The syntax and licensing of Gapping and Fragments

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CHAPTER 2

The syntax of Gapping and Fragments

1 Introduction

In this chapter, I investigate the syntax of Gapping and Fragments. In Gapping, at least the finite verb is missing (1a), but other material may go missing, too. In (1b), besides the finite verb, the direct object is missing, in (1c) the indirect object and in (1d) the adjunct.

(1) a. Max ate the apple and Sally the hamburger. (Jackendoff, 1971)
b. Some served mussels to Sue and others to Jane.
c. Some served mussels to Sue and others shrimp.
d. Some congratulated Sue with John's birthday and others Suzan.

In Fragments, a remnant can function as the answer to a question (2a), an elaboration (2b) or a correction (2c). Fragments differs from Gapping mainly in that a fragment is not embedded in a syntactic context, whereas the remnants in Gapping are part of a coordination.

(2) a. A: Who did you see?
B: Bill.
b. A: I saw someone.
B: Yeah, Bill.
c. A: You saw John.
B: No, Bill.

Although B's responses in (2) consist of a single nominal phrase, they are nonetheless understood as propositions. In (2a), for example, B's response is understood as 'I saw Bill'. The question is how the single remnant in B's response can be understood to convey a proposition. This same puzzle presents itself in Gapping. The second conjunct in (1a), *Sally the hamburger*, conveys the meaning 'Sally ate the hamburger'. In this chapter, I investigate the syntax that underlies Gapping and Fragments and the syntactic environments these elliptical constructions occur in. In section 2, I present Merchant's evidence for assuming that a full-fledged syntactic structure underlies fragment responses. The evidence comes from so-called *connectivity effects*. I show that the same arguments hold for Gapping, thus indicating the presence of a full-fledged syntactic structure in Gapping. If this theory is on the right track, the fact that Gapping and Fragments are understood as propositions is no longer mysterious: the presence of a full-fledged syntactic structure predicts that the semantics underlying Gapping and Fragments is exactly the semantics underlying non-elliptical sentences, namely a proposition.

(3) a. Max ate the apple and Sally ~~ate~~ the hamburger. Gapping
b. Who did you see?
~~I saw~~ Bill. Fragments

In section 3, I discuss Merchant's (2004) arguments for postulating movement of remnants out of the ellipsis site. Merchant presents several tests for diagnosing movement of remnants out of the ellipsis site in Fragments. I show that these tests lead to the same conclusion for Gapping. I assume throughout that the remnants adjoin to the ellipsis site, as in (4). I furthermore assume that extraction of remnants is free and does not involve any checking (or valuation) of features.

(4) a. Max ate the apple and $[[_{\text{DP}}$ Sally$]_i$ $[[_{\text{DP}}$ the hamburger$]_j$ $[\sout{_{\text{XP}}\ t_i \text{ ate } t_j}\,]]]$
b. Who did you see? - $[[_{\text{DP}}$ Bill$]_i$ $[\sout{_{\text{XP}}\text{ I saw } t_i}\,]]$

In section 4, I consider what exactly is targeted by ellipsis. In other words, I identify what XP stands for in (4a,b). I present evidence that XP does not stand for a fixed constituent in Gapping. More specifically, I show that Gapping can target at least *v*P, TP and CP.

Section 5 concludes this chapter. The main conclusion is that the syntactic derivation of Gapping and Fragments is identical.

2 Syntactic structure in the ellipsis site

In this section, I review Merchant's (2004) arguments for postulating a full fledged syntactic structure in the ellipsis site. One of Merchant's arguments comes from so-called *connectivity effects*. A connectivity effect obtains when the remnant and the part of the sentence that has been elided show a dependency. The crux of Merchant's argument is that these relations between remnant and ellipsis site are captured straightforwardly if there is a syntactic relation between remnant and ellipsis

site. In section 2.1, I consider case connectivity and in section 2.2 binding connectivity effects.

2.1 Case connectivity effects

Merchant (2004), building on Merchant's (2001) theory of Sluicing, presents a theory of Fragments, which postulates the presence of a full fledged syntactic structure in the ellipsis site. A strong argument in favor of this claim is that remnants show grammatical dependencies to the ellipsis site, so-called *connectivity effects*. One of these connectivity effects is 'case matching', first noted by Ross (1969). Consider the following examples (taken from Merchant, 2004).

(5) Wem folgt Hans?
who.DAT follows Hans
'Who is Hans following?'
a. Dem Lehrer.
the.DAT teacher
b. * Den Lehrer.
the.ACC teacher

(6) Wen sucht Hans?
who.ACC seeks Hans
'Who is Hans looking for?'
a. * Dem Lehrer.
the.DAT teacher
b. Den Lehrer.
the.ACC teacher

Examples (5) and (6) show that the case of the fragment must correspond to the case that the elided verb assigns. In (5a), for example, the Fragment *dem Lehrer* bears dative case. As (5b) shows, it can't surface with accusative case. Merchant reasons that if there is a full-fledged syntactic structure in the ellipsis site, the fact that the Fragment can only bear dative case follows straightforwardly. If a full-fledged syntactic structure underlies the elliptical clause, *dem Lehrer* is actually selected by *folgt*, which is a verb that assigns dative case, not accusative. By parity of reasoning, *den Lehrer* in (6b) must bear accusative case, because *sucht* in the ellipsis site is a verb that assigns accusative case. Case connectivity, then, suggests that what underlies the Fragments in (5a) and (6b), is (7a) and (7b), respectively.

(7) a. ~~Hans folgt~~$_{\text{DAT}}$ dem Lehrer.
H. follows the.DAT teacher
b. ~~Hans sucht~~$_{\text{ACC}}$ den Lehrer.
H. seeks the.ACC teacher

Theories that do not postulate syntactic structure in the ellipsis site must postulate additional machinery to explain the case connectivity facts. In Ginzburg and

Sag (2000), for example, Fragments are introduced by the phrasal type *headed fragment-phrase* which must dominate the Fragment, whose CATEGORY and CONTENT values are the same as those of the correlate. Case and ϕ-features are subtypes of CATEGORY and CONTENT, respectively. Ginzberg and Sag account for the case connectivity facts by stipulating a constraint which forces remnants to bear the same case as the correlate. As such, Ginzberg and Sag's account can be considered a supplement to a theory of ellipsis. Merchant argues that no such supplement is needed in an account of ellipsis that postulates syntactic structure in the ellips. In that case, the case connectivity facts follow straightforwardly from the syntactic structure present in the ellips.

The examples in (8) show that the remnants in Gapping exhibit case connectivity, too. The same reasoning that applied to Fragments applies here. That is, the postulation of syntactic structure in Gapping explains why the remnant must bear the case it bears in its non-elliptical counterpart.

(8) a. Hans folgt dem Lehrer und Peter dem / *den Dekan.
Hans follows the.DAT teacher and Peter the.DAT / the.ACC dean
'Hans is following the teacher and Peter the dean.'

b. Hans sucht den Lehrer und Peter *dem / den Dekan.
Hans sucht the.DAT teacher and Peter the.DAT / the.ACC dean
'Hans is looking for the teacher and Peter for the dean.'

(8a,b) illustrate case connectivity in Gapping. I take this as an indication that there is a full syntactic structure underlying the ellips in Gapping. In (8a), the remnant *dem Dekan* must bear dative case. This is precisely what is predicted if there is syntactic structure in the Gapping clause. The dative case on the remnant is expected given the presence of the dative assigning *folgt* 'follows' in the ellips. Similarly, it follows from the presence of the accusative assigning verb *sucht* 'seeks' in (8b) that the remnant *den Dekan* must bear accusative case.

2.2 Binding connectivity effects

Another type of connectivity effect that remnants of Fragments exhibit is related to binding. The reasoning here runs parallel to the discussion on case matching above. Merchant (2004) shows that the behavior that Fragments show with respect to Chomsky's (1981) Binding Theory is exactly the behavior observed in the non-elliptical counterparts.

Consider the case involving Principle A of the Binding Theory in (9). As (9a) shows, a reflexive is not an appropriate answer to the question in (9). Significantly, this patterns with the judgment of the full answer in (9b). Merchant reasons that this receives a straightforward explanation if (9a) is derived from (9b).

(9) Who did John think Sue will invite?

a. ?? Himself.

b. ?? John thinks Sue will invite himself.

The example in (10a) shows the same as (9). This time, though, the Fragment is grammatical. Again, this can be explained by assuming that (10a) is derived from (10b) by ellipsis. In (10b), the reflexive gets bound locally in accordance with principle A of the Binding Theory.

(10) Who does John like?
  a. Himself.
  b. John likes himself.

Next, I turn to Principle B. The answer in (11a) is ungrammatical. As before, the ungrammaticality stems from the fact that (11a) is derived from (11b) by ellipsis. The answer in (11a) is ungrammatical, because principle B is violated in the underlying structure (i.e. the pronoun is not free in its binding domain).

(11) Who did John$_1$ try to shave?
  a. * Him$_1$.
  b. * John$_1$ tried to shave him$_1$.

We can repeat the refrain for Principle C. The fragment answer in (12a) is ungrammatical as a response to the question in (12). Again, this makes sense if the underlying source of (12a) is (12b), in which a Principle C violation occurs.

(12) Where is he$_1$ staying?
  a. * In John$_1$'s appartment.
  b. * He$_1$ is staying in John$_1$'s appartment.

As with the case connectivity facts, the binding connectivity facts can be taken to signal the presence of a full fledged syntactic structure in the fragment utterance. The fact that remnants must obey the Binding Theory as if they were in a non-elliptical utterance, remains either a mystery or must be explained by additional machinery in theories that deny that there is syntactic structure in the ellips. Below I show that Gapping exhibits the same binding connectivity properties as Fragments. Before turning to these, however, it should be noted that a full paradigm of the binding connectivity facts cannot be obtained. The reason is that the remnants of Gapping are subject to a Clause Mate Condition (cf. Lasnik, 2013).[1] This condition states that the remnants of Gapping must originate in the same clause. The ungrammaticality of the Gapping case in (13a) is due to the fact that the remnants *Peter* and *Martin* are not understood as being in (or originating from) the same clause, as is clear from (13b), the putative source of (13a).

(13) John claims that Mary will invite Bill and
  a. * Peter Martin.
  b. * [**Peter** claims [that Mary will invite **Martin**]].

[1] Gapping is not the only ellipsis type that is subject to the Clause Mate Condition; Multiple Fragments and Multiple Sluicing are also subject to it (cf. chapter 4).

The Clause Mate Condition prevents us from testing non-local binding relations in Gapping, as the test cases will be ungrammatical regardless of the Binding Theory. To clarify this, consider (14). In (14b), there is a Principle A violation: *himself* is bound non-locally by *Peter*. If (14b) is the source of (14a), then its ungrammaticality is explained. At the same time, though, (14a) is also ungrammatical because the requirement that remnants be clause mates is violated. This example makes clear that we can only test for binding connectivity if we can ensure that in the ungrammatical examples, the ungrammaticality results only from a Binding Theory violation.

(14) John claims that Mary will invite Bill and
  a. * Peter himself.
  b. * [**Peter**$_1$ claims [that Mary will invite **himself**$_1$]].

In what follows, I only consider cases in which the Clause Mate Condition is satisfied. In such cases, binding connectivity provides evidence that there is syntactic structure underlying ellipsis in Gapping. The examples in (15)-(17) show that the grammaticality judgments of the a-cases involving Gapping track the grammaticality judgments of the b-cases, the putative input for Gapping under the hypothesis that there is syntactic structure in the ellipsis site.

(15) John will invite Mary and
  a. Peter himself.
  b. Peter will invite himself. Principle A

(16) John admires Mary and
  a. * Bill$_1$ him$_1$.
  b. * Bill$_1$ admires him$_1$. Principle B

(17) In July, he$_1$ is staying in Bill's apartment but
  a. * In August, in John$_1$'s apartment.
  b. * In August, he$_1$ is staying in John$_1$'s apartment. Principle C

Similarly, the possibility of a bound pronoun in Fragments depends on whether this is possible in the non-elliptical utterance, see (18). The same holds for the case of Gapping in (19).

(18) A: Who does every Englishman$_1$ admire?
  a. His$_1$ mother.
  b. Every Englishman$_1$ admires his$_1$ mother.

(19) Some teachers gave [every student]$_1$ a book in his$_1$ favorite cafe and
  a. other teachers in his$_1$ favorite restaurant.
  b. other teachers gave [every student]$_1$ a book in his$_1$ favorite restaurant.

Scope ambiguity constitutes another connectivity effect in Fragments (20) and in Gapping (21). The scope ambiguities present in the a-cases of these examples are the same scope ambiguities present in the non-elliptical b-cases.

(20) How many diplomats did every translator greet?
  a. Three. $3 > \forall / \forall > 3$
  b. Every translator greeted three (diplomats). $3 > \forall / \forall > 3$

(21) Every translator greeted three diplomats and
  a. every journalist four. $4 > \forall / \forall > 4$
  b. every journalist greeted four (diplomats). $4 > \forall / \forall > 4$

What (15)-(17), (19) and (21) show is that the dependency between the second remnant and the first in Gapping is the same dependency found in the non-elliptical b-cases. If a full fledged syntactic structure underlies the a-cases, the fact that the grammaticality of the Gapping cases tracks the grammaticality of the non-elliptical b-cases is accounted for without the postulation of any *ad hoc* principles.

2.3 Summary

We have seen in this section that connectivity effects support the idea that there is a full fledged syntactic structure underlying ellipsis. If correct, the elliptical constructions Fragments and Gapping are syntactically and semantically identical to their non-elliptical variants (modulo deletion of the backgrounded part of the utterance, and the movement of the remnants, as we will see in the next section), as illustrated in (22).

(22) a. Max ate the apple and Sally ~~ate~~ the hamburger. Gapping
  b. Who did you see? - ~~I saw~~ Bill. Fragments

Theories that refrain from postulating syntactic structure in Gapping and Fragments must invoke mechanisms that ensure that the remnants of ellipsis have the same properties and show the same behavior as they do in the corresponding non-elliptical utterance. Although such mechanisms can no doubt be hypothesized, they unnecessarily complicate the grammar. If we accept that there is syntactic structure in the ellipsis site, the connectivity facts follow straightforwardly, without the need to postulate additional conditions and constraints.

3 Movement of remnants

In the previous section, I have presented evidence that there is syntactic structure in the ellipsis site. In this section, I show that remnants 'escape' ellipsis (i.e. do not undergo deletion) by moving out of the ellipsis site. I review Merchant's (2004) arguments that remnants move out of the ellipsis site in Fragments and show that the same arguments extend to Gapping. The fact that remnants move out of the ellipsis site, constitutes additional evidence for structure in the ellipsis site, since extraction entails that there is syntactic structure to extract from.

3.1 Complementizer omission

In certain contexts, omission of the complementizer is not possible with a fragment (23), even though omission of the complementizer is possible in the corresponding full answer (24).

(23) A: What does no one believe?
B: *(That) I'm taller than I really am.

(24) B': No one believes (that) I'm taller than I really am.

Merchant notes that extracted CPs cannot omit the complementizer (cf. Stowell, 1981). This is illustrated in (25).

(25) *(That) I'm taller than I really am, no one believes.

The fact that remnants in Fragments cannot omit the complementizer, then, provides evidence that the remnants undergo movement.

The following example shows that complementizer omission is not possible in a remnant of Gapping. This, in turn, provides evidence that the remnants in Gapping undergo movement out of the ellipsis site, just as the remnants in Fragments.

(26) a. John believes (that) he is taller than Bill.
b. Bill believes that he is taller than John and John *(that) he is taller than Bill.

Similarly, Merchant reports an interesting observation by Morgan (1973). Morgan discovers that with certain verbs, there is a discrepancy between Fragments and the non-elliptical variant. Whereas B's response is grammatical as an answer to A's question, this fragment answer seems unlikely to have originated from its base position, see (28).

(27) A: What are you ashamed of?
B: *(That) I ignored you.

(28) * I'm ashamed of that I ignored you.

Merchant notes that the apparent mismatch between (27) and (28), whatever its cause, actually provides evidence for the claim that remnants undergo movement. He notes that, even though B's answer is not grammatical in its base position (28), the sentence is grammatical when the complement has undergone movement, see (29). If remnants of ellipsis undergo movement, the expectation is that they pattern with (29), which involves movement, rather than (28), which doesn't. The grammaticality of (27) with the complementizer present can thus be taken as evidence that the remnant has extracted from the ellipsis site, because it patterns with (29), not (28).

(29) *(That) I ignored you, I'm ashamed of.

The examples in (30) illustrate for Gapping the impossibility of complementizer omission when the remnant is the complement of *ashamed*.

(30) a. John is ashamed of his hurtful comments towards Mary, and Bill *(that) he ignored her.
b. John is ashamed of not having invited Mary, and Bill *(that) he insulted her.

In sum, if the impossibility of complementizer omission is a hallmark of displaced CPs, CP remnants in Fragments and Gapping show at least one hallmark of moved phrases. The next section presents another argument that remnants of ellipsis are extracted from the ellipsis site.

3.2 Predicate remnants

In this section, I consider remnants that are not arguments or adjuncts, but predicates. Merchant (2004, p.24) provides the following example of a fragment answer consisting of a predicate.

(31) A: What did he do to the car?
B: Totaled *(it).

What (31) shows is that one cannot respond to A's question with just the verb, even though the verb is the sole focus of the answer. In Merchant's theory, this restriction follows from the fact that remnants escape ellipsis through movement. Merchant submits that remnants move to the specifier of a functional projection FP. This makes the prediction that only maximal projections, but not heads, can move to spec,FP. As noted above, I assume here that remnants adjoin to the ellipsis site. Given that heads cannot undergo adjunction to a maximal projection, we can still adopt Merchant's account in terms of structure preservation for the ungrammaticality of B's response when it consists of just a predicate. A problem with Merchant's example in (31) is that it is unclear whether it involves topic drop of the subject, and hence no ellipsis, or whether we are dealing with a VP remnant (that has been extracted from the ellipsis site). To see whether answering with a VP fragment is possible at all, we can rule out the possibility of subject drop by embedding the correlate of the fragment in the antecedent, as in (32).

(32) A: What did he want to do to the car?
B: (*He) total *(it).

In the case of (32) it is clear that B's fragment answer can only consist of a VP. This example cannot involve subject drop, as having a (overt) subject is impossible in the first place. Here again, the impossibility of leaving out the direct object shows that the fragment must be a VP and cannot consist of just a verb.

At this point, it is instructive to consider predicate answers in Dutch. Dutch is interesting in this respect, because it has verb second and scrambling. The example in (33) shows that the restriction that a single verb cannot be a fragment answer

holds in Dutch, too. This is expected if the fact that verbs cannot be remnants is due to structure preservation, which, assuming structure preservation is part of UG, the grammar of Dutch must adhere to as much as the grammar of English.

(33) A. Kocht hij het boek?
bought he the book
'Did he buy the book?'
B. *Nee, verkocht.
No sold.

Dutch has the property of verb second in main clauses. This means that only one constituent can precede the finite verb, which I assume is in T in subject initial clauses and in C in clauses involving topicalization of a non-subject.[2] Dutch also has Scrambling. A DP is 'scrambled' if it has moved to a VP-external position (cf. Bennis and Hoekstra (1984) that this involves A-movement and Wyngaerd (1989) that this involves A'-movement). For ease of representation, I assume that a scrambled DP has adjoined to the VP. The examples in (34) show that Scrambling is optional for definite DPs (indefinite DPs can only scramble when they are discourse familiar).

(34) a. ... dat Jan gisteren $[_{VP}$ dat boek las].
... that John yesterday that book read
b. ... dat Jan $[_{VP}$ [dat boek]$_i$ $[_{VP}$ t$_i$ gisteren las]].
... that John that book yesterday read
'that John read that book yesterday.' (Ruys, 2001)

The optionality of Scrambling with definite DPs can also be observed in cases of VP-topicalization. The following examples show that when a VP undergoes topicalization, a definite DP object can move along when it is part of the focus (35a). VP-topicalization can also move the VP, leaving the definite DP behind. In this case, the DP has scrambled out of the VP prior to VP-topicalization, see (35b) (cf. the discussion in section 2.2.2, especially fn6, in chapter 1).

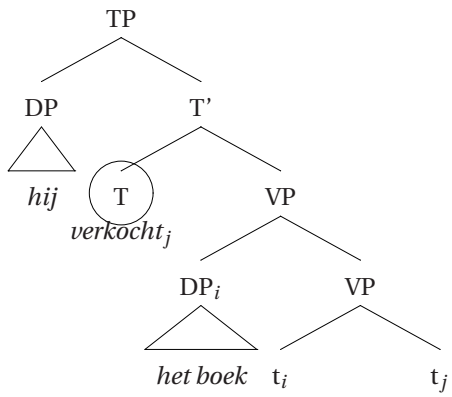
(35) a. $[_{VP}$ die auto kopen]$_i$ heb ik nooit gewild t$_i$.
that car buy have I never wanted
'I have never wanted to *buy that car*.'
b. $[_{VP}$ t$_j$ kopen]$_i$ heb ik [die auto]$_j$ nooit gewild t$_i$.
buy have I that car never wanted
'I have never wanted to *buy* that car.'

With this background on verb second and Scrambling, consider the syntactic structure of (33) in (36). In (36), it is clear that the verb *verkocht* 'bought' in T cannot

[2] Besten (1989) and Bennis and Hoekstra (1989) argue that the finite verb *always* moves to C. Travis (1984) and Zwart (1993) argue that the verb moves to T in subject initial sentences. It only moves to C when a non-subject undergoes movement to Spec,CP. For our purposes, nothing hinges on the choice of where the verb is in subject initial clauses.

become a remnant, since it is a head and thus cannot be extracted and adjoined to the ellipsis site.[3]

(36)



The following example differs minimally from (33) in that here the main verb has not undergone verb second, since it is not finite. In contrast to (33), the fragment in (37) is grammatical.

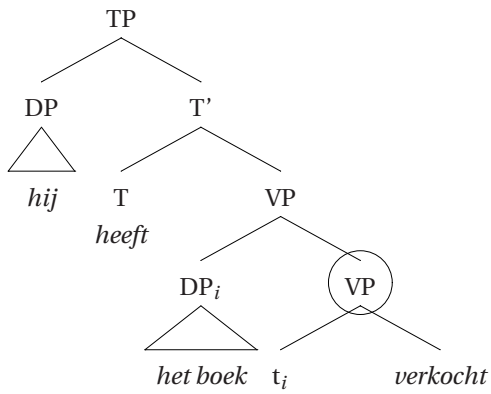
(37) A. Heeft hij het boek gekocht?
has he the book bought
'Has he bought the book?'

B. Nee, verkocht.
No, sold

In contrast to (33), B's response in (37) is grammatical. The difference between the examples is that B's answer does not contain a finite verb. In (37), *verkocht* 'bought' is non-finite and has thus not moved to T as part of the verb second process (the finite verb *heeft* 'has' has moved to T instead). *Verkocht* can constitute a fragment answer when the whole VP is extracted as a remnant. Prior to this, the definite DP *het boek* 'the book' must scramble out of the VP. The syntactic structure that underlies B's elliptical utterance in (37) is given in (38), where the circled VP indicates that it is the remnant of ellipsis.

[3]From the ungrammaticality of (33), it also follows that *kocht* cannot be part of a bigger remnant either. The smallest possible remnant containing *kocht* is the whole CP. If this whole CP would be a remnant, ellipsis would have to target the material within this CP, namely *hij het boek*. One problem is that *hij het boek* is not a constituent and ellipsis only elides constituents (cf. Merchant, 2004, p.663). Moreover, if non-constituents could elide in the first place, the movement of the CP remnant would not be necessary.

(38)



In general, in order to spell out just the verb in a fragment, the remnant must be at least as big as a VP. Any VP internal material must have vacated the VP before the VP undergoes movement. In (38), the direct object of *verkocht* has scrambled out. Once the direct object of *verkocht* has vacated the VP, the VP contains just *verkocht*. This VP can be a remnant, giving the impression that head movement has taken place.

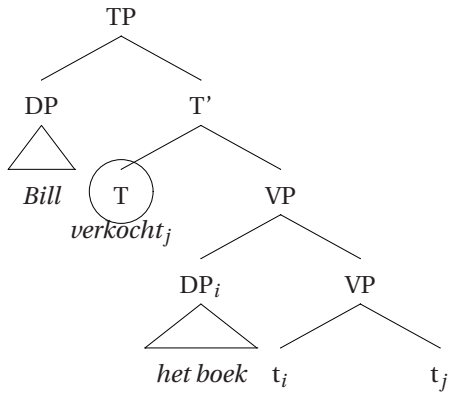
We will now turn to Gapping and show that, once again, it patterns with Fragments. The following example from English shows that a remnant consisting of a predicate cannot be a head, but must minimally consist of a VP (cf. (32) above).

(39) John has always wanted to clean the car and Bill total *(it).

The same restriction holds for Gapping in Dutch. The fact that *verkocht* cannot be a remnant in (40) parallels the facts in (33). *Verkocht* is a finite verb in (40), hence it must undergo verb second. When in C, there is no possibility for *verkocht* to become a remnant of ellipsis, because it is a head and therefore cannot move out of the ellipsis site and adjoin to it.

(40) * Jan kocht het boek en Bill verkocht.
John sold the book and Bill bought

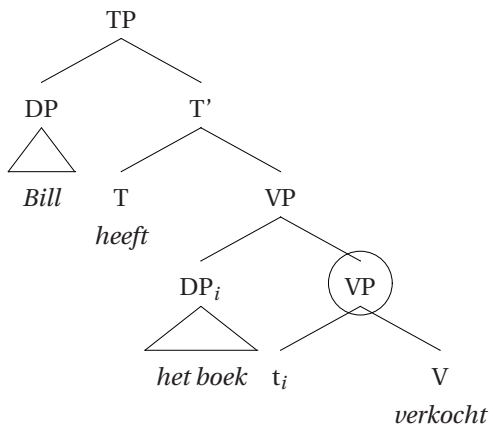
(41)



As with the Fragments case in (37), a fragment answer constituting a single verb is possible if a derivation is available in which the VP is emptied prior to movement as a remnant. This is the case in (42). (43) illustrates the input for ellipsis. The circled VP will be extracted as a remnant. The DP *het boek* 'the book' has scrambled out of this VP.

(42) Jan heeft het boek gekocht en Bill verkocht.
John has the book bought and Bill sold
'John has bought the book and Bill has sold the book.'

(43)



3.3 Invalid tests of movement under Gapping

Merchant (2004) discusses several other tests that are supposed to show that remnants escape ellipsis by means of movement. Although some of these tests are good tests for movement in and of themselves, they cannot be applied to Gapping.

One of these tests involves islands. Merchant points out that if the remnants in Fragments undergo movement, they should be subject to constraints on movement. One well-known constraint on movement is that movement cannot cross island boundaries. Merchant shows that the remnants in Fragments obey this condition.

(44) Does Abby speak *Greek* fluently?
a. No, *Albanian*.
b. No, she speaks *Albanian* fluently.

(45) Does Abby claim she speaks *Greek* fluently?
a. No, *Albanian*.
b. No, she claimed she speaks *Albanian* fluently.

(46) Does Abby speak the same Balkan language that *Ben* speaks?

a. * No, *Charlie*.

b. No, she speaks the same Balkan language that *Charlie* speaks.

One could turn to Gapping and conclude precisely the same. If the second remnant moves across an island, the result is ungrammatical.

(47) *Abby* speaks the same language that *Ben* speaks and

a. * *Beth Charlie*.

b. *Beth* speaks the same language that *Charlie* speaks.

This conclusion would be premature, however. Recall that Gapping is subject to the Clause Mate Condition. This condition rules out cases where the remnants do not reside in the same clause, as in (48). This is an even stronger condition on movement than islands pose, since a second remnant cannot even cross a finite clause boundary without violating the Clause Mate Condition.

(48) *Abby* claims that *Ben* speaks Albanian and

a. * *Beth Charlie*.

b. *Beth* claims that *Charlie* speaks Albanian.

Another test Merchant discusses to diagnose movement is preposition stranding. Merchant (2001) discovers that there is a corollary between preposition stranding and Sluicing. The corollary is that languages that allow for preposition stranding in non-elliptical utterances, also allow for it in Sluicing. Languages that do not allow for preposition stranding in non-elliptical utterances, do not allow for it in Sluicing either. Merchant (2004) notes that the corollary holds for Fragments, too. That is, languages that allow for preposition stranding in non-elliptical utterances allow for it in Fragments, too.

(49) A. Who was Peter talking with?

B. Mary.

(50) a. Mit wem hat Anna gesprochen?
with whom has Anna spoken

b. Mit dem Hans.
with the Hans

c. * Dem Hans. German
the Hans

As was the case with locality of movement, Gapping does not fully pattern with Fragments. It is well-known that in Gapping, the second remnant cannot strand a preposition (cf. Jayaseelan, 1990; Abe and Hoshi, 1997), see (51).

(51) a. John talked about Bill and Mary talked about Susan.
b. John talked about Bill and Mary *(about) Susan.

The island and preposition stranding facts do not directly support the hypothesis that remnants undergo movement in Gapping. We have seen in this section, though, that the remnants in Gapping show properties of displacement. For this reason, I will not abandon the hypothesis that remnants undergo movement in Gapping. In chapter 4, I will elaborate on the locality constraints on remnants and their preposition stranding behavior.

3.4 Summary

In this section, I have shown that remnants move out of the ellipsis site, which dovetails with the conclusion established in the previous section, namely that there is a full fledged syntactic structure in the ellipsis site. If remnants escape ellipsis by movement, their base position is situated in the ellipsis site. This entails that there must be syntactic structure in the ellipsis site.

Another important result of this section is that the evidence for postulating movement of remnants in Fragments carries over to Gapping. Ellipsis in Fragments and Gapping can thus be represented as in (52). In the next section, I explore what constituent XP stands for in (52).

(52) a. Max ate the apple and $[_{\text{DP}}$ Sally$]_i$ $[_{\text{DP}}$ the hamburger$]_j$ ~~$[_{\text{XP}}$ t$_i$ ate t$_j$$]$~~ Gapping
b. Who did you see? - $[_{\text{DP}}$ Bill$]_i$ ~~$[_{\text{XP}}$ I saw t$_i$$]$~~ Fragments

4 The size of the ellips

What does 'XP' stand for in (52)? Below, I start by looking at Gapping, which has received the most attention in this regard. In section 4.3, I turn to Fragments. For Gapping, both *v*P (Johnson, 2009, 2004; Coppock, 2001; Toosarvandani, 2013, a.o.) and TP have been suggested as the label of XP. Some have claimed that XP is ambiguous in Gapping and can stand for both *v*P *and* TP (e.g. Repp, 2009; Centeno, 2012; Sailor and Thoms, to appear; Potter, 2014). Reich (2007) argues that Gapping always elides a CP. In this section, I show that the ambiguity view of XP is correct. Specifically, I show that Gapping can at least target *v*P, TP and CP.

4.1 Gapping in *v*P and TP coordinations: evidence from modals and negation

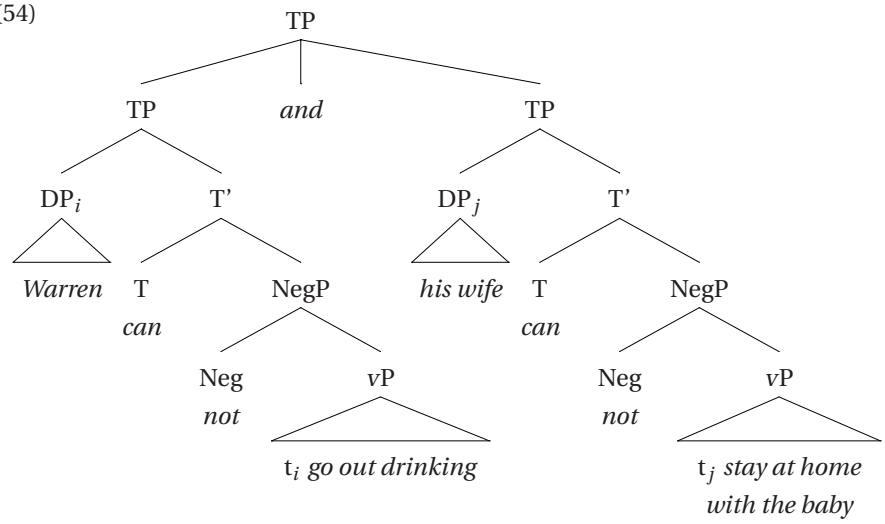
In this section, I consider the scope of modals and negation relative to the coordination in Gapping. I present data from both English and Dutch in this section. As we saw in chapter 1, the Dutch data are important, since they allow us to exclude certain analyses for Gapping and Fragments, namely those that postulate that Gapping depends on English specific syntactic operations, such as VP ellipsis.

Siegel (1987) discusses the behavior of modals and negation under Gapping. Consider first the examples in (53) without Gapping. (53a,b) can be interpreted as describing two situations at two time intervals. (53a), for example, describes a situation in which Warren can't go out drinking at some point in time and that his wife can't stay at home with the baby, possibly at a different point in time. It is clear from the meaning of the examples in (53) that both conjuncts of the coordination contain a modal and a negation. Syntactically, this means that both conjuncts must at least be as big as TP, as illustrated in (54).

(53) a. Warren can't go out drinking and his wife can't stay home with the baby. (Siegel, 1987, p.56)

b. John can't eat caviar and Mary can't eat beans. (Siegel, 1987, p.56)
¬◇A & ¬◇B

(54)



Siegel notices that modals and negation can also scope over the coordination in some cases. Such sentences involve auxiliary Gapping and necessarily describe a single situation at a single time interval.

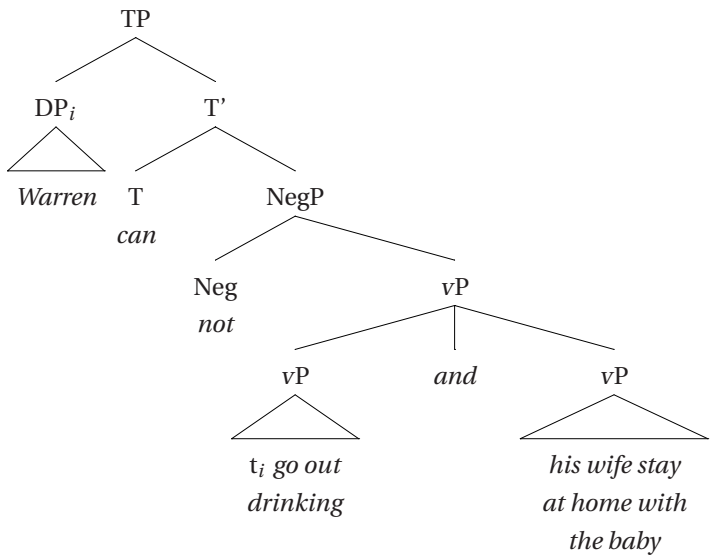
(55) a. Warren can't go out drinking and his wife stay home with the baby.

b. John can't eat caviar and Mary eat beans. (Siegel, 1987, p.56)
¬◇(A & B)

(55a) looks similar to (53a). (55a), however, describes a situation where, at a contextually determined time, Warren cannot go out drinking while his wife stays home with the baby. That is, the examples in (55) necessarily describe situations that hold at a single time interval. I take these auxiliary gapping sentences to involve coordination at the *v*P-level, as in (56). This analysis explains why there is only one tense specification and only one negation. It also explains why both the modal and the negation take scope over the coordination. Furthermore, it accounts for why the

modal seems 'gapped' in the second conjunct: there simply is no modal to begin with in the second conjunct.

(56)



The analysis in (56) requires that the subject of the second conjunct, *his wife*, remains in situ. The presence of a single TP implies that there is only one spec,TP position available. This position is normally associated with nominative case assignment to the subject by T. As discussed in chapter 1, the subject of the second conjunct is likely to get case exceptionally in *v*P coordinations. As noted there for Gapping, evidence that coordination at the *v*P-level is possible comes from the fact that the subject of the first conjunct can bind the subject of the second conjunct (cf. McCawley, 1993; Johnson, 2004). If binding takes place under c-command, the example in (57) shows that the subject of the first conjunct c-commands the subject of the second conjunct. This is precisely the case in a *v*P coordination like (56).

(57) a. Not every girl$_1$ ate a green banana and her$_1$ mother a ripe one.
b. No boy$_1$ joined the navy and his$_1$ mother the army.
(taken from Johnson, 2004)

If the analyses of (53) and (55) in (54) and (56), respectively, are on the right track, they make the following prediction. As we have just seen, the subject of the first conjunct can bind the subject of the second conjunct in a *v*P-coordination. This predicts that the subject of the first conjunct in (53) cannot bind the subject of the second conjunct in a TP coordination, as the subject of the first conjunct does not c-command the subject of the second conjunct. As the example in (58) shows, this prediction is borne out. In this example, the coordination must be at least at the TP level, as both conjuncts need to accommodate a modal. The ungrammaticality of this example shows that when coordination is high, binding of the second conjunct's subject by the first conjunct's subject is impossible.

(58) * [$_{TP}$ No woman$_1$ can join the army] and/but [$_{TP}$ her$_1$ girlfriend can the navy]

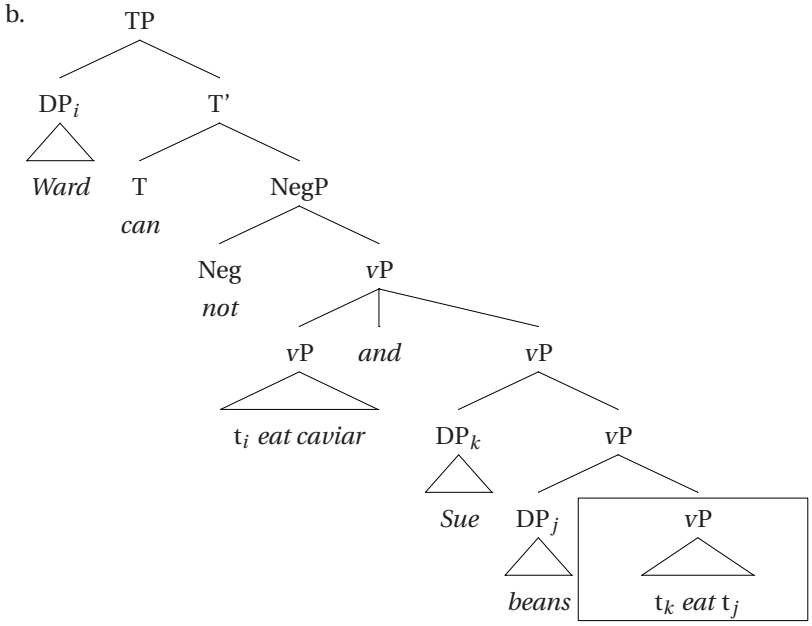
We now turn to Gapping. Siegel (1984, 1987) points out that Gapping cases are ambiguous between the readings we have seen in (53) and (55).

(59) Ward can't eat caviar and Sue beans.

The example in (59) is ambiguous between the following two readings. One reading can be paraphrased as 'It is not possible (or desirable) for Ward to eat caviar and for Sue (simultaneously) to eat (merely) beans.' This reading is true just in case it can't be that they both eat the foods mentioned. The reading obtained here entails that the eating events take place simultaneously. This reading corresponds to the readings of the examples in (53), where the modal and the negation scope over the coordination. The other reading of (59) can be paraphrased as 'Oh, no, I made caviar and beans for dinner, and then I found out that John can't eat caviar and Mary, beans.' This reading is true just in case neither person can eat the food named. The reading obtained does not entail that there is a single event. This reading corresponds to the readings of the examples in (55), where a modal and a negation are present in both conjuncts. We can account for the ambiguity of (59) if we analyze this example as structurally ambiguous between involving a *v*P-coordination or a TP-coordination. TP-coordination would give rise to the dual event reading (cf. (54)), whereas *v*P-coordination gives rise to the single event reading (cf. (56)). If Gapping involves ellipsis, this analysis of (59) entails that what has been elided in (59) can either be a *v*P or a TP. The derivations of both readings of (59) are given in (60) and (61). In (60) the modal and negation take scope over the *v*P-coordination, giving rise to the single event reading of (59). In (61), both conjuncts contain a modal and negation: this corresponds to the dual event reading of (59).

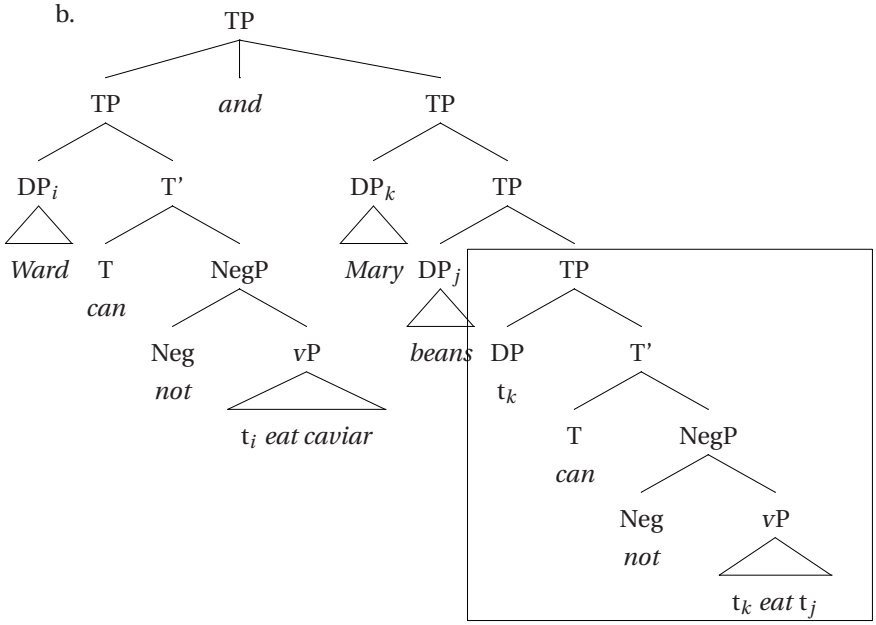
(60) a. "It is not possible (or desirable) for Ward to eat caviar and for Sue (simultaneously) to eat (merely) beans." ¬ < ◇ < &

b.



(61) a. 'Ward can't eat caviar and Sue can't eat beans.' & < ¬ < ◇

b.



Repp (2009) notes that there are three scope possibilities for negation in Gapping. Besides the distributed scope in (62a) and high scope in (62b), which are like the

examples in (60a) and (61a), negation may also take scope in just one of the conjuncts, as in (62c).

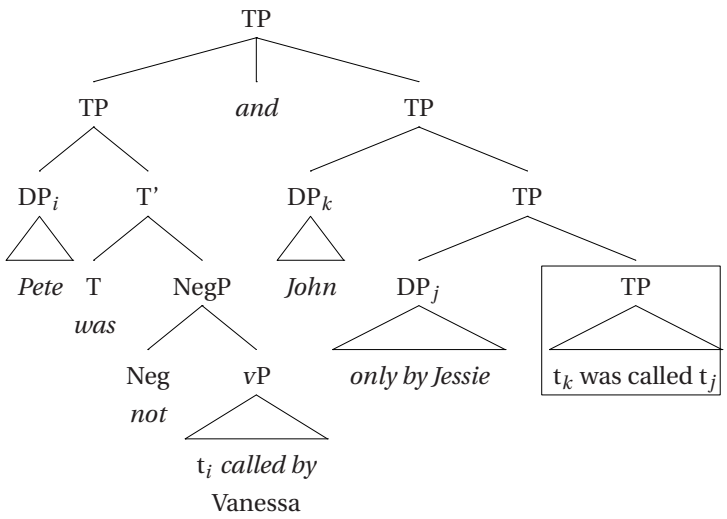
(62) a. Pete hasn't got a video and John a DVD. (¬ A) ∧ (¬ B)
= [It is not the case that Pete has a video] and [it is not the case that John has a DVD].

b. Pete didn't clean the flat and John laze around all afternoon. ¬ (A ∧ B)
= It is not the case that [Pete cleaned the flat and John lazed around all afternoon.]

c. Pete wasn't called by Vanessa and John only by Jessie. (¬ A) ∧ (B)
= [It is not the case that Pete was called by Vanessa] and [it is the case that John was only called by Jessie]. (Repp, 2009, p.2)

I have argued that (62a) involves a TP-coordination in which both TP conjuncts contain a tense specification and a negation. (62b) involves a *v*P-coordination in which there is only one tense specification and one negation. (62c) involves a dual event reading and thus patterns with (62a). In (62c), though, there is no negation interpreted in the second conjunct. We can straightforwardly analyze this example as having positive polarity in the second conjunct. The syntax of (62c) is given in (63).

(63)



The following examples from Dutch show that this language allows for the same range of interpretations of modal and negation under Gapping as English does. This is important to acknowledge, as many of the analyses that have been proposed for Gapping are based on English data and make use of particular strategies not available in Dutch. In other words, the fact that Dutch allows for the same interpretations as English under Gapping calls for a uniform analysis of Gapping for English and Dutch (Centeno (2012) shows that the same range of interpretations is available in Spanish, too).

(64) Jan heeft geen kaviaar gegeten en Marie bonen! ¬(A & B)
Jan has no caviar eaten and Mary beans
'John hasn't eaten caviar and Mary beans.' (That would be preposterous!)

(65) Jan heeft geen rijst gegeten en Bill geen groene bonen. ¬(A) & ¬(B)
Jan has no rice eaten and Bill no green beans
'John hasn't eaten rice and Bill hasn't eaten green beans.' [4]

(66) Jan heeft geen kaviaar gegeten, maar Marie bonen. ¬(A) & (B)
Jan has no caviar eaten, but Mary beans
'John hasn't eaten caviar, but Mary has eaten beans.'

4.2 Gapping in CP coordination: evidence from *Wh*-movement

Another piece of evidence that the missing part in Gapping can be of variable size comes from cases with *wh*-remnants. The example in (67a) involves Gapping with a *wh*-phrase as the first remnant. To ensure that (67) really involves Gapping and not a case of Sluicing (involving, next to the *wh*-phrase, an additional remnant), we can try to embed the ellips. Recall from chapter 1 that a Gapping clause must be directly conjoined to its antecedent and can't be embedded, whereas Sluicing can. The ungrammaticality of (67b) shows that the *wh*-phrase + XP order of remnants cannot be embedded and thus represents a case of Gapping. That means that (67a) must be a case of Gapping.

(67) a. ? Which book did John recommend and which book Mary?
b. * I know which book John recommended, but I'd like to know which book Mary.

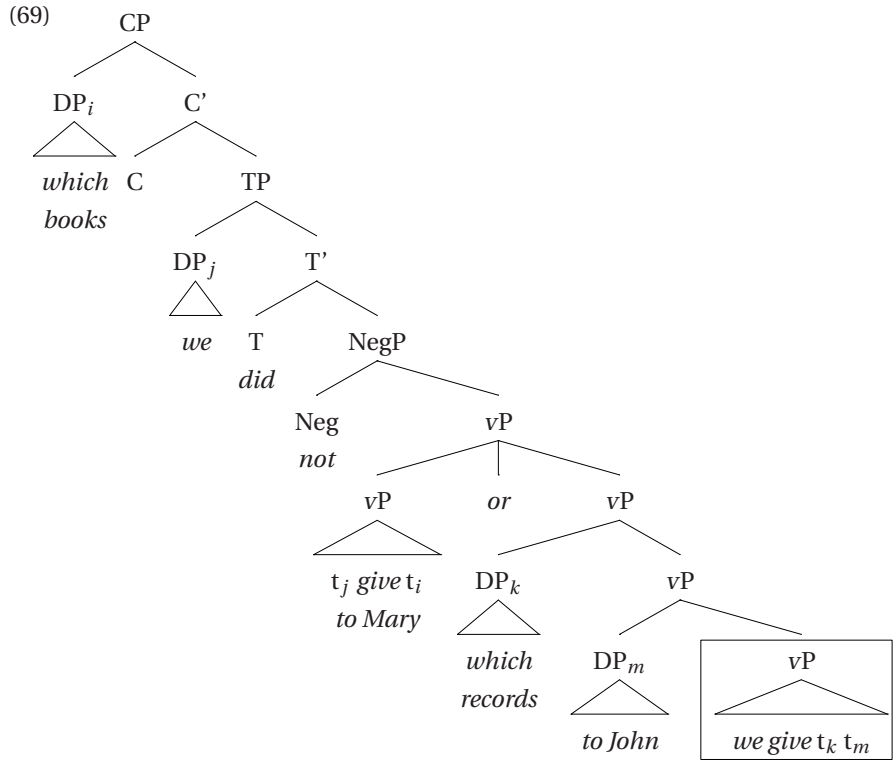
The example in (67a) can be straightforwardly analyzed as involving a coordination of CPs (cf. Pesetsky, 1982), in which Gapping targets the second CP, as indicated in (67b). López and Winkler (2003), however, note that the facts are more complicated. They claim that negation cannot be gapped in disjunctions (68b). For this reason, the parse of (68) must be as in (68a), not as in (68b).

(68) Bill asked which books we didn't give to Mary or which records to John.
a. or which records we gave to John.
b. * or which records we didn't give to John.

For this example, the *wh*-phrase remnant *which records* must have adjoined to the *v*P in the second conjunct. López and Winkler (2003) argue that this is possible since *wh*-phrases may check their [*wh*]-feature at the edge of *v*P. The parse of (68) is given in (69).

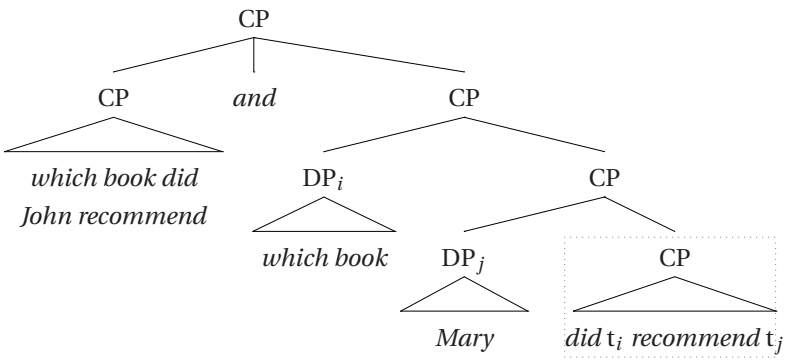
[4] The example in (65) reveals an interesting difference between English and Dutch. We have seen in the distributive scope reading in (62a) that the negation is elided in English. In contrast, the negation in Dutch cannot be elided in the distributive scope reading (cf. Repp, 2009).

(69)



The question remains whether (67a), involving the coordinator *and*, can have the parse in (70), thus constituting a case of Gapping targeting CP.

(70)



There is reason to believe that Gapping can target CP, even in the case of (68) involving the coordinator *or*. It turns out that not everybody agrees with the judgments on López and Winkler's data. Regarding (68), repeated here as (71), my informants (three speakers of British English) get both readings in (71a,b), although both are judged as a little marked.

(71) Bill asked which books we didn't give to Mary or which records to John.
   a. ? or which records we gave to John.
   b. ? or which records we didn't give to John.

These judgments indicate that the example in (68)/(71) involves the same type of ambiguity that showed up in the previous section. Negation under Gapping gives rise to an ambiguity where the negation either takes scope over the coordination or is interpreted in both conjuncts. The ambiguity of (68a = 71) indicates that the same structural ambiguity obtains in cases of Gapping with a *wh*-remnant. That is, either Gapping occurs in a *v*P-coordination, in which case negation scopes over it (analogous to the structure in (69)), or the gap is a CP, in which the negation is present in both conjuncts (analogous to the structure in (70)). For the speakers who do not accept (68b), it might be the case that they can't gap negation in a CP-coordination headed by *or*. Nonetheless, the fact remains that some speakers can. (71), therefore, provides evidence that Gapping can target CPs.

The example in (72a) shows that Gapping can target CPs in Dutch, too. Again, to ensure that we are really dealing with Gapping, (72b) indicates that the order *wh*-remnant + XP is only possible when directly coordinated to its antecedent, a trademark property of Gapping.

(72) a. Wanneer heeft Wim Sofie gekust en wanneer Jan Marie?
   when has Wim Sofie kissed and when John Mary
   'When did Wim kiss Sofie and when did John kiss Mary?'
   (Aelbrecht, 2006)
   b. ?? Ik weet wanneer Wim Sofie gekust heeft, maar ik wil weten wanneer Jan Marie?
   I know when Wim Sofie kissed has, but I want know when John Mary
   Intended: 'I know when Wim kissed Sofie, but I want to know when John kissed Mary?'

To sum up, in sections 4.1 and 4.2, I have shown that the level of coordination in Gapping is variable; coordination can be at the *v*P, TP or CP level.[5] This conclusion is in line with recent work by Repp (2009); Centeno (2012); Sailor and Thoms (to appear); Potter (2014).

4.3 The size of Fragments clauses

Compared to Gapping, the size of the phrase that gets targeted in Fragments has not received much attention in the literature. Standardly, Fragments is taken to be a type of TP-deletion (cf. Merchant, 2004), though there is not much empirical data

[5] In chapter 1, we already saw examples of Gapping targeting APs. It remains an open question, however, whether 'small constituents' such as NP and PP can be targeted, too. Chaves (2005), Postal (2004) and Yoshida (2005) claim that Gapping can also target a nominal phrase. Yoshida et al. (2012), on the other hand, argue that Gapping in the nominal domain should be distinguished from Gapping in the clausal domain. I leave the question of whether Gapping can target small phrases for future research.

to support this assumption. There seems to be no a priori reason to assume that it cannot also target other phrases. The null hypothesis, therefore, is that Fragments can target any phrase, just like Gapping. Without evidence to the contrary, saying that Fragments is confined to TP ellipsis is a stipulation. However, since Fragments by definition targets clauses, even if it is not confined to delete a fixed constituent, it can only target clausal categories such as TP and CP. Other phrases are simply 'out of reach', because they do not constitute clauses. Most typical cases of Fragments are likely to involve TP ellipsis, such as the case in (73). However, if questions are CPs, the case in (74) plausibly involves a case of Fragments targeting CP.

(73) A: Who did you see?
B: $[_{\text{DP}}$ Bill$]_i$ ~~$[_{\text{TP}}$ I saw t$_i$ $]$~~

(74) a. A. John lent me his favorite book.
B. Really, $[_{\text{DP}}$ his favorite book$]_i$ ~~$[_{\text{CP}}$ John lent you t$_i$ $]$~~?
b. A. When did John arrive today?
B. $[_{\text{DP}}$ John$]_i$ ~~$[_{\text{CP}}$ when did t$_i$ arrive today $]$~~?

A subtype of Fragments, known as *Why*-Stripping, provides reason to think that Fragments can target constituents even smaller than TP. Typical examples are given in (75).

(75) a. A. John ate natto.
B. Why natto?
b. A. They're leaving for Italy on Tuesday.
B. Why on Tuesday?
c. A. Gazpacho soup is served cold.
B. Why cold? (Weir, 2014)

Weir (2014) analyzes these cases of *why*-Stripping as follows. Following Yoshida et al. (to appear), he assumes that *why* is base generated in spec,CP, and that the remnant of *why*-Stripping moves to the specifier of a Focus phrase (FP) below CP. Weir assumes, like Yoshida et al., that the complement of FP is targeted for ellipsis. Unlike Yoshida et al., who assume that what is targeted by ellipsis is a TP, Weir presents several arguments that *why*-Stripping actually targets VoiceP and that the TP projection is, in fact, absent from the structure. Weir's analysis of (75a) is as in (76).

(76) $[_{\text{CP}}$ Why $[_{\text{FP}}$ natto$_i$ ~~$[_{\text{VoiceP}}$ $[_{v\text{P}}$ $[_{\text{VP}}$ John ate t$_i$ $]]]]$~~$]]$

If Weir's analysis is correct, *why*-Stripping is a type of Fragments in which the ellipsis site is lower than TP or CP. In that case, *why*-Stripping supports the idea that Fragments can in principle target any phrase. Since there is no evidence to the contrary, I henceforth assume that any constituent can be targeted by ellipsis in Fragments.

5 Conclusion

In this chapter, I have shown, following Merchant's (2004) theory of Fragments that (i) there is syntax in the gap, and (ii) remnants move out of the ellipsis site. We can conclude, then, that Gapping and Fragments are identical when it comes to their syntactic derivation. Moreover, in these ellipsis types, the ellipsis site can vary in size. These similarities between Gapping and Fragments raise the question whether they should be formally distinguished. Before taking up this question, we have to consider the distribution of Gapping and Fragments. This is what I set out to do in the next chapter.

The conclusion that remnants move out of the ellipsis site, also raises several questions. Most obviously the question of why remnants have to move out of the ellipsis site and what allows this movement to take place in the first place. These questions will be taken up in chapter 4.