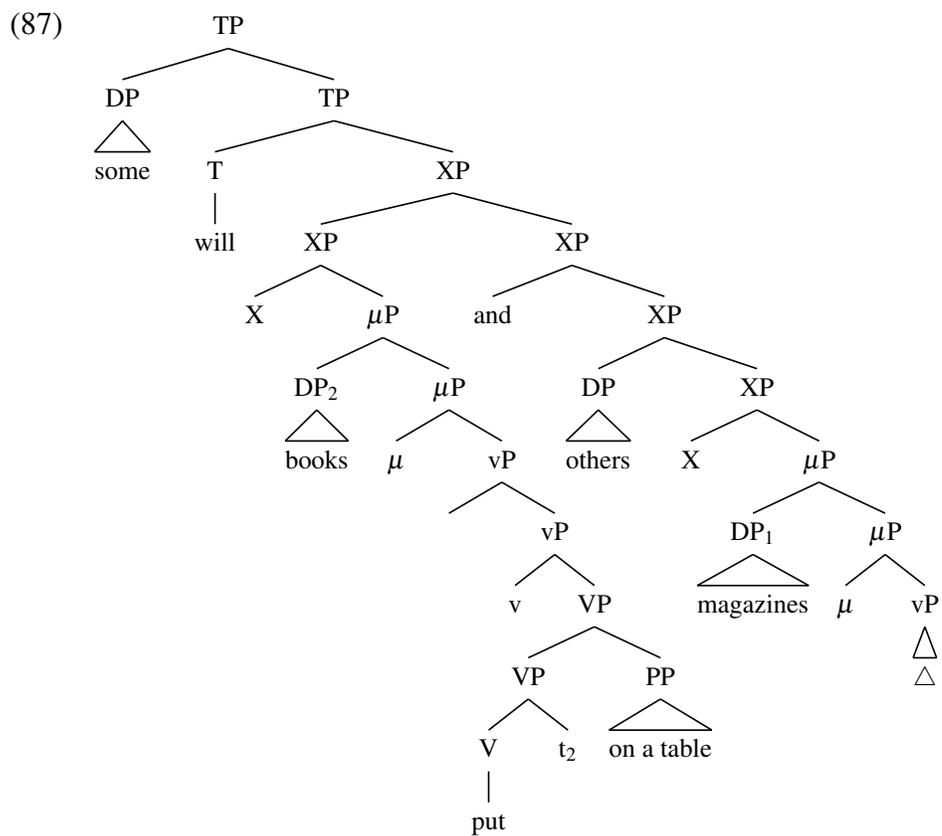
(85) Some will put books on a table and others magazines.

We'll start the derivation by Object Shifting the objects in each of the coördinated XPs. (I've called the phrase into whose Specifier objects shift: μP .)

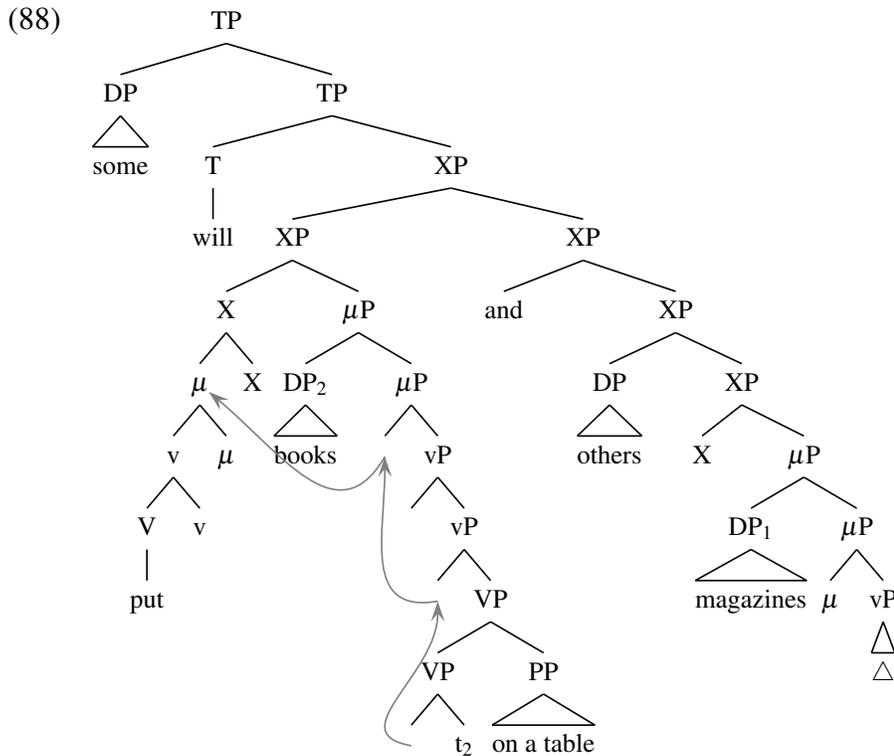
(86)



The vPs in this representation are close enough a match for ellipsis to apply, forming (87).



The main verb will do its movement in the left conjunct, forming (88).



This is the correct outcome.

Because the highest term in the verbal sequence still Gaps by way of a low coördination on this view, it preserves the effects we've seen credited to low coördinations: its restriction to coördinations and its compliance with Downward Bounding. It's not that Downward Bounding is a constraint on Gapping on this view, but rather that Downward Bounding names the environment where Pseudo-gapping and small conjuncts come together to form the outputs we call Gapping. When Downward Bounding isn't honored, examples such as (89) arise, where the combination of small conjuncts and Pseudo-gapping is obvious.

(89) ? Some must [_{VP} eat seafood] and [_{VP} others, think that Mary should Δ bread].

This is the proposal in Coppock (2001).¹⁹

Note that if movement of the verb in the second conjunct could happen, we would expect to get (90).²⁰

(90) * Some put books on a table and others put magazines.

In many of the world's languages, it is possible to elide a VP from which the verb has moved (see Goldberg 2005) and (90) is just where we'd expect it to occur in English. This is a problem that comes with the small conjuncts analysis. I don't know that this problem has been observed or addressed, so it is an open problem.

There are other problems as well. The first is, simply, that it predicts that Gaps which involve more than one term will not arise in contexts where Pseudo-gapping isn't licensed. This doesn't appear to be correct. For instance, neither VP Ellipsis nor Pseudo-gapping can occur after the auxiliary verb *have* in Icelandic, and yet Gapping can occur in a sentence in which *have* is the highest term in the verbal sequence.²¹

¹⁹David Pesetsky was the first I know of to make this proposal, but his suggestion never made it to print: it was part of seminar he gave at MIT in 1997.

²⁰To the extent that (90) is grammatical, it has an interpretation paraphrased by "Some put books on a table and others put magazines on it", not the interpretation that would be derived by Gapping: "Some put books on a table and others put magazines on a table".

²¹My thanks to Johannes Gisli Johansson for the examples.

- (91) a. * Sumir hafa borðað natto en aðrir hafa ekki.
 some have eaten natto and others have not
 ‘Some have eaten natto and others haven’t.’
- b. * Sumir hafa borðað natto en aðrir hafa hrísgrón.
 some have eaten natto and others have rice
 ‘Some have eaten natto and others have rice.’
- c. Sumir hafa borðað natto en aðrir hrísgrón.
 some have eaten natto and others rice
 ‘some have eaten natto and others rice.’

Similarly, whereas VP Ellipsis and Pseudo-gapping can occur in English to VPs and APs when they are embedded under modals, finite auxiliaries, and other similar terms, (see (92)), they cannot when VPs or APs are complements to lexical verbs (compare (93)).

- (92) a. Sally must eat tomatoes whenever I see that Holly does eat
 tomatoes.
- b. Sally must eat tomatoes whenever I see that Holly does eat apples.
- c. Sally is fond of the tomatoes because she knows that Holly is fond
 of the tomatoes.
- d. ? Sally is fond of the tomatoes even though she knows that Holly is
 fond of the apples.
- (93) a. * Sally must eat tomatoes whenever I see Holly eat tomatoes.
- b. * Sally must eat tomatoes whenever I see Holly eat apples.
- c. * Sally is fond of the tomatoes because she considers Holly fond of
 the tomatoes.

- d. * Sally is fond of the tomatoes even though she considers Holly
~~fond~~ of the apples.

Gapping, on the other hand, can apply to verbs and adjectives that are embedded as complements to lexical verbs, as (94) illustrates.

- (94) a. I saw some eat tomatoes on Tuesday and others eat apples.
b. I saw some eat them on Tuesday and others eat ~~them~~ on Wednesday.
c. ? I consider some fond of the tomatoes and others ~~fond~~ of the
apples.
d. ? I consider some especially fond of the tomatoes and others
~~especially fond~~ of the apples

If Pseudo-gapping is the source of a Gap that includes more than just the highest term in the verbal sequence, this isn't what we should find.

Another problem for the Pseudo-gapping based account is one that Siegel (1987) notes. We have seen that when the highest term in the verbal sequence is all that Gaps, the resulting semantic interpretation puts that term outside the scope of the coordination. The example in (95) has just the interpretation in which *can't* scopes outside the disjunction.

- (95) Ward can't eat caviar and his guest eat dried beans.
≈ It's not allowed for Ward to eat caviar while his guest eats dried beans.

(Siegel, 1987, (3): 53)

But when the highest term in the verbal sequence Gaps along with the main verb, as in (96), the sentence can have a reading in which that term doesn't scope out of the disjunction.

(96) Ward can't eat caviar and his guest dried beans.

(Siegel, 1987, (2) 53)

Like (95), (96) has a reading in which *can't* scopes over the conjunction; it can be synonymous with (96). But it also has an interpretation in which *can't* is in each conjunct; a reading synonymous with *Ward can't eat caviar and his guest can't eat dried beans*. Neijt concludes from this contrast that Gapping is something different than a mere low coordination. If she is right, (95) is low coordination and (96) isn't – it is an independent process instead: Gapping.

A third problem is that the antecedence conditions on Pseudo-gapping and Gapping don't seem to be the same. The antecedence conditions on Gapping are, as Hernández (2007) points out, stricter than those for Pseudo-gapping. Like VP ellipsis, Pseudo-gapping is able to have a deverbal noun as its antecedent, as in (97).

(97) Sal may be a talented forger of passports, but surely he can't Δ paintings.

(Hernández, 2007, (11): 2109)

See Fu et al. (2001) for an analysis. Gapping, by contrast, cannot; as (98) demonstrates.²²

²²Hernandez's example illustrating this point is **Sal is a forger of passports and Holly paintings*. This example, however, also violates Upward Bounding, which we will encounter next. In-

(98) * Sal saw a forger of passports and Holly ~~forge~~ paintings.

(based on Hernández 2007, (10): 2110)

And a final problem is that there is a condition like Downward Bounding that holds of the antecedent for the Gap in the left conjunct. That condition requires that the antecedent for the Gap not be embedded. It is responsible for the ungrammaticality of (99).

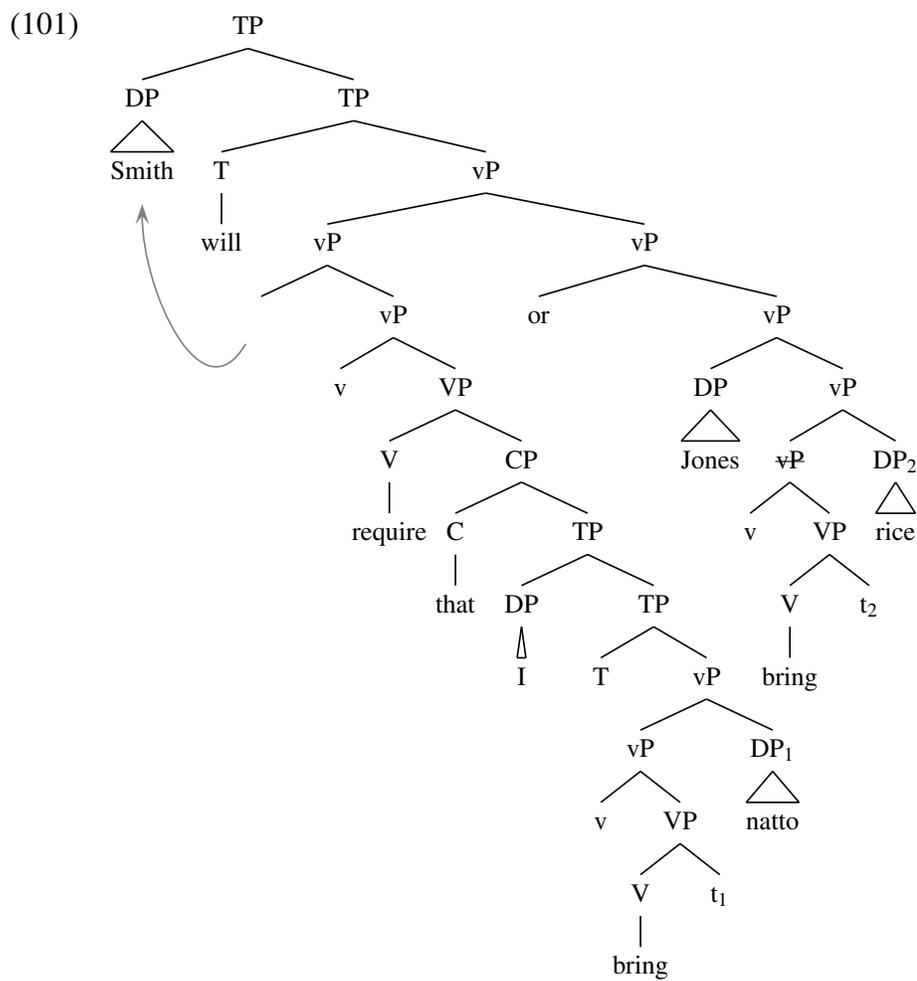
(99) * Either [Smith will require that I bring natto], or [Jones rice].

(99) is only grammatical if the disjunction is interpreted as the complement to *require*; it cannot have an interpretation in which the disjunction is the one indicated by the brackets. Pseudo-gapping is possible in this context, as we can see from (100).

(100) Either [Smith will require that I bring natto], or [Jones will rice].

If Gapping is just a low coördination in tandem with Pseudo-gapping, then (99) should be able to get the representation in (101). (I've suppressed here the irrelevant XP, μ P and the movements they incur.)

deed, my own example might too depending on the exact parse of deverbal nominals and what derives Upward Bounding.



An ellipsis based account of Gapping doesn't explain what Hankamer (1979), who first discovered this constraint, called the Upward Bounding Constraint:

(102) Upward Bounding Constraint

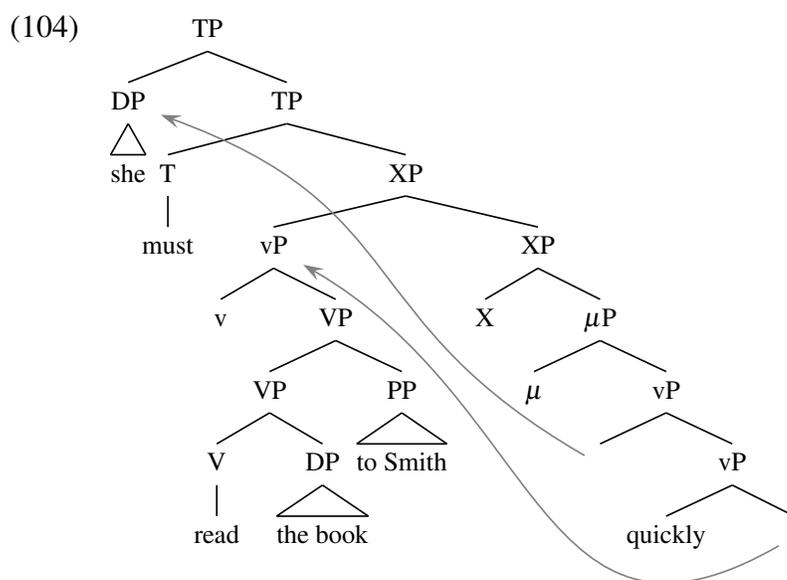
The antecedent for a Gap must include the highest term in the verbal sequence of the first conjunct.

4.1.2 Across-the-Board Movement

In an attempt to solve these problems with the ellipsis-based account, Johnson (2009) proposes that Gapping only involves across-the-board movement.

Following proposals in Kayne (1994), Johnson suggested that the syntax of English can involve short movement of a verbal projection. A sentence like (103), for instance, can have a representation like (104).

(103) She must read the book to Smith quickly



We can imagine that this is the phrasal version of movement of the single verb into X. Here, I'll assume that English allows either head movement of the V to X, or phrasal movement of vP to XP, to bring the verb into its surface position.²³

²³I've remained cryptic about the identity of X, but one could adopt the view in Zwart (1993, 1994)'s work on Dutch, or the similar ideas in Bowers (2002), that it is "Pred".

If this movement is available, then it can happen in across-the-board fashion in contexts where there are low coördinations, and this will produce Gaps of verbal projections, not just verbs. For instance, the Gap in (105) can be derived by across-the-board moving *give a book* as shown in (106).

(105) Some gave a book to Jones and others to Smith.

(106) Some [_{VP} gave a book]₁ [_{XP} [*t*₁ to Jones] and [others [*t*₁ to Smith]]]

The complete set of relevant cases aren't given in Johnson (2009), however, and it is not transparent how the right word orders are always achieved – a problem that has been pointedly raised by Vicente (2010) and Boone (2014). For instance, to form the Gap in (107) requires Gapping *give* and *to me*.

(107) Some gave books to me and others magazines.

That can be done in one of two ways on Johnson's account. Either the verb and the PP independently move across-the-board, as in (108), or they move across-the-board as a phrase, out of which the contrasting objects have moved, as in the derivation in (109).

(108) Some gave₁ [to me]₂ [_{XP} [[*t*₁ books] *t*₂] and [others [[*t*₁ magazines] *t*₂]]]

(109) a. Some [_{XP} [[[gave *t*] to me] books] and [others [[gave
↑
t] to me] magazines]].

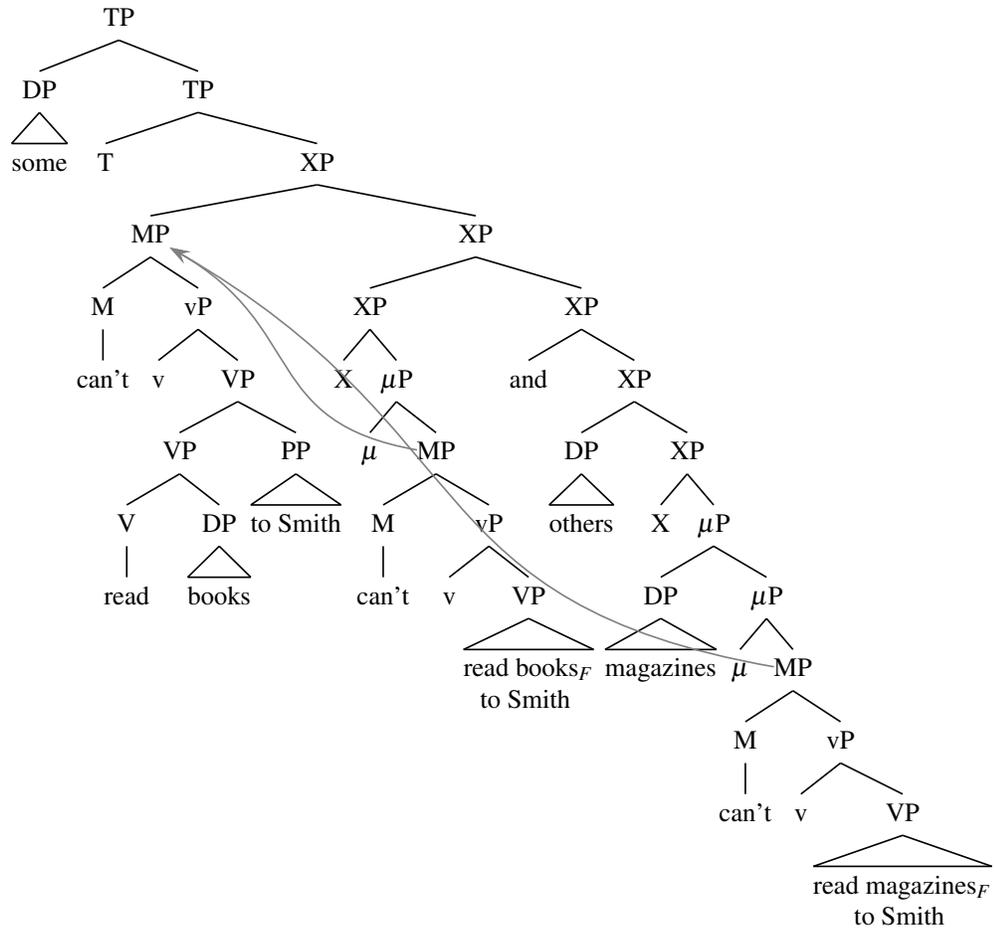
b. Some [_{VP} gave *t* to me]₁ [_{XP} [*t*₁ books] and [others [*t*₁ magazines]].

In neither case is the word-order in (107) achieved, and it is not transparent how to derive that word-order. This is the same problem we saw in (37) for Stripping,

where the movement operations necessary to form the string that elides in the second conjunct cannot be mirrored by overt movement operations in the first conjunct's antecedent to the ellipsis. On an ellipsis based account, this can be solved by letting the movement operations in the first conjunct happen covertly. But that's not a possible solution in the across-the-board account, since it is the overt form of the elided phrase that is spoken in the left conjunct on that account.

The across-the-board account does, however, provide a way to capture the fact that a modal can be interpreted inside the coordination when Gapping involves both the modal and the main verb. In that scenario, the phrase that moves across-the-board could be made to include the modal. If the standard view that modals surface in T is correct, then the easiest way of getting this to work would be to assume that modals have a lower underlying position from which they move. If that lower position is inside the phrase that moves across-the-board, then representations like (110) could produce the desired interpretation.

(110)



The surface form could be produced from (110) by moving *can't* from the phrase it heads (i.e., MP) into T. If movement of both MP and movement of *can't* into T are semantically vacuous, this syntax will achieve the desired reading, one in which *can't* is interpreted in both conjuncts.²⁴

²⁴A problem with letting a modal move from an underlying position lower than T is that it allows for derivations in which it moves across-the-board out of conjoined MPs. This would be another way of achieving a gap of the modal alone, and this could wrongly allow it to be interpreted both conjuncts of a Gapping construction. Letting modals move threatens to unravel Siegel's ex-

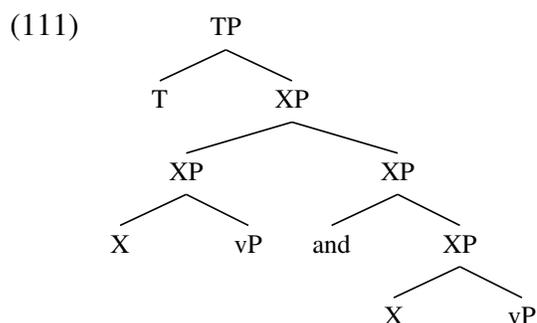
The across-the-board account also derives Upward Bounding. Because the movement of vP to XP is by definition clause-bound, it will not be able to produce violations of Upward Bounding. It also doesn't make the erroneous prediction that Gapping of this type will only be possible in languages, and syntactic contexts, that have Pseudo-gapping. Instead, it makes the more difficult to confirm prediction that it only happens in languages that have predicate movement of the sort that (104) illustrates.

Both executions of the small conjuncts analysis harbor problems that have not yet been overcome. The across-the-board based analysis has its most serious difficulties in explaining the word-orders that arise, and the Pseudo-gapping based analysis has its greatest difficulties in explaining why Pseudo-gapping qua Gapping becomes available in environments where it is not otherwise available. In addition to these problems there are various more particular problems of execution which we will review in the next section.

But let's highlight first the reasons for maintaining a small conjuncts analysis. It explains why Gapping is found in coordinations, and not other sentential connectives. It also explains Downward Bounding, as we've seen, and if the across-the-board account is adopted, Upward Bounding as well. And, finally, it explains why the movement operations that seem to be responsible for forming the strings that can Gap are just Heavy NP Shift, Object Shift and the putative short focus movement, normally covert in English. If Gapping can be planation for the fact that a modal has just wide scope in these cases. In addition, as Jeroen van Craenenbroeck notes, these derivations violate the Freezing Principle.

fed by just these movement operations, and not by movement operations that can span longer distances, then we will explain why Gapping and Stripping cannot remove part of an embedded finite clause.

How does the small conjuncts analysis restrict the class of movement operations that can form Gaps and Strips? The small conjuncts analysis traps these operations into structures where T remains outside coordinated phrases that contain a vP, as in (111).



If the constituent that Gaps or Strips is vP, then the only material that can remain behind will have to reside somewhere in XP but outside vP. The only established movement operations in English that target this region are Heavy NP Shift, Object Shift, and, presumably, Focus Movement. The small conjuncts analysis therefore restricts the class of movement rules available to form Gapped phrases by forcing those movement rules to be ones whose landing site is within the small conjunct.

This predicts that the kinds of Gaps a language has should vary with the inventory of short movement rules it possesses. Languages with short Scrambling, for instance, should be able to use this rule to form a Gapped

constituent. We should also see differences cross-linguistically in what a Gap can include that will track what material can be put between vP and XP. This might be the reason that German, as Repp (2006a, 2009) shows, can have Gaps in which the sentential negator is interpreted in just the first conjunct.

- (112) Carl hat meine Katze nicht genommen, aber Harry meinen Hamster.
Carl has my cat not taken, but Harry my hamster.
'Carl didn't take my cat but Harry took my hamster.'

(Repp, 2009, (3.21): 94)

This could reflect the fact that sentential negators in German are low adverbs and can therefore be positioned within the first conjunct while still allowing the vP of that conjunct to serve as the antecedent for the Gap. See Repp (2009) for a different approach, and for a discussion of the factors that influence the availability of this reading.²⁵

4.2 Large Conjuncts

Let's now consider an account that allows Gapping and Stripping to occur when two full clauses are coördinated: a "large conjuncts" account. An

²⁵Repp suggests that a similar interpretation is available in the English (i).

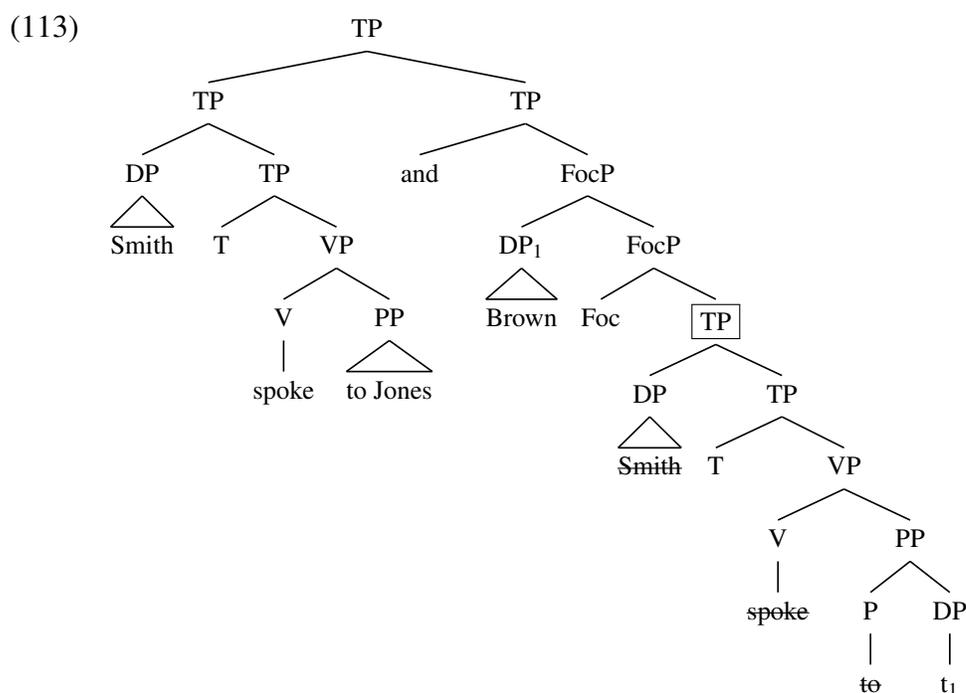
- (i) Pete wasn't called by Vanessa but John by Jessie.

(Repp, 2009, (3.2): 84)

I, and most of my consultants, find this sentence ungrammatical. It can be marginally improved by adding *rather* after *but*. Consultants who find this sentence grammatical do report that it has the meaning ascribed to it by Repp. I haven't found an example with *and* or *or* that has a similar effect. See (Repp, 2006b) for some discussion.

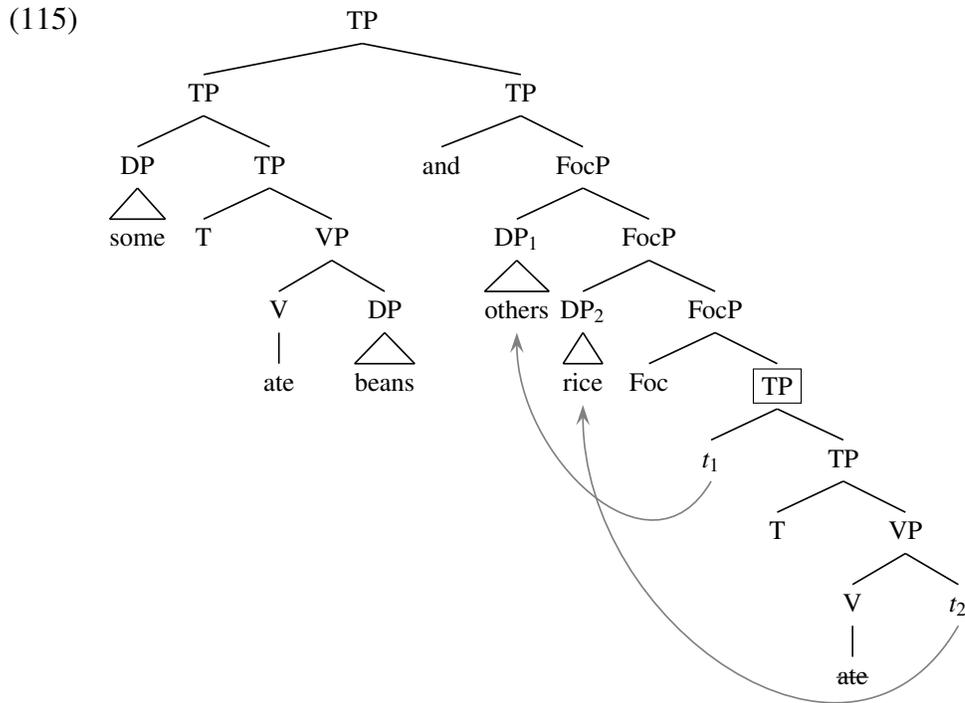
across-the-board account is incompatible with this possibility, so the Gap or Strip will have been created by ellipsis. Because Heavy NP Shift and Object Shift do not move their phrases far enough out of the VP to escape an elided clause, we will assume it's Focus Movement to the left edge of the clause that creates the elidable string. A Stripping example like (37), repeated here, will have the structure in (113).

(37) Smith spoke to Jones today and Brown too.



Ellipsis silences the boxed TP. A Gapping example like (114) will get a representation like (115).

(114) Some ate beans and others rice.



Note that both remnants of the Gap are in a contrastive focus relationship to the parallel arguments in the first conjunct, and this is captured by moving both of them to the Specifier of Focus Phrase. Because there can be an indefinite number of remnants to a Gap, we will have to allow there to be an indefinite number of Focus positions to be moved into.²⁶

Something must ensure that the remnants of the Gap are ordered in a particular way. It isn't possible to move the remnants out of the Gapped TP in (115) so that the object precedes the subject: *Some ate beans and rice others is ungrammatical*. A parallel requirement is needed for the small conjuncts account

²⁶Jackendoff (1971) suggests that Gapping can have no more than two remnants, but I believe the facts suggest a steady decline in grammaticality as the number of remnants increase, with no sharp cutoff point.

as well, since the remnants of the Gapped vP on that account must be similarly ordered (witness the contrast in (116)).

- (116) a. Some brought pickles for Sam and others olives for Mary.
b. * Some brought pickles for Sam and others for Mary olives.

The generalization seems to be that the linear order of the Gap's remnants must be the same as the linear order of the phrases they are contrasted with in the antecedent. That is what paradigms like (117) imply.²⁷

- (117) a. Into the study walked Mary and into the closet, Sam.
b. * Into the study walked Mary and Sam, into the closet.
c. Mary walked into the study and Sam, into the closet.
d. * Mary walked into the study and into the closet, Sam.

As far as I know, this effect is unexplained.

Allowing for a large conjuncts analysis gives an immediate remedy for several of the afflictions of the small conjuncts account. It permits an explanation, for instance, of Seigel's paradigm concerning the scope of modals. Recall that when only the modal Gaps, as in (77b), it necessarily scopes outside the conjunction. But when both modal and verb Gap, as in (96), it can scope either outside or inside the conjunction.

(77b) Ward can't eat caviar and his guest eat dried beans.

(96) Ward can't eat caviar and his guest dried beans.

²⁷Hudson (1976b) discusses Gapping in inversion structures like (117a).

If both a large conjuncts and small conjuncts syntax for Gapping are available, then the ambiguity of (96) emerges. The wide scope reading for *can't* arises when it is outside the conjunction and the small conjuncts syntax is used. The narrow scope reading for *can't* arises when *his guest* and *dried beans* have focus moved out of a TP and the large conjuncts syntax is used. The unambiguity of (77b) can be ensured if the large conjuncts syntax can be blocked in this configuration. That might be achieved by disallowing focus movement of VPs, which is what would be required if (77b) were to get a large conjuncts analysis.

Allowing Gapping and Stripping to come by way of large conjuncts also removes the problem that Gapping is possible in places where Pseudo-gapping isn't. Recall that there are languages which have Gapping and Stripping, but not Pseudo-gapping (e.g., Icelandic) and there are contexts in English where Gapping is possible but Pseudo-gapping isn't (e.g. complements to causative or perception verbs). If large conjuncts, and an accompanying TP ellipsis, can produce Gaps, then this could be the source of the gaps in these situations. Of course, this requires that there be independent justification for the TP ellipsis in these languages and environments that the large conjuncts account requires. A candidate for this independent evidence is "fragment answers", which we will look at in the next section. This is the ellipsis needed to produce fragment answers, of the kind that (118) illustrates.

(118) A: Jones ate seafood.

B: Bread too.

Merchant (2004) makes a convincing case that the question-answer versions of these conversations derive from an ellipsis which removes everything but *Baker* from *Baker, Smith spoke to yesterday*. (See Weir (2014, 2015) for an extension of Merchant's analysis to cases like these). It's conceivable, then, that the Gaps and Strips could be achieved with this ellipsis process applying to clause-sized coördinates. Boone (2014) is an extended argument for this approach.

If languages like Icelandic only have Gapping in clause-sized conjuncts, we expect that Gaps of the form in (96) will unambiguously have a narrow scope reading for *can't* in languages like Icelandic.²⁸ As noted above, Repp (2006a) reports that German, which also fails to have Pseudo-gapping, has facts inconsistent with the small conjuncts analysis when negation and Gapping are combined.

Finally, allowing a large conjuncts analysis alongside a small conjuncts analysis gives an account for the fact that the subject in a clause with Gapping can be either accusative or nominative in English.

(119) a. She likes rice, and he beans.

b. She likes rice, and him beans.

²⁸Similarly, it predicts that examples like *No father should make okonomiyaki or his daughter eat it* won't allow the bound variable reading for *his* in Icelandic and similar languages.

On a large conjuncts account, the subject of the clause with Gapping will have moved into the nominative Case marked position and, from there, into its focus position. On a small conjuncts account, the conjunct with the Gap will be too small to contain Specifier of TP, where nominatives appear in English, and we can expect the default accusative Case form instead.²⁹ When this is put together with the account for Seigel’s contrast between (77b) and (96) sketched above, we make the prediction that (77b) should only allow the accusative form, as this example only has a small conjuncts syntax. I don’t believe that prediction is confirmed, as there is only the slightest difference in grammaticality between the nominative and accusative examples of (120).

- (120) a. She can’t eat caviar and him eat dried beans.
 b. ? She can’t eat caviar and he eat dried beans.

It also predicts that using a nominative or accusative subject should disambiguate (96). A nominative subject in the second conjunct should require a large conjuncts analysis, forcing *can’t* to be within each conjunct, and an accusative subject in the second conjunct should require a small conjuncts analysis, forcing

²⁹Note that in German, where the default Case is nominative, the subject of a Gapped clause can only be nominative.

- (i) Sie mag Reis und er Bohnen.
 she-NOM likes rice and he-NOM beans
 (ii) * Sie mag Reis und ihm Bohnen.
 she-NOM likes rice and her-ACC beans.

can't to scope outside the conjunction. I haven't examined this prediction with enough thoroughness, but it is in only partial accord with my judgments about the cases in (121).

- (121) a. She can't eat caviar and he dried beans.
 ≈ She can't eat caviar and he can't eat dried beans., *or*
 ≈ It's not allowed for her to eat caviar and him to eat dried beans.
- b. She can't eat caviar and him dried beans.
 ≈ It's not allowed for her to eat caviar and him to eat dried beans.

As expected, the accusative subject in (121b), which is only compatible with a small conjuncts syntax, forces *can't* to scope outside the conjunction. But the nominative subject in (121a) allows for both readings, suggesting that it is compatible with either a small conjuncts or large conjuncts syntax. The grammaticality of (120b) and the wide scope reading for *can't* in (121a) would both follow if English subjects can be nominative when they remain in their underlying position. It isn't trivial to discover whether this is the case since the scenarios where subjects in their low position can be pronouns – the only terms that show Case morphology in English – are rare.

These are some of the advantages to letting Gapping and Stripping occur with clause-sized conjuncts. There are also certain kinds of examples that are admitted by widening the set of coördinations that host Gapping to clause-sized ones. We should, for instance, expect Gapping to be possible in coördinated CPs. This does not generally seem to be the case, however. Gapping is blocked in

coördinated complement CPs (= (122a) and (122b)), adjunct CPs (= (122c) and (122d)), and relative clause CPs (= (122e)).³⁰

- (122) a. * Smith said that some like beans and that others rice.
b. *compare*: Smith said that some like beans and others rice.
c. * Smith wanted for some to bring beans and for others rice.
d. *compare*: Smith wanted for some to bring beans and others rice.
e. * If some bring beans and if others rice, we'll have everything we need.
f. *compare*: If some bring beans and others rice, we'll have everything we need.
g. * Smith stayed because some brought beans and because others rice.
h. *compare*: Smith stayed because some brought beans and others rice.
i. * This is the woman who some gave books and who others magazines.
j. *compare*: This is the woman who some gave books and others magazines.

But Gapping does seem possible in coördinated CPs if they are interrogatives:³¹

³⁰The fact that a complementizer in coördinated CPs blocks Gapping is reported in Hartmann (1998).

³¹In all the examples of Gapping we've seen so far, the remnants are in a contrastive focus relation to parallel phrases in the antecedent. If that holds for (123), then interrogative determiners, *which*, in the second conjuncts should be contrastive related to something in the first conjunct.

- (123) a. Smith asked which guest had brought rice and which beans.
b. Which guest has brought rice and which beans?

Sluicing is a clausal ellipsis that is found only in questions, and so it might be the source of examples like (123). If Sluicing is responsible for these constructions, and not Gapping, then there are no examples of coördinated CPs that support Gapping. That is an unsolved problem for the view that Gapping can occur in clause-sized conjuncts.

Allowing Gapping and Stripping to occur in clause-sized conjuncts brings real benefits. But we lose some of the features that drive a small conjuncts account. Because a small conjuncts account claims that the highest head in the verbal sequence isn't elided, but is instead simply outside the coördination, it derives the fact that Gapping and Stripping are found only in coördinations and it derives Downward Bounding. The across-the-board variant of the small conjuncts account also derives Upward Bounding. If Gapping and Stripping aren't restricted to just small conjuncts, then there is no explanation for these three properties.

5 Future Directions

While the small conjuncts analysis predicts that Gapping and Stripping show up in coördinations but not adjuncts, it doesn't explain why Fragment Answers, and See Romero (1998) for an account. For a discussion of Gapping in question contexts, and an exploration of some of their constraints, see Pesetsky (1982).

similar discourses, as well as comparatives should have superficially similar looking ellipses. If these cases are to be brought into the analysis, then a force that uniquely singles out these environments should be found. The only attempt I have found in the literature to do this that doesn't use the small conjuncts analysis points to the antecedent conditions on ellipsis instead. Perhaps the most salient of these accounts is in Andrew Kehler's work, which I will briefly sketch here.

Kehler argues that the antecedence conditions on ellipsis track relations that hold discourses together, and that they are responsible for segregating one kind of ellipsis from another. In Kehler (2000) (and see also Kehler 2002), he adopts a typology of discourse relations from Hobbs (1990) and applies them to the antecedence conditions on ellipsis. He singles out two relations in particular: "cause-effect" and "parallel". The "cause-effect" relation is invoked to connect the two sentences in (124a), and the parallel relation is invoked to connect the sentences in (124b).

- (124) a. Bill was about to be impeached. He called his lawyer.
b. Bill likes to play golf. Al enjoys surfing the net.

(Kehler, 2000, (15a),(16a))

Kehler (2000) suggests that the antecedence conditions on VP Ellipsis are tied to either one of these relations. I'll frame that hypothesis informally with (125).

(125) *Condition on VPE*

For VP_a to be the antecedent of elided VP_e , VP_e must be embedded in a clause that is either parallel to, or the result of, a clause VP_a is embedded in.

Cases which satisfy (125) are (126).

- (126) a. Bill drank milk because Sam did Δ .
b. Bill drank milk and Sam did Δ too.

Gapping, by contrast, is subject to a narrower condition, one that forces the Gapped material and its antecedent to be in a parallel relation. I'll frame this condition with (127).

(127) *Condition on Gapping*

For XP_a to be the antecedent of a gapped XP_e , XP_e must be embedded in a clause that is parallel to a clause that XP_a is embedded in.

This captures the contrast in (128).

- (128) a. * Bill drank milk because Sam gin.
b. Bill drank milk and Sam gin.

If the notion “parallel” can be formalized correctly, it might manage to restrict the range of connectives that Gapping can exist in to just those involving *and* and *or*.

This approach to the question of what derives the environments where Gapping can occur is wholly semantic, and Kehler argues that is supported by the fact that Gapping has an effect on the meanings of the coordinations that host it. To see this, consider the range of meanings that (129) can have.

- (129) a. Sue became upset and Nan became downright angry.
b. Al cleaned up the bathroom and Joe cleaned up the mess.
c. One of the students was accepted at Bryn Mawr and the high school was praised on TV.

(Kehler, 2000, (80): 563)

In each of these cases, the conjunction can have a strictly Boolean interpretation: the sentences report merely that both propositions are true. But it is also possible to understand these sentences as communicating more: that there is a temporal or causal connection between the propositions each conjunct conveys. In (129c), for instance, the second conjunct could be construed as the result of the first. Kehler reports that Levin and Prince (1986) discovered that this second reading disappears when Gapping applies. The sentences in (130) have only the strictly Boolean interpretation.

- (130) a. Sue became upset and Nan downright angry.
b. Al cleaned up the bathroom and Joe the mess.
c. One of the students was accepted at Bryn Mawr and the high school praised on TV.

(Kehler, 2000, (81): 563)

This follows from (127), if the parallel relation can be defined so that it precludes all but the Boolean construal.

For Kehler's system to explain why Gapping is restricted to coordinations an adequate definition of the parallel relation is required, but an explanation for

why Gapping is only capable of using this relation is needed too. Kehler suggests that the cause-result relation – and all the other similar discourse relations – cannot be used when syntactic reconstruction of the anaphor is at play and that this is why only the parallel relation can be employed in Gapping. He assumes, along the lines described above, that Gapping necessarily involves ellipsis of a constituent from which the remnants have moved and that the only method of achieving this is for the Gap to have syntactic structure that is reconstructed from the antecedent. VP Ellipsis, by contrast, he argues can arise without syntactic reconstruction, and is therefore able to make use of more discourse relations in finding its antecedent. Note, however, that if Pseudo-gapping is similarly an instance of ellipsis of a constituent from which the remnant has moved, this would wrongly predict that Pseudo-gapping is restricted to coördinations in the same way that Gapping is.

(131) Smith ate nattoo because Bill had rice.

An explanation for the putative connection between the restriction to parallel discourse relations and Gapping remains wanting.

A definition of “parallel” that might do the job needed comes from Craige Roberts’ notion of “Question under Discussion”. Roberts (2012) sketches a model of discourse cohesion that relates each sentence of a discourse to an implicit goal that the contributors to that discourse share. Those goals, she suggests, can be modeled as the answer to an implicit question: the “Question under Discussion”. Reich (2007) suggests that the antecedents to Gapping constructions come from these implicit Questions under Discussion. Perhaps we

can take Kehler’s “parallel” relation to be the sentences that are related to the Question under Discussion in the way that Reich suggests. See Weir (2014) for an elaboration of Reich’s idea that solves some of its problems, like those in AnderBois (2010).

Consider how this model will apply to the environments we have seen Gapping licensed in. When the Question under Discussion is overt, we have the special case of Gapping being licensed in answer contexts:

(132) A: Who ate what?

B: Jones, seafood.

A declarative sentence can sometimes also be used to invoke a Question under Discussion, thereby also providing the antecedent to a Gap. Thus, for instance, (133a) could invoke the Question under Discussion in (133b), licensing the Gap in (133c).

(133) a. A: Someone ate something.

b. QUD: Who ate what?

c. B: Yes, Jones, seafood.

And (134a) could invoke the Question under Discussion in (134b), thereby licensing the Strip in (134c).

(134) a. A: Jones ate seafood.

b. QUD: What did Jones eat?

c. B: Bread, too.

Coördinations could be understood as having a first conjunct which invokes a Question under Discussion that, in turn, licenses Gapping in the second conjunct.

To formalize Kehler's parallel relation with the Question under Discussion model, and to use it to explain Gapping's restriction to coördinations, requires that only root assertions be able to contribute to the Question under Discussion.³² Imagine that coherent discourses consist of assertions offered by participants which constitute partial answers to the Question under Discussion. Under normal circumstances, these assertions are the root, independent, sentences uttered by the participants. A rough description of the condition on Gapping could then be (135).

(135) QUD condition on Gapping and Stripping

XP can Gap or Strip if it is proffered as a partial answer to the Question under Discussion, Q, and XP's meaning can be recovered from Q.

Because coördinated clauses in a strictly Boolean coördination act like root assertions, they could each be understood as independently providing a partial answer to the Question under Discussion. The first conjunct, then, would offer information about what the Question under Discussion is by providing a partial answer to it, and the second conjunct provides another partial answer to that Question under Discussion and is thereby able to house a Gap. This is roughly the direction that Reich (2007) pursues.

³²Jeroen van Craenenbroeck points out that this does not lead to the expectation that Gapping can be inside embedded contexts, as in "John regrets that no one asked whether Sally likes beans or Bill rutabagas".

(135) also comes close to deriving Upward and Downward Bounding. It requires that the clause with the Gap and the clause containing the antecedent are parallel and this, as Toosarvandani (2016) has argued, could capture many of the cases Downward and Upward Bounding are designed for. If the typical means of making a contribution to a discourse is with the meaning of a root clause, then only root clauses will be able to be Gapped. But, as noted, conjuncts of a coördination are straightforward exceptions to that, as their semantics allows them to be understood as independent contributions to the discourse when they get a strictly Boolean interpretation.³³ This will effectively block violations of Downward Bounding like those in (136).

(136) * Smith ate sushi and everyone thought that Jones rice

The first conjunct can license the Question under Discussion *who ate what?*, but the second conjunct can only obliquely be construed as a partial answer to that question. In a parallel way, (135) can explain why violations of Upward Bounding like (137) are blocked.

(137) * Either [someone thought that Smith ate sushi] or [Jones rice].

A Question under Discussion that the first disjunct licenses is *who thought that who ate what?*, to which the second disjunct cannot be construed as a partial answer. There are no other Questions under Discussion that the first coördinates

³³Disjunctions work similarly, though in a weaker way. Each disjunct can be linked to a Question under Disjunction in the way necessary to license Gapping, but the disjuncts are not offered as independently partial answers of the QUD, but instead potential partial answers.

of (136) or (137) can license that the second coördinates can be partial answers to, and (135) will therefore correctly block them.

An advantage of deriving Downward Bounding in this way is that it offers a method for relaxing it, and there are reports of cases where it does seem to be relaxed. Weir (2014), for instance, reports that the clausal complements to certain verbs allow relaxation of Downward Bounding when the complementizer is unexpressed.

- (138) a. ? John ate oysters and I think Mary swordfish.
b. ? John ate oysters and I believe Mary swordfish.
c. John ate oysters and I suspect Mary swordfish.
d. John ate oysters and I imagine Mary swordfish.

(Weir, 2014, (680): 333)

And Wurmband (forthcoming) reports a similar effect for Stripping:

- (139) Jane loves to study rocks, and John says geography too.

(Wurmband, forthcoming, (5d))

Weir and Wurmband propose that the obligatory absence of the complementizer is connected to the purely syntactic conditions that determine which constituents can be elided. As we've seen the presence of a complementizer blocks Gapping in cases where embedded CPs are conjoined, and this could be connected to these cases. (138) and (139) show that when this syntactic constraint is satisfied, Downward Bounding is sometimes relaxed. Similarly, Farudi (2013) shows that certain cases of Gapping in Farsi also allow violations of Downward Bounding.

- (140) Maamaa chaai xord va fekr mi=kon-am baabaa qahve.
mother tea ate.3sing and think IMP-do-1sing father coffee
'Mother drank tea and I think Father drank coffee.'

(Farudi, 2013, (108a): 81)

The relaxation of Downward Bounding here could be credited to the ability of the embedded clauses in these examples to constitute a partial answer to the Question under Discussion. Perhaps with these verbs, the propositions they embed can be understood as proffered by the speaker, thereby satisfying (135). When the embedding verb presupposes the truth of the proposition they embed, however, it would not allow those propositions to be part of what the speaker is asserting. This predicts correctly that Downward Bounding holds in the factives of (141).

- (141) a. * John ate oysters and I remember Mary swordfish.
b. * John ate oysters and I deny Mary swordfish.
c. * John ate oysters and I am surprised Mary swordfish.

(Weir, 2014, (680b,c): 333)

See Weir (2014) for a worked out account along these lines.

Kush (forthcoming) argues that deriving Downward and Upward Bounding from something other than the small conjuncts analysis is warranted from a cross-linguistic perspective as well. He shows that Hindi-Urdu obeys Downward and Upward Bounding, and yet doesn't have many of the other properties predicted by the small conjuncts analysis. For instance, Hindi-Urdu doesn't permit material that appears to reside in the first conjunct to scope over the

second conjunct, as we've seen is possible in English Gapping constructions. The subject of the first conjunct in (142), for instance, cannot bind the pronoun in the second conjunct.

- (142) * Koi bhii larka₁ doctor ke-paas nahiin gayaa, na uskii₁ maa
some EMPH boy doctor near neg go-PFV.M nor his mom
dentist ke-paas.
dentist near
'No boy went to the doctor or his mom to the dentist.'

(Kush, forthcoming, (24))

He suggests that languages vary with respect to whether Gapping elides a full clause or a smaller VP-like constituent, but that this variation doesn't track whatever it is that derives Downward and Upward Bounding. An approach that credits the antecedence conditions on Gapping to something like (135), and derives Upward and Downward Bounding from it, would allow for such a typology.³⁴

For (135) to successfully constrain Gapping and Stripping would require a formalization of its key parts, including how it is that a Gap or Strip recovers the elided material from the Question under Discussion. As we've just seen, it offers a method for constraining Gapping and Stripping to just coördinations and certain cross-discourse constructions, and it also offers a way of deriving Upward

³⁴Erschler (2016) also reports a number of languages in which violations of Downward Bounding are found. However, in the ellipses he is studying many of the other attributes of Gapping are not found – they are found in adjunct clauses, Upward Bounding is violated, and Backwards Gapping also seems possible. I tentatively conclude that his cases have a different source than Gapping does.

and Downward Bounding that relaxes its effects in ways that might be required. Interestingly, though, it doesn't block simultaneous violations of Upward and Downward Bounding, like those in (143).

(143) * Smith decided that Sally likes nattoo and Jones decided
John likes okonomiyaki.

A Question under Discussion that the first conjunct of (143) can invoke is (144).

(144) Who decided who likes what?

The second conjunct of (143) is a partial answer to this question and should, therefore, satisfy (135). Moreover, though an account based on (135) would do a better job of allowing Gapping and Stripping in constructions other than coordinations – like question-answer exchanges – it wouldn't seem to permit Gapping and Stripping in comparatives, which (7) seems to indicate is necessary.

Nonetheless, a more careful investigation of the discourse and information structure of Stripping and Gapping seems likely to reduce the number of open mysteries these interesting constructions harbor. I recommend this direction to those embarking on a Gapping and Stripping career.

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