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## The syntax and licensing of Gapping and Fragments

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# The syntax and licensing of Gapping and Fragments

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# CHAPTER 1

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## Introduction

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### 1 Introduction to ellipsis

Ellipsis (from the Greek *éllipsis* ‘omission’) has been a much studied topic in generative linguistics and still is. The interest for this phenomenon, at least in part, is due to the fact that there is meaning, but no sound in ellipsis. For example, the VP ellipsis in (1a) gives rise to the interpretation *come home*, even though there is no phonological content. As shown by the examples in (1), aside from VP ellipsis, different categories can be targeted by ellipsis. Sluicing, in (1b), is ellipsis after a *wh*-phrase and deletes a clausal category. NP ellipsis in (1c) deletes a noun phrase.

- (1) a. John came home, after Mary did [<sub>VP</sub> ~~come home~~].                   VP ellipsis  
    b. John saw someone, but I don't know who [<sub>TP</sub> ~~John saw~~].           Sluicing  
    c. John ate two apples and Bill ate three [<sub>NP</sub> ~~apples~~].               NP ellipsis

The discrepancy between (lack of) form and meaning in ellipsis gives rise to several interesting questions among which are the following.

1. What is the linguistic representation of an ellipsis site?
2. What is the role of the preceding linguistic context (i.e. what characterizes a proper antecedent for ellipsis)?
3. What is the role of the preceding linguistic context (i.e. what is the relation between the antecedent and the ellipsis)?

We will briefly take up these questions one by one in the next sections.

### 1.1 Theories on the nature of ellipsis

There are two main lines of research when it comes to the analysis of the ellipsis site. The first type of approach assumes that the ellipsis site is void of any syntactic structure (e.g. Ginzburg and Sag, 2000; Culicover and Jackendoff, 2005). The minimal syntax that these theories postulate comes at the cost of a more complicated syntax-semantics mapping. I discuss this approach in more detail in chapter 2, where we will see that it faces many obstacles. The second type of approach takes the ellipsis site to contain syntactic structure. Two sub-types can be distinguished within this tradition. The *pro*-theory of ellipsis assumes that the ellipsis site is a null-pronoun (Wasow, 1972; Shopen, 1972; Chao, 1988; Zagana, 1988; Chung et al., 1995; Hardt, 1993, 1999; Fiengo and May, 1994; Lobeck, 1995; López, 1995, 2000; Depiante, 2000; López, 2000). These approaches are based on the observation that ellipsis sites share many commonalities with pronouns. For example, both pronouns and ellipsis are subject to Langacker's (1969) Backwards Anaphora Constraint, which states that anaphoric elements (including ellipsis sites) may not simultaneously command and linearly precede their antecedents ((2b) is from (Ha, 2008)).

- (2) a. Jeff had to go to church last Sunday, because his children did.  
 b. \* Jeff did, because his children had to go to church last Sunday.
- (3) a. Mary went home, after she finished the report.  
 b. \* She went home, after Mary finished the report.
- (McCawley, 1984, p.220)

Another example of a similarity between ellipsis and pronouns is that both can have split antecedents, see (4).

- (4) a. John<sub>i</sub> arrived and he bought Susan<sub>j</sub> a drink. They<sub>i+j</sub> left together.  
 (Hardt, 1999)
- b. Sally wants to sail around the world, and Barbara wants to fly to South America, and they will, if money is available. (Webber, 1978)

The second type of analysis that assumes that there is structure in the ellipsis site is the so-called PF-deletion theory. Under this theory there is a full-fledged syntactic structure in the ellipsis site. As such, the syntax-semantics mapping proceeds as in a non-elliptical sentence. What sets apart an elliptical from a non-elliptical utterance is that in the former the phonological content is not pronounced (Ross, 1969; Hankamer and Sag, 1976; Sag, 1976; Wilder, 1997; Lasnik, 1999a,b; Johnson, 2001; Lasnik, 2001; Merchant, 2001; Tomioka, 1999, 2001; Goldberg, 2005). Over the years, a lot of evidence has accumulated supporting this view. I'll mention here three arguments for this approach.

Since there is no audible material in an ellipsis site, the presence of syntactic material must be detected indirectly. A strong indication that there is structure in the ellipsis site comes from movement (Johnson, 2001). The examples in (5) show

that *wh*-movement out of an elided VP is possible, which strongly suggests that there is structure in the VP ellipsis site. The examples in (6), on the other hand, involving the deep anaphor *do it*, do not allow for extraction (Hankamer and Sag, 1976).

- (5) a. I know which book Max read, and [which book] Oscar didn't [read  $t_i$ ].  
 b. This is the book of which Bill approves, and this is the one [of which] he doesn't [approve  $t_i$ ]. (Fiengo and May, 1994, p.229)
- (6) a. \* I know which book José didn't read for class, and which book Lulumae did it for him.  
 (compare: *I know that José didn't read this book for class, but that Lulumae did it for him.*)  
 b. \* This is the book which O.J. Berman reviewed, and this is the one which Fred won't do it.  
 (compare: *O.J. Berman reviewed this book but Fred won't do it.*)  
 (Johnson, 2001)

Supporting evidence for the idea that there is extraction and thus structure in the ellipsis site comes from locality effects. The examples in (7) illustrate this on the basis of VP-ellipsis. What these examples show is that, if there is an island in the ellipsis site, this gives rise to ungrammaticality. The fact that island constraints, which are constraints defined in terms of syntactic structure, hold under ellipsis shows that movement takes place out of the ellipsis site. If there is no structure in the ellipsis site it is not clear where the ungrammaticality of the cases in (7) comes from.

- (7) a. \* Abby wants to hire someone who speaks a Balkan language, but I don't remember [which Balkan language]<sub>*i*</sub>; Ben does ~~want to hire someone who speaks~~  $t_i$   
 b. \* Abby knows five people who have dogs, but cats<sub>*i*</sub>, she doesn't ~~know five people who have~~  $t_i$ .

Another argument that there is structure in the ellipsis site is based on P(reposition)-stranding. Merchant (2001, 2004) observes that languages that normally allow P-stranding, also allow for this under Sluicing and Fragments. See, for example, the English and Swedish cases in (8) and (9). As shown in the b-cases, these languages allow P-stranding. The a-cases show that P-stranding is available under Sluicing, as well. Languages that do not normally allow P-stranding, on the contrary, also fail to strand a preposition under Sluicing and Fragments. Consider as an illustration the cases in (10) and (11) from Greek and Russian, respectively. As shown by the b-cases, these languages do not allow P-stranding. The a-cases show that P-stranding under Sluicing is likewise unavailable. This correlation between the availability of P-stranding and allowing for it under ellipsis follows straightforwardly if there is structure in the ellipsis site. In that case, the availability of P-stranding under ellipsis follows from the availability of P-stranding in non-elliptical cases. If, on the other hand, no structure is postulated in the ellipsis site, the correlation would have to follow from something else, though it is not clear what.

(8) **English**

- a. Peter was talking with someone, but I don't know (with) who(m).  
 b. Who was he talking with?

(9) **Swedish**

- a. Peter har talat med någon; jag vet inte (med) vem.  
 Peter has talked with someone I know not with who  
 'Peter talked with someone, but I don't know who.'  
 b. Vem har Peter talat med?  
 who has Peter talked with  
 'Who has Peter talked with?'

(10) **Greek**

- a. I Anna milise me kapjon, alla dhe ksero \*(me) pjon.  
 the Anna talked with someone but not I.know with who  
 b. \* Pjon milise me?  
 who talked.3s with

(11) **Russian**

- a. Anja govorila s kem-to, no ne znaju \*(s) kem.  
 Anja spoke with someone, but not I.know with who  
 b. \* Wem wollte er mit tanzen?  
 who wanted he with to.dance

Merchant (2001, 2004) also provides the following argument for structure in the ellipsis site. In languages in which DPs are marked with morphological case, this case marking must correspond to the case that is assigned by the verb in the antecedent, as shown in (12) for German. In a theory in which there is no structure, it must be stipulated that the case on the remnant of ellipsis is the same case as that of its correlate in the antecedent (e.g. Ginzburg and Sag, 2000), or that the verb in the antecedent somehow governs the case on the remnant of ellipsis. It is not clear how such a cross-clausal dependency should be implemented without making any stipulations. As Merchant points out, if there is structure in the ellipsis site, case marking straightforwardly proceeds as in non-elliptical cases.

(12) **German**

- a. Er will jemandem schmeicheln, aber sie wissen nicht, { \*wer  
 he wants someone.DAT flatter but they know not who.NOM  
 / \*wen / wem }  
 who.ACC who.DAT  
 'He wants to flatter someone, but they don't know who.'  
 b. Er will jemanden loben, aber sie wissen nicht, { \*wer /  
 he wants someone.ACC praise but they know not who.NOM  
 wen / \*wem }  
 who.ACC who.DAT  
 'He wants to praise someone, but they don't know who.'



Although the debate about whether ellipsis involves a *pro*-form or PF-deletion has not been settled, some of the arguments that have been brought forth to support the *pro*-form approach to ellipsis do not necessarily argue against the PF-deletion approach to ellipsis. Merchant (to appear), for example, shows that the idea that the ellipsis site contains structure does not rule out the possibility that the ellipsis site is treated as a variable in the semantics. On the other hand, some of the facts arguing in favor of the PF-deletion approach to ellipsis are hard to account for under the *pro*-form analysis of ellipsis. The fact that ellipsis sites show clear signs of the presence of syntactic structure is hard to account for under the view that ellipsis sites are structureless pronouns. Of course, it is still possible that both the *pro*-theory and PF-deletion are needed to obtain a full empirical coverage, as argued by, for example, Craenenbroeck (2010). Much of the discussion in this dissertation adds to the body of evidence in favor of the PF-deletion theory of ellipsis.

## 1.2 The identity condition

A successful instance of ellipsis requires that there be an antecedent available in the discourse. This antecedent should be sufficiently identical to the ellipsis site. At this point, there is no consensus as to what counts as identical. One theory that has been proposed is that syntactic isomorphism is necessary for ellipsis to go through. Under this approach, the antecedent and the ellipsis site must have identical syntax (e.g. Sag, 1976; Fiengo and May, 1994; Chung et al., 1995; Lasnik, 2001; Merchant, 2008a). Another theory that has been proposed is that ellipsis is subject to a semantic identity condition (e.g. Dalrymple et al., 1991; Hardt, 1993; Romero, 1998; Merchant, 2001). Both camps provide fairly strong evidence in favor of their view. To illustrate, consider the following argument in favor of a syntactic isomorphism account. (13) presents examples of Sluicing where the correlate of the *wh*-phrase is an implicit argument in the antecedent (these cases are called *Sprouting* in Chung et al. (1995)) in which the preposition is pied-piped with the *wh*-phrase. Chung (2006, 2013) notes that ellipsis is ungrammatical when there is P-stranding in the ellipsis site, but not in the antecedent, see (14). Since P-stranding makes no semantic contribution, these facts suggest that the identity condition is at least in part syntactic/lexical. Chung argues that the ellipsis site may not contain any words that are not available in the antecedent (the *no new words condition*).

- (13) a. They're jealous, but it's unclear of who.  
 b. Joe was murdered, but we don't know by who.  
 c. Last night he was very afraid, but he couldn't tell us of what.
- (14) a. \* They're jealous, but it's unclear who(m).  
 b. \* Joe was murdered, but we don't know who(m).  
 c. \* Last night he was very afraid, but he couldn't tell us what.

On the other hand, there is a plethora of arguments in favor of a semantic identity condition. These arguments concern cases in which there is no syntactic identity,

yet ellipsis is perfectly fine. For example, a sentence containing a gerund can antecede a sluice containing an infinitive, see (15). This constitutes a case where the antecedent and ellipsis are not syntactically isomorphic.

- (15) Decorating for the holidays is easy if you know how [~~to decorate for the holidays~~].  
(Merchant, 2001, p.22)

Similarly, as is well-known, VP-ellipsis allows voice mismatches under ellipsis. That is, an active antecedent may antecede a passive ellipsis clause (16a) or the other way around (16b). These cases constitute another illustration of a syntactic mismatch between antecedent and ellipsis site (though see Merchant (2008a) for an account of these data in terms of a syntactic identity condition).

- (16) a. Steve asked me to send the set by courier through my company insured, and it was ~~sent by courier through my company insured~~.  
(Kehler, 2002, p.53)  
b. This information could have been released by Gorbachev, but he chose not to ~~release it~~.  
(Hardt, 1993, p.37)

In this dissertation, I adopt the theory of the identity condition as developed in Rooth (1992) and Tancredi (1992). Rooth and Tancredi propose that the conditions under which ellipsis is allowed to take place, also govern when deaccenting can take place. Although I will not discuss deaccenting in any detail in this dissertation, it is worth noting that this phenomenon shares many characteristics with ellipsis. Therefore, unless we have solid evidence to the contrary, I believe it is best to treat ellipsis and deaccenting on a par. The identity condition I adopt is given in (17).

- (17) **Parallelism:**  
Every phonologically reduced (elliptical or deaccented) sentence  $E$  requires that the discourse will contain an antecedent sentence  $A$ , which belongs to the focus value of  $E$  ( $A \in F(E)$ ).  
(adapted from Fox, 1999, p.73)
- (18) **Focus semantic value of  $\alpha$ ,  $F(\alpha)$ :**  
The set of denotations produced by substituting all elements of the appropriate semantic type for every focused element in  $\alpha$ .  
(Rooth, 1985)

Rooth and Tancredi propose that both ellipsis and phonological reduction require a parallel antecedent sentence. Both authors are aware, though, that the facts are, in fact, more complicated. Specifically, the conditions under which ellipsis may take place are a little stricter than the conditions under which deaccenting is allowed. In (19a) (where deaccenting is indicated with cursive font), for example, the antecedent *call Mary an idiot* allows deaccenting of *insulted her*. This requires the inference that calling someone an idiot implies insulting that person. Under the hypothesis that deaccenting and ellipsis are possible under the same conditions, it comes as somewhat of a surprise that this inference is not possible under ellipsis, see (19b).

- (19) a. First Bill called Mary an idiot. Then John *insulted her*.  
 b. \* First Bill called Mary an idiot. Then John did ~~insult her~~.

To maintain the idea that the conditions under which deaccenting is allowed are the same as the conditions under which ellipsis is allowed, Rooth (1992) proposes that ellipsis and deaccenting both need a parallel antecedent (cf. (17)), but that ellipsis (but not deaccenting) is subject to an additional condition that the ellipsis site needs to be syntactically isomorphic to the antecedent. Under that account, (19b) is ruled out, because [call Mary an idiot] is not syntactically identical to [insult her].

Merchant (2001) takes a different tack and argues that the identity condition on ellipsis and deaccenting is semantic. On the basis of the difference between (19a) and (19b) Merchant proposes that ellipsis is subject to a stronger semantic condition. Roughly, Merchant's proposal is that in deaccenting, the antecedent must entail the deaccented phrase. Deaccenting in (19a) is allowed, then, because calling someone an idiot entails insulting that person. For ellipsis, however, the antecedent must entail the ellipsis clause, but the ellipsis clause must also entail the antecedent (Merchant calls this condition e-GIVENness<sup>1</sup>). Ellipsis is disallowed in (19b), then, because the entailment only goes one way: calling someone an idiot entails insulting that person, but insulting a person does not entail calling that person an idiot. Merchant's proposal captures the facts, though it comes at the cost of having to differentiate between deaccenting and ellipsis, thus giving up the idea that deaccenting and ellipsis are possible under the same conditions. As said, this is unfortunate, since it is preferable that surface anaphora are allowed under the same conditions.

Fox (1999), building on Tancredi (1992), shows that there is no need to abandon this idea. According to Tancredi and Fox, the crucial difference between (19a) and (19b) is that in (19a), there is overt material in the deaccented phrase. Fox proposes that deaccented material is *accommodation seeking*. That is, the non-F marked elements in the deaccenting clause 'look for' an antecedent. If that antecedent is not in the focus value of the ellipsis, then an antecedent that is inferred from the antecedent clause that *is* in the focus set of the ellipsis may be used instead. The case of ellipsis in (19b) does not allow for accommodation, as it does not contain accommodation seeking material. Under Fox' theory, then, there is a single condition on ellipsis and deaccenting.

Hardt (2005a,b) notes that this is not the whole story, since ellipsis also allows for accommodation, as noted by Webber (1978). To illustrate, consider the following

<sup>1</sup>Merchant's (2001, p.26) E-GIVENness condition is given in (i).

i. **e-GIVENness**

An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo  $\exists$ -type shifting,

- i. A entails F-clo(E), and
- ii. E entails F-clo(A)

**F-closure**

The F-closure of  $\alpha$ , written F-clo( $\alpha$ ), is the result of replacing F-marked parts of  $\alpha$  with  $\exists$ -bound variables of the appropriate type (modulo  $\exists$ -type shifting).

example.

- (20) Irv and Martha wanted to dance together, but Martha couldn't.

According to Webber, ellipsis is allowed here, because the following inference holds *Irv and Martha wanted to dance together*  $\Rightarrow$  *Martha wanted to dance with Irv*.<sup>2</sup> Hardt notes that the inference that underlies (20) is not freely available under ellipsis. In (21), for example, inference is not available. Hardt suggests that this is because an antecedent is available that does not require inference (namely *wanted to dance together*).

- (21) Irv and Martha wanted to dance together, but Tom and Susan didn't want to.  
 = Tom and Susan didn't want to dance together.  
 $\neq$  Tom and Susan wanted to dance with Irv.

Hardt's point is that Fox' idea that deaccented material acts as a trigger for accommodation is too restrictive. What acts as a trigger for accommodation is a mismatch between the anaphor (i.e. deaccented or elliptical phrase) and the actual antecedent. Since both deaccenting and ellipsis allow for accommodation, this no longer constitutes a reason to distinguish the two. Hardt (2005b) proposes the following condition on economy. The essential idea is that accommodation is only possible when a violation occurs.

- (22) **Hardt's (2005b) economy condition on accomodation:**

"[F]or a given discourse D, we produce a default LF  $L$ . If  $L$  violates no semantically visible constraints, it is the preferred interpretation. If  $L$  does violate one or more constraints, inferences can be performed to derive an alternative interpretation  $L'$ .  $L'$  is a potential interpretation of D if it avoids the constraint violations. If there are several such alternatives, those LF's closest to  $L$  are preferred."

- (23) **Hardt's (2005b) notion of closest:**

"[I]f A entails B and B entails C, then B is closer to A than C."

With these conditions on accommodation in place, we can now reformulate the Parallelism condition as follows.

<sup>2</sup>Hardt (1993) points out that for (20) it is still possible that the ellipsis site simply contains *dance* and that the reading *dance with Irv* is implied by the context. Hardt shows with the example in (i) that this is unlikely. Although the inference 'Martha couldn't nominate Irv' holds here, it cannot be due to the ellipsis site containing just the verb *nominate*, as *nominate* needs an object.

- i. Martha and Irv had planned to nominate each other, but Martha couldn't, because of her political obligations.



## 2 Gapping

Gapping is one of the main topics of this dissertation (next to Fragments, see below). Gapping is a term Ross (1967) coined for the constructions in (26). In such constructions the finite verb in the second conjunct of a coordination is missing. Next to the finite verb, other material may be silent, too, like the indirect object in (26b).

- (26) a. Some had eaten mussels and others shrimp.  
 b. Some have served mussels to Sue and others swordfish. (Johnson, 2009)

Another elliptical construction, often taken to be a subtype of Gapping is Stripping. By definition, Stripping constructions consist of an elliptical phrase consisting of one remnant plus an additive marker like *too* (27a) or a polarity marker such as *not* (27b).

- (27) a. Abby speaks passable Dutch, and Ben, too.  
 b. Abby speaks passable Dutch, but not Ben.

On account of the fact that Stripping has the same distribution as Gapping, I will take Stripping to be a subtype of Gapping. The main difference, namely the number of remnants, seems arbitrary. If we consider the polarity or additive marker in Stripping to be a remnant of ellipsis (Boone, 2014), Stripping no longer differs on the basis of the number of remnants.

In English there seems to be a restriction on Gapping that the number of remnants cannot exceed two, see (28).

- (28) a. \* Simon quickly dropped the gold and Jack suddenly the diamonds.  
 (Jackendoff, 1971)  
 b. \* John gave a dime to Mary, and Bill a nickel to Jane. (Jayaseelan, 1990)  
 c. \* John persuaded Bill to see a movie and Harry Mary a TV show.  
 (Pesetsky, 1982, p.657)

I am not aware of any such restriction for other languages which have Gapping. The following example illustrates for Dutch that the number of remnants easily exceeds two.

- (29) Jan wil zondag de zonsverduistering fotograferen met een digitale  
 John wants Sunday the solar.eclipse photograph with a digital  
 camera, maar Karel maandag de maansverduistering met een analoge  
 camera but Karel Monday the lunar.eclipse with an analogue  
 camera.  
 camera  
 'John wants to photograph the solar eclipse with a digital camera on Sunday,  
 but Karel wants to photograph the lunar eclips with an analogue camera on  
 Monday.'

If the number of remnants is not restricted in principle (though it might be by some language particular factor that is independent of ellipsis), a distinction between Gapping and Stripping based on the number of remnants is arbitrary.

There are many theories on Gapping in the literature. I refer the reader to Tran (2010) and Repp (2009) for recent overviews and reviews of the literature on Gapping. This dissertation argues that Gapping is a type of ellipsis (i.e. deletion) (cf. Neijt, 1979; Ross, 1970; Jackendoff, 1971; Hankamer, 1973; Stillings, 1975; Sag, 1976; Hankamer, 1979; Oirsouw, 1987; Hartmann, 2000). In particular, in chapter 2 I show that Merchant's (2004) arguments for analyzing Fragments as a type of ellipsis that involves movement of remnants extend to Gapping. This provides additional evidence for the view that Gapping is derived by movement of remnants followed by deletion (Abe and Hoshi, 1997; Jayaseelan, 1990; Sohn, 1994; Kim, 1997b; Larson, 1990; Coppock, 2001; Lin, 2002).

One of the most peculiar properties of Gapping is its distribution. There are three distributional properties that characterize Gapping, illustrated in (30a-c) (the examples are taken from Johnson (2009)).

(30) **Distributional properties of Gapping**

- a. *Gapping is restricted to coordinate structures:*
  - \* Some had eaten mussels, because others shrimp.
- b. *The gap cannot be embedded:*
  - \* Some had eaten mussels and she claims that others shrimp.
- c. *The antecedent clause in gapping cannot be embedded:*
  - \* She's said Peter has eaten his peas and Sally her green beans, so now we can have dessert.

I will henceforth refer to the collective of (30a-c) as the *Equal Conjunct Requirement*, of which a descriptive generalization is given in (31).

(31) **Equal Conjunct Requirement (ECR):**

Gapping only occurs in coordinations where gap and antecedent are directly conjoined.

Any account of Gapping will have to account for (31). Not many theories have taken issue with the distribution of Gapping (though see Hernández, 2007). One type of approach, which I refer to here as 'low coordination approach', specifically takes issue with the restricted distribution of Gapping. The low coordination approach is admirably successful at capturing the ECR, though it is not without problems. I turn to discuss this approach in the next section.

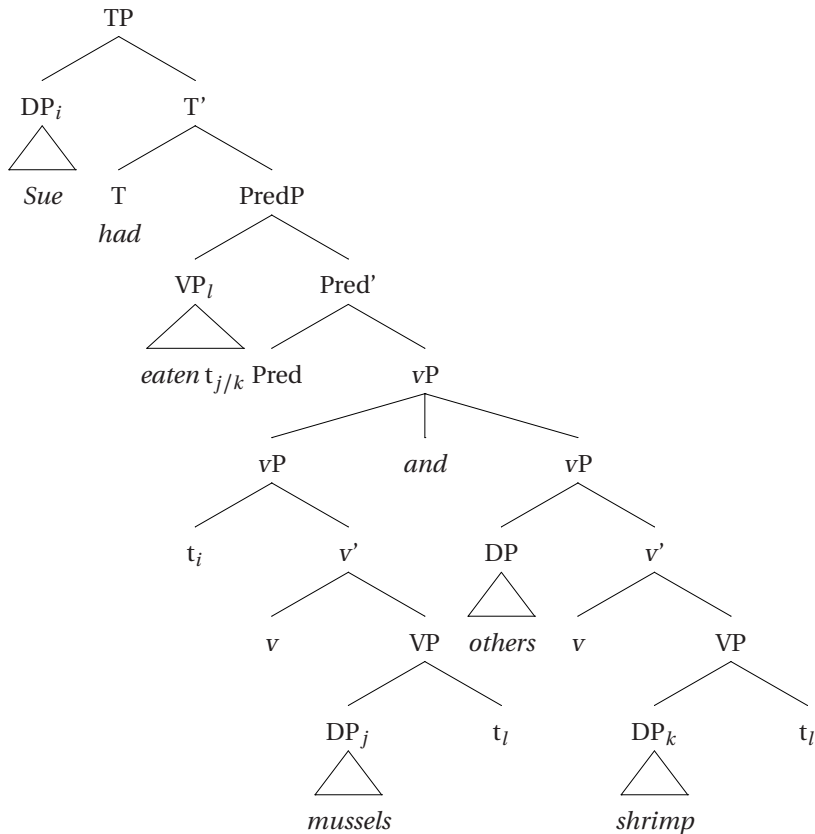
## 2.1 Low coordination accounts of Gapping

The low coordination approach specifically attempts to explain why the ECR holds. Two theories can be distinguished within this type of approach. Both theories make use of the idea that the coordination holds at a sub-clausal level. One approach is

defended in Johnson (2004, 2009), where it is argued that the gap in the second conjunct is the result of ATB movement of the gapped material to a position dominating the low coordination. The other theory defends the view that the gap in the second conjunct is created by ellipsis (cf. Coppock, 2001; Lin, 2002; Toosarvandani, 2013). I illustrate both accounts below.

Johnson (2004, 2009) argues that the coordination in Gapping is at the vP-level. The gap consists of a trace left by ATB movement of the VP. This VP moves to the specifier of PredP. This approach is illustrated in (32).

(32) **Low coordination plus ATB movement approach to Gapping:**



Noteworthy of this analysis is that the subject of the second conjunct of the coordination remains in situ, whereas the subject of the first conjunct moves to spec,TP. This raises two questions. First, why does movement of the first subject to spec,TP not violate the Coordinate Structure Constraint and second, how does the subject of the second conjunct get case? Johnson (2004, 2009) argues that A-movement is exempt from the Coordinate Structure Constraint. First, there seems to be no evidence for the idea that A-movement is subject to the Coordinate Structure Constraint. Moreover, there are, in fact, cases which seem to suggest that it isn't, such as



(33). In this example, *Mason* has moved from the spec,TP position in the first conjunct of the coordination to the object (i.e. accusative case) position in the matrix clause. The subject of the second conjunct does not parallel this movement, in violation of the Coordinate Structure Constraint. I refer the reader to Johnson (2004) and Lin (2002) for further discussion of A-movement and the Coordinate Structure Constraint.

(33) Liz made Mason<sub>i</sub> out [<sub>TP</sub> [<sub>TP</sub> t<sub>i</sub> to be intelligent] and [<sub>TP</sub> Sarah to be kind]].

As for the question how the subject of the second conjunct gets case, this is not really clear. The data are not particularly helpful in this regard. For examples like the one in (34), different grammaticality judgments have been reported.<sup>3</sup> This variation in judgments plausibly indicates that Case assignment proceeds exceptionally in low coordination Gapping cases.

- (34) a. She ate the beans, and he the rice.  
b. She ate the beans, and him the rice.

Setting aside the problem of Case assignment to the subject of the second conjunct, there is strong evidence that Gapping can indeed occur in a low coordination. For example, Johnson (2009) shows that if the subject of the first conjunct is quantificational it can bind a pronoun in the second conjunct, see (35). This possibility follows straightforwardly from the parse in (32), where the subject of the first c-commands the subject of the second conjunct.

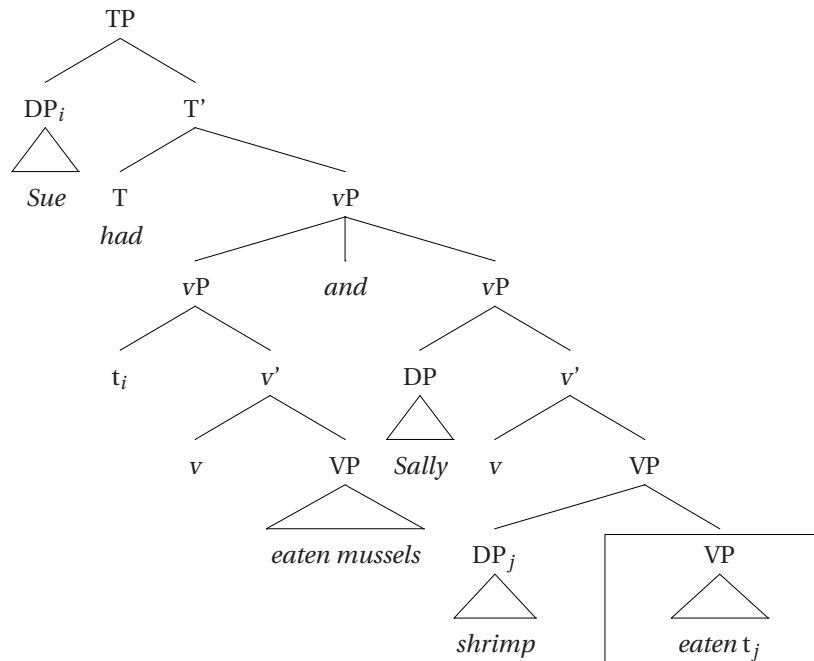
(35) [No woman]<sub>1</sub> can join the army and her<sub>1</sub> girlfriend the navy.

It should be noted, however, that, even though (35) provides evidence that Gapping is possible in a low coordination, this by no means implies that Gapping *must* occur in a low coordination.

Coppock (2001), Lin (2002) and Toosarvandani (2013) advocate a low coordination approach to Gapping in which the gap is created by VP-ellipsis (the elided VP is presented here with a box around it).<sup>4</sup>

<sup>3</sup>Johnson (2004) notes that both variants are grammatical. Siegel (1987) reports that only (34b) is grammatical. According to Lee (2005, fn.3), some speakers like (34a) and others both.

<sup>4</sup>Lin (2002) advocates a low coordination approach to Gapping in which the gap is created by ellipsis. However, in her account it is not VP-ellipsis, but a distinct ellipsis process. As such, it withstands some of the critique of the VP-ellipsis approach below, but at the cost of postulating a new ellipsis type.

(36) **Low coordination plus VP ellipsis approach to Gapping:**

How does the low coordination approach to Gapping explain the ECR? First, the fact that Gapping is restricted to coordinations follows from the fact that vPs are conjoined: only coordinators are able to conjoin two vPs, subordinators cannot, as they only coinjoin clauses. The second property, the fact that Gapping cannot be embedded, also receives an explanation. If the second conjunct were embedded, hence dominated by a non-shared TP, there would be another T-head in the structure. This T will spell out as an auxiliary, modal or dummy *do*, thereby giving rise to Pseudogapping, not Gapping. According to Johnson (2009), the VP-ellipsis approach to Gapping fails to explain the third property, namely that the antecedent of Gapping may not be embedded. In particular, the sentence in (30c) may receive the following parse under the VP-ellipsis analysis.

- (37) [<sub>TP</sub> She<sub>i</sub> has [<sub>vP</sub> t<sub>i</sub> [<sub>vP</sub> said that Peter has eaten his peas]]] and [<sub>vP</sub> Sally eaten her green beans]]

The ATB account straightforwardly rules out (37), since there is no landing position for the two VPs ([<sub>vP</sub> eaten]) that need to move across the board. The only landing position from which both VPs would bind their trace is spec,PredP in the matrix clause (giving rise to *She has* [<sub>vP</sub> eaten] *said that Peter has* t<sub>VP</sub> *his peas and Sally* t<sub>VP</sub> *her green beans*). In that case, however, the VP of the first conjunct has to skip the spec,PredP in the embedded clause headed by *said*, which arguably constitutes

a minimality violation.<sup>5</sup> Even though the VP ellipsis account to Gapping cannot rule out the case in (37), it is clear that the low coordination approach in general does very well at explaining the ECR. Nonetheless, this approach is not without problems.

## 2.2 Problems for the low coordination approach to Gapping

### 2.2.1 Problems for the VP ellipsis account

In this section, I present arguments against the VP ellipsis account of Gapping. I start by presenting three contexts in which VP ellipsis cannot occur, yet Gapping can.

The first argument against the VP ellipsis approach to Gapping is from Johnson (2004). He observes that Gapping can target APs, as illustrated in (38).

- (38) a. I consider Liz fond of chocolates and Sam ~~fond~~ of pies.  
 b. I made Sam angry at Beaner and Betsy ~~angry~~ at Perseus.

The problem (38) poses for the VP ellipsis approach to Gapping is that VP ellipsis is not able to elide APs in these contexts, as shown in (39). It is hard to see what gives VP ellipsis the ability to elide APs only in Gapping contexts. Proponents of the VP ellipsis approach would have to tie the deletion of APs to the fact that VP ellipsis applies in a low coordination. It is unclear how, if at all, this could be executed.

- (39) a. \* Vivek made Nishi angry at Melissa, before he made Carrie [~~AP angry at Melissa~~].  
 b. \* Will seems happy today, while Nishi seemed [~~AP happy~~] yesterday.  
 c. \* I consider Betsy pretty, while you consider Sam [~~AP pretty~~].

Below, I add two arguments that are similar to Johnson's above in that Gapping takes place in a context in which VP ellipsis is not allowed. Arguably the most severe problem for the VP ellipsis account is that it is not suited to derive 'simple' Gapping sentences. As is well-known, VP ellipsis is only licensed when T is occupied by an auxiliary or by infinitival *to* (see Lobeck, 1995, among others). Neither are present in (40), yet Gapping is perfectly fine in this context, contrary to what the VP ellipsis account predicts.

- (40) Max ate the apple and Sally the hamburger. (Jackendoff, 1971)

<sup>5</sup>Alternatively, the VP of the first conjunct can be assumed to have to move through spec,PredP in the embedded clause to get to the matrix spec,PredP. This possibility can be ruled out by the assumption that movement to spec,PredP freezes the VP. In any case, movement to a next higher spec,PredP position must be ruled out to prevent overgeneration. That is, if movement to spec,PredP can skip or proceed through lower spec,PredP positions, cases like (i) would be incorrectly ruled in.

i. John [<sub>PredP</sub> [<sub>VP</sub> left] said he [<sub>PredP</sub> t<sub>VP</sub> ]]

One may try to salvage the VP-ellipsis approach by proposing that an ‘empty’ T licenses ellipsis in (40). This solution would create more problems than it solves, however. If an empty T is able to license VP ellipsis in Gapping contexts, it should be possible for (40) to have the parse in (41).

- (41) [<sub>TP</sub> Max ate the apple] and [<sub>TP</sub> Sally T [<sub>VP</sub> ate the hamburger]].

In other words, allowing VP ellipsis under an empty T in Gapping contexts would essentially reduce a subset of Gapping, namely the cases that occur in a TP (or CP) coordination, to Pseudogapping. Consequently, the explanation for the ECR would be lost, since Pseudogapping is not restricted to coordinations, see (42a). Also, Pseudogapping is possible when the gap is embedded with respect to its antecedent, see (42b).

- (42) a. Some had eaten mussels, because others had shrimp.  
 b. Some had eaten mussels and she claims that others had shrimp.  
 (Johnson, 2009)

If an empty T licenses VP ellipsis, nothing would rule out (43a,b) either, which only differs from (42a,b) in that the T that licenses VP ellipsis is now empty. On the other hand, if an empty T *cannot* license VP ellipsis, a simple Gapping case like (40) can't be derived. I take this conundrum as strong evidence that it cannot be VP-ellipsis that underlies Gapping.

- (43) a. \* Some had eaten mussels, because  
 [<sub>TP</sub> T [<sub>VP</sub> others [<sub>VP</sub> [shrimp]<sub>i</sub> [<sub>VP</sub> eaten ~~t<sub>i</sub>~~]]]].  
 b. \* Some had eaten mussels, and she claims that  
 [<sub>TP</sub> T [<sub>VP</sub> others [<sub>VP</sub> [shrimp]<sub>i</sub> [<sub>VP</sub> eaten ~~t<sub>i</sub>~~]]]].

A third and similar problem for the VP ellipsis approach is posed by sentences with subjunctive complement clauses. VP ellipsis cannot occur in such contexts (Potsdam, 1997; Lobeck, 1995), see (44a). Contrary to what the VP ellipsis account predicts, Gapping is fine in subjunctive complements, as (44b) shows.

- (44) a. \* They requested that bicycles be stored in the shed and cars be  
 [<sub>VP</sub> stored] in the garage.  
 b. They requested that bicycles be stored in the shed and cars in the  
 garage.

The examples in (38), (40) and (44) lead to the conclusion that Gapping does not have the same distribution as VP ellipsis and that Gapping cannot be reduced to a subtype of VP-ellipsis.

Another argument against the VP-ellipsis approach to Gapping is that Gapping is wide-spread cross-linguistically, whereas VP ellipsis is not. The VP-ellipsis approach to Gapping predicts, however, that the presence of VP-ellipsis and Gapping should coincide. As exemplified for Dutch in (45), though it has Gapping (45a), it does not have VP ellipsis (45b).

- (45) a. Jan heeft Peter gezien en Marie Suzan.  
 John has Peter seen and Mary Susan  
 ‘John has seen Peter and Mary has seen Susan.’
- b. \* Jan heeft Peter gezien en Marie heeft ook.  
 John has Peter seen and Mary has too  
 (intended:) ‘John has seen Peter and Mary has, too.’

### 2.2.2 Problems for the ATB account

I now turn to discuss several problems for the ATB approach to Gapping. A first problem is that the ATB approach cannot (straightforwardly) derive cases of Gapping where the gap is not contiguous. An example of such a case is given in (46a).

- (46) a. (Context: Who persuaded who to examine Mary?)  
 John persuaded Dr. Thomas to examine Mary, and Bill Dr. Jones.  
(Kuno, 1976)
- b. John [<sub>VP</sub> persuaded  $t_i$  to examine Mary]<sub>j</sub> Dr. Thomas, and Bill [<sub>DP</sub> Dr. Jones]<sub>i</sub>  $t_j$ .

In this example, the gap is *persuaded to examine Mary*. If this gap is a VP that moves across-the-board to spec,PredP, then the word order is wrongly predicted to be as in (46b). It seems, then, that (46a) cannot be derived under the ATB approach.

Similarly, in a language that has verb final word order, such as Dutch, a Gapping sentence cannot be derived by ATB movement of the VP (nor by ATB movement of just the verb), because, again, it would lead to the wrong word order (namely verb-object). This is shown in the derivations in (47b) and (48b) for the Gapping cases in (47a) and (48a), respectively. (The VP-vacating movement of the direct objects is ignored in the derivations.)

- (47) a. Jan heeft Marie gezien en Peter Karel.  
 John has Mary seen and Peter Karel
- b. Jan heeft [<sub>PredP</sub> [<sub>VP</sub> gezien]<sub>i</sub> [<sub>VP</sub> [<sub>VP</sub> Marie  $t_i$ ]] en [<sub>VP</sub> Peter Karel  $t_i$  ]]]
- (48) a. Ik denk dat Jan Marie ziet en Peter Karel.  
 I think that John Mary sees and Peter Karel
- b. Ik denk dat Jan [<sub>PredP</sub> [<sub>VP</sub> ziet]<sub>i</sub> [<sub>VP</sub> [<sub>VP</sub> Marie  $t_i$ ]] en [<sub>VP</sub> Peter Karel  $t_i$  ]]]

A second problem for the ATB approach is that Gapping exhibits typical ellipsis behavior. Coppock (2001) shows that, for one, Gapping is able to disambiguate strict/sloppy ambiguities and scope ambiguities. Johnson (2009) notes, however, that these arguments only hold if it can be shown that this behavior is exclusive to ellipsis, which he shows is not the case for strict/sloppy ambiguities. One property that is unique to ellipsis which is found in both Gapping and VP-ellipsis is that they can be resolved by split antecedents. The example in (49a) exemplifies VP ellipsis resolved by a split antecedent. (49b), in turn, shows that Gapping can have a split antecedent, too.

- (49) a. Wendy is eager to sail around the world and Bruce is eager to climb Kilimanjaro, but neither of them can because money is too tight.  
(Webber, 1978)
- b. Wendy wants to sail around the world because she loves travel, and Bruce wants to climb Kilimanjaro in order to prove to himself that he can, but neither in order to show off for anyone. (Coppock, 2001)

Gapping examples with split antecedents cannot be derived by the ATB approach, since under the ATB analysis of Gapping a single VP moves across-the-board. There is thus no way to explain the fact that a gap is resolved by two (non-contiguous) antecedents. Split antecedents, then, pose a severe problem for the ATB approach but provide an argument in favor of an ellipsis account of Gapping.

A final argument I present here against an ATB movement account of Gapping, which also appears in Vicente (2010), has to do with the movement of the remnants. The VP-ellipsis and ATB account of Gapping share the idea that VP internal remnants of Gapping must vacate this VP prior to ATB movement or deletion. Under the ellipsis approach, this vacating of the VP only occurs in the VP in the second conjunct that will subsequently be deleted. The existence of such ‘evacuating movement’ has been defended in the domain of ellipsis. The example in (50) shows that such evacuating movement cannot feed VP *movement*, suggesting that ‘evacuating movement’ is only possible under ellipsis (cf. chapter 4). Consider first the example in (50a), which shows that topicalization of a VP without evacuating movement of the direct object is fine. Next, consider the example in (50b), which shows that the evacuating movement of the direct object prior to VP topicalization leads to ungrammaticality. Since having evacuating movement feed VP-movement is a crucial ingredient of the ATB approach to Gapping, (50) constitutes strong evidence against it.<sup>6</sup>

- (50) a. John said he would photograph Mary and [<sub>VP</sub> photograph Mary]<sub>i</sub> he did t<sub>i</sub>.
- b. \* John said he would photograph Mary and [<sub>VP</sub> photograph t<sub>j</sub> ]<sub>i</sub> he did [Mary]<sub>j</sub> t<sub>i</sub>.

To sum up, I have presented several arguments against the existing low coordination approaches in the literature. Nonetheless, we have seen some evidence that

<sup>6</sup>In Dutch, direct objects can scramble out of the VP. In this language, the equivalent of (50) is grammatical. The contrast between (i)/(ii) and (50) is captured by den Besten and Webelhuth’s (1987) generalization that remnant movement is possible only in case the evacuating movement which creates the remnant constituent is independently available.

- i. Marie fotograferen zou Jan nooit doen.  
Mary photograph would John never do  
‘As for photographing Mary, John would never do that.’
- ii. Fotograferen zou Jan Marie nooit doen (tekenen wel).  
Photograph would John Mary never do drawing AFF  
‘John would never photograph Mary, but he would draw her.’

Gapping is possible in a low coordination (e.g. scope of the subject of the first conjunct over the subject of the second conjunct). In chapter 2 I present additional arguments that Gapping can occur in a low coordination. However, I argue there against a generalized low coordination approach to Gapping. We have also seen that Gapping shares several characteristics with ellipsis (e.g. it allows for split antecedents and evacuating movement of the remnants of Gapping). It is therefore likely that Gapping involves ellipsis, though we have seen that it cannot be VP ellipsis that underlies Gapping. In the next section, I compare Gapping to several types of ellipsis.

### 3 A comparison of Gapping and other types of ellipsis

#### 3.1 Gapping versus VP ellipsis, Sluicing and Pseudogapping

It is known at least since Jackendoff (1971) that Gapping, but not most other ellipsis types, obeys the ECR (see (31) above). This difference, which I introduce shortly, has led several scholars to set Gapping apart from ellipsis (e.g. Williams, 1977; Lobeck, 1995). A number of properties indeed distinguish Gapping from ellipsis types such as VP ellipsis and Sluicing (identified by, among others, Jackendoff (1971); Hankamer (1979); Chao (1988)).

However, some properties that have been identified for Gapping also hold for Pseudogapping, which is often taken to be a subtype of VP ellipsis (Jayaseelan, 1990; Lasnik, 1995, 1999b). A typical example of Pseudogapping is given in (51a) and its derivation under the VP ellipsis analysis in (51b).

- (51) a. Mary hasn't dated Bill, but she has Harry. (Lasnik, 1999b)  
 b. Mary hasn't dated Bill, but she has [<sub>DP</sub> Harry]<sub>i</sub> [<sub>VP</sub> dated ~~t<sub>i</sub>~~]

It is important to note that if a property of Gapping is not unique to Gapping, it should not be uniquely accounted for by an analysis of Gapping (cf. Coppock, 2001). One such property is its inability of being licensed by a non-linguistic antecedent, as it shares this property with Pseudogapping. The examples in (52) show that VP-ellipsis can be licensed by a non-linguistic antecedent. The examples in (53) and (54) show that Gapping and Pseudogapping cannot be licensed this way.

- (52) **VP-ellipsis**  
 a. You shouldn't have!  
 b. Don't.  
 c. I will, if you do. (Chao, 1988, p.134)

- (53) **Gapping**  
 Context: Hankamer produces an orange, proceeds to peel it, and just as Sag produces an apple, says:  
 \* And Ivan, an apple. (Hankamer and Sag, 1976)

(54) **Pseudogapping**

Context same as in (53):

\* And Ivan is an apple. (Coppock, 2001)

In addition, Gapping cannot occur before its antecedent, while VP-ellipsis (55a) and Sluicing (55b,c) can.<sup>7</sup> Gapping in (56), as pointed out by Coppock (2001), again patterns with Pseudogapping (57).

- (55) a. Because Sue didn't, John ate meat. (Lobeck, 1995)  
 b. I don't know what, but John will have something. (Coppock, 2001)  
 c. Even though we aren't sure who, we know that someone bought the Van Gogh. (Lobeck, 1995)

- (56) a. \* Sue meat and John ate fish.  
 b. \* Because Sue meat, John ate fish. (Lobeck, 1995)

- (57) \* Sue will the lamb, and John will have the salmon. (Coppock, 2001)

We have seen above that Gapping cannot be reduced to a subclass of VP-ellipsis. If Pseudogapping, on the other hand, is a subclass of VP-ellipsis, Gapping must be a different process from Pseudogapping. Why, then, do Gapping and Pseudogapping have many properties in common? One possibility is that what unites the properties of Gapping and Pseudogapping is the presence of contrastively focused remnants that have escaped the ellipsis site. Such contrastively focused remnants are present in both Gapping and Pseudogapping, but not in VP ellipsis and Sluicing. Therefore, the properties shared by Gapping and Pseudogapping that are absent in VP ellipsis and Sluicing might be tied to the presence of contrastively focused remnants. If on the right track, the task is to see how the presence of contrastive remnants blocks the possibility of ellipsis with non-linguistic antecedents and cataphoric ellipsis, something I will not undertake here.

### 3.2 The closest relative of Gapping: Fragments

There are more properties that have been argued to set apart Gapping from other types of ellipsis (based on Jackendoff, 1971; Hankamer, 1979; Chao, 1988; Lobeck, 1995). As we will see, most of these properties are indeed not shared by any other ellipsis type, including Pseudogapping, unlike the properties discussed in the previous section. However, I show that the properties discussed in this section that are claimed to be unique to Gapping, are actually not unique to Gapping at all. More precisely, I show that these properties are to a large extent also found in Fragments.

<sup>7</sup>The example in (55a) obeys the Backwards Anaphora Constraint. Cataphoric VP-ellipsis is not possible when it does not obey this constraint, as shown by the contrast between (i) and (ii) (cf. Sag, 1976).

- i. After Betsy did, Peter went to the store.  
 ii. \* Betsy did, after Peter went to the store.



Fragments can be defined as clausal ellipsis across utterances. A typical example of Fragments is given in (58). As shown in (59), Fragments, like Gapping, can also leave multiple remnants.

(58) A: Who did you see?  
B: Bill. Fragments

(59) A: Who ate what?  
B: John an apple (and Sally a hamburger). Multiple Fragments

I now turn to discuss the properties that have been claimed to single out Gapping from other ellipsis types and show that Fragments shares these properties with Gapping. One property that is claimed to single out Gapping from other ellipsis types is that Gapping is subject to the Equal Conjunct Requirement, as shown in (60).

(60) a. \* Mary met Bill at Berkeley although Sue at Harvard.  
b. \* Charlie thinks that Mary met Bill at Berkeley, and Sarah knows that Sue at Harvard. (Lobeck, 1995, p.22)

No such requirement holds for VP ellipsis (61), Sluicing (62) or Pseudogapping (63) ((61) and (62) are taken from Lobeck (1995, p.22,23)).

(61) a. Mary met Bill at Berkeley although Sue didn't.  
b. Charlie thinks that Mary met Bill at Berkeley, but Sarah knows that Sue didn't.

(62) We know someone stole the Van Gogh, even though we aren't sure who.

(63) a. Some had eaten mussels and she claims that others had shrimp. (Johnson, 2009)  
b. John will have caviar, although others will beans. (Coppock, 2001)

The example in (64) shows that Fragments cannot occur in an embedded clause. Although this example does not involve conjunction, the similarity to Gapping is nonetheless remarkable.

(64) A: Who has John invited?  
B: \*I know Mary

A second property that has been claimed to single out Gapping from other ellipsis types is that the latter are typically phrase final (cf. Lobeck, 1995). In other words, it appears that Gapping, as opposed to the other ellipsis types, targets non-constituents. As shown in the examples in (65) (and as was noted in the introduction), VP ellipsis targets a VP constituent and Sluicing targets a TP constituent.

(65) a. John talked to Bill, but Mary didn't [<sub>VP</sub> talk to Bill].  
b. John met someone, but I don't know whom<sub>i</sub> [<sub>TP</sub> John met t<sub>i</sub>].

Unlike VP-ellipsis and Sluicing, Gapping seems to target non-phrase final material.

- (66) a. Some have served mussels to Sue and others ~~have served~~ swordfish ~~to Sue~~. (Johnson, 2009)  
 b. John persuaded Dr. Thomas to examine Mary, and Bill ~~persuaded~~ Dr. Jones ~~to examine~~ Mary. (Kuno, 1976)

Actually, however, the property of eliding non-phrase final material constitutes another property Gapping shares with Pseudogapping. In cases of Pseudogapping where the remnant of ellipsis is a VP internal argument, it appears that a non-constituent has been deleted, as illustrated in (67).

- (67) People in Greece drink more ouzo than they do ~~drink~~ brandy. (p.16 Levin, 1979)

Pseudogapping is standardly taken to involve movement of the remnant out of the VP prior to VP ellipsis (cf. Jayaseelan, 1990; Lasnik, 1995, 1999b). In that case, what deletes is actually a constituent, as shown in (68).

- (68) People in Greece drink more ouzo than they do [brandy]<sub>i</sub> [~~VP drink t<sub>i</sub>~~]. (p.16 Levin, 1979)

In chapter 2, I present evidence that Gapping and Fragments also involve movement of the remnants. What is important for our current purposes is that Gapping shares the property of appearing (at least in many cases) to elide a non-constituent with Fragments. In (69), for example, the elided material *I saw* does not form a constituent to the exclusion of the direct object *Bill*.

- (69) A: Who did you see?  
 B: I ~~saw~~ Bill.

A third property that has been claimed to uniquely identify Gapping is that it does not seem to be licensed by a licensing element that heads the ellipsis site. VP-ellipsis, for example, is licensed by an AUX-element (Lobeck, 1995; Johnson, 2001), such as auxiliaries, modals and infinitival *to* (arguably negation belongs to the AUX-family, see Potsdam (1997)), as in (70). Other verbal elements do not license ellipsis, as shown in (71).

- (70) a. José Ybarra-Jaegger likes rutabagas, and Holly **does**, too.  
 b. José Ybarra-Jaegger ate rutabagas, and Holly **has**, too.  
 c. José Ybarra-Jaegger is eating rutabagas, and Holly **is**, too.  
 d. Mag Wildwood wants to read Fred's story, and I also want **to**. (Johnson, 2001)

- (71) a. \* Sally Tomato started running down the street, but only after José **started**.  
 b. \* Sally Tomato made Mag laugh, and then José **made**. (Johnson, 2001)  
 c. \* Fire began pouring out of the building, and then smoke **began**.  
 (Bresnan, 1976)

If Pseudogapping is an instance of VP ellipsis, the prediction is that it too is licensed by a member of the AUX-family. The examples in (72) show that if ellipsis is headed by a verbal element, Pseudogapping is indeed impossible.

- (72) a. \* Sally Tomato started running down the street, but only after José **started** down the alleyway.  
 b. \* Sally Tomato made Mag laugh, and then José **made** Fred.  
 c. \* First, smoke began pouring out of the building, and then flames **began** out of the windows.

Turning to Sluicing next, this ellipsis type is only possible with interrogative *wh*-phrases. Sluicing is impossible with complementizers, *wh*-phrases in clefts and relative pronouns.

- (73) a. Jack bought something, but I don't know **what**.  
 b. \* Even though Mary hopes **that**, she wonders if anyone interesting is speaking tonight.  
 c. \* Someone has done the dishes, but I don't know the person **who**. (Kim, 1997a, p.157)  
 d. \* Somebody stole the car, but noone knew that it was Ben **who**. (Merchant, 2001, p.59)

Contrary to VP ellipsis (including Pseudogapping) and Sluicing, no licensing element can be identified in Gapping. The only elements left after ellipsis are the remnants. There is no particular lexical item in cases of Gapping that can be singled out as licenser. The same holds for Fragments; what is left after ellipsis are just the remnants of ellipsis.

To sum up, Gapping and Fragments can be distinguished from other types of ellipsis on the basis of the following properties (though recall that Pseudogapping also has the second property).

- (74) • Gapping and Fragments cannot occur in embedded contexts.  
 • Gapping and Fragments appear to elide non-constituents.  
 • There is no licensing element present in Gapping and Fragments.

Some of the similarities between Fragments and Gapping have not completely gone unnoticed. Hankamer (1979) argued that Gapping and Fragments fall in the same category of ellipsis types (cf. also Reich, 2007). In this dissertation I argue that this view is correct. Besides the ones in (74), I show that Gapping and Fragments have



sis. Without getting into the details here, the idea is that ellipsis can take place if the Licensing Condition is satisfied. The question to be answered, then, is whether the second conjunct of a coordination and a stand-alone utterance are different contexts for the purposes of the Licensing Condition. I argue that they are not. I arrive at this conclusion as follows. I first show that the distribution of Gapping and Fragments is very similar. In particular, I show that something similar to the Equal Conjunct Requirement on Gapping holds for Fragments, as well. For example, as noted above, Fragments may not be embedded, just like Gapping, see (76) and (77). I show that the comparison does not stop here, but that Gapping and Fragments are similarly restricted in a number of other ways, as well.

- (76) a. \* Harry has invited Sue and I know (that) Bill Mary.  
 b. \* John knows a man that caught a salmon on Sunday and Bill knows a man (that) a trout on Thursday.
- (77) A: Who has John invited?  
 B: \*I know Mary

Having identified the (similar) distributional properties of Gapping and Fragments, I proceed by discussing the theories of licensing in the literature, which come in two basic varieties. One account holds that licensing is a matter of syntax, while the other holds that licensing is done in the discourse component. I argue that the syntactic licensing theories cannot account for Gapping or Fragments. The main reason is that the syntactic licensing theories postulate a very local licensing relation between a licensing element and the ellipsis site (e.g. Lobeck, 1995; Merchant, 2001). These theories are therefore ill-equipped to account for the distributional facts, such as those illustrated in (76) and (77). Inspired by the discourse theories of licensing, in particular that of López (2000), I propose a particular discourse licensing condition on Gapping and Fragments. This licensing condition dictates that the ellipsis site and the antecedent must be in a particular discourse relation. Having shown that the same licensing condition governs whether ellipsis can take place in Gapping and Fragments, together with the conclusion from chapter 2 that Gapping and Fragments have the same syntax, it can be concluded that Gapping and Fragments should not be formally distinguished.

Chapter 4 deals with movement under ellipsis. Gapping has traditionally been considered as a type of non-constituent ellipsis. Fragments, in fact, can also be considered a type of non-constituent ellipsis. However, under the movement plus deletion approach to ellipsis, which I argue for in chapter 2, both Gapping and Fragments involve deletion of the constituent that has been vacated by the remnants of ellipsis, cf. (75). This movement out of the ellipsis site is often exceptional in the sense that this movement is not allowed when no ellipsis takes place, as shown in (78) on the basis of Gapping.

- (78) a. \* Max ate the apple and  $[_{DP} \text{ Sally}]_i [_{DP} \text{ the hamburger}]_j [_{XP} t_i \text{ ate } t_j]$   
 b. Max ate the apple and  $[_{DP} \text{ Sally}]_i [_{DP} \text{ the hamburger}]_j [_{XP} \bar{t}_i \text{ ate } t_j]$

In chapter 4, I deal with the theory of exceptional movement. The question that I specifically address there is what constrains this movement and what makes this movement possible. To do this, I adopt Fox and Pesetsky's (2005) theory of phases. This theory holds that a set of ordering statements is calculated upon Spell-Out, which are then added to an ordering table. After Spell-Out, no movement may take place that creates a conflicting ordering statement. I argue that, while exceptional movement leads to contradictory ordering statements, exceptional movement is nonetheless possible under ellipsis, because ellipsis has the ability to eliminate the problematic ordering statements.

Chapter 5 concludes this dissertation. It provides a summary and discusses avenues for future research. Part of this chapter is concerned with showing how Gapping and Fragments differ from other types of ellipsis and what these differences might stem from. To explain these differences, I entertain the possibility that the licensing condition on ellipsis is not a condition specific to ellipsis, but follows from a general requirement on recoverability. With this hypothesis in place, the differences between Gapping/Fragments and other ellipsis types are shown to follow.

## CHAPTER 2

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### The syntax of Gapping and Fragments

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#### 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?  
 †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  $[[_{DP} \text{ Sally}]_i [[_{DP} \text{ the hamburger}]_j [_{XP} t_i \text{ ate } t_j]]]$   
 b. Who did you see? -  $[[_{DP} \text{ Bill}]_i [_{XP} \text{ I saw } t_i]]$

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  $vP$ , 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<sub>DAT</sub> dem Lehrer.  
       H. follows the.DAT teacher  
 b. ~~Hans~~ sucht<sub>ACC</sub> 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  $\phi$ -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 ellipsis. In that case, the case connectivity facts follow straightforwardly from the syntactic structure present in the ellipsis.

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 ellipsis 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 ellipsis. 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<sub>1</sub> try to shave?  
 a. \* Him<sub>1</sub>.  
 b. \* John<sub>1</sub> tried to shave him<sub>1</sub>.

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<sub>1</sub> staying?  
 a. \* In John<sub>1</sub>'s apartment.  
 b. \* He<sub>1</sub> is staying in John<sub>1</sub>'s apartment.

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 ellipsis. 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).<sup>1</sup> 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**]].

<sup>1</sup>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**<sub>1</sub> claims [that Mary will invite **himself**<sub>1</sub>]].

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<sub>1</sub> him<sub>1</sub>.  
 b. \* Bill<sub>1</sub> admires him<sub>1</sub>. Principle B
- (17) In July, he<sub>1</sub> is staying in Bill's apartment but  
 a. \* In August, in John<sub>1</sub>'s apartment.  
 b. \* In August, he<sub>1</sub> is staying in John<sub>1</sub>'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<sub>1</sub> admire?  
 a. His<sub>1</sub> mother.  
 b. Every Englishman<sub>1</sub> admires his<sub>1</sub> mother.
- (19) Some teachers gave [every student]<sub>1</sub> a book in his<sub>1</sub> favorite cafe and  
 a. other teachers in his<sub>1</sub> favorite restaurant.  
 b. other teachers gave [every student]<sub>1</sub> a book in his<sub>1</sub> 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.<sup>2</sup> 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* [<sub>VP</sub> *dat boek las*].  
           ... that John yesterday that book read  
       b. ... *dat Jan* [<sub>VP</sub> [*dat boek*]<sub>i</sub> [<sub>VP</sub> *t<sub>i</sub> 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).

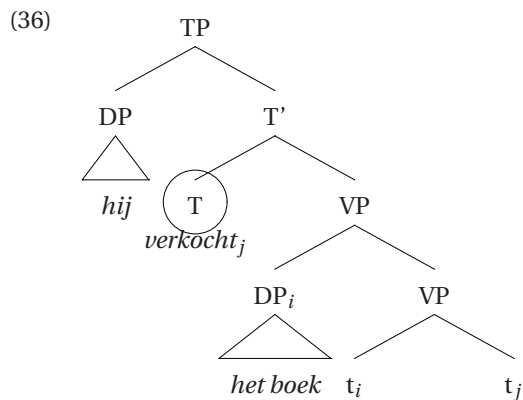
- (35) a. [<sub>VP</sub> *die auto kopen*]<sub>i</sub> *heb ik nooit gewild t<sub>i</sub>.*  
           that car buy have I never wanted  
           ‘I have never wanted to *buy that car.*’  
       b. [<sub>VP</sub> *t<sub>j</sub> kopen*]<sub>i</sub> *heb ik* [*die auto*]<sub>j</sub> *nooit gewild t<sub>i</sub>.*  
           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

<sup>2</sup>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.<sup>3</sup>

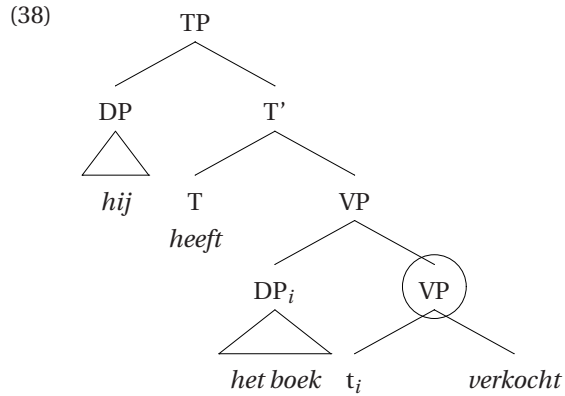


The following example differs minimally from (33) in that here the main verb has not undergone verb second, since it is not finite. In contrast to (33), the fragment in (37) is grammatical.

- (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.

<sup>3</sup>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.



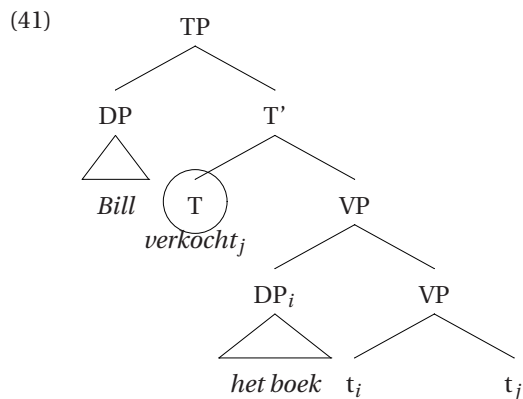
In general, in order to spell out just the verb in a fragment, the remnant must be at least as big as a VP. Any VP internal material must have vacated the VP before the VP undergoes movement. In (38), the direct object of *verkocht* has scrambled out. Once the direct object of *verkocht* has vacated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

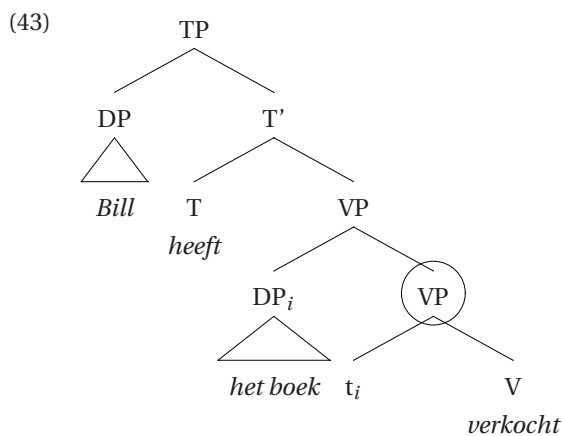
The same restriction holds for Gapping in Dutch. The fact that *verkocht* cannot be a remnant in (40) parallels the facts in (33). *Verkocht* is a finite verb in (40), hence it must undergo verb second. When in C, there is no possibility for *verkocht* to become a remnant of ellipsis, because it is a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



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.’



### 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  $[_{DP} \text{ Sally}]_i$   $[_{DP} \text{ the hamburger}]_j$   $[_{XP} t_i \text{ ate } t_j]$       Gapping  
 b. Who did you see? -  $[_{DP} \text{ Bill}]_i$   $[_{XP} \text{ I saw } t_i]$       Fragments

## 4 The size of the ellipsis

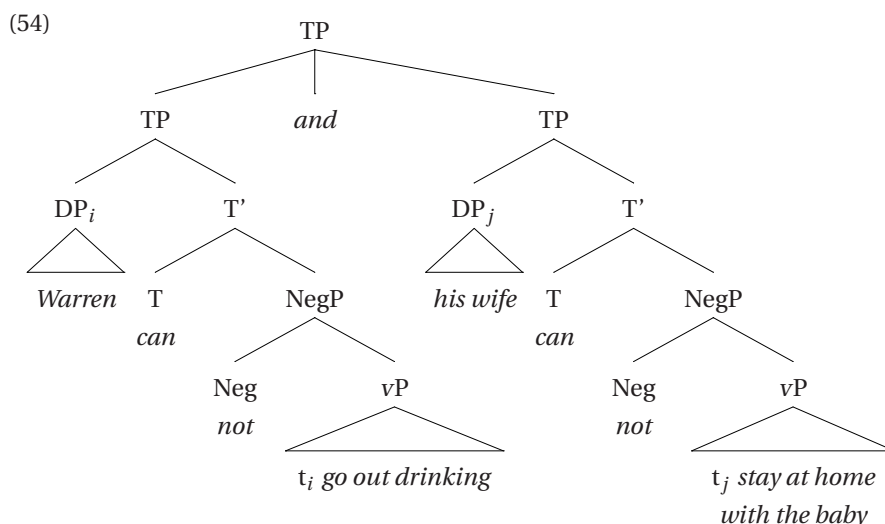
What does ‘XP’ stand for in (52)? Below, I start by looking at Gapping, which has received the most attention in this regard. In section 4.3, I turn to Fragments. For Gapping, both *vP* (Johnson, 2009, 2004; Coppock, 2001; Toosarvandani, 2013, a.o.) and *TP* have been suggested as the label of XP. Some have claimed that XP is ambiguous in Gapping and can stand for both *vP* 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 *vP*, *TP* and *CP*.

### 4.1 Gapping in *vP* 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)  
 $\neg \diamond A \ \& \ \neg \diamond B$

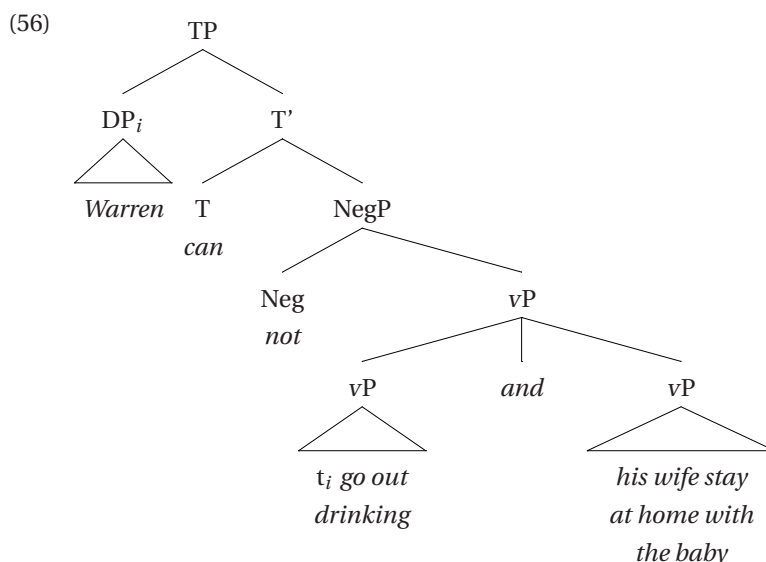


Siegel notices that modals and negation can also scope over the coordination in some cases. Such sentences involve auxiliary Gapping and necessarily describe a single situation at a single time interval.

- (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)  
 $\neg \diamond (A \ \& \ B)$

(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 vP-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.



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 vP coordinations. As noted there for Gapping, evidence that coordination at the vP-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 vP coordination like (56).

- (57) a. Not every girl<sub>1</sub> ate a green banana and her<sub>1</sub> mother a ripe one.  
 b. No boy<sub>1</sub> joined the navy and his<sub>1</sub> 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 vP-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) \* [<sub>TP</sub> No woman<sub>1</sub> can join the army] and/but [<sub>TP</sub> her<sub>1</sub> girlfriend can the navy]

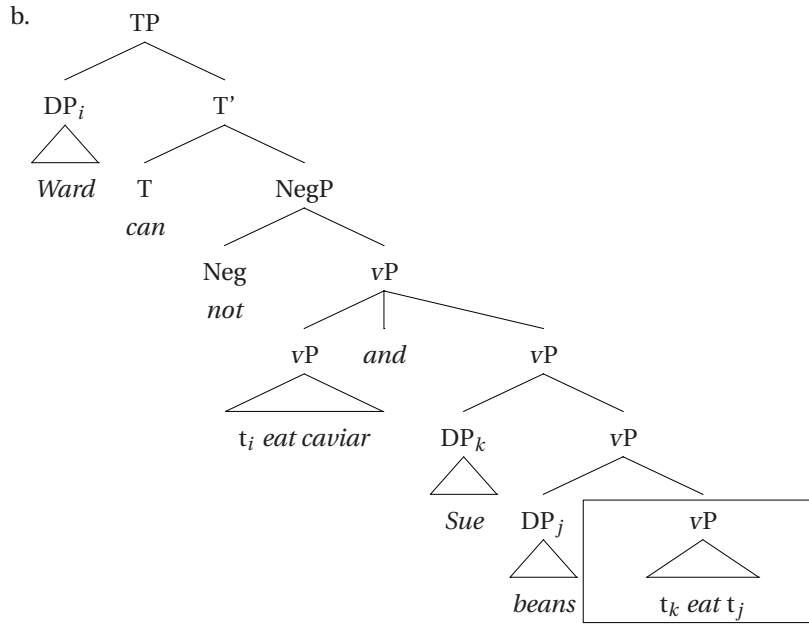
We now turn to Gapping. Siegel (1984, 1987) points out that Gapping cases are ambiguous between the readings we have seen in (53) and (55).

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

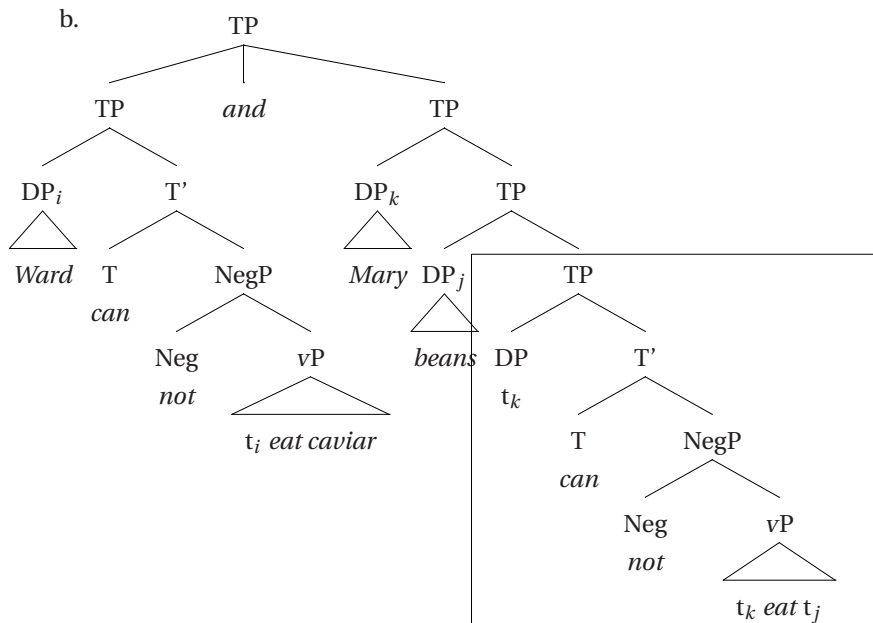
The example in (59) is ambiguous between the following two readings. One reading can be paraphrased as 'It is not possible (or desirable) for Ward to eat caviar and for Sue (simultaneously) to eat (merely) beans.' This reading is true just in case it can't be that they both eat the foods mentioned. The 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 vP-coordination or a TP-coordination. TP-coordination would give rise to the dual event reading (cf. (54)), whereas vP-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 vP 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 vP-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." ¬ < ◇ < &



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

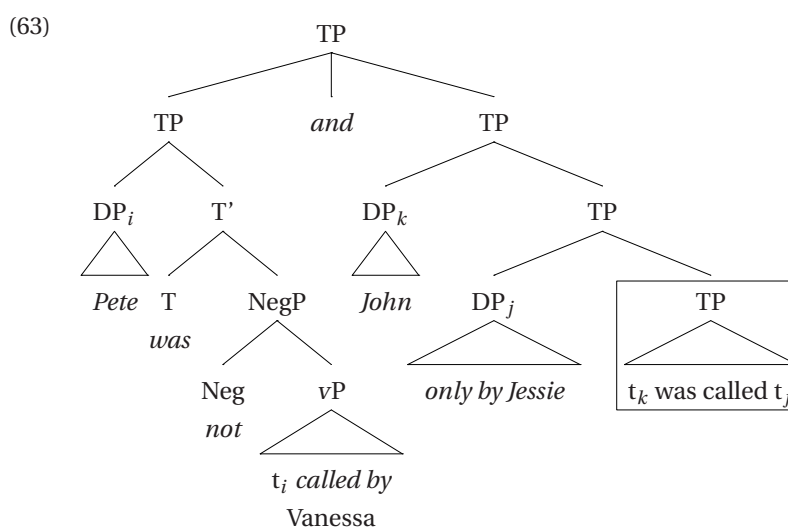


Repp (2009) notes that there are three scope possibilities for negation in Gapping. Besides the distributed scope in (62a) and high scope in (62b), which are like the

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.  $(\neg A) \wedge (\neg B)$   
 = [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.  $\neg (A \wedge B)$   
 = 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.  $(\neg A) \wedge (B)$   
 = [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 vP-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).



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!  $\neg$ (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.  $\neg$ (A) &  $\neg$ (B)  
 Jan has no rice eaten and Bill no green beans  
 ‘John hasn’t eaten rice and Bill hasn’t eaten green beans.’<sup>4</sup>
- (66) Jan heeft geen kaviaar gegeten, maar Marie bonen.  $\neg$ (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 ellipsis. 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.

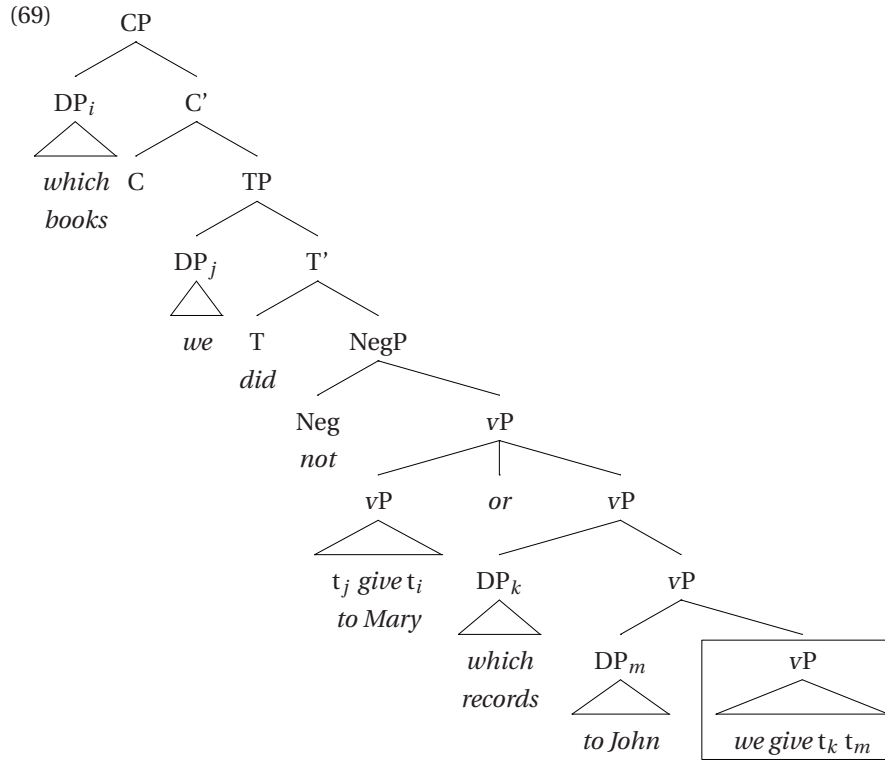
- (67) a. ? Which book did John recommend and which book Mary?  
 b. \* I know which book John recommended, but I’d like to know which book Mary.

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).

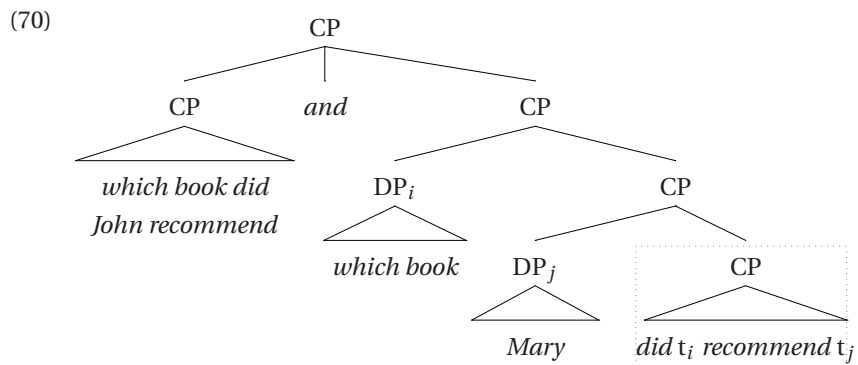
- (68) Bill asked which books we didn’t give to Mary or which records to John.  
 a. or which records we gave to John.  
 b. \* or which records we didn’t give to John.

For this example, the *wh*-phrase remnant *which records* must have adjoined to the *vP* 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 *vP*. The parse of (68) is given in (69).

<sup>4</sup>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).



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



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 *vP*-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 *CP*s.

The example in (72a) shows that Gapping can target *CP*s 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 Marie  
 '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  
 I know when Wim Sofie kissed has, but I want know when  
 Jan Marie?  
 John Marie  
 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 *vP*, *TP* or *CP* level.<sup>5</sup> 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

<sup>5</sup>In chapter 1, we already saw examples of Gapping targeting *AP*s. 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:  $[_{DP} \text{Bill}]_i [_{TP} \text{I saw } t_i]$
- (74) a. A. John lent me his favorite book.  
 B. Really,  $[_{DP} \text{his favorite book}]_i [_{CP} \text{John lent you } t_i]$ ?  
 b. A. When did John arrive today?  
 B.  $[_{DP} \text{John}]_i [_{CP} \text{when did } t_i \text{ arrive today}]?$

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)  $[_{CP} \text{Why } [_{FP} \text{natto}]_i [_{VoiceP} [_{vP} [_{VP} \text{John ate } t_i]]]]]$

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.





## CHAPTER 3

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### Licensing ellipsis

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#### 1 Introduction

In the previous chapter I showed that the syntax of Gapping and Fragments is virtually identical. I followed Merchant (2004) in arguing for a movement plus deletion approach to ellipsis, under which the derivation of typical cases of Gapping and Fragments come out as follows.

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

The syntactic similarity of Gapping and Fragments begs the question whether we have any reason to formally treat Gapping and Fragments as distinct phenomena. Traditionally, Gapping and Fragments have been considered different types of ellipsis. This is mainly due to the observation that Gapping occurs in the second conjunct of a coordination whereas Fragments occurs in a stand-alone sentence.

In principle, there are at least two reasons for which one could distinguish between different ellipsis types. One reason is that the ellipsis types have a different constituent size. Generally, TP, VP and NP ellipsis are considered different ellipsis types. Another reason to distinguish ellipsis types is their distribution. Gapping, for example, only occurs in coordinations and not in subordinations, whereas VP ellipsis fares fine in both those contexts. This, in fact, has led some authors to suggest that Gapping should not be considered a type of ellipsis at all (e.g. Lobeck, 1995; Johnson, 2004). This is an unfortunate conclusion, as Gapping shows many of the hallmarks of ellipsis, such as strict/sloppy ambiguities and allowing for split antecedents (Coppock, 2001). In this chapter I argue that there is no reason to formally

distinguish between Gapping and Fragments. To arrive at this conclusion, I study the distribution of Gapping and Fragments and show that their distributional patterns are virtually identical. I show, moreover, that Gapping and Fragments are not licensed by a syntactic licensing condition. I propose that Gapping and Fragments are licensed when a particular discourse configuration obtains. With the licensing condition on ellipsis holding at the level of discourse, any syntactic differences (i.e. Gapping occurs in coordinations, Fragments in a stand-alone utterance) are irrelevant for whether or not the licensing condition is satisfied.

In section 2, I discuss the distribution of Gapping and Fragments. In section 3, I discuss ellipsis licensing and show that none of the theories in the literature is capable of extending to Fragments and Gapping. Section 4 presents arguments that show that Gapping is not licensed in the syntax. In section 5, I account for the facts discussed in section 2 and 4. Specifically, I propose a theory in which Gapping and Fragments are licensed when they are in a particular discourse configuration with respect to their antecedent. Section 6 addresses some problems for the account given in section 5. Section 7 concludes.

## 2 The syntactic distribution of Gapping and Fragments

In this section, I discuss in which contexts Gapping and Fragments can occur. It turns out that the distribution of Gapping and Fragments is very restricted. Significantly, the distributional restrictions well-known to hold for Gapping turn out to hold for Fragments, as well.

As we have seen in chapter 1, Gapping is subject to the Equal Conjunct Requirement, which says that the ellipsis site may not be embedded relative to its antecedent, nor may the antecedent be embedded relative to the ellipsis clause. In (2a), the Gapping clause '*Bill Mary*' is embedded under the matrix clause headed by *know*.<sup>1</sup> (2b) is also ungrammatical. Here ellipsis takes place in a relative clause.

- (2) a. \* Harry has invited Sue and I know (that) Bill Mary.  
 b. \* John knows a man that caught a salmon on Sunday and Bill knows a man (that) a trout on Thursday.

Interestingly, the no embedding restriction also holds for Fragments (cf. Hankamer, 1979). The similarity between (2) and (3) is remarkable. Nevertheless, this fact has received little attention in the literature.

- (3) A: Who has John invited?  
 B: \*I know Mary

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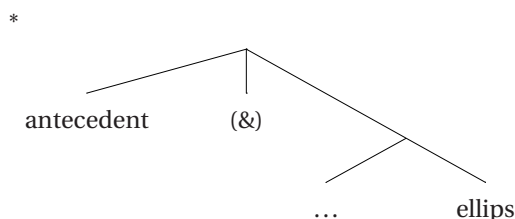
<sup>1</sup>An exception to the no embedding restriction are instances of Gapping under 'bridge verbs' (*say*, *think*, etc.). An example is given in (i). See Temmerman (2013) for a discussion of embedded Fragments in Dutch.

i. Harry has invited Sue and I think Bill Mary.

I discuss this exception to the no embedding restriction in section 6.

The no embedding restriction on the ellipsis clause in Gapping and Fragments is depicted schematically in (4).<sup>2</sup>

(4) *Asymmetrical embedding of ellipsis*



Significantly, ellipsis types other than Gapping and Fragments are not subject to the no embedding condition. This is illustrated for VP ellipsis in (5a) and for Sluicing in (5b).

- (5) a. Harry has invited Sue and I know (that) Bill has ~~invited Sue~~, too.  
 b. Harry has invited someone, but I don't know who ~~Harry has invited~~.

Johnson (2004, 2009) shows that the antecedent of Gapping cannot be embedded either. The example in (6) is ungrammatical with the bracketing as indicated. In this structure, the Gapping clause is not embedded under *she's said*. The fact that the antecedent for the gap is embedded under *she's said* gives rise to ungrammaticality.

- (6) \* [She's said [Peter has eaten his peas]] and [Sally ~~has eaten~~ her green beans] so now we can have dessert.

The following examples show that the antecedent for Fragments cannot be embedded either. If it could, we would expect the examples in (7) to be ambiguous between a 'large' and a 'small' antecedent reading, contrary to fact. The instances of Fragments can only take the large antecedent.<sup>3</sup>

<sup>2</sup>Although there is no syntactic connection between the antecedent and the instance of Fragments, for the sake of convenience, I represent it here as such. In section 5, I argue that there is a discourse relation between the Fragments clause and its antecedent.

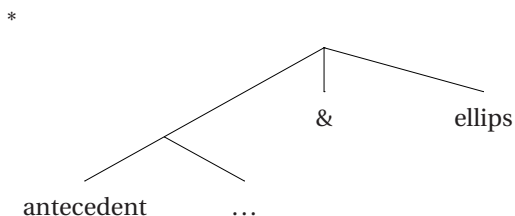
<sup>3</sup>It should be noted that the examples in (7) are not ruled out because the discourse is incoherent. As shown in (i) and (ii), Fragments with a small antecedent is ruled out, even though the non-elliptical version is perfectly fine.

- i. A: What did John say Mary has eaten?  
 B: Mary has eaten beans, but I'm not sure if that's what John said.  
 B': \*Beans ~~Mary has eaten~~, but I'm not sure if that's what John said.
- ii. A: John said Mary has eaten BEANS.  
 B: He's wrong, Mary has eaten CAVIAR.  
 B': \*He's wrong, CAVIAR ~~Mary has eaten~~.

- (7) a. A: What did John say Mary has eaten?  
 B: Beans. question-answer Fragments  
 ≠ 'Mary has eaten beans.'  
 = 'John said Mary has eaten beans.'
- b. A: John said Mary has eaten BEANS.  
 B: No, CAVIAR. corrective Fragments  
 ≠ 'Mary has eaten caviar.'  
 = 'John said Mary has eaten caviar.'

The examples in (6) and (7) show again that asymmetrical embedding is disallowed. This time, however, it is the antecedent that is embedded with respect to the ellipsis clause, as schematically represented in (8).

- (8) *Asymmetrical embedding of antecedent*



Elaborative Fragments seem to be less sensitive to asymmetrical embedding of the antecedent, as shown in (9).

- (9) a. A: John said Mary has eaten something.  
 B: Yeah, beans. elaborative Fragments  
 = 'Mary has eaten beans.'  
 = 'John said Mary has eaten beans.'

The possibility of taking a small antecedent in Fragments seems to track the possibility of taking a small antecedent in Sluicing. As shown for Sluicing in (10), the possibility of resolving ellipsis against a large or a small antecedent is available here, too, just as it is for Fragments in (9).

- (10) a. John said Mary has eaten something, but I don't now what.  
 = 'I don't know what Mary has eaten.'  
 = 'I don't now what John said Mary has eaten.'

The following example shows that when a small antecedent is unavailable for Fragments, it is also unavailable in Sluicing.

- (11) a. A: What did John regret Mary has eaten?  
 B: Beans. elaborative Fragments  
 ≠ ‘Mary has eaten beans.’  
 = ‘John regretted Mary has eaten beans.’
- b. John regrets Mary has eaten something, but I don’t know what. Sluicing  
 ≠ ‘I don’t know what Mary has eaten.’  
 = ‘I don’t know what John regrets Mary has eaten.’

Whatever it is that makes available the possibility of taking a small antecedent in elaborative Fragments, it should not carry over to question-answer and corrective Fragments. I will leave the exploration of the similarity between elaborative Fragments and Sluicing for future research. Here, I assume that asymmetrical embedding of the antecedent with respect to the ellipsis clause is impossible in Fragments (i.e. (8) holds). In section 6, I discuss several cases where the no embedding restriction on the antecedent is violated. In general, it seems that embedding of the antecedent with respect to the ellipsis clause is more flexible than embedding of the ellipsis clause with respect to the antecedent.

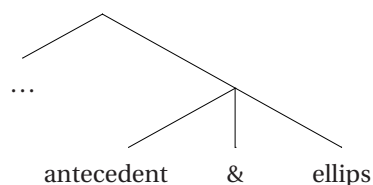
Next, consider the case of VP ellipsis in (12). This example shows that the no embedding restriction does not hold for this ellipsis type. Whether a small antecedent or a large antecedent is chosen to resolve ellipsis depends on the context. It differs in this respect from the Gapping and Fragments cases in (7), where no context, no matter how rich, is sufficient to ‘bypass’ the no embedding restriction.

- (12) John knows that Mary goes skiing in the weekends, but I’m not sure if Bill does, too.  
 = ‘I’m not sure if Bill goes skiing in the weekends, too.’  
 = ‘I’m not sure if Bill knows that Mary goes skiing in the weekends.’

One might suspect at this point that Gapping and Fragments are main clause phenomena. The following example shows for Gapping that it is not. That is, Gapping *can* be embedded, but only if the antecedent is embedded, too. This is illustrated in (13) and depicted schematically in (14).

- (13) I know that [[Harry has invited Sue] and [Bill Mary]].

- (14) *Symmetrical embedding*

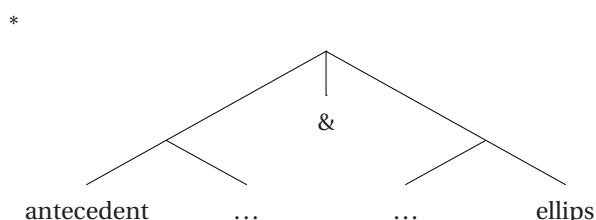


The example in (15) is a case of symmetrical embedding. Nonetheless, ellipsis is ungrammatical in this context.<sup>4</sup>

<sup>4</sup>This shows that there is no ‘higher clause matching’ in the sense of Rooth (1992) is possible. That is, even though the matrix clauses (*X knows*) match, ellipsis is not possible.

(15) \* I know that Harry has invited Sue and Sarah knows Bill Mary.

(16) *Illicit symmetrical embedding*



The generalization seems to be that ellipsis clause and antecedent must be directly ‘next to each other’ in some way. Being ‘next to each other’ is not enough, though. The example in (17) illustrates the well-known fact that Gapping cannot occur in an adverbial clause. For this reason, Gapping is often thought to be a ‘coordinative ellipsis type’ (i.e. it only occurs in coordinations).

(17) a. Max ate the apple and Sally the hamburger.

b. \* Max ate the apple, because Sally the hamburger.

Let us now turn to Fragments. It is clear that Fragments cannot occur in a subordinated adverbial clause, since Fragments is an ellipsis type that occurs in a stand-alone sentence. Two clauses that are not syntactically connected can, however, give rise to a subordinative *interpretation*. Consider the example in (18a). This example has a subordinative reading in which S2 specifies the cause of S1. This same interpretation is the preferred one in (18b). When it comes to their interpretation, (18b) and (18a) are identical. Thus, although only (18a) involves syntactic subordination, both (18a) and (18b) involve subordination at the level of interpretation.

(18) a. [<sub>S1</sub> John got upset,] because [<sub>S2</sub> his favorite cookies were sold out.]

b. [<sub>S1</sub> John got upset.] [<sub>S2</sub> His favorite cookies were sold out.]

The examples in (19) and (20) show that Fragments is impossible when the sentence receives a cause-effect interpretation, similar to the reading of (18b). Consider the example in (19a). B’s response can be interpreted as stating that the fact that John has red hair is due to his parents having red hair. (19b) shows that this subordinative cause-effect interpretation does not license ellipsis. B’s Fragments utterance is ungrammatical, even though S1 provides a matching antecedent. Similar considerations hold for (20b). Here, the interpretation of B’s utterance is that the sun’s shining causes the moon’s shining. Again, this subordinative cause-effect interpretation does not license ellipsis, as shown in (20b).

(19) a. A: [<sub>S1</sub> John has red hair.]

B: (Of course) [<sub>S2</sub> His parents have red hair.]

b. \* A: [<sub>S1</sub> John has red hair.]

B: (Of course) [<sub>S2</sub> His parents ~~have red hair.~~]

- (20) a. A: [<sub>S1</sub> The moon is shining.]  
       B: (Of course) [<sub>S2</sub> The sun is shining.]  
       b. \*A: [<sub>S1</sub> The moon is shining.]  
       B: (Of course) [<sub>S2</sub> The sun is shining.]

Just as with the no embedding condition, VP ellipsis and Sluicing are not subject to the no subordination condition either, as shown in (21a) and (21b), respectively.

- (21) a. Harry has invited Sue, because Bill did ~~invite Sue~~, too.  
       b. I'm convinced Harry has invited someone, although I don't know who ~~Harry has invited~~.

To summarize, both Gapping and Fragments are subject to severe restrictions on their distribution. An approximation of the generalization on the distribution of these ellipsis types, is that they are only possible when the ellipsis clause and antecedent are directly connected and no (semantically) subordinative relation holds between them. These distributional restrictions are absent in VP ellipsis and Sluicing. This difference in distribution raises the question as to what governs the distribution of Gapping and Fragments on the one hand and the distribution of VP ellipsis and Sluicing on the other. I address this question in the next section.

### 3 Existing theories of ellipsis licensing

It is standardly accepted that a successful instance of ellipsis must obey two preconditions. One is that there must be an identical antecedent available in the discourse. This condition is what we have called the *identity* condition. Intuitively, it is easy to grasp why there is an identity condition on ellipsis (whatever its precise formulation might be): if there is no sufficiently identical antecedent, the deleted material is not recoverable and no interpretation can be assigned to the elliptical clause. The other precondition on ellipsis is the so-called *licensing* condition. The licensing condition is generally thought to govern the distribution of ellipsis. That is, a context in which ellipsis is allowed is a context in which the licensing condition is satisfied. If we want to determine the nature of the licensing condition, we have to study the contexts in which ellipsis can take place and compare these to the contexts in which it cannot. Although the terms 'licensing' and 'distribution' are sometimes used interchangeably, the two are not the same. In many theories, licensing is a formal (grammatical) requirement that must be met for ellipsis to take place successfully. The nature of this formal requirement is often taken to be syntactic. The output of this grammatical operation, in turn, is what determines in which contexts ellipsis can apply (i.e. its distribution).

The evidence for a licensing component in ellipsis is based on the following observations. As is well-known, Sluicing is possible with interrogative *wh*-phrases.

- (22) a. Somebody just left – guess who. (Ross, 1969, p.252)  
       b. Anne invited someone, but I don't know who. (Merchant, 2001, p.40)

Importantly, Sluicing is *only* possible with interrogative *wh*-phrases. Sluicing is impossible, for example, when the sluice is headed by a relative pronoun (cf. van Riemsdijk, 1978; Lobeck, 1995), see (23b). The grammatical case of Sluicing in (23a) differs only minimally from (23b) in that here the *wh*-phrase that heads the sluice is an interrogative *wh*-phrase.

- (23) a. Someone has done the dishes, but I don't know who.  
 b. \* Someone has done the dishes, but I don't know the person who.  
 (Kim, 1997a, p.157)

Similarly, Sluicing is not licensed by *wh*-phrases that head clefts.

- (24) a. \* We thought it was Abby who stole the car, but it was Ben who.  
 b. \* Somebody stole the car, but noone knew that it was Ben who.  
 (Merchant, 2001, p.59)

The examples in this section show that Sluicing is dependent on the presence of an interrogative *wh*-phrase, which I refer to as the *licensor*.<sup>5</sup> There are two important questions raised by the idea that ellipsis must be licensed. *How* is ellipsis licensed and *why* must ellipsis be licensed? As for the *how*-question, the question is what the grammatical relation is between licensor and ellipsis site. The more intriguing question is *why* ellipsis needs to be licensed. As said, it is not clear intuitively why ellipsis should be subject to such a condition in the first place.

Two types of approaches can be distinguished in the literature on licensing ellipsis. The first type of approach takes it that a certain syntactic relation must hold between licensor and ellipsis site (e.g. Zagona, 1982, 1988; Chao, 1988; Lobeck, 1995; Merchant, 2001). The second type of approach argues that licensing is a matter of having a proper discourse relation between ellipsis site and antecedent (e.g. Asher, 1993; Hardt, 1993; Hardt and Romero, 2004; Klein, 1987; Prüst et al., 1994). In the next section, I discuss some of these theories and review how and to what extent they answer the *how* and *why* of licensing. In the discussion, I focus on Sluicing, though much of it carries over to other ellipsis types as well.

<sup>5</sup>I will not discuss the licensing condition on VP-ellipsis here. The main reason is that VP ellipsis is typologically rare, unlike clausal ellipsis types such as Sluicing, Gapping and Fragments. How VP ellipsis is licensed can thus only be answered by conducting a cross-linguistic investigation, which is out of the scope of this dissertation.

If we just look at English, though, it is easy to see that licensing plays a role in VP ellipsis. Observe the contrast between (i) and (ii). Whereas VP ellipsis is fine in (i), it is not in (ii). According to Johnson (2001), the correct generalization is that VP ellipsis is impossible in island contexts. This cannot be the whole story, however, since VP ellipsis is not only impossible in islands. As noted in Potsdam (1997), subjunctive clauses also resist VP ellipsis, see (iii). See Lobeck (1995); Johnson (2001); Aelbrecht (2010); Thoms (2010) for theories on licensing VP ellipsis.

- i. Mag Wildwood wants to read Fred's story, and I also want to. (Johnson, 2001, p.445)  
 ii. \* Mag Wildwood came to read Fred's story, and I also came to. (Johnson, 2001, p.445)  
 iii. \* We can't count on Josh to be waiting for us at the airport so we request that you be instead.  
 (Potsdam, 1997, p.537)



### 3.1 Syntactic licensing theories of ellipsis

#### 3.1.1 The Agree approach

Lobeck (1995) adopts the view that ellipsis sites are silent pronouns and that these pronouns need to be identified. In Lobeck's theory licensing ellipsis is on a par with the licensing of empty categories, such as *pro*. Parallel to how *pro* in null subject languages is licensed by the agreement on the verb, ellipsis is licensed by a proper head-governor specified for strong agreement (i.e. productive agreement that is spelled out on either Probe or Goal). For Sluicing, Lobeck argues that a [+WH] feature on C licenses ellipsis. To rule out Sluicing in relative clauses (which, recall, do not allow Sluicing, cf. (23b)), Lobeck follows Rizzi (1990) in assuming that in those cases C is equipped with a [-WH]-feature.<sup>6</sup>

Merchant (2001, 2004) builds on Lobeck's proposal. He argues that ellipsis is licensed by an E-feature, the properties of which are listed in (25).

$$(25) \quad \begin{array}{l} E_{[\mu F^*]} \\ \llbracket E \rrbracket = [\lambda p: e\text{-GIVEN}(p). p] \\ \phi_{CP} \rightarrow \emptyset/E \end{array}$$

Under Merchant's theory, ellipsis is licensed when all requirements of  $\llbracket E \rrbracket$  are satisfied. One requirement is that the ellipsis must be e-GIVEN.  $\llbracket E \rrbracket$  is a partial identity function over propositions. An expression E is e-GIVEN iff there is an antecedent A which entails E and which is entailed by E, modulo  $\exists$ -type-shifting (Merchant, 2001). Semantic composition of E and its complement succeeds only if the complement of E is e-GIVEN. This semantic requirement is what I have been referring to as the identity condition. Relevant for our current purposes is that the E-feature also requires that it be checked by a particular syntactic feature F. Merchant (2001) argues for Sluicing that the licensing feature that bears this requirement is a  $[\mu WH, \mu Q]$  on C. This licensing feature has an EPP property (indicated by the \*), which requires overt movement of the Goal to the specifier of  $\llbracket E \rrbracket$ . In effect, the E-feature requires that a *wh*-phrase moves to its specifier and checks its  $[\mu WH, \mu Q]$ . For Fragments, Merchant (2004) argues that the E-feature is situated on a covert functional head.  $\llbracket E \rrbracket$  furthermore requires that it be checked by a focus-feature, which attracts a focused remnant to its specifier. When this particular checking requirement of  $\llbracket E \rrbracket$  is satisfied (and e-GIVENness holds), the E-feature instructs PF not to parse its complement (this is expressed in the last line of (25)).

It is clear that Merchant's and Lobeck's accounts are to a large extent similar (cf. also Aelbrecht, 2010). If we set aside the difference of postulating structure in the ellipsis site, a matter that is largely independent of the licensing question, all of these accounts share the idea that the licenser must be involved in a particular

<sup>6</sup>Merchant (2001) points out that for Rizzi, C in relative clauses can either carry a [+WH] or a [-WH]-feature. For this reason, Merchant assumes that it is a [+WH, +Q] feature that licenses ellipsis and that the C in relative clauses carries a [WH, Q]. Kim (1997a) assumes that the C-head that licenses Sluicing carries a [+WH, +FOCUS]. Since the exact feature content of the licenser is not important for the discussion, I do not discuss it further here.

Agree/checking relation for ellipsis to be licensed.<sup>7</sup>

López (2000) expresses some criticism of Lobeck's account, which extends to Agree approaches to licensing in general. First, it is not clear what the particular Agree relation has to do with the licensing of ellipsis. In the case of licensing *pro*, the agreement on the verb is actually sufficient to retrieve *pro*'s content. Crucially, the licensing agreement relation postulated for ellipsis does not recover the *content* of the ellipsis site. Second, why does an interrogative *wh*-feature license Sluicing whereas other features do not? Essentially, the Agree approaches only answer the *how*-question of licensing, but not the *why*-question. If the Agree relation is a prerequisite for ellipsis, one would like to know why that is the case. It is this criticism that strikes at the heart of the Agree approaches. Under the Agree approach, licensing is an idiosyncretic syntactic condition, where the variation in ellipsis types is governed by variation in the lexicon. The obvious drawback is that any ellipsis type can be 'captured' this way, simply by postulating a(nother) licenser along with its idiosyncretic checking requirement in the lexicon. The Agree approach thus denies that the fact that only interrogative *wh*-phrases license Sluicing is something that needs to be explained. This does not seem correct in light of the fact that many languages have Sluicing with interrogative *wh*-phrases. The fact that Sluicing occurs in typologically unrelated languages (cf. Merchant, 2001) indicates that there is something special about interrogative *wh*-phrases that other (*wh*-)phrases lack. If licensing were just a matter of lexical variation, we would expect to find an even distribution between languages that employ Sluicing with interrogative *wh*-phrases and languages that have Sluicing with, say, relative pronouns. Although this type of ellipsis does exist, observe the examples in (26), this type of ellipsis is very rare among the world's languages (Lipták and Aboh, 2013).

- (26) a. Ezért tartunk ott, ahol  
 this.for be.PRES.3PL there REL.where  
 lit. 'For this reason we are wherever we are.'
- b. Kòfí ná yrɔ' mɛ̀ dɛ̀ àmón má nyón mé dɛ̀ wɛ̀  
 Kòfí FUT call person IND but 1SG.NEG know person REL FOC  
 lit. 'Kofi will call someone, but I don't know the person who.'
- (Lipták and Aboh, 2013, p.105)

The rarity of the Sluicing type in (26) and the wide-spread occurrence of Sluicing with interrogative *wh*-phrases indicates that interrogative *wh*-phrases have some property that sets them apart from non-interrogative *wh*-phrases when it comes to licensing ellipsis. If we can tease apart what that property is, we are a step closer to answering what licenses Sluicing.

Gapping and Fragments pose another problem for the Agree approaches. The main problem for the Agree approaches is that they cannot predict the distribution of Gapping and Fragments. Take, for example, the contrast in (27) between the fragment in B and B'. The Agree approaches cannot predict this difference. This is so,

<sup>7</sup>One difference is that in Merchant's implementation of Lobeck's theory, licensing is no longer a general grammatical principle on licensing empty categories (i.e. the ECP), but an ellipsis specific syntactic condition.

because the ellipsis clause is identical in B and B'. Therefore, if the Agree relation that licensing ellipsis is satisfied in B (for Merchant (2004), for example, [E] must be checked by a focus-feature), it should also be satisfied in B'.

- (27) A: Who came?  
 B: [John]<sub>i</sub> F<sub>[E]</sub> [~~t<sub>i</sub> came~~]  
 B': \*I know [John]<sub>i</sub> F<sub>[E]</sub> [~~t<sub>i</sub> came~~]

To give one more illustration, consider the example in (28) which illustrates the ban on Gapping in adverbial clauses. As shown, the syntax of the Gapping clause in (28a) and (28b) is identical. The difference between the two, and thus the cause of the contrast, is the difference in connectives. A conjunction headed by *and* allows Gapping, but a subordination headed by *because* does not. The agreement approaches, however, are unable to predict this difference, since the Agree relation (whatever it is) is satisfied within the ellipsis clause and should therefore not be sensitive to the relation the ellipsis clause bears to its antecedent.

- (28) a. John invited Mary and [Paul]<sub>i</sub> [Suzan]<sub>j</sub> [~~t<sub>i</sub> invited t<sub>j</sub>~~]  
 b. \*John invited Mary, because [Paul]<sub>i</sub> [Suzan]<sub>j</sub> [~~t<sub>i</sub> invited t<sub>j</sub>~~]

One of the problems for the Agree approaches regarding Gapping and Fragments is that there is no licensing element in these ellipsis types. What surfaces in Fragments and Gapping are just the remnants of ellipsis. These phrases cannot be the licensors, as they can be XPs of any category and thus do not form a natural syntactic class. For this reason, Merchant (2004) argues that Fragments is licensed by an [E] on a covert functional head. The Agree relation here is argued to involve focus-features. Since neither the functional head that [E] sits on nor the Agree relation has any morphological reflex, I consider this proposal as another indication that the Agree approach to licensing is too flexible in that it can capture any ellipsis type by simply postulating an Agree relation. Even if we grant that there is an Agree relation in Gapping and Fragments, we end up with the same problem, namely that, at the point at which the Agree relation is established in the ellipsis clause, it is not clear what relation ellipsis clause and antecedent will ultimately bear to each other.

### 3.1.2 The move + delete approach

Thoms (2010) presents another syntactic licensing account. Thoms's account, however, is not based on establishing a particular Agree relation to license ellipsis. Instead, the account generalizes ellipsis licensing to the deletion of copies left by movement. Unlike the Agree approaches, therefore, Thoms' account does not postulate an ellipsis specific licensing mechanism. Thoms argues that ellipsis is licensed by non A-movement (A'- and head-movement). A non A-moved element can trigger ellipsis of its sister. In (29) for example, *who* A'-moves to spec,CP and triggers ellipsis of its complement, C'.

- (29) Anne invited someone, but I don't know [<sub>CP</sub> [who]<sub>i</sub> [<sub>C'</sub> ~~Anne invited t<sub>i</sub>~~]]

Thoms adopts Kayne's (1994) Linear Correspondence Axiom (LCA), which says that if an element A c-commands B, A will come to precede B at the point of Linearization. From the LCA, it follows that A cannot c-command B and B c-command A at the same time, as that would lead to contradictory ordering statements. This means that in a configuration in which A has moved over B, resulting in [A B A], copy deletion must target one of the occurrences of A. This is typically the lower copy (cf. Nunes, 2004). Thoms argues that, instead of deleting the lower copy of A, the complement of the higher instance of A may be deleted. In other words, ellipsis obtains when, instead of copy deletion, deletion of the complement of the moved element is resorted to. The reason why ellipsis only occurs in movement contexts, is because Delete (of which copy deletion and complement deletion are instances) is a costly operation and can only apply when a violation of the LCA would otherwise arise. Under Thoms' account there is no ellipsis specific licensing condition, as ellipsis is simply an instance of *Delete*. Ellipsis occurs when complement deletion is chosen over copy deletion in a movement configuration.

Although a theory that dispenses with licensing is to be preferred over a theory that does postulate it, the obvious downside is that the different licensing contexts are no longer accounted for. Recall that Sluicing is only possible with interrogative *wh*-phrases and not possible in relative clauses and clefts, see (23b and (24a), repeated here as (30a) and (30b), respectively. On Thoms' movement account, all of these involve A'-movement and are predicted to license ellipsis. In other words, Thoms' account overgenerates, because complement deletion is not sensitive to the precise content of the moved element. As long as this element has undergone non-A movement, ellipsis is predicted to be licensed.

- (30) a. \* Someone has done the dishes, but I don't know the person [who]<sub>i</sub> [~~t<sub>i</sub> has done the dishes~~]  
 b. \* We thought it was Abby who stole the car, but it was Ben [who]<sub>i</sub> [~~t<sub>i</sub> stole the car~~]

Like the Agree approaches, Thoms' account also suffers from the problem that it cannot account for the distribution of Gapping and Fragments. The reason, again, is that the licensing requirement on ellipsis, whether it involves Agree or movement, is a local relation between licensor and ellipsis site. Hence, the licensing condition is already satisfied at a point when there is no relation yet between ellipsis site and antecedent.

- (31) a. \* Harry has invited Sue and I know (that) [<sub>DP</sub> Bill]<sub>i</sub> [<sub>DP</sub> Mary]<sub>j</sub> [~~t<sub>i</sub> has invited t<sub>j</sub>~~]  
 b. \* John ate a hamburger because [<sub>DP</sub> Sally]<sub>i</sub> [<sub>DP</sub> an apple]<sub>j</sub> [~~t<sub>i</sub> ate t<sub>j</sub>~~]

Under Thoms' movement account, movement of *Mary* in (31a) and movement of *an apple* in (31b) should license ellipsis (i.e. complement deletion). In both (31a) and (31b), the relation between licensor and ellipsis site is already established at a point where it is not yet clear what relation the antecedent will bear to the ellipsis clause (embedded, subordinated, etc.).

## 3.2 Discourse licensing theories of ellipsis

### 3.2.1 The Question under Discussion approach

Next to syntactic licensing theories, there are theories that hold that ellipsis is licensed when the ellipsis clause and the antecedent satisfy a particular discourse condition. One such theory has it that the remnants of ellipsis must answer the *Question under Discussion*, or QUD for short (see Weir (2013) for Fragments, Reich (2007) for Gapping and Fragments and Ginzburg and Sag (2000) for Sluicing). Informally, the QUD can be viewed as the question obtained by replacing the focused phrases in an utterance by *wh*-phrases. In (32), for example, *Bill* and *Harry* are focused. If we replace these focused phrases with *wh*-phrases, we get a QUD of the form ‘who met whom?’. Roberts (1996) proposes that participants develop the discourse by making a contribution to the QUD.

- (32) BILL met HARRY.  
Implicit QUD: who met whom?

According to the QUD licensing theory of ellipsis, ellipsis is licensed when the current QUD is answered by the remnants. This QUD can be overt, as in question-answer Fragments, but the QUD may also be implicit, as in the case of Gapping and elaborative and corrective Fragments. In the Gapping case in (33), the QUD of the antecedent is ‘who met whom?’ (cf. (32)). Since ‘*Sue Sally*’ is an answer to this QUD, ellipsis is licensed.

- (33) BILL met HARRY and SUE SALLY.  
Implicit QUD: who met whom?

A problem for the QUD approaches arises when we consider Gapping in embedded contexts. In (34), assuming focus is on the object, the QUD is ‘what did I review?’. Under the QUD approach, a ‘secondary’ QUD must be assumed to be evoked by the focus structure of the embedded antecedent, namely ‘who read the paper when?’. Although this is possible in principle, intuitively it is far from clear that there is a ‘secondary’ QUD that is guiding the discourse here. Since embedding is recursive and, in principle, possibly infinite, the number of QUDs is predicted to be possibly infinite, as well. From the perspective that answering the QUD is an overarching common goal of participants, we must wonder what the explanatory value of a QUD theory is if the number of QUDs were indeed to grow with every level of embedding.

- (34) I reviewed a paper which [[Harry read yesterday] and [Bill last week]].

Even if we grant that QUDs can be embedded, the QUD approach wrongly predicts ellipsis in embedded clauses to be fine, as well. In (35), *Bill Mary* answers the QUD ‘who invited whom’, which is provided by the antecedent. Yet, ellipsis is not licensed here.<sup>8</sup>

<sup>8</sup>One might oppose that the answer to the QUD is embedded under the predicate *know* and that the QUD should, for this reason be, as well (Dan Hardt, pc). Note, however, that the non-elliptical version

- (35) \* [Harry has invited Sue] and [I know [(that) Bill Mary]].  
 QUD: Who invited whom?

Even though the QUD approach cannot account for (35), for many cases it seems that the QUD, set by the antecedent, gets answered by the Gapping or Fragments clause. Can we explain these facts without making recourse to the QUD? To answer this question, I compare, in the next section, the QUD approach to the Parallelism approach adopted in this dissertation (cf. chapter 1, section 1.2).

### 3.2.2 The QUD approach versus Parallelism

As noted, the QUD is obtained by replacing the focused phrases in the antecedent with *wh*-phrases. Therefore, the prediction is that the focus structure of the ellipsis clause is determined by the QUD. That is, according to the QUD approach to licensing, the general requirement of focus congruence between question and answer determines that the remnants of ellipsis must be focused, because their correlates in the antecedents are focused. In principle, it could be the other way around. In fact, in the next chapter, I argue that remnants of ellipsis must be focused in order to escape ellipsis. If correct, this means that the remnants of ellipsis must be focused independent of the focus structure in the antecedent.

In chapter 1, I have adopted the view that ellipsis can take place when it has a parallel antecedent, see the notion of Parallelism in (36) (cf. Rooth, 1992; Tancredi, 1992; Fox, 1999). Given (36), the tendency for the focus structure of the ellipsis clause to be parallel to the focus structure of the antecedent is explained by the fact that the antecedent must be a member of the focus value of the ellipsis clause.

- (36) **Parallelism:**  
 Every phonologically reduced (elliptical or deaccented) sentence *E* requires that the discourse will contain an antecedent sentence *A*, which belongs to the focus value of *E* ( $A \in F(E)$ ).<sup>9</sup> (adapted from Fox, 1999, p.73)

In many cases, the QUD approach and the Parallelism account make the same predictions. Consider the following example.

- (37) JOHN gave Bill A BOOK and PETER A CD.

Under the QUD approach, the focus structure in the antecedent evokes a QUD ‘Who gave Bill what?’ Since the ellipsis clause answers this QUD, the example is

of (35) is fine. If the QUD were not answered by the embedded clause, then the prediction is that the discourse should be incoherent, contrary to fact. It is possible that there is, in fact, an incoherent discourse here, but that accommodation ‘takes care of this’. In that case, however, the null hypothesis is that accommodation is available for the elliptical sentence, too.

<sup>9</sup>For convenience sake, I give here the definition of focus semantic value, repeated from chapter 1, section 2.1.

**Focus semantic value of  $\alpha$ ,  $F(\alpha)$ :**

The set of denotations produced by substituting all elements of the appropriate semantic type for every focused element in  $\alpha$ . (Rooth, 1985)

correctly predicted to be grammatical. Under the Parallelism account, the ellipsis clause must have an antecedent that belongs to the focus value of the ellipsis clause. This is the case here, since the antecedent *John gave Bill a book* is a member of the focus set [*Peter*]<sub>F</sub> *gave Bill [a CD]*<sub>F</sub> (=  $\exists x\exists y[x \text{ gave Bill } y]$ ). To differentiate between the two approaches we need to find cases in which the QUD is not answered, but the antecedent is nonetheless a member of the focus value of the ellipsis clause. It turns out such cases are quite common.<sup>10</sup>

- (38) a. A: What did the cat eat?  
       B: The cat ate RICE. Not THE DOG, though.
- b. A: What are we having for dinner?  
       B: We are having SPAGHETTI for dinner.  
       C: ME, too?

These examples show that answering the QUD is not a necessary condition on ellipsis.<sup>11</sup> In (38a), the antecedent gives rise to a QUD of the form ‘what did the cat eat?’. The ellipsis clause ‘*not the dog*’, however, is a (partial) answer to a QUD of the form ‘which animal ate rice?’. The QUD approach to licensing therefore wrongly predicts this example to be ungrammatical. Similarly, in (38b), the QUD evoked by the focus structure of the antecedent (i.e. B’s utterance) is ‘what are we having for dinner?’ C’s response, in turn, is itself a question (something like ‘am I having spaghetti, too?’), clearly not an *answer* to the QUD. Under the Parallelism account, these examples receive a straightforward explanation. In (38a), abstracting away from the negation, the antecedent *the cat ate rice* is a member of the focus set of the ellipsis clause [*the dog*]<sub>F</sub> *ate rice* (=  $\exists x[x \text{ ate rice}]$ ). In (38b), ellipsis is licensed because ‘we are having spaghetti for dinner’ is of the form ‘x is having spaghetti for dinner’.

I conclude that the fact that the ellipsis clause often seems to answer the QUD is an epiphenomenon of focus theory and the identity condition in (36), rather than a condition on its occurrence. Before we carry on, however, we must consider (39),

<sup>10</sup>I do not discuss a class of examples that fall under the rubric of Sprouting. These cases are more complex in that the remnant of ellipsis has no (overt) correlate.

- i. A: John is jealous.  
    B: Yeah, of Bill [~~John is jealous~~].

It should be clear, though, that the fragment of B does not answer the QUD. If A’s utterance is out of the blue, the QUD could be of the form ‘who is jealous?’ or ‘what is John?’, neither of which B’s response is an answer to. Rather, B’s response is an answer to ‘Whom is John jealous of?’, which does not follow from the focus structure of A’s utterance. It is thus not clear how the QUD approach would handle the example in (i).

<sup>11</sup>Reinhart (1991) presents cases very similar to the ones in (38) for Stripping, where the correlates in the antecedent are not focused, see (i) and (ii) (via Van der Heijden, 1999).

- i. A: Where is the ice cream?  
    B: I ATE it, and the cake too.
- ii. A: What happened to Felix?  
    B: We lost track of him on our way back, and of Lucie too.

which is not ruled out by the identity condition in (36), but is correctly predicted to be ungrammatical by the QUD approach.

(39) \* JOHN gave Bill A BOOK and PETER SUSAN.

Under the QUD approach, (39) is ruled out, because the focus structure of the antecedent gives rise to a QUD of the form ‘who gave Bill what?’ whereas the ellipsis clause provides an answer to the question ‘Who gave whom a book?’. Under the Parallelism account, on the other hand, ellipsis should be allowed, since *John gave Bill a book* is of the required form *x gave y a book*. The key difference between this example and the cases in (38) is that the remnants in (39) are contrastively focused. As pointed out by Griffiths and Lipták (2014), contrastively focused remnants of clausal ellipsis require contrastively focused correlates (this has been noted for Gapping in Sag, 1976; Hartmann, 2000; Repp, 2009). The following felicity condition on ellipsis captures this (adapted from Griffiths and Lipták, 2014).

(40) **Felicity condition on contrastive remnants:**

Contrastive remnants are only felicitous if their correlate is contrastively focused.

The condition in (40) is a condition independent from Parallelism. Whatever the source of the condition in (40), it is this condition that rules out (39). If we were to tighten the Parallelism condition to rule out (39), we would no longer be able to account for (38), as those examples crucially require a ‘loose’ notion of identity in which the antecedent must match the ellipsis clause but not (also) the other way around.

### 3.2.3 The discourse-linking approach of López (2000)

López (2000) develops an account in which ellipsis licensors are functional categories that have the property of connecting with a discourse topic.<sup>12</sup> Licensors in this conception are D(iscourse)-linking elements, where D-linking is syntactically encoded with a D-linking feature on the licensing head. For the sake of the discussion I will again concentrate on Sluicing in what follows. For Sluicing, López argues that the licensor is C. This means that C is equipped with a D-linking feature that instructs the interpretative component to ‘connect with a discourse topic’. Note that D-linking here should not be understood in the sense of Pesetsky (1987). Pesetsky sets out to explain the differences between D-linked *wh*-phrases, such as *which DP*, and non D-linked *wh*-phrases, such as *who* and *what*. In López’ proposal, all interrogative *wh*-phrases are taken to be D-linking (except for aggressively non-D-linked ones, see below). For López, the elliptical category is an  $X^0$  pro-form. This pro-form has to adjoin to the licensing head. The derivation of a typical case of Sluicing is given in (41).

(41) [Ann invited someone] but I don’t know who [ $pro_i C_{[D-linking]}$ ]  $t_i$  ]

<sup>12</sup>AnderBois (2011) proposes a D-linking account for Sluicing. His account is targeted to capture Sluicing, but not all ellipsis types. I will not discuss the account here, but I will discuss it in chapter 5.



According to López, the adjunction of *pro* to C is necessary, as it locates the pro-form in the checking domain of C (i.e. the licensing head). Being in the checking domain, the pro-form is resolved by the discourse topic that the D-linking feature on the licensing head links to. The guiding idea here is that a null pronoun cannot retrieve an antecedent in and of itself. The licensing head mediates the establishment of the discourse link that connects the pro-form to its antecedent. López' account is in part based on the observation that aggressively non D-linked *wh*-phrases do not license Sluicing, as shown in (42). Assuming C does not have a D-linking feature in this case, ellipsis is correctly predicted to be ungrammatical. If C lacks a D-linking feature (i.e. the ability to connect to a discourse topic), this means it lacks the ability to mediate the link between pro-form and antecedent that is necessary to license ellipsis.

- (42) \* I know Pat wants to buy something, but I don't know what the hell. (López, 2000, p.185)

What is unclear in López' account is why Sluicing is impossible in (30), repeated here as (43), where the sluice is headed by a non-interrogative *wh*-phrase. As it stands, the property of D-linking (i.e. being able to connect with a discourse topic) is simply encoded as a feature. For the account to be explanatory, the presence of this feature on a functional head should follow from an independent property that is inherent to this head.

- (43) a. \* Someone has done the dishes, but I don't know the person [who]<sub>i</sub> [~~has done the dishes~~]  
 b. \* We thought it was Abby who stole the car, but it was Ben [who]<sub>i</sub> [~~stole the car~~]

Setting aside the problem that (43) poses for López' account, it is clear that López' specific implementation is incompatible with our current assumptions. Specifically, the idea that the ellipsis site is a pro-form is problematic, since in chapter 2 I have adopted and argued for the view that there is a full-fledged syntactic structure in the ellipsis site. Hence, the idea of the ellipsis site moving to the licensing element cannot be adopted, as this would mean that an XP (the ellipsis site) would move to a head position (adjoined to the licensing head). This problem, however, does not seem insurmountable. One could, for example, assume that the *wh*-phrase itself has the D-linking property (cf. AnderBois, 2011).

Ignoring the problems for López' account for the moment and turning to Gapping and Fragments, the D-linking theory shows some promise in that it postulates that a certain relation must hold between the ellipsis clause and the antecedent. As we have seen, Gapping and Fragments are sensitive when it comes to the relation they bear to their antecedent. It should be noted, though, that just as for the other theories of ellipsis licensing, the D-linking theory does not directly carry over to Gapping and Fragments. Since there is no licensing element in Gapping and Fragments, the necessary D-linking relation between a Gapping/Fragments clause and

an antecedent cannot be established. Hence, ellipsis is predicted to be ungrammatical in Gapping and Fragments, as no antecedent can be retrieved from the discourse. I show in section 5 that a theory that bears a strong resemblance to López' D-linking theory can account for the distribution of Gapping and Fragments.

### 3.3 Summary

In this section, I reviewed the literature on licensing ellipsis. I compared two types of approaches, the syntactic approach and the discourse approach. The main problem for the syntactic approaches is that they overgenerate when it comes to Gapping and Fragments. In general, it seems to be the case that one cannot simply postulate that whatever licenses Sluicing and VP-ellipsis also licenses Gapping and Fragments, as it would lead to the prediction that Gapping and Fragments have the same distribution as Sluicing and VP-ellipsis. This being said, the discourse licensing accounts seem the most promising to pursue for Gapping and Fragments, since they postulate that a particular relation must hold between ellipsis clause and antecedent. We saw in section 2 that a Gapping or Fragments clause must indeed be in a particular relation with regard to its antecedent. In section 5, I present an account of Gapping and Fragments inspired by the D-linking approach. To set the stage, I first present in the next section evidence that the distribution of Gapping is not determined by syntax.

## 4 The role of boolean connectives in Gapping

In this section, I present two arguments that show that Gapping is not licensed in the syntax. In section 4.1, I report on the observation by Van der Heijden and Klein (1995) that the connectives that allow for Gapping do not form a uniform syntactic class. Therefore, it is impossible to refer to a particular class of syntactic environments that allow for Gapping. In section 4.2, I show that asymmetric coordinations are really coordinations syntactically. Nonetheless, they do not allow Gapping. Since what distinguishes asymmetric from symmetric coordinations cannot be syntax, the factor that determines whether Gapping is allowed can also not be syntactic.

### 4.1 The connectives that allow for Gapping

According to Van der Heijden and Klein (1995), the generalization that Gapping is only possible in coordinations is a simplification of the facts. They show that Gapping is licensed in any conjunction headed by, what they call, an 'arithmetic connective'. These connectives are divalent semantic operators and can be described by symbols from arithmetics, classical logic or set theory.

(44) <b>Linguistic sign:</b>	<b>Arithmetic sign:</b>
<i>and</i>	$+$ , $\wedge$ (logic), $\cap$ (intersection, set theory)
<i>nor</i>	$\neg p \wedge \neg q$ (logic), $A^* \cap B^*$ (set theory)
<i>or</i>	$\vee$ (logic), $\cup$ (union, set theory)
<i>except</i>	$-$ , $B/A$ (difference, set theory)
<i>instead of</i>	$A \cap B^*$ (logic)
<i>as...as</i>	$=$
<i>than</i>	$<$

As illustrated in (45) for *en* ‘and’, in (46) for *in plaats van* ‘instead of’ and in (47) for *dan* ‘than’ (Dutch), arithmetic connectives can connect constituents of any type. In other words, arithmetic connectives are boolean operators. These are operators that take two arguments of a boolean type (i.e.  $\langle \alpha, t \rangle$ ) and return something of type  $t$ .

- (45) a. [<sub>DP</sub> Jan ] en [<sub>DP</sub> Marie ]  
‘John and Mary’
- b. [<sub>PP</sub> op de tafel ] en [<sub>PP</sub> onder de stoel ]  
‘on the table and under the chair’
- c. [<sub>AP</sub> slim ] en [<sub>AP</sub> mooi ]  
‘smart and pretty’
- d. [<sub>VP</sub> praat ] en [<sub>VP</sub> luistert ]  
‘talks and listens’
- e. [<sub>CP</sub> Jan praat ] en [<sub>CP</sub> Marie luistert ]  
‘John talks and Mary listens’
- (46) a. [<sub>DP</sub> Jan ] in plaats van [<sub>DP</sub> Marie ]  
‘John instead of Mary’
- b. [<sub>PP</sub> op de tafel ] in plaats van [<sub>PP</sub> onder de stoel ]  
‘on the table instead of under the chair’
- c. [<sub>AP</sub> slim ] in plaats van [<sub>AP</sub> mooi ]  
‘smart instead of pretty’
- d. [<sub>VP</sub> praat ] in plaats van [<sub>VP</sub> luistert ]  
‘talks instead of listens’
- e. [<sub>CP</sub> Jan praat ] in plaats van [<sub>CP</sub> dat Marie luistert ]  
‘John talks instead of Mary listens’

- (47) a. *liever* [<sub>DP</sub> Jan ] *dan* [<sub>DP</sub> Marie ]  
 ‘rather John than Mary’  
 b. *liever* [<sub>PP</sub> op de tafel ] *dan* [<sub>PP</sub> onder de stoel ]  
 ‘rather on the table than under the chair’  
 c. *liever* [<sub>AP</sub> slim ] *dan* [<sub>AP</sub> mooi ]  
 ‘rather smart than pretty’  
 d. *liever* [<sub>VP</sub> praat ] *dan* [<sub>VP</sub> luistert ]  
 ‘rather talks than listens’  
 e. *liever* [<sub>CP</sub> dat Jan praat ] *dan* [<sub>CP</sub> dat Marie luistert ]  
 ‘rather that John talks than that Mary listens’

What is important to note is that, syntactically, boolean connectives do not form a uniform class; they can be coordinators and subordinators alike. *En*, for example, conjoins two main clauses. This can be concluded from (45e), where two verb second clauses are connected. Subordinators do not select verb-second clauses, but verb final clauses headed by a complementizer. As can be seen in (46e) for *in plaats van* and in (47e) for *dan*, then, these connectives are subordinators syntactically. Even though the connectives in (44) do not form a uniform syntactic class, they nonetheless allow for Gapping, see (48).

- (48) a. Max ate the apple and Sally the hamburger.  
 b. Max didn’t eat the apple nor Sally the hamburger.  
 c. Max ate the apple or Sally the hamburger.  
 d. Everybody ate the apple except Sally.  
 e. Max ate the apple instead of Sally.  
 f. Max eats apples as often as Sally hamburgers.  
 g. Max eats more often apples than Sally hamburgers.

Lechner (2004) argues at length that comparatives allow for Gapping. He also notes, however, that comparatives introduce subordinated clauses and that, given that Gapping is licensed in coordinations, it is therefore unexpected that they allow for Gapping. Lechner therefore proposes that a syntactic transformation assimilates comparatives to coordinative structures. Below, I propose an alternative.

Just like there are syntactic subordinators that allow for Gapping, there are cases of coordinators that do not allow for Gapping. A case at hand is *want* ‘because’ in Dutch. *Want* constitutes an instance of a syntactic coordinator which gives rise to a subordinative interpretation. *Want* is not a boolean connective. Instead, *want* conjoins two clauses in which the second conjunct is specifying the reason for the event in the first conjunct. The restriction that *want* can only select for clausal arguments might therefore follow from its semantics. It does not rule out the possibility that *want* is syntactically a coordinator. Indeed, the following tests show that *want* passes coordination tests.

Van der Heijden (1999, p.199) notes that *want* fails the inversion test, a clear indication that *want* is, in fact, a (syntactic) coordinator. (49b) shows that the clause

headed by *want* cannot invert with the first conjunct, cf. (49a). Compare this to (50b) where the clause headed by the subordinator *omdat* can invert with the root clause, cf. (50a) (the examples in (49) and (50) are adapted from Van der Heijden (1999, p.199)).

- (49) a. Ik blijf thuis, want het regent.  
I stay home, because it rains  
'I'm staying home, because it is raining.'
- b. \*Want het regent, ik blijf thuis.  
because it rains I stay home
- (50) a. Ik blijf thuis, omdat het regent.  
I stay home, because it rains  
'I'm staying home, because it is raining.'
- b. Omdat het regent, blijf ik thuis.  
because it rains I stay home

As noted above, one test for Dutch that distinguishes coordinators from subordinators is that coordinators conjoin verb second clauses, as in (51a). Subordinators, on the other hand, introduce a clause with verb final word order, see (51b). *Want* patterns with coordinators in this respect (51c).

- (51) a. Jan nodigt Marie uit en Peter nodigt Mark uit.  
John invites Mary PRT and Peter invites Marc PRT
- b. Jan nodigt Marie uit, omdat Peter Mark uitnodigt.  
John invites Mary PRT because Peter Marc invites
- c. Jan nodigt Marie uit, want Peter nodigt Mark uit.  
John invites Mary PRT because Peter invites Marc PRT

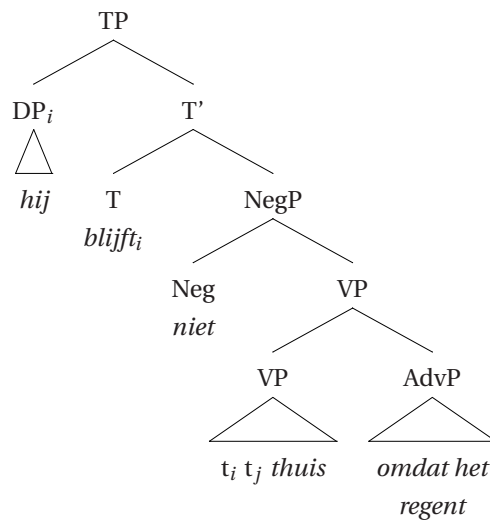
Another indication that *want* heads a syntactic coordination is provided by the contrast between (52a) and (52b). The example in (52a) with *omdat* is ambiguous. It has a reading in which negation takes scope over the *omdat*-clause and a reading with the inverse scope. The example with *want* in (52b), on the other hand, is not ambiguous.

- (52) a. Hij blijft niet thuis omdat het regent.  
he stays not home because it rains.  
= 'The reason he does not stay home, is because it is raining.' *omdat* < ¬  
= 'It is not the case that he stays home because it is raining.' ¬ < *omdat*
- b. Hij blijft niet thuis want het regent.  
he stays not home because it rains.  
= 'The reason he does not stay home, is because it is raining.' *want* < ¬  
≠ 'It is not the case that he stays home because it is raining.' ¬ < *want*

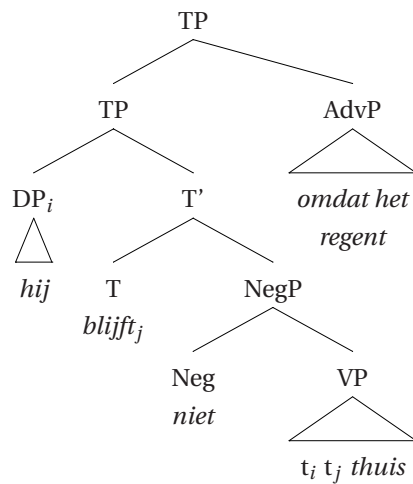
The contrast immediately falls out from the difference in syntax between coordinators and subordinators. As for the case of subordination in (52a), the ambiguity

stems from the fact that the adverbial clause can adjoin high (TP adjunction) or low (VP adjunction). In the case of low attachment, as in (53a), negation takes scope over the purpose clause, which gives rise to the reading ‘it is not the case that he stays home because it is raining’. In the case of high attachment, see (53b), negation scopes below the purpose clause instead, giving rise to the reading ‘the reason he does not stay home, is that it is raining’.

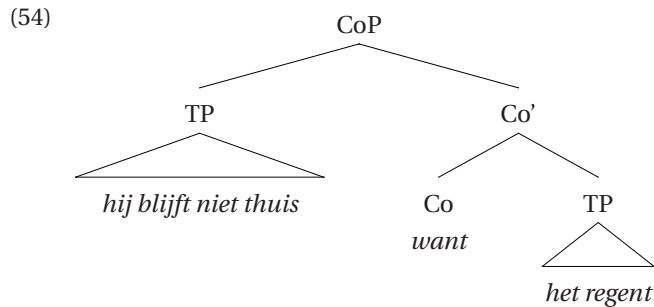
(53) a. *niet < omdat*



b. *omdat < niet*



If *want* is a coordinator, it must head a coordination phrase in which the first conjunct c-commands the second conjunct, as shown in (54). It is clear from this structure that the negation does not take scope over the *want*-clause, as it does not c-command the *want*-clause. For this reason, the example in (52b) is not ambiguous in the way (52a) is.



The three tests above all indicate that *want* is a coordinator. Nonetheless, Gapping is impossible in a conjunction headed by *want*, as shown in the following example, (adapted from Van der Heijden, 1999, p.201).

- (55) a. De generaal groette de soldaat want de soldaat groette de  
 The general greeted the soldier because the soldier greeted the  
 generaal.  
 general  
 'The general greeted the soldier, because the soldier greeted the gen-  
 eral.'
- b. \* De generaal groette de soldaat want de soldaat de generaal.

## 4.2 Asymmetric coordinations

Cases which look very similar to coordinations headed by *want* are so-called 'asymmetric coordinations'. By definition, these are coordinations in which the meaning changes when the order of the conjuncts is reversed (cf. Ross, 1967; Schmerling, 1975; Lakoff, 1986; Deane, 1992).

- (56) a. John is the smart one and Sally is the pretty one.  
 = Sally is the pretty one and John is the smart one. *symmetrical coordination*
- b. John got home and Sally called John.  
 ≠ Sally called John and John came home. *asymmetrical coordination*

According to this definition, the following examples constitute instances of asymmetric coordination. These constructions are characterized by giving rise to an asymmetric interpretation, as indicated by the paraphrases.

- (57) a. Open the car door again and I'll slap you. *conditional*  
 'If you open the car door again, I'll slap you.' (Chaves, 2007, p.29)
- b. Sue became upset and Dan became downright angry *cause-effect*  
 'Because Sue became upset, Dan became downright angry.'  
 (Levin and Prince, 1986)
- c. You hide that loot right now or we're in big trouble. *threat-or*  
 'Unless you hide that loot right now, we're in big trouble.'  
 (Culicover and Jackendoff, 1997)

The fact that asymmetric coordinations give rise to a subordinative interpretation has led Goldsmith (1985) and Postal (1993) to propose that asymmetric coordinations actually have subordinative syntax. As argued at length by Culicover and Jackendoff (1997, 2005), however, asymmetric coordinations are, in fact, coordinations in the syntax. Among others, they use the following tests to show this. *And* plus the 'subordinated clause' cannot precede the first conjunct, compare (58a) to (58b). This is unlike subordinated clauses which can precede their 'host clause', compare (59a) and (59b).

- (58) a. It was slippery, and John fell.  
 b. \* And John fell, it was slippery.
- (59) a. John fell, because it was slippery.  
 b. Because it was slippery, John fell.

Another indication that asymmetric coordinations have coordinative syntax, is that *and* introduces a main clause, unlike subordinators. The fact that *and* introduces a main clause can be seen from the fact that it allows for subject-auxiliary inversion (60). Subordinated clauses strongly resist such inversion, as shown by the attempts in (61).

- (60) You so much as mention the Minimalist Program and how loud does she scream?  
 (Culicover and Jackendoff, 1997, p.210)
- (61) a. \* Who does if Big Louie visits, the whole gang goes nuts?  
 \* Who if does Big Louie visits, ...  
 \* If who does Big Louie visits, ...
- b. \* What does if he mention, she kicks him out of her office?  
 \* What if does he mention, ...  
 \* If what does he mention, ... (Culicover and Jackendoff, 1997, p.210)

Culicover and Jackendoff (1997, 2005) conclude that asymmetric coordinations are syntactic coordinations that give rise to a 'subordinative' interpretation. They propose that syntactic coordinations can be mapped onto a subordinative interpretation at Conceptual Structure, but the exact details remain a little unclear. The conclusion that there is no one-to-one correspondence between syntax and semantics



in conjunction gains support by the work of Cormack and Smith (2005) and Blüh-dorn (2008).

What is relevant for our current purposes is that asymmetric coordinations do not allow for Gapping (cf. Levin and Prince, 1986; Kehler, 1994, 2000; Culicover and Jackendoff, 1997, 2005). Although Gapping in asymmetrical coordinations does not result in ungrammaticality per se, the subordinative reading of asymmetric coordinations disappears under ellipsis (hence the \*). This is a clear indication that Gapping is only licensed in symmetric coordinations and not in asymmetric coordinations.

- (62) a. Big Louie steals one more car radio and Little Louie \*(steals) the hub-caps. (Culicover and Jackendoff, 1997), *conditional*-and
- b. Sue became upset and Dan \*(became) downright angry. (Levin and Prince, 1986), *cause-effect*
- c. You kill Georgie, or Big Louie \*(kills) your dog. (Culicover and Jackendoff, 1997), *threat-or*

To sum up, I have considered the class of connectives that allow for Gapping in section 4.1. I concluded that this class of connectives does not form a uniform syntactic class. In this section, I considered asymmetric coordinations. These constructions show that Gapping is sensitive to whether or not a coordination has a symmetric or an asymmetric interpretation. Two conclusions can be drawn from the discussion. First, there is no one-to-one correspondence between syntactic coordination and symmetric interpretation, nor between syntactic subordination and asymmetric interpretation. This is summarized in the following table.

		SYNTAX	
		coordination	subordination
SEMANTICS			
(63)	<b>symmetrical</b>	boolean conjunction ( <i>and, or, but</i> )	comparatives, <i>except, instead of</i>
	<b>asymmetrical</b>	asym. coordination, <i>want</i>	adverbial clauses ( <i>because, before</i> )

The second conclusion is that Gapping is not sensitive to the syntactic distinction between coordination and subordination. Gapping is sensitive, however, to the semantic properties of the conjunction. The question now is how we can characterize the contexts in which Gapping can take place. In order to answer that question, we have to consider when a symmetrical or asymmetrical interpretation arises. In this section, we saw that a symmetrical interpretation arises when both conjuncts are symmetrically conjoined by a boolean connective. In that case, there is no direct relation between the conjuncts, as both conjuncts are arguments of the connective and therefore have equal status. In cases where there is an asymmetrical interpretation, on the other hand, there is an asymmetrical *relation* between the two conjuncts. According to Bierwisch (2003), in subordinations, the subordinated clause

takes the root clause as its argument, creating a semantic asymmetry between the conjuncts.

If licensing is a matter of having the right relation between ellipsis clause and antecedent in the discourse, as anticipated in section 3, we would like to know how the facts discussed in this section can be interpreted from a discourse perspective. This question will be addressed in the next section.

## 5 A discourse licensing theory of Gapping/Fragments

The discussion of the distribution of Gapping and Fragments in section 2 revealed that it is important that the ellipsis clause and the antecedent in Gapping and Fragments bear a certain relation to each other. In section 4, we saw that this relation should not be characterized in terms of syntax. From the discussion on licensing ellipsis in section 3, the most promising account of licensing was one where ellipsis licensing is a matter of having the right discourse relation between the ellipsis clause and the antecedent. In section 5.2, I show how this idea can be fleshed out for Gapping and Fragments. In the next section, I first introduce my assumptions about the discourse component and how semantically symmetrical and semantically asymmetrical relations are encoded there.

### 5.1 Setting the scene: coordination, subordination and discourse representation

In the discourse literature, a distinction is generally made between coordination and subordination (or ‘nuclei’ and ‘satellites’ in *Rhetorical Structure Theory*, Mann and Thompson (1988)). To avoid confusion in terminology, I reserve the terms ‘coordination’ and ‘subordination’ to describe syntactic structures and use the terms ‘hierarchical’ (i.e. semantically asymmetrical) and ‘non-hierarchical’ (i.e. semantically symmetrical) to describe discourse structure (following Blühdorn, 2008). In what follows, I adopt a syntax-centered discourse perspective, in which syntactic structures form the input to the discourse component. Discourse structures are built by extending the syntactic tree beyond the sentence boundary (cf. Hardt, 2013; Buch-Kromann, 2006a,b). I assume furthermore that discourse relations can be established in two ways. First, a discourse relation between two clauses S1 and S2 can be established by the use of a connective like *and* or *because* that connects S1 and S2. Alternatively, a discourse relation between S1 and S2 can be established anaphorically through the use of discourse anaphors such as *therefore*, *then*, *otherwise*, *instead*, etc., see Webber et al. (2003).

Under the hypothesis that syntactic structures feed the discourse component, whether a hierarchical or a non-hierarchical relation holds between two clauses, could in principle be a matter of ‘reading off’ this relation from the syntactic structure. We have seen, however, that whether or not a relation is hierarchical (i.e. semantically asymmetrical), cannot be determined by consulting the syntactic structure (cf. section 4). Also, ‘reading off’ whether a relation is hierarchical or not is

only possible when there is already a syntactic relation between S1 and S2. In the absence of syntactic conjunction, the same problem arises, namely; is the relation between S1 and S2 hierarchical or not? I follow Culicover and Jackendoff (1997, 2005) in assuming that there is a mapping procedure which determines whether a syntactic conjunction is interpreted hierarchically or non-hierarchically. I assume furthermore that this mapping procedure also determines whether a relation between S1 and S2 is hierarchical or not, when S1 and S2 are not conjoined in the syntactic component. To make these assumptions clear, consider the following examples.

- (64) a. [<sub>S1</sub> John lives in Italy] and [<sub>S2</sub> Mary lives in Spain]  
 b. [<sub>S1</sub> John got upset] because [<sub>S2</sub> his favorite cookies were sold out]

In (64a), S1 and S2 have equal status, as neither S1 nor S2 selects or modifies the other. In (64b), on the other hand, the interpretation is hierarchical in that S2 specifies the reason for S1. (64a) maps onto a discourse representation in which S1 and S2 are interpreted non-hierarchically, whereas (64b) maps onto a discourse representation in which there is a hierarchical relation between S1 and S2. For expository purposes, I adopt Asher's (1993) notation in which a non-hierarchical relation is marked as '→' and a hierarchical relation is marked as '↓'. It should be noted that the outcome of the mapping procedure is not structurally reflected in the discourse representation. '→' and '↓' are used for convenience to reflect the interpretative relation between two conjuncts, not their structural relation.

- (65) a. **Non-hierarchical relation:**                      b. **Hierarchical relation:**



Culicover and Jackendoff (1997, 2005) argue that, since syntax provides no unambiguous clues as to which representation (64a,b) map onto (cf. the table in (63), section 4), there must be a semantically driven process that underlies this mapping. I assume that the mapping procedure which maps (64a,b) to one of the structures in (65) is the same mapping procedure that determines whether there is a hierarchical or non-hierarchical relation between S1 and S2 when they are not conjoined in the syntax. Consider the examples in (66).

- (66) a. [<sub>S1</sub> John lives in Italy] [<sub>S2</sub> Mary lives in Spain]  
 b. [<sub>S1</sub> John got upset] [<sub>S2</sub> His favorite cookies were sold out]

In these examples, S1 and S2 bear no syntactic relationship to each other. In the discourse component, however, a relation will be established between S1 and S2. Specifically, it must be established whether a hierarchical or non-hierarchical interpretation holds between S1 and S2. I suggest that the mapping procedure that determines whether the relation between S1 and S2 is hierarchical or non-hierarchical

in (64) is the same mapping procedure that determines whether the relation between S1 and S2 in (66) is hierarchical or non-hierarchical. In (66a), S1 and S2 have equal status. Both S1 and S2 are asserted and neither S1 nor S2 selects or modifies the other. The mapping procedure that determines whether a relation is hierarchical or non-hierarchical therefore maps (66a) onto a discourse representation in which there is a non-hierarchical relation between S1 and S2, as in (65a). For (66b), the most salient reading is one in which S2 specifies the cause for S1 ('John got upset, because his favorite cookies were sold out'). Like (64a), therefore, the mapping procedure maps (66b) onto the discourse representation in (65b). What is important here is that both (64a) and (66a) map onto the discourse representation in (65a) and both (64b) and (66b) map onto the discourse representation in (65b). From a discourse perspective, then, (64a) and (66a) are fully equivalent, as are (64b) and (66b).

In section 2, I showed that Gapping and Fragments are subject to a no subordination restriction. However, we saw in the previous section that the distribution of Gapping is not determined in the syntax. Given what we have said so far in this section, we expect that what Gapping and Fragments are actually sensitive to is the output of the mapping procedure that determines whether a relation is hierarchical or non-hierarchical. To find out more precisely when ellipsis is possible and when it is not, I consider now when two clauses are mapped onto a hierarchical discourse relation and when they are mapped onto a non-hierarchical relation. From a cross-linguistic perspective, it is clear that a multitude of syntactic constructions may reflect either a hierarchical or a non-hierarchical interpretation (cf. Van Gijn et al., 2011). This should come as no surprise given that there is no one-to-one correspondence between coordination/subordination and non-hierarchical/hierarchical interpretation (Culicover and Jackendoff, 1997; Blühdorn, 2008, cf. also section 4). The basic intuition behind the notion of hierarchical interpretation is that it encodes a state of affairs in which one of the two clauses is conceptually part of the state of affairs encoded by the other (Hale, 1976; Cristofaro, 2003; Mithun, 2009). The notion of hierarchy plays a central role in many theories, though the specifics vary. As reported in Cristofaro (2008), this asymmetry between events has been described in terms of asserted versus non-asserted information (Harris and Campbell, 1995, ch.10), backgrounded versus foregrounded information (Reinhart, 1984; Thompson, 1987; Tomlin, 1985) or figure versus ground (Talmy (2000, ch.5–6) and Croft (2001, ch.1)).

In what follows I adopt Blühdorn's (2008) characterization of the difference between hierarchical and non-hierarchical relations in terms of relational symmetry. Non-hierarchical relations are symmetrical in that the related discourse units have equal semantic weight. Symmetrical relations obtain when the two discourse units bear no thematic relation to each other. Two discourse units are in a hierarchical relation, on the other hand, if they have different relational (thematic) roles (in the case of hierarchical relations, the discourse units will typically be clauses). In that case, one of them is being connected (the *trajector*) to the other (the *landmark*) (Langacker's (1987, 231ff) terminology). It should be clear that under this view, a hierarchical interpretation does not refer to any particular syntactic construction.

Instead, hierarchy refers to the semantic relation that two discourse units bear to each other. Three types of hierarchical relations can be distinguished (see Blüh-dorn (2003, 19f), Blüh-dorn (2005, 315f)): a *situating* relation, a *conditional* relation and a *causal* relation. The following examples illustrate these three types.

(67) **Illustration of hierarchical relations**

- a. John had dinner, before Mary came home. *situating relation*
- b. If John already had dinner, Mary doesn't have to cook. *conditional relation*
- c. Mary didn't cook, because John already had dinner. *causal relation*

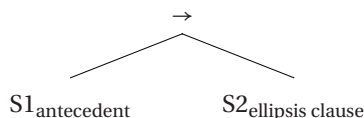
Situating relations assign a place in a conceptual domain to the trajector, which is described by a relation to the landmark. In (67a), John's having had dinner is the trajector. This trajector is situated on the time scale in relation to the landmark, namely the event of Mary coming home. Each of these events has its fixed position in time, but the position of the landmark determines the position of the trajector. (67b) exemplifies a conditional relation. In this relation, the landmark event not only situates the trajector event, but it also influences the value of the trajector event. That is, whether the trajector event will be realized in the actual world depends on whether the landmark event will be realized in the actual world. In (67b), whether Mary has to cook depends on whether John already had dinner. (67c) illustrates a causal relation. Here, the trajector event is realized in the actual world, but the landmark event has influenced the realization of the trajector. In short, then, a hierarchical relation obtains when two discourse units bear one of the relations in (67). With this background, I now turn to my proposal as to how Gapping and Fragments are licensed.

## 5.2 The licensing of Gapping/Fragments and the role of non-hierarchical relations

The distribution of Gapping and Fragments discussed in section 2 showed that the ellipsis clause and the antecedent in Gapping and Fragments must bear a certain relation to each other. From the discussions in sections 3 and 4 it became clear that the most promising account of licensing is one where ellipsis licensing is a matter of having the right discourse relation between the ellipsis clause and the antecedent. In this light, I propose the licensing condition in (68) for Gapping and Fragments to account for the distributional properties discussed in section 2.

- (68) **Non-hierarchical Licensing Condition on Gapping and Fragments (NLC):**  
Gapping and Fragments are licensed when antecedent and ellipsis are in a non-hierarchical relation in the discourse component.

(68) expresses that Gapping and Fragments are licensed when the following configuration holds in the discourse structure.

(69) **Discourse configuration that licenses ellipsis:**

With the NLC in place, I now show how (68) captures the facts discussed in section 2 and 3.4. Let's first consider how (68) captures the grammatical cases of Gapping we have considered in (48), repeated here.

- (70) a. [<sub>S1</sub> Max ate the apple] and [<sub>S2</sub> Sally the hamburger.]  
 b. [<sub>S1</sub> Max didn't eat the apple] nor [<sub>S2</sub> Sally the hamburger.]  
 c. [<sub>S1</sub> Max ate the apple] or [<sub>S2</sub> Sally the hamburger.]  
 d. [<sub>S1</sub> Everybody ate the apple] except [<sub>S2</sub> Sally.]  
 e. [<sub>S1</sub> Max ate the apple] instead of [<sub>S2</sub> Sally.]  
 f. [<sub>S1</sub> Max eats apples] as often as [<sub>S2</sub> Sally hamburgers.]  
 g. [<sub>S1</sub> Max eats more often apples] than [<sub>S2</sub> Sally hamburgers.]

Since Gapping is licensed here, these cases should be in accordance with the NLC. This means that S1 and S2 may not be in a hierarchical relation with S2. This is indeed the case. Since S2 is not embedded with respect to S1 in the discourse structure, S1 and S2 are in a relation. Furthermore, in none of these cases is there a hierarchical relation between S1 and S2 (cf. (67)). Therefore, all cases in (70) map onto the representation in (69) which licenses ellipsis according to the NLC in (68).

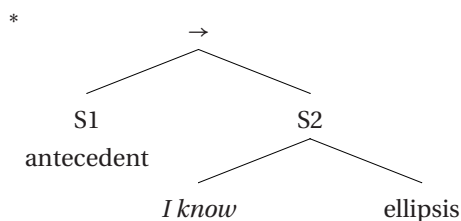
The same explanation straightforwardly carries over to Fragments. In all of the cases in (71), S1 and S2 are in a relation in the discourse component, as S2 is not embedded with respect to S1. Moreover, this relation between S1 and S2 is not a hierarchical relation (cf. (67)). Therefore, all cases in (71) map onto the discourse structure in (69) and ellipsis is correctly predicted to be licensed in these examples.

- (71) a. A: [<sub>S1</sub> Who did you see?]  
       B: [<sub>S2</sub> Bill.] question-answer Fragments  
 b. A: [<sub>S1</sub> I saw someone.]  
       B: [<sub>S2</sub> Yeah, Bill.] elaborative Fragments  
 c. A: [<sub>S1</sub> You saw John.]  
       B: [<sub>S2</sub> No, Bill.] corrective Fragments

(68) predicts that Gapping and Fragments are out when a hierarchical relation holds between the two conjuncts. This is borne out. Recall that adverbial clauses, asymmetric coordinations and coordinations headed by *want*, 'because' in Dutch, do not allow for Gapping, see (72). In all cases in (72), there is a hierarchical relation between the conjuncts; a causal relation in (72a,c) and a conditional relation in (72b). Therefore, all cases in (72) map onto the discourse representation in (73), which does not license ellipsis according to the NLC (cf. the structure in (69)).



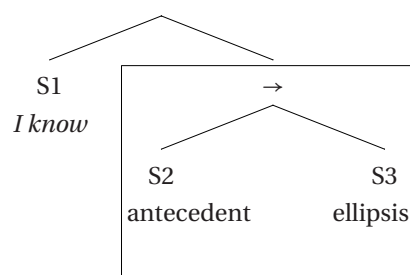
(78) **Discourse tree of (76) and (77):**



Also correctly predicted to be grammatical by the NLC are the cases of symmetrical embedding. The case of embedded Gapping in (79) is mapped onto the discourse representation shown in (80). The boxed sub-tree corresponds to the discourse representation in (69) which licenses ellipsis.

(79) [<sub>S1</sub> I know that [[<sub>S2</sub> Harry has invited Sue] and [<sub>S3</sub> Bill Mary]]].

(80) **Discourse tree of (79):**

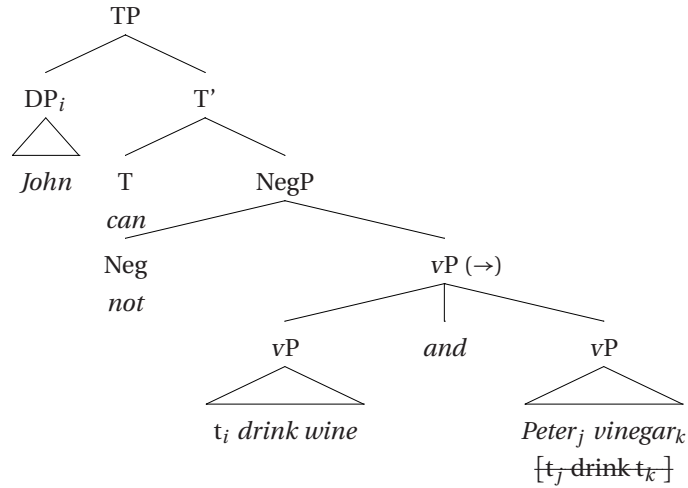


I have now shown that the proposed licensing condition for Gapping and Fragments in (68) correctly captures their distributional restrictions discussed in section 2. Recall from chapter 2, though, that Gapping is possible in coordinations of different sizes (vP, TP and CP coordination). The account proposed in this section provides a homogeneous account for this distribution. In a syntax-centered view of discourse in which syntactic structures are input for the discourse component, the cues for establishing discourse relations are lexical items (such as connectives and discourse adverbials), and the expressions to be related can in principle be any constituent in the discourse structure. This is the key to explaining the apparent heterogeneous behavior of Gapping. The NLC together with the idea that any constituent can be a 'discourse unit' correctly predicts the possibility of Gapping in coordinations of varying size. We have already considered above some cases in which two clauses (TPs or CPs) are coordinated in the syntax (e.g. (70)). Let's consider now, then, an example of Gapping in a vP coordination.



- (81) a. [<sub>TP</sub> John can't [<sub>vP</sub> [<sub>vP</sub> drink wine] and [<sub>vP</sub> Peter vinegar]]] (that would be preposterous)!

b. **Discourse tree:**

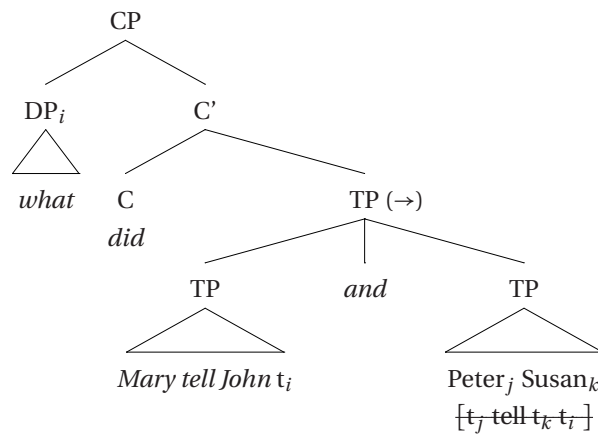


Ellipsis is licensed in (81) in accordance with the NLC. Recall that syntactic conjunction and subordination structures form the input for the mapping procedure that determines whether a relation is hierarchical or non-hierarchical (with the connective serving as an important cue). The vP coordination in (81b) maps onto a discourse configuration in which there holds a non-hierarchical relation between the vP conjuncts. In other words, at the level of discourse the vP coordination corresponds to the configuration in (69) in which ellipsis is licensed. For completeness sake, I also consider an example of Gapping in a TP coordination dominated by a CP projection (I ignore movement of the auxiliary here).

- (82) a. [<sub>CP</sub> What did [<sub>TP</sub> [<sub>TP</sub> Mary tell John] and [<sub>TP</sub> Peter Susan]]?]

**Discourse tree:**

b.



The reasoning for (82) is similar to that for (81): ellipsis is licensed here, because the relation between ellipsis clause and antecedent is non-hierarchical at the level of discourse.

The proposal that ellipsis is licensed at the level of discourse has two advantages that speak for it. First, it eliminates the obstacle that has withheld the linguistic tradition from unifying Gapping and Fragments. The obstacle has been that Gapping has been considered a ‘coordinative’ phenomenon, whereas Fragments has been considered an ellipsis type that takes place in a stand-alone utterance. What stands in the way of unification, then, is the different syntactic contexts in which Gapping and Fragments occur. If, however, the level at which ellipsis is licensed is the level of discourse, the relevant factor for ellipsis licensing, namely hierarchical versus non-hierarchical relationships, holds identically for Gapping and Fragments. Second, by postulating ellipsis licensing at the level of discourse, the heterogeneous syntax of Gapping and Fragments identified in chapter 2 (i.e. the size of the elided constituent varies) comes out as homogeneous behavior at the level of discourse. What matters is that two discourse units are in a non-hierarchical relation, and for that the syntactic category of these units is not of relevance.

## 6 Exceptions to the NLC: embedded ellipsis/antecedent

In this section, I discuss some problems for the proposal that Gapping and Fragments are licensed by the NLC. All of the cases in this section involve embedding of the ellipsis clause relative to the antecedent clause, or the other way around. That is, in all cases the ellipsis clause and the antecedent are not directly conjoined in the discourse structure. For the cases in which the ellipsis clause is embedded with respect to the antecedent, I argue that there is reason to believe that the embedding is only apparent. In these cases, the NLC is thus satisfied. For the cases where the antecedent is embedded relative to the ellipsis clause, I argue that they involve accommodation. I show that, although an antecedent may be embedded with respect to the ellipsis clause, this is only possible when there is no antecedent available that is not embedded relative to the ellipsis clause.

### 6.1 Apparent exceptions to the NLC

#### 6.1.1 Embedded ellipsis clauses

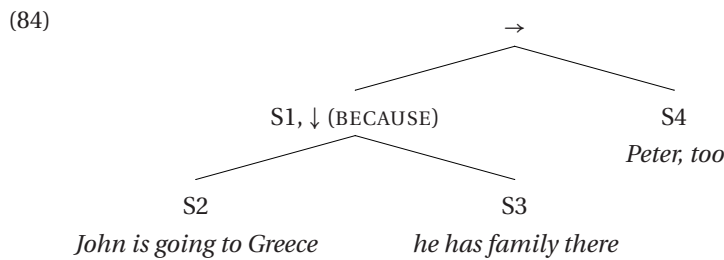
The NLC, as stated in (68), predicts that the ellipsis clause is always resolved by the clause it is non-hierarchically conjoined to. In the majority of cases this prediction is borne out. (83) provides a typical illustration. The ellipsis clause ‘Peter too’ can only be resolved by S1 and not by S3, in accordance with the NLC.<sup>13</sup> This is because

<sup>13</sup>Griffiths and Lipták (2014) point out that in Fragments, it is always possible to add, repeat or contrast a fragment with a sentence final constituent, as in (i). Since such cases of Fragments are likely to be licensed differently, the examples in the text feature cases where the fragment has a subject correlate (which are not sentence final).

i. A: John is going to Greece, because he has family there.

S3 is not in a relation with the ellipsis clause, as illustrated in (84). (85), on the other hand, shows that the non-elliptical version is well-formed.

- (83) A: [<sub>S1</sub> [<sub>S2</sub> John is going to Greece] because [<sub>S3</sub> he has family there.]]  
 B: [<sub>S4</sub> Peter, too.]  
 = Peter is going to Greece, because he has family there.  
 ≠ Peter has family there, too.

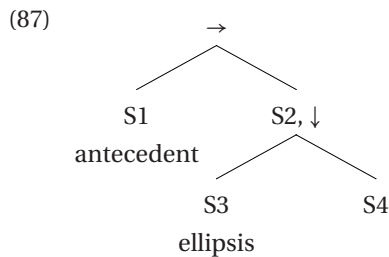


- (85) A: John is going to Greece, because he has family there.  
 B: Peter has family there, too.

Although ellipsis clause and antecedent are in a (non-hierarchical) relation in the majority of grammatical ellipsis cases, there appear to be some exceptions. One type of exception concerns cases where the ellipsis clause is embedded with respect to the antecedent. The following examples illustrate this.

- (86) a. [<sub>S1</sub> John will get a gift for his birthday], but [<sub>S2</sub> [<sub>S3</sub> not Peter] because [<sub>S4</sub> he already celebrated his birthday last week.]]  
 b. [<sub>S1</sub> John ran the marathon.] [<sub>S2</sub> [<sub>S3</sub> Peter too] after [<sub>S4</sub> he had trained a year.]]

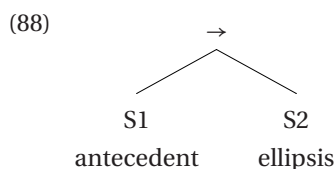
These examples seem to indicate that ellipsis is licensed, even though the ellipsis clause and its antecedent are not in a relation. (87) is a plausible structure for the cases in (86). The NLC dictates that ellipsis should not be licensed here, since the ellipsis clause is not in a (non-hierarchical) relation with the antecedent.




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B: A lover, too.  
 = 'John has a lover there, too.'

I argue that ellipsis is licensed here, because there is a point when the NLC is satisfied. This is the point where the discourse contains just the antecedent and the ellipsis clause, i.e. when the discourse tree looks like (88).



At this point, the discourse parser encounters the ellipsis site and tries to resolve it immediately. Ellipsis is licensed, because an antecedent is available that is in a non-hierarchical relation with the ellipsis site. The idea that clausal discourse units are attached upon encounter seems inescapable, since postponing attachment implies that there will come a natural point at which attachment would be better suited. No such point seems to exist, however, because there are often no cues for what is about to come. At the point when a third clause enters the discourse, then, the discourse tree is reanalyzed into the tree in (87). The illusion of an embedded ellipsis site in (87) is thus a consequence of the fact that discourse is built incrementally. If this idea is correct, the prediction is that ellipsis is not possible in S4 in (87) (with S1 still the antecedent). This prediction is borne out, as the examples in (89) show.

- (89) a. \* John won the jackpot. Susan is always lucky and, as expected, she ~~won the jackpot~~ as well.
- b. \* Jan eet een hamburger. Susan vindt hamburgers ook lekker, maar John eats a hamburger Susan finds hamburgers also nice but zij ~~niet eet een hamburger~~. [Dutch]  
she not eats a hamburger  
'John is eating a hamburger. Susan also likes hamburgers, but she isn't eating a hamburger.'

### 6.1.2 Bridge verbs

Consider again the examples in (2) and (3) from section 2, repeated here. These examples show that Gapping and Fragments cannot be embedded relative to their antecedent.

- (90) a. \* Harry has invited Sue and I know (that) Bill Mary.
- b. \* John knows a man that caught a salmon on Sunday and Bill knows a man (that) a trout on Thursday.

- (91) A. Who has John invited?
- B. \* I know Mary

Somewhat surprisingly in light of (90) and (91), there is a class of verbs that allows Gapping in their complement (as has been noticed by Morgan (1973), Ebert et al.

(2003) and Valmala (2007)). I will refer to this class of verbs as ‘bridge verbs’. The following examples illustrate that Gapping and Fragments are fine in the complement of bridge verbs.<sup>14</sup>

(92) [Harry has invited Sue] and [John said [ (\*that) Bill Mary]].

- (93) A. Who has invited Sue?  
B. Bill said (\*that) Harry.

The class of verbs that allow embedded ellipsis corresponds to the class of verbs that can head *reduced parenthetical clause constructions* (RPCs) (cf. also Temmerman, 2013). RPCs can be divided into two types, *report* and *attitude* type (Griffiths, to appear a). *Report* RPCs describe the actions of the speaker or another agent (94). *Attitude* RPCs express the attitude of the speaker (95).

- (94) a. Bob<sub>i</sub> ’ll make chief cameraman by July, *he<sub>i</sub> reckons*.  
b. Clint mustn’t, *I thought yesterday*, blame himself.  
c. Dick must, *I’ve been told*, re-mortgage his house. (Griffiths, to appear a)
- (95) a. It’ll be shot in analogue, *I hope*.  
b. All Fassbinder’s films, *I declare*, are utter rubbish.  
c. Eastwood will retire at ninety, *I’d have thought*.  
(where the RPC means ‘I think’) (Griffiths, to appear a)

As the examples in (96) illustrate, Gapping and Fragments are possible in the complement of these types of verbs.

- (96) a. John invited Bill and, *I {reckon / hope / heard}*, Mary Susan.  
b. A: Who did John invite?  
B: *I I {reckon / hope / heard} Bill*.

These examples of ellipsis embedded under bridge verbs seem to challenge the claim that Gapping and Fragments are only possible when they are in a non-hierarchical relation with their antecedent. In order to see whether bridge verbs pose a real problem for the NLC, or only an apparent problem, we have to consider the discourse structure of cases in which verbs allow Gapping and Fragments to be embedded.

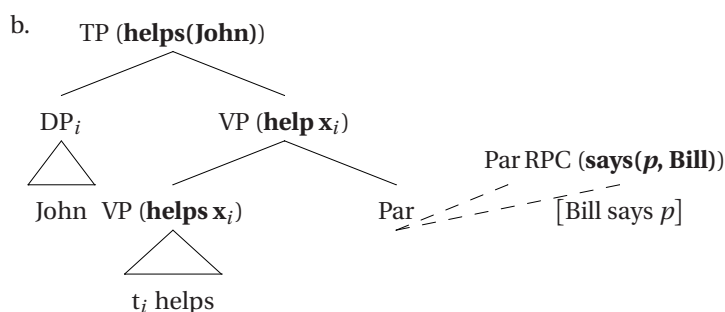
<sup>14</sup>Bridge verbs are ambiguous between a parenthetical (or ‘reportative’) use and a non-parenthetical use. The examples in (ia) and (ib) illustrate this ambiguity. The example in (ii) shows that only the parenthetical use licenses ellipsis.

- i. John heard that Mary was singing.  
= John came to know that Mary was singing.  
= John heard (physically) that Mary was singing.
- ii. A: Who was singing this morning?  
B: John heard Mary.  
= John came to know that Mary was singing this morning.  
≠ John (physically) heard Mary singing this morning.

### 6.1.3 Bridge verbs and parenthetical syntax

Griffiths (to appear b) presents the following analysis for the syntax of RPCs. He argues that RPCs are simultaneously clausal adjuncts and independent speech acts. The adjunction of an RPC in the syntactic structure does not influence the semantic composition of the host clause. As Griffiths notes, this can be achieved in a number of ways. One way is to adopt De Vries' *par*-merge (Vries, 2007, 2008, 2012).<sup>15</sup> *Par*-merge leads to *behindance*, where part of the structure is 'behind' the syntactic tree, giving rise to a 3D-tree. Leaving irrelevant details aside, (97a) has the tree-structure in (97b).

(97) a. John helps, *Bill says*.



At first sight, *behindance* might seem to provide a solution to our problem, as the material that prevents the ellipsis clause from being in a relation with the antecedent (i.e. the '*Bill says*' part) is now in a *behindance* relation to the rest of the clause. The important question, then, is how the RPC is integrated in the discourse structure. Griffiths argues that the order of the speech acts is dictated by derivation timing. He argues that dominated XPs will be Transferred (Chomsky, 2004) before undominated XPs (i.e. root clauses). If  $\alpha$  is Transferred before  $\beta$ ,  $\alpha$  precedes  $\beta$  in the discourse. If correct, RPCs are fully integrated into the discourse representation at the discourse component. If so, *behindance* does not provide a solution to our problem that bridge verbs can embed Gapping and Fragments.

There are independent reasons to believe that an analysis in terms of *behindance* is not on the right track. First, sentence-first RPCs are sensitive to whether the host clause precedes or follows them. In Dutch, for example, if the elliptical host clause follows the RPC, then the word order is subject-verb, see (98a). If, on the other hand, the elliptical host clause precedes the RPC, the order is verb-subject, as in (98b). If the RPC is syntactically independent of the host clause, the word order within the RPC should not be sensitive to the RPC's position in the host clause.<sup>16</sup>

<sup>15</sup>Another way is to postulate a compositional rule such as Pott's (2005, p.66) *isolated CI application*.

<sup>16</sup>It should be noted that, if Gapping indeed occurs in the complement of *dacht* 'thought' in (98b), then the expectation is that what underlies this example is (i). If (i) involves CP topicalization, the question arises why the complementizer can be absent here. In chapter 2, we saw that complementizer drop is strictly impossible when the CP hosting it undergoes movement.

- (98) a. Jan gaf een CD aan Marie en [ik dacht] Peter aan Suzan.  
 John gave a CD to Mary and I thought Peter to Susan
- b. Jan gaf een CD aan Marie en Peter aan Suzan [dacht ik].  
 John gave a CD to Mary and Peter to Susan thought I

A second reason to suspect that bridge verbs that allow ellipsis in their complement are part of the host clause, rather than in a behindance relation with it, is that Fragments for some speakers of Dutch (though not all, hence the %) can ‘move into’ the RPC (Barbiers, 2000, 2002; Corver and Thiersch, 2001; Temmerman, 2013). This is illustrated in (99). This example shows that the fragment is part of the RPC, which strongly suggests that the RPC is part of the root clause.

- (99) A. Wie had Carl gedacht dat de wedstrijd zou winnen?  
 who had Carl thought that the contest would win  
 ‘Who did Carl think would win the contest?’
- B. % Hij had Kim gedacht.  
 he had Kim thought.  
 (Int.) ‘He (had) thought that Kim would win the contest.’

I conclude that ellipsis embedding bridge verbs are part of the root clause and that an analysis of RPCs as adjuncts that are in a behindance relation with the root clause is not feasible. I therefore turn to another possibility.

#### 6.1.4 Bridge verbs and reportative verbs

It has recently been pointed out that attributive phrases pose a problem for the idea that discourse is structured via trees (Buch-Kromann et al., 2011; Hardt, 2013). Interestingly, this problem is independent of ellipsis, but is remarkably similar, as will become clear shortly. As Dinesh et al. (2005) point out, in the following example, *although* indicates a contrast relation between S1 and S3, even though *although* relates S1 and S2 in the syntax. Cases like (100) thus constitute a syntax-discourse mismatch. This is a problem for the idea that syntactic structures are the input for the discourse component.

- (100) [<sub>S1</sub> The current distribution arrangement ends in March 1990], although  
 [<sub>S2</sub> Delmed said [<sub>S3</sub> it will continue to provide some supplies of the peritoneal dialysis products to National Medical], the spokeswoman said.  
 (Dinesh et al., 2005)

Buch-Kromann et al. (2011) present two attempts to retain the idea that syntactic structures form the input for the discourse component. One solution involves a modification of the composition function of the connective. The basic idea is that in the compositional semantics, the attributions are part of the composition function

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i. Peter gaf een CD aan Suzan, dacht ik.  
 Peter gave a CD to Susan thought I

of the connective. The discourse units that this connective conjoins, then, do not actually contain the attributions.<sup>17</sup>

Although Buch-Kromann et al.'s account works for attributive cases involving bridge verbs like *say* in (100), it is not clear how the account could be extended to handle attitude bridge verbs. In (101), for example, there is no attribution.

- (101) A: Who will come to the party?  
B: I hope John.

Moreover, it is unclear how the account could distinguish between bridge verbs like *say* and non-bridge verbs like *know*. Hence, although this solution by Buch-Kromann et al. works for the problem that attribution poses for the idea that discourse representations involve trees, it does not straightforwardly extend to our problem at hand, namely the fact that only some verbs allow ellipsis to be embedded.

Another solution proposed by Buch-Kromann et al. (2011) is to say that *although* in (100) indeed relates S1 and S2, rather than relating S1 with S3. The contrast relation expressed by *although* holds between S1 and S2 (= Delmed said S3). Buch-Kromann et al. (2011) note that it is typical for contrastive relations to arise between conflicting propositions from different sources. They argue that the source of S1 is implicitly associated with the speaker. If the contrast relation holds between 'speaker says S1' and 'Delmed said S2' then the syntax-discourse mismatch is eliminated. This solution is worked out further in Hardt (2013). Unfortunately, this account does not solve our problem that bridge verbs pose for the NLC. Even if the antecedent clause were to contain an implicit source, this only eliminates the syntax-discourse mismatch. Crucially, it does not provide an answer as to why ellipsis can be embedded in violation of (68). Moreover, although this account works for reportative bridge verbs, it does not straightforwardly extend to cases involving attitude bridge verbs like (101).

### 6.1.5 Bridge verbs do not embed Gapping and Fragments

A final solution I consider here, is to say that the embedded instances of Gapping and Fragments do not actually involve Gapping or Fragments. Under that scenario, bridge verbs would be ellipsis licensors and the ellipsis in their complement would therefore not be licensed by the NLC. There is some empirical support for distinguishing 'bridge verb ellipsis' from Gapping and Fragments. First, these types have

<sup>17</sup>The compositional solution of Buch-Kromann et al. (2011) goes as follows. "[S]uppose we have a discourse of the form 'X C Y' where X and Y may contain a chain of attributions (i.e., Y could be of the form 'Delmed said Z', 'Delmed said Ann claimed Z', 'Delmed said Ann claimed Bob believed Z', etc.). Let  $c$  denote the standard composition function associated with C, and suppose  $\pi$  is an operator that given an epistemic formula  $K_a\phi$  (' $\phi$  is known by agent  $a$ ') returns  $\phi$ . In order to handle attributions in the compositional semantics, we only have to assume that instead of letting C have a single composition function  $c$  which given arguments  $X, Y$  computes a meaning representation  $c(X, Y)$ , it has a whole family of composition functions  $c_{ij}$  defined by  $c_{ij}(X, Y) = c(\pi^i(X), \pi^j(Y))$  where  $ij$  cannot exceed the length of the attribution chain in  $X, Y$ . When computing the compositional semantics, we then have to disambiguate not only the correct relation associated with C, but also the correct choice of  $ij$ ."



a different distribution. We have seen that in bridge verb ellipsis, the ellipsis site is embedded relative to the antecedent. Interestingly, it turns out that the bridge verb clause itself can be embedded, as well. This is shown in the examples in (102).

- (102) a. Who arrived? *I know you said* Bill, but I'd like to hear you say it again.  
 b. Jan verzamelt postzegels, maar ik ken een man die dacht munten.  
 John collects stamps but I know a man that thought coins  
 'John collects stamps, but I know a man who thought he collected coins.'

Most solutions we reviewed above to attempt to solve the problem that bridge verbs embed ellipsis have in common that the clause headed by the bridge verb is somehow 'severed' from its complement. If we apply these accounts to the examples in (102), all of the material dominating the bridge verb clause must be severed from the bridge verb's complement (i.e. the ellipsis clause), too. Under a behindance analysis of bridge verbs, for example, the material dominating the bridge verb must be in a behindance relation to the root clause, as well. Looking at the examples in (102), this seems unlikely, as the material dominating the bridge verb does not have to be parenthetical, but can be a non-bridge verb, like *know* in (102a), or a relativized nominal, as in (102b).

Another reason to distinguish bridge verb ellipsis from Gapping and Fragments, is that bridge verb ellipsis is possible in hierarchical discourse relations, see (103), in contrast to Gapping and Fragments.

- (103) I hope John will win, even though the expert thinks Bill.

The example in (103) shows that, even if the clause headed by the bridge verb can be 'ignored' for the purposes of ellipsis, the antecedent and the ellipsis clause would still be in a hierarchical relation (unless the connective is ignored as well, but what then would the relation be between ellipsis clause and antecedent?).

In this section, I have reviewed several accounts that could potentially provide a solution to the problem that ellipsis under bridge verbs poses for the NLC. All accounts have in common that the root clause is severed from the ellipsis clause. Intuitively this seems like an attractive solution, since, for one, the parenthetical clause that embeds ellipsis is not part of the assertion. Second, if somehow the material that embeds ellipsis is 'ignored', the NLC would be satisfied. Unfortunately, all accounts turned out to have some problems. In case any of the accounts does turn out to be on the right track, it remains to be seen whether the data in (102) and (103) will fit in. I leave the question of how to analyze ellipsis under bridge verbs for future research.

## 6.2 True exceptions and the role of accommodation and inference

Recall from chapter 1 (section 2.1) that ellipsis and deaccenting can be resolved by an accommodated antecedent. I repeat the relevant definitions here.

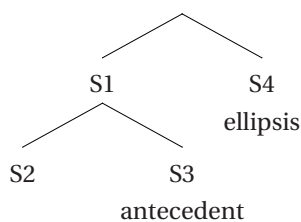
- (104) **Parallelism:**  
 Every phonologically reduced (elliptical or deaccented) sentence *E* requires either
- that the discourse will contain an antecedent sentence *A*, which belongs to the focus value of *E* ( $A \in F(E)$ ), or
  - that the discourse will contain an antecedent sentence *A*, which together with certain shared assumptions entails another sentence, the accommodated sentence *AC*, and  $AC \in F(E)$ . (adapted from Fox, 1999, p.73)
- (105) **Hardt's (2005b) economy condition on accommodation:**  
 "[F]or a given discourse *D*, we produce a default LF *L*. If *L* violates no semantically visible constraints, it is the preferred interpretation. If *L* does violate one or more constraints, inferences can be performed to derive an alternative interpretation *L'*. *L'* is a potential interpretation of *D* if it avoids the constraint violations. If there are several such alternatives, those LF's closest to *L* are preferred."
- (106) **Hardt's (2005b) notion of closest:**  
 "[I]f *A* entails *B* and *B* entails *C*, then *B* is closer to *A* than *C*."

In this section, I discuss several exceptions to the NLC in (68). I argue that these exceptions are real and that they involve accommodation.

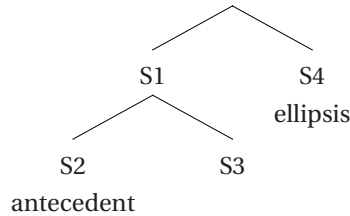
### 6.2.1 Embedded antecedents

(107a) and (108a) illustrate cases where the antecedent is embedded with respect to the ellipsis site. Although these examples are not perfect, they are significantly better than the examples in (107b) and (108b). The discourse structures of (107a) / (108a) and (107b) / (108b) are shown in (109a) and (109b), respectively.

- (107) a. ? [<sub>S1</sub> [<sub>S2</sub> The table legs broke] [<sub>S3</sub> because John stood on them.]]  
           [<sub>S4</sub> Peter as well (but they were already broken at that point.)]  
 b. \* [<sub>S1</sub> [<sub>S2</sub> Because John stood on them] [<sub>S3</sub> the table legs broke.]]  
       [<sub>S4</sub> Peter as well (but they were already broken at that point.)]
- (108) a. ? [<sub>S1</sub> [<sub>S2</sub> Susan was sad] [<sub>S3</sub> because her favorite sweater has worn off.]]  
           [<sub>S4</sub> Her trousers, too (but she wasn't sad about that.)]  
 b. \* [<sub>S1</sub> [<sub>S2</sub> Because her favorite sweater has worn off,] [<sub>S3</sub> Susan was sad.]]  
       [<sub>S4</sub> Her trousers, too (but she wasn't sad about that.)]
- (109) a.



b.

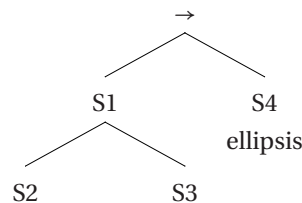


Recall that when there is a choice in antecedent, the only antecedent available is the clause that the ellipsis clause bears a relation to:

- (110) A: [<sub>S1</sub> [<sub>S2</sub> John is going to Greece] because [<sub>S3</sub> he has family there.]]  
 B: [<sub>S4</sub> Peter, too.]  
 = Peter is going to Greece, because he has family there.  
 ≠ Peter has family there, too.

The difference between (107a)/(108a) and (110) is that in (107a)/(108a), there is no suitable antecedent that is in a relation with the ellipsis clause. If ellipsis would be resolved by S1, the elliptical sentence would mean ‘Peter broke, because John stood on him, as well’ in (107a), and ‘Susan’s trousers were sad, because her favorite sweater has worn off’ in (108a). What the examples in (107a) and (108) show is that in a case where there is no suitable antecedent, an antecedent may be used that is not in a direct relation to the ellipsis clause. The fact that the example is less than perfect could be taken as a sign that this strategy involves accommodation. Only when the NLC is not satisfied, the grammar can look for an antecedent ‘one step down’ in the clause that the ellipsis clause bears a relation to. The contrast between (107a)/(108a) and (107b)/(108b) shows that if the ‘one step down’ strategy is chosen, the antecedent must be the clause that is attached last. That is, the ellipsis in (107b), for example, must be resolved as ‘Peter broke, too’, and cannot mean ‘Peter stood on them, too’, even though the latter is a more suited antecedent given our world knowledge. We can conclude from this example that it is not possible to ‘skip’ antecedents in Gapping and Fragments. That is, the grammar must always choose the antecedent that was parsed last. In the following discourse tree, the NLC dictates that S1 must be the antecedent. If S1 is not a suitable antecedent, accommodation is possible and S2 may be the antecedent that resolves ellipsis. S2 can never be an antecedent, as it skips S1 and S3, which are both parsed later than S2.

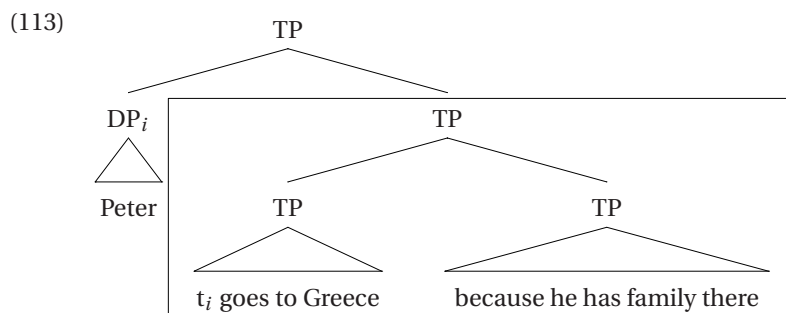
(111)



Another argument that accommodation is possible when no suitable antecedent is available comes from a remarkable contrast between antecedents conjoined by *omdat* and *want* (both mean ‘because’ in Dutch). As shown by the example in (112), if an antecedent contains an *omdat*-clause, the ellipsis clause will be resolved with the *omdat*-clause taken into account.

- (112) A. Jan gaat naar Griekenland, omdat hij daar familie heeft.  
 John goes to Greece because he there family has  
 ‘John will go to Greece, because he has family there.’  
 B. Peter ook.  
 Peter too  
 = Peter will go to Greece, because he has family there.  
 ≠ Peter has family there.

Given the NLC, only the large antecedent is available, as this large antecedent is the clause that is in a relation with the ellipsis clause. The syntactic structure of the ellipsis clause in (112) is given in (113). (That the adjunct is adjoined to TP here is not crucial, it could also be adjoined to *vP*.)



Now consider (114), which only differs from (112) in that the connective changed from *want* to *omdat*.

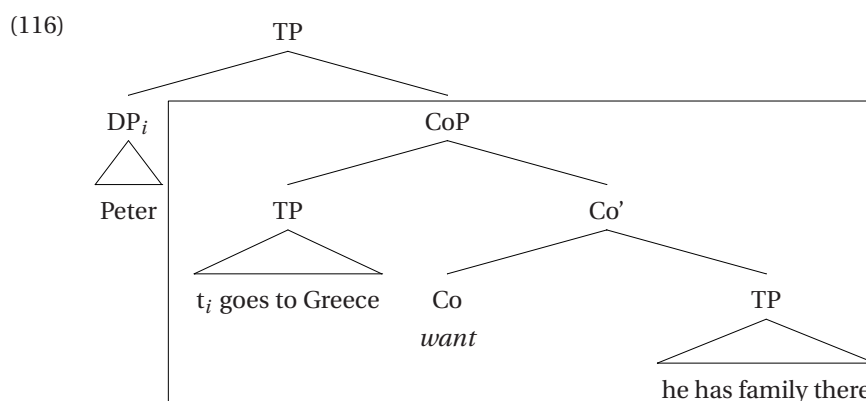
- (114) A: [<sub>S1</sub> Jan gaat naar Griekenland], want [<sub>S2</sub> hij heeft daar familie ].  
 B: [<sub>S3</sub> Peter ook ].  
 = Peter is going to Greece, because he has family there.  
 = Peter has family there, too.

In contrast to the case with *omdat* in (110), the case with *want* in (114) is ambiguous. Ellipsis can be resolved by the antecedent consisting of S1+S2, but also by just S2. The syntactic derivation of this short construal is straightforward, as the antecedent is simply the S2 clause.

- (115) [<sub>S2</sub> Peter ~~has family there~~]

The antecedent S2 is available through the ‘one step down’ strategy. As noted above, this strategy involves accommodation. Why is accommodation allowed here? From

the interpretation, the S1 + S2 antecedent seems to be available and, moreover, when ellipsis is resolved by this antecedent this is in accordance with the NLC. As noted, *omdat* and *want* have different syntactic properties: *want* is a coordinator (cf. section 4.2) and *omdat* is a subordinator. It is likely, therefore, that the difference between (110) and (114) and the fact that (refch3.ex1060) is ambiguous finds its source in the different syntactic properties of *want* and *omdat*. Consider the syntax of (114) in the case where S1+S2 forms the antecedent.



The tree structure in (116) reveals that the antecedent S1+S2 requires the remnant *Peter* to move out of the first conjunct of the coordination headed by *want*. Such movement out of the first conjunct of *want*, however, is not allowed, as shown in (117).

- (117) \* *Wat<sub>i</sub> heeft Peter t<sub>i</sub> gekocht, want Jan wilde het niet houden?*  
 what has Peter bought because John wanted it not keep  
 (Int.) 'What did Peter buy because John didn't want to keep it.'  
 (Van der Heijden, 1999)

If movement of *Peter* is not allowed in (116), how come the instance of Fragments in (114) is grammatical? One possibility is that a syntactic repair process takes place that takes (113) and modifies it to make it into (116). According to Arregui et al. (2006), syntactic mismatches between antecedent and ellipsis clause can be repaired. They argue that the bigger this syntactic mismatch is, the more ungrammatical the sentence gets. If a repair mechanism would have to transform (113) into the syntactically dissimilar (116), however, one would expect (114) to be close to ungrammatical, contrary to fact. Clifton and Frazier (2010) discuss cases of ellipsis in conditional sentences, which look similar to (114). In an example like (118a), the ellipsis clause cannot be derived syntactically, as shown in (118b). The embedded antecedent (*he bought twinkies*) requires accommodation in the form of the 'one step down' strategy. Although this is an available strategy, this antecedent would give rise to an incoherent discourse, as the particle *too* in the ellipsis clause presupposes that someone else bought twinkies, too. The conditional does not entail that someone bought twinkies, though. Clifton and Frazier (2010) tested sentences



For reasons to be made clear in chapter 4, I will adhere to the ‘small antecedents view’ on islands. If (119) indeed involves a short construal, it constitutes another case of ellipsis in which the antecedent is embedded. If (121) is the antecedent for ellipsis in (119), this involves accommodation in that a small antecedent is chosen over the large island-containing one (see also Craenenbroeck, 2012). The rest of the antecedent (*they hired someone*) can be inferred from prior discourse as I argued was the case for (114)/(118). The assumption that inference is possible seems especially necessary when we consider contexts in which the island is headed by an intensional verb.

- (122) A: They want to hire someone who speaks a Balkan language.  
 B: Yeah, Bulgarian.  
 B': #Yeah, s/he speaks Bulgarian.  
 B'': Yeah, s/he should speak Bulgarian.

If a short source underlies the fragment utterance of B', it must be the case that a modal is inferred from the context, as seen in the contrast between B' and B''. This modal in B'' is not present in the ellipsis clause. This inference of a modal does not pose a problem for the small antecedent approach to islands, as such cases of inference also occur elsewhere. Johnson (2012) notes that infinitival sluice clauses headed by *how* also require such inference. This is illustrated in (123) for Dutch, which especially makes clear that inference of a modal should be possible under ellipsis. The sluice in (123) can only be continued by the striked out material, crucially containing the modal *moet* ‘must’.

- (123) Decoreren is makkelijk, als je maar weet hoe je ~~moet decoreren~~  
 decorating is easy, if you only know how you must decorate  
 ‘Decorating is easy, as long as you know how to decorate.’

Summing up, under a small antecedent approach to islands, cases in which an antecedent contains an island violate the NLC. This is so, since the antecedent clause containing the island cannot resolve the ellipsis site, as in that case the remnant of ellipsis would have to have illicitly moved out of the island, wrongly predicting that ungrammaticality ensues. Island containing antecedents thus require accommodation in that a smaller antecedent is chosen. This could be seen as an instance of the ‘one step down’ strategy. This is only possible when the full antecedent is unavailable to resolve ellipsis. In that sense, the cases involving island containing antecedents pattern with the rest of the cases considered in this section.

## 7 Conclusion and open questions

In this chapter, I have been concerned with the distribution of Gapping and Fragments and how it follows from the licensing condition on ellipsis. Regarding their distribution, we have seen that Gapping and Fragments are severely restricted in their occurrence. Specifically, Gapping and Fragments clauses cannot be embedded nor bear a hierarchical relation with respect to their antecedent. I reviewed the

literature on licensing and showed that none of the theories on licensing can extend to Gapping and Fragments. All of the syntactic theories overgenerate. As for the discourse accounts, I showed that the QUD approach likewise does not cover the full range of Gapping/Fragments cases. Although López' D-linking account also doesn't cover Gapping and Fragments, it showed promise in that it hypothesizes that a discourse relation must hold between the Gapping/Fragments clause and an antecedent. Based on this approach, I argued that Gapping and Fragments are licensed when the discourse configuration holds in which the ellipsis clause and the antecedent are in a non-hierarchical relation. This theory accounts for the restricted distribution of Gapping and Fragments. At the same time it is capable of explaining the variable size of the ellipsis site in these ellipsis types.

I have shown in chapter 2 that, syntactically, the derivations of Gapping and Fragments are identical. In this chapter, I have shown that the distribution of Gapping and Fragments is identical, as well. If the ideas in this chapter are on the right track, the similar distribution follows from the fact that Gapping and Fragments are both licensed by the same licensing condition. For all intents and purposes then, we no longer have any reason to formally distinguish Gapping and Fragments.



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 Exceptional movement under ellipsis
 

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## 1 Introduction

In chapter 2, I have argued, (following Merchant, 2004), that the remnants of Gapping and Fragments move out of the ellipsis site, as shown in (1).

- (1) a. Max ate the apple and Sally [the hamburger]<sub>i</sub> [~~ate t<sub>i</sub>~~]                      Gapping  
       b. Who did you see? - [Bill]<sub>i</sub> [~~I saw t<sub>i</sub>~~]    Fragments

The analysis of Gapping and Fragments in (1) raises many questions, such as why remnants must move out of the ellipsis site and how they do so. These questions are most prominent in the case of remnants that appear in an ‘exceptional’ position. For example, in (1a), *the hamburger* appears in a position where it cannot normally surface. Witness the non-elliptical version of (1a) in (2).

- (2) \* Max ate the apple and Sally [the hamburger]<sub>i</sub> [ate t<sub>i</sub> ]

Following Thoms (2013), I call the movement of *the hamburger* ‘exceptional movement’ (henceforth EM), a movement that only occurs under ellipsis. Although the existence of EM has been acknowledged in the literature, a satisfactory account of this phenomenon is still lacking. The only dedicated account of EM is Thoms (2013), but, as I show in section 3.2, this theory does not answer all the questions pertaining to EM. A theory of EM should at least address the following questions. First and foremost, it must account for why EM is parasitic on ellipsis. That is, why is movement of *the hamburger* possible in the elliptical (1a), but not in the non-elliptical (2)? Throughout, I will refer to this as the ‘ellipsis question’. A theory of

EM should also explain the locality conditions that EM is subject to (i.e. the ‘locality question’). Finally, a theory of EM should explain what type of movement EM is (e.g. A vs A’) and what causes this movement to take place (i.e. the ‘trigger question’). These three questions are listed in (3).

(3) **Questions to be answered by a theory of EM:**

- Why is EM parasitic on ellipsis? (Ellipsis question)
- What locality conditions is EM subject to? (Locality question)
- What triggers EM? (Trigger question)

In section 2, I review some well-known ellipsis constructions and discuss whether or not they involve EM. In sections 3.1 and 3.2, I review the literature on EM. I show that the accounts in the literature are not able to answer the questions in (3). In section 4, I introduce Fox and Pesetsky’s (2005) theory of Spell-out Domains as a first step towards a theory of EM. According to this theory, Spell-out involves the transfer of a Spell-out Domain to the PF interface, where ordering statements are calculated and added to an ordering table. I show, following Fox and Pesetsky (2005) and Takahashi (2004), that exceptional movement gives rise to conflicting ordering statements and that ellipsis has the ability to eliminate conflicting ordering statements. Fox and Pesetsky’s theory thus provides a solution to the ellipsis question. I proceed by arguing that Fox and Pesetsky’s theory also provides an explanation for the fact that EM always lands next to the ellipsis site, but only if we assume that EM takes place counter-cyclically. As for the answer to the locality question, I show in section 5 that EM is finite clause bound. If EM is clause bound, it patterns neither with A- nor with A’-movement. It does, however, pattern with Quantifier Raising, which is also finite clause bound (cf. May, 1985). Taking the results of section 5 into account, I propose in section 6, that EM instantiates the same type of movement as Quantifier Raising, namely movement that is driven by ‘interface goals’ in the sense of Reinhart (2006). For EM, I hypothesize that this interface goal is *recoverability*. In the final part of this chapter, I discuss the consequences of my theory for the ‘repair by ellipsis’ hypothesis, according to which ellipsis can repair ungrammatical outputs of the grammar.

## 2 Exceptional movement

EM occurs in many ellipsis constructions (cf. Abe and Hoshi, 1997; Merchant, 2004; Takahashi, 2004; Lasnik, 1999a; Takaki, 2011; Park and Kang, 2007; Lasnik, 2013; Thoms, 2013, a.o.), though not every. This section gives for English an overview of well-known elliptical constructions and whether or not they involve exceptional movement.

Merchant (2001) argues that Sluicing involves ellipsis fed by regular *wh*-movement. The *wh*-phrase in Sluicing, see (4b), occurs in the same position as in non-elliptical sentences, see (4a). According to Merchant, the *wh*-phrase in (4b) moves

to spec,CP in the same way as the *wh*-phrase does in (4a). Under this assumption, Sluicing does not involve exceptional movement.

(4) **Sluicing - No EM**

- a. I saw someone, but I don't know [who]<sub>i</sub> [I saw t<sub>i</sub>]
- b. I saw someone, but I don't know [who]<sub>i</sub> [~~I saw t<sub>i</sub>~~]

Multiple Sluicing in English, on the other hand, involves exceptional movement of the second *wh*-phrase. As shown in example (5a), the movement of the second *wh*-phrase is impossible in the absence of ellipsis, as English lacks multiple *wh*-fronting. As for the first *wh*-phrase, I adopt the null hypothesis that it undergoes regular *wh*-fronting, similar to the single *wh*-phrase in (4).

(5) **Multiple Sluicing - EM**

- One of the students spoke to one of the professors, but ...
- a. \* I don't know which [to which]<sub>i</sub> [spoke t<sub>i</sub>]
  - b. I don't know which [to which]<sub>i</sub> [~~spoke t<sub>i</sub>~~]

Merchant (2004) extends Merchant's (2001) analysis of Sluicing to Fragments. He argues that fronting operations in English, such as focus movement and topicalization, drive the movement of a remnant in Fragments. Under that hypothesis, the movement we observe in (6a) is the same movement as the movement in (6b).

(6) **Fragments - No EM**

- a. A: Who did you see?      B: [Bill]<sub>i</sub> [I saw t<sub>i</sub>]
- b. A: Who did you see?      B: [Bill]<sub>i</sub> [~~I saw t<sub>i</sub>~~]

Multiple Fragments involves an elliptical answer to a multiple *wh*-question.<sup>1</sup> Multiple Fragments differs from Fragments in that it leaves two remnants instead of one. As shown in (7), the second remnant in Multiple Fragments undergoes EM. By hypothesis, the first remnant fronts non-exceptionally, just as the single remnant in Fragments.

(7) **Multiple Fragments - EM**

- A: Who bought what?
- a. \* B: John [a book]<sub>i</sub> [bought t<sub>i</sub>] (and Mary a pencil)
  - b. B: John [a book]<sub>i</sub> [~~bought t<sub>i</sub>~~] (and Mary a pencil)

As noted in chapter 1, I assume Stripping to be an instance of Gapping with one remnant. Just like the other single-remnant constructions, Sluicing and Fragments, Stripping does not involve exceptional movement. In a run-of-the-mill Stripping case, the movement of the remnant patterns with conjunction internal fronting.

<sup>1</sup>Since multiple *wh*-questions in English require a pair-list answer, the examples of Multiple Fragments involve a pair of Multiple Fragments. This second instance of Multiple Fragments is not necessary to illustrate its properties.

(8) **Stripping - No EM**

- a. John ate macaroni and [spaghetti]<sub>i</sub>, [John ate t<sub>i</sub>] too  
 b. John ate macaroni, and [spaghetti]<sub>i</sub>, [~~John ate t<sub>i</sub>~~] too

By definition, Gapping leaves two or more remnants. The first remnant is assumed here to front in a similar fashion to the single remnant in Stripping. However, since English lacks multiple fronting, as in (9a), the second remnant can only move to its surface position exceptionally.

(9) **Gapping - EM**

- a. \* John ate macaroni and Bill [spaghetti]<sub>i</sub> [ate t<sub>i</sub>]  
 b. John ate macaroni and Bill [spaghetti]<sub>i</sub> [~~ate t<sub>i</sub>~~]

Pseudogapping is standardly taken to involve VP ellipsis involving one surviving remnant (cf. Jayaseelan, 1990; Lasnik, 1995, 1999a,b; Takahashi, 2004; Gengel, 2013; Thoms, to appear). An example is given in (10). The movement of *to India* in this example can only be exceptional, since the remnants of Pseudogapping cannot surface in this position in the absence of ellipsis, see (10a).

(10) **Pseudogapping - EM**

- a. \* John has travelled to Spain and Bill has [to India]<sub>i</sub> [travelled t<sub>i</sub>]  
 b. John has travelled to Spain and Bill has [to India]<sub>i</sub> [~~travelled t<sub>i</sub>~~]

The findings of this section are summarized in (11).

(11) **EM in elliptical constructions in English:**

Sluicing		X
Multiple Sluicing	1st remnant	X
	2nd remnant	✓
Fragments		X
Multiple Fragments	1st remnant	X
	2nd remnant	✓
Stripping		X
Gapping	1st remnant	X
	2nd remnant	✓
Pseudogapping		✓

One noteworthy property of EM that can be deduced from the cases in this section, is that EM always lands next to the ellipsis site. In the case of clausal ellipsis, one might attempt to explain this observation by saying that if EM did not land next to the ellipsis site, this would be ruled out because ellipsis could have deleted more than it did. This would not work for cases involving Pseudogapping, since in Pseudogapping, ellipsis targets a sub-clausal constituent anyway, namely a VP. Still, EM must land next to (i.e. target the sister position) of the ellipsis site, as illustrated by the contrast between (12a) and (12b).

(12) **Pseudogapping**

- a. John has travelled to Spain and Bill has [to India]<sub>i</sub> [~~travelled t<sub>i</sub>~~]  
 b. John has travelled to Spain and Bill [to India]<sub>i</sub> has [~~travelled t<sub>i</sub>~~]

I will henceforth refer to the puzzling contrast between (12a) and (12b) as the ‘landing site question’. I provide an explanation for it in section 4.2.

### 3 Theories of exceptional movement

#### 3.1 Rightward movement

In the literature, Gapping, Multiple Sluicing and Pseudogapping have all been argued to involve rightward movement of the remnants that we have established to undergo EM in the previous section. The rightward movement account is attractive in that it eliminates the need to postulate exceptional leftward movement in many instances of ellipsis. To see why this is so, consider (5a), repeated here as (13a), under a rightward movement analysis, as in (13b).

(13) **Multiple Sluicing - EM**

One of the students spoke to one of the professors, but ...

- a. I don’t know which [spoke t<sub>i</sub>] [to which]<sub>i</sub>  
 b. I don’t know which [~~spoke t<sub>i</sub>~~] [to which]<sub>i</sub>

(13) shows that, if rightward movement is possible in non-elliptical contexts (13a), then there is no need to postulate exceptional movement in elliptical contexts, as shown in (13b). The hypothesis that only regular syntactic movement is possible under ellipsis is the null hypothesis. This section reviews the rightward movement proposals that have appeared in the literature.

##### 3.1.1 Gapping

Jayaseelan (1990) argues that Gapping involves ellipsis fed by leftward movement of the first remnant, and rightward movement of the second remnant. His analysis of an example such as (1a) is sketched in (14).

- (14) Max ate the apple and [Sally]<sub>i</sub> [~~t<sub>i</sub> ate t<sub>j</sub>~~] [the hamburger]<sub>j</sub>

Jayaseelan provides several arguments in favor of the analysis in (14). First, he notes that this analysis explains why Gapping cannot leave more than two remnants (cf. Jackendoff, 1971; Kuno, 1976; Pesetsky, 1982). The reason, according to Jayaseelan, is that no more than one phrase can move rightward; this is shown in (15a). In the same vein, the Gapping example in (15b) is ungrammatical, because two remnants undergo rightward movement.

- (15) a. \* John built  $t_i$   $t_j$  yesterday [with a hammer]<sub>j</sub> [the house that he will live in]<sub>i</sub>.  
 b. \* John built the house with a hammer and [Mary]<sub>i</sub> [ ~~$t_i$  built  $t_j$   $t_k$~~ ] [the garage]<sub>j</sub> [with a saw]<sub>k</sub>

The rightward movement account of Gapping moreover provides an explanation for the clause-boundedness of the second remnant. As Jayaseelan points out, if the second remnant in Gapping undergoes rightward movement, the prediction is that this remnant is subject to Ross's (1967) Right Roof Constraint. (16) shows that this prediction is borne out. In this example, the second remnant has moved rightwards crossing a finite clause boundary. Since this is in violation of the Right Roof Constraint, the example is ungrammatical.

- (16) \* John thinks that Bill will see Susan and [Harry] [ ~~$t_i$  thinks [that Bill will see  $t_j$ ]]~~] [Mary]<sub>j</sub>

A third piece of evidence that Jayaseelan puts forth in favor of the rightward movement account of Gapping is that it correctly predicts that a second remnant cannot strand a preposition. The example in (17b) illustrates this. As Jayaseelan points out, the ban on P-stranding follows immediately from the rightward movement account, because P-stranding is not possible under rightward movement, see (17a).

- (17) a. \* I talked about  $t_i$  yesterday [the man I recently met]<sub>i</sub>  
 b. \* John talked about Bill and [Mary]<sub>i</sub> [ ~~$t_i$  talked about  $t_j$~~ ] [Susan]<sub>j</sub>

Although Jayaseelan's arguments seem to support a rightward movement account of Gapping, this account is not without problems. One problem is that it overgenerates. Specifically, Park and Kang (2007) observe that rightward movement of the subject of an ECM infinitival clause is impossible (18a), while the case of Gapping in (18b) shows that movement of the remnant *Mary* out of the ECM infinitival clause is allowed.

- (18) a. \* I believe  $t_i$  to be dishonest [the politician with high profile in international affairs]<sub>i</sub>.  
 b. Some believe John to be the best candidate, and others Mary.

Similarly, Thoms (to appear) observes that the direct object of a ditransitive verb cannot move rightwards. Again, contrary to what the rightward movement account of Gapping predicts, the direct object of a ditransitive verb can be a remnant in Gapping.

- (19) a. \* John gave  $t_i$  a lot of money [the people that deserved it most]<sub>i</sub>.  
 (Thoms, to appear)  
 b. John gave Bill a lot of money, and Mary Susan.

Moreover, non-heavy pronominals may be remnants too (20b), but they may not undergo Heavy NP Shift, see (20a).

- (20) a. \* I saw  $t_i$  yesterday [you] $_i$ . (Thoms, to appear)  
 b. Fred tries to treat his parents well, and they him. (Hudson, 1989)

The rightward movement account of Gapping predicts that Gapping should be impossible in languages that lack rightward movement. This prediction is not borne out, though. The examples in (21) show that, whereas PPs can extrapose in Dutch (21a), DPs cannot (21b). Since the DP in (21b) is heavy, this example also shows that Dutch lacks Heavy NP Shift. Contrary to what the rightward movement of Gapping predicts, Gapping is possible in Dutch when the second remnant is a DP, as shown in (22).

- (21) a. Jan heeft  $t_i$  een boek gegeven [aan Peter] $_i$ .  
 John has a book given to Peter  
 b. ?? Jan heeft  $t_i$  geleend [een zware hamer met een goede grip] $_i$ .  
 John has borrowed a heavy hammer with a good grip
- (22) Jan heeft een hamer geleend en Peter een zaag.  
 John has a hammer borrowed and Peter a saw

The examples in (18)-(22) show that the rightward movement account of Gapping undergenerates: phrases that may not undergo rightward movement are nonetheless possible as non-initial remnants in Gapping. In the face of (17)-(19), one might suppose that Gapping in English involves rightward movement, whereas Gapping in Dutch does not. Aelbrecht (2007), for instance, argues that Dutch Gapping is derived by ellipsis fed by leftward focus movement of the remnants. If in English, the second remnant of Gapping moves rightwards, whereas all remnants move leftwards in Dutch, this might explain why there is a restriction on the number of remnants in English that is not found in Dutch. Whereas English only allows for two remnants under Gapping, in Dutch, there is no restriction on the number of remnants (Neijt, 1979). (23) is an example with three remnants.

- (23) Jan heeft Marie een boek gegeven en Peter Suzan een CD.  
 John has Mary a book given and Peter Susan a CD  
 'John has given Mary a book and Peter has given Susan a CD.'

If the limitation on the number of remnants only holds for English, it might be that remnants escape ellipsis by rightward movement only in English. However, the hypothesis that English Gapping differs from Dutch Gapping in the way the remnants escape the ellipsis site loses credence by the fact that Dutch Gapping is clause bound, too.

- (24) \* Jan denkt dat Bill Suzan zal zien en Harry Marie.  
 John thinks that Bill Susan will see and Harry Mary  
 (Intended:) 'John thinks Bill will see Susan and Harry thinks Bill will see Susan.'

The idea that remnants in Dutch escape ellipsis by leftward movement is plausible, given that rightward movement is unavailable, at least for DPs. Consequently, the fact that the movement of a non-initial remnant is finite clause bound cannot be taken as an argument for rightward movement. As this also holds for English, the rightward movement account of Gapping loses much of its appeal. Moreover, we have already seen that the rightward movement account undergenerates for English. Taking all of this into account, I conclude that Gapping in English and in Dutch, is not derived by rightward movement of the remnants. I adopt the hypothesis that the remnants of Gapping uniformly move leftwards, both in English (cf. Coppock, 2001; Johnson, 2004, 2009) and in Dutch. This hypothesis is in line with the facts that both English Gapping and Dutch Gapping are extremely similar. That is, English and Dutch Gapping have the same syntax (cf. chapter 2), show the same distribution and are licensed in the same way (cf. chapter 3). These observations strongly favor a uniform analysis. The only problem left for a uniform leftward movement account of the remnants in Gapping are the P-stranding facts. As we will see below, the facts about P-stranding under ellipsis are complicated and, at this point, do not warrant any conclusions about the direction of movement.

### 3.1.2 Multiple Sluicing

Nishigauchi (1998) and Lasnik (2013) observe that the second *wh*-phrase in Multiple Sluicing is clause bound, just as the second remnant in Gapping. This is illustrated in (25a). For this and other reasons, Nishigauchi and Lasnik adopt Jayaseelan's (1990) Gapping analysis for Multiple Sluicing. (25b) illustrates why (25a) is ungrammatical under the rightward movement account. The reason is that the second remnant violates the Right Roof Constraint.

- (25) a. \* One of the students said that Mary spoke to one of the professors, but I don't know which student to which professor.  
 b. \* One of the students said that Mary spoke to one of the professors, but I don't know [which student]<sub>i</sub> [~~t<sub>i</sub> said that Mary spoke t<sub>j</sub>~~] [to which professor]<sub>j</sub>

The rightward movement account of Multiple Sluicing is further supported by the fact that the second *wh*-remnant cannot strand a preposition. As shown in (26b), if the second remnant moves rightward, P-stranding leads to ungrammaticality. Under a rightward movement account, this ungrammaticality follows from a general ban on P-stranding under rightward movement, illustrated in (26a).

- (26) a. \* A linguist spoke about t<sub>i</sub> yesterday [some paper about Sluicing]<sub>i</sub>.  
 b. ?\* Some linguist spoke about some paper on Sluicing, but I don't know [which linguist]<sub>i</sub> [~~t<sub>i</sub> spoke about t<sub>j</sub>~~] [which paper on Sluicing]<sub>j</sub>.

To give further support for the rightward movement analysis, Lasnik notes that the grammaticality of Multiple Sluicing tracks the possibility for the second remnant to undergo rightward movement. In (27a), extraposition of the PP *to who* is possible.



(27b) shows that this PP can also be a second remnant in Multiple Sluicing. The 'light' DP *what* in (28a), on the other hand, cannot extrapose. As correctly predicted by the rightward movement account, this light DP also cannot be a second remnant either, see (27b).

- (27) a. Who was talking  $t_i$  yesterday [to who] $_i$ ?  
 b. Someone was talking (yesterday) to someone, but I don't know [who] [ ~~$t_i$  was talking  $t_j$~~ ] [to who] $_j$ .
- (28) a. ?\* Who bought  $t_i$  yesterday [what] $_i$ ?  
 b. ?\* Someone bought something, but I don't know [who] [ ~~$t_i$  bought  $t_j$~~ ] [what] $_j$ .

Lasnik furthermore points out that if the second *wh*-phrase is 'heavier', Heavy NP Shift is possible (29a) and so is Multiple Sluicing (29b).

- (29) a. Which linguist criticized  $t_i$  yesterday [which paper about sluicing] $_i$ ?  
 b. ? Some linguist criticized (yesterday) some paper about Sluicing, but I don't know [which linguist] $_i$  [ ~~$t_i$  criticized  $t_j$~~ ] [which paper about Sluicing] $_j$ .

(25)-(29) illustrate that the possibility of Multiple Sluicing seems to pattern with the availability of rightward movement. However, there are also cases in which the availability of rightward movement and the possibility of Multiple Sluicing diverge. We saw in (18a), repeated here as (30), that rightward movement of the subject of an ECM infinitival clause is impossible (Park and Kang, 2007). Nonetheless, as shown in (31), subjects of an ECM clause can be the second remnant in Multiple Sluicing. As Park and Kang (2007) point out, the grammaticality of (31) is unexpected under the rightward movement analysis, since this analysis predicts that Multiple Sluicing should only be possible when rightward movement is also.

- (30) a. \* I believe  $t_i$  to be dishonest [the politician with high profile in international affairs] $_i$ .
- (31) a. One of the boys believes behind one of the trees to be the best place to hide, but I don't know [which] [behind which tree].  
 b. One of the RAs expects from one of the cells to emerge a tiny being, but I don't know [which] [from which cell].

Similarly, we saw that the direct object of a ditransitive verb cannot move rightwards (Thoms, to appear). This is shown in (32a), repeated from (19a). (32b) shows that a direct object of a ditransitive verb can be a remnant in Multiple Sluicing. This is problematic for the rightward movement account of Multiple Sluicing for the same reason the examples in (31) are.



- (35) a. Een student zag een linguïst, maar ik weet niet welke student welke  
 a student saw a linguist but I know not which student which  
 linguïst  
 linguist
- b. \*Een student zei dat Marie een professor zag, maar ik weet niet  
 a student said that Mary a professor saw, but I don't know  
 welke student welke professor.  
 which student which professor

Since Dutch and Korean do not allow rightward movement, the clause boundedness of Multiple Sluicing observed in (34) and (35) cannot be caused by rightward movement. This conclusion deprives the rightward movement of one of the core arguments in favor of it. The argument that still stands is that the second remnant in Multiple Sluicing patterns to a large extent (crucially, as we have established from (31) and (32), not to the full extent) with phrases capable of undergoing rightward movement. I will provide a tentative alternative explanation for this observation in section 6. The other argument in favor of a rightward movement account of Multiple Sluicing is the impossibility of P-stranding under Multiple Sluicing. As already mentioned, though, the P-stranding facts do not warrant any decisive conclusions.

At this point, there is no conclusive evidence for the rightward movement account of Multiple Sluicing. However, as I showed in this section, there are several facts that argue against it. For this reason, I adopt the leftward movement account of Multiple Sluicing as it appears in Merchant (2001) and Richards (2001).

### 3.1.3 Pseudogapping

Jayaseelan (1990) provides an analysis of Pseudogapping in terms of VP ellipsis plus rightward movement of the remnant. The main argument in favor of postulating rightward movement is that the remnant cannot strand a preposition. As (36a) shows, stranding a preposition is not possible under rightward movement. Under Jayaseelan's analysis, the ungrammaticality of (36b) is due to the fact that the remnant that moves rightwards strands a preposition.

- (36) a. \*John counted on  $t_i$  for support [a total stranger] $_i$ .  
 b. \*You cannot count on a stranger,  
 but you can [~~VP count on  $t_i$~~ ] [a friend] $_i$ .

Jayaseelan's analysis predicts that remnants in Pseudogapping can never strand a preposition. Lasnik (1999a,b) points out, however, that the result of P-stranding under Pseudogapping is not always ungrammatical (cf. also Thoms (to appear) who reports that his informants disagree that (36b) is ungrammatical).

- (37) John spoke to Bill and Mary should Susan.

Another problem for the rightward movement account is that some phrases that cannot undergo rightward movement, can nonetheless be remnants of Pseudogapping. Indirect objects, for example, can be remnants, see (38b) (repeated from (32a)), but they cannot undergo Heavy NP Shift, as shown in (38a).



account also answers the locality question. If the second remnant in Gapping and Multiple Sluicing and the single remnant of Pseudogapping move rightwards, the clause boundedness immediately follows, since rightward movement is subject to the Right Roof Constraint. Lastly, the trigger question reduces to the question of what triggers extraposition and HNPS, a question not directly related to ellipsis.

(40) **Questions to be answered by a theory of EM:**

- Why is EM parasitic on ellipsis? (Ellipsis question)
- What locality conditions is EM subject to? (Locality question)
- What triggers EM? (Trigger question)

All in all, then, the rightward movement account does an admirable job at accounting for the properties of movement under ellipsis. The main problem for the rightward movement account is that it undergenerates. For English, I have shown that phrases incapable of undergoing rightward movement can nonetheless be remnants of ellipsis. From a cross-linguistically perspective, the problem of undergeneration is arguably even more severe. The fact that most of these elliptical constructions are also possible in languages that lack rightward movement, means that, whatever the direction of the movement of remnants is in these languages, it will always be exceptional movement. This is so, because the movement is not possible in non-elliptical contexts, neither rightward nor leftward.

All of the accounts that postulate rightward movement of (non-initial) remnants have brought forth the argument that they disallow P-stranding. For Pseudogapping, we have seen that P-stranding is, in fact, possible. As noted by Thoms (2013), Multiple Fragments also allow for P-stranding:

- (41) A: Who did you speak to about what?  
 B: Mary (about) the weather, and Rab (about) the government.

In section 2, I showed that the second remnant in Multiple Fragments moves exceptionally. At this point, then, it is not clear what exactly the link is between EM and P-stranding. I leave this topic for future research.

## 3.2 LF parallelism

In this section, I discuss Thoms' (2013) theory of EM. His proposal is based on LF parallelism and builds on the works by Fox and Lasnik (2003) and Griffiths and Lip-ták (2014). I provide a summary of the account in the next section. In section 3.2.2, I show that Thoms' LF parallelism theory suffers from conceptual and empirical problems. Moreover, I show that it does not meet the requirements on a theory of EM (cf. (40)).

### 3.2.1 Thoms (2013)

Thoms (2013) argues that EM is not constrained by syntax, but that its application is subject to an LF parallelism constraint, as informally stated in (42). It follows from

the definition in (42) that LF parallelism is a condition that is only active under ellipsis.

- (42) **LF parallelism (Fox and Lasnik, 2003):**  
Variables in the antecedent A and the elliptical clause E must be bound from parallel positions.

Thoms shows that LF parallelism captures why, in ellipsis constructions with more than one remnant, the two remnants must be clause mates (the Clause Mate Condition, Lasnik 2013). Consider the contrast between the Multiple Sluicing examples in (43) and (44). In both (43) and (44), the *wh*-phrase *what* in the antecedent takes scope over the matrix clause at LF. As dictated by LF parallelism, the trace/variable of the remnant in the ellipsis site must be bound from the same position. This is the case in (43), where *a book* takes matrix scope. In (44), on the other hand, the *wh*-phrase *what* takes clause bound scope at LF in the antecedent (cf. Dayal, 2002). The corresponding remnant in the ellipsis site, *a book*, on the other hand, takes scope over the matrix clause, where it binds its trace. LF parallelism is thus not satisfied in (44) and the sentence is therefore ungrammatical.<sup>4</sup>

- (43) a. A: Who bought what?  
B: John a book (and Mary a pencil).  
b.  $LF_A [[\text{who}]_i \lambda x. [\text{what}]_j \lambda y. [x_i \text{ bought } y_j]]$   
 $LF_E [[\text{John}]_i \lambda x. [a \text{ book}]_j \lambda y. [x_i \text{ bought } y_j]]$
- (44) a. A: Who said you bought what?  
B: \*John a book (and Mary a pencil).  
b.  $LF_A [[\text{who}]_i \lambda x. [x_i \text{ said } [\text{what}]_j \lambda y. [\text{you bought } y_j]]]$   
 $LF_E [[\text{John}]_i \lambda x. [a \text{ book}]_j \lambda y. [x_i \text{ said you bought } y_j]]]$

Next, we consider elliptical structures with a single remnant, comparing cases in which there is a contrastive correlate in the antecedent with cases where there is a non-contrastive correlate in the antecedent. To begin with the latter, consider (45), which features a non-contrastive correlate *a Balkan language*. This correlate can be bound in situ from the matrix clause via choice function mechanisms (cf. Reinhart, 1997). The fact that the correlate takes matrix scope in the antecedent, allows the corresponding remnant, *Serbo-Croatian* to move to, and take scope from, the corresponding position in the ellipsis clause (even crossing an island boundary).

- (45) a. A: I heard they hired someone who speaks a Balkan language fluently.  
B: Yeah, Serbo-Croatian.  
b.  $LF_A \exists f [I \text{ heard they hired someone who speaks } f(\text{a Balkan language})].$   
 $LF_E [\text{Serbo-Croatian}] \lambda x_i. [I \text{ heard they hired someone who speaks } x_i]$

<sup>4</sup>I refer the reader to Thoms (2013) and Park and Kang (2007) for the LF parallelism account of Multiple Sluicing, which runs parallel to the discussion in the main text about Multiple Fragments.

According to Thoms, contrastively focused phrases take clause bound scope at LF by undergoing Quantifier Raising. This explains the contrast between (45) and (46). In (46), the contrastively focused correlate *Bulgarian* takes clause bound scope at LF, see  $LF_A$  in (46b). The corresponding remnant in  $LF_E$ , *Serbo-Croatian*, takes matrix scope. Since the traces of the correlate *Bulgarian* and the remnant *Serbo-Croatian* are not bound from identical positions, this derivation is ruled out by LF parallelism.

- (46) a. A: I heard they hired someone who speaks BULGARIAN fluently.  
 B: \*No, SERBO-CROATIAN.
- b.  $LF_A$  [I heard they hired someone [Bulgarian]<sub>i</sub>  $\lambda x$ .[who speaks  $x_i$ ]].  
 $LF_E$  [Serbo-Croatian]<sub>i</sub>  $\lambda x$ .[I heard they hired someone who speaks  $x_i$ ]

To summarize Thoms' (2013) theory, the idea is that EM is not constrained in the syntax, but its application is subject to the independent requirement of LF parallelism. Part of the elegance of the LF parallelism theory is that it makes use of a condition for which there is independent support outside the domain of EM.<sup>5</sup> Unfortunately, this theory suffers from several conceptual and empirical problems.

### 3.2.2 Problems for the LF parallelism account of EM

In this section, I discuss several problems for the hypothesis that EM is constrained by LF parallelism. To begin with, the LF parallelism theory fails to meet all the requirements that a theory of EM should meet. That is, it fails to address all the questions in (40), repeated here as (47).

(47) **Requirements on a theory of EM:**

- Why is EM parasitic on ellipsis? (Ellipsis question)
- What locality conditions is EM subject to? (Locality question)
- What triggers EM? (Trigger question)

One question that the LF parallelism theory does answer is the locality question. The answer to this question is that EM is not constrained by any locality conditions (cf. the island violation in (45)). One of the problems with the claim that EM is not constrained by syntactic locality conditions, is that it leaves no room for cross-linguistic variation. That is, if EM is unconstrained under ellipsis, it should be so in any language. In section 5, I show that there is, contrary to what the LF parallelism theory predicts, cross-linguistic variation with regard to movement under ellipsis.

Since LF parallelism is a condition on ellipsis, it may appear as if the LF parallelism theory also answers the ellipsis question. This is not the case, though. Under the LF parallelism theory, the question remains what constrains EM when no ellipsis applies. Because LF parallelism does not come into play when no ellipsis takes place, the expectation is that nothing constrains EM when no ellipsis applies. This

<sup>5</sup>LF parallelism was first postulated in Fox (2000) to explain scope parallelism in conjunctions.

is clearly incorrect, as EM only occurs under ellipsis, but in the absence of ellipsis, EM is impossible, see the contrast between (48a) and (48b).

- (48) a. \* John has travelled to Spain and Bill has [to India]<sub>i</sub> travelled t<sub>i</sub>  
↑  
└──────────────────┘  
*exceptional movement*
- b. John has travelled to Spain and Bill has [to India]<sub>i</sub> [~~VP~~ travelled t<sub>i</sub>]

The answer to the trigger question under the LF parallelism theory is that it is not triggered at all. Application of EM is free, as long as LF parallelism is obeyed. Again, this is problematic when non-elliptical structures are considered. If nothing triggers EM, why can't EM be triggered in the absence of ellipsis?

These considerations lead to the conclusion that EM is constrained by some factor and that this factor is absent when ellipsis applies and not the other way around. EM is not more constrained (e.g. by LF parallelism) when ellipsis applies, rather it is less constrained: a movement is possible in elliptical, but not in non-elliptical structures. Likewise, there must be something that triggers EM under ellipsis, and this trigger must be absent when no ellipsis applies (see section 6).

Another theoretical problem for the LF parallelism theory is the following. Under the LF parallelism theory, the LF position of the correlate determines the LF position of the remnant. However, it does not follow from this that the LF position of the remnant should be the same as the *PF position* of the remnant. Since May (1977), it is well-known that PF spell-out position and LF scope position do not always coincide. To make the problem more concrete, consider the example in (49). Nothing in the LF parallelism theory rules out (49a) with the derivation in (49b). In this derivation, LF<sub>A</sub> and LF<sub>E</sub> satisfy LF parallelism: the remnant *a book* and its corresponding correlate *what* take scope over the embedded clause, binding their trace from an identical position. At PF, *a book* is spelled out in a left-peripheral position in the matrix clause. In other words, *a book* has moved into the matrix clause in the syntax, but at LF reconstructs to (i.e. is interpreted in) a position where it scopes only over the embedded clause, thereby satisfying LF parallelism. The problem is even more severe if the de dicto reading in (49), in which John and Mary do not have a specific book and pencil in mind, involves narrow scope of the indefinite with respect to the intensional verb (Russell, 1905; Fodor, 1970; Montague, 1973; Partee, 1974; Cresswell and Stechow, 1982; Keshet, 2008, a.o.). In that case, (49b) is in fact the only possible LF/PF representation for (49aB).

- (49) a. A: Who believed you bought what?  
 B: \*John a book, and Mary a pencil.
- b. LF<sub>A</sub> [[who]<sub>i</sub> λx.<sub>i</sub> believed [what]<sub>j</sub> λy.<sub>j</sub>[you bought y<sub>j</sub>]]  
 LF<sub>E</sub> [John]<sub>i</sub> λx.<sub>i</sub> believed [a book]<sub>j</sub> λy.<sub>j</sub>[you bought y<sub>j</sub>]]  
 PF<sub>E</sub> [[John]<sub>i</sub> [a book]<sub>j</sub> [ t<sub>i</sub> believed you bought t<sub>j</sub> ]]

Next to these conceptual problems, there are empirical problems for the LF parallelism theory, as well. One problem is that, if contrastively focused correlates take



clause bound scope by Quantifier Raising, (50) should be ungrammatical, since no LF parallelism obtains. The focused correlate *Greek* takes scope over the embedded clause at LF, but the corresponding remnant *Albanian* takes matrix scope (50b).<sup>6</sup>

- (50) a. A: Did Abby claim she speaks GREEK fluently?  
 B: No, ALBANIAN.  
 b.  $LF_A$  [did Abby claim [Greek]<sub>*i*</sub>  $\lambda x$ . [she speaks  $x_i$  fluently]]  
 $LF_E$  [[Albanian]  $\lambda x_i$  [Abby claimed she speaks  $x_i$  fluently]]

A final drawback of the LF parallelism theory, is that it leaves unexplained what I have called the landing site question (i.e. why EM must land next to the ellipsis site), illustrated by the contrast between (51a) and (51b).

- (51) a. John has travelled to Spain and Bill has [to India]<sub>*i*</sub> [~~VP travelled  $t_i$~~ ].  
 b. \* John has travelled to Spain and Bill [to India]<sub>*i*</sub> has [~~VP travelled  $t_i$~~ ].

Under the LF parallelism theory, the landing site of EM is constrained by the LF position of the correlate. The answer to the question why the remnant lands next to the ellipsis site, is thus that it is a coincidence: the correlate happens to be in an identical position in the non-elliptical antecedent. It seems the LF parallelism theory overlooks a generalization here. I provide an answer to the landing site question in section 4.2.

To sum up, Thoms' (2013) theory of EM in terms of LF parallelism suffers from conceptual as well as empirical problems. Moreover, I showed that it fails to meet the requirements on a theory of EM (cf. (47)). In the next section, I explore an alternative view on EM, retaining the idea that EM involves leftward movement.

## 4 EM and ordering statements

In this section, I answer the ellipsis question and the landing site question. I will implement my proposal in Fox and Pesetsky's theory of Spell-out Domains.

### 4.1 Answering the ellipsis question

Fox and Pesetsky (2005) (henceforth F&P) present a theory of Spell-out Domains that is based on Chomsky's (2000; 2001) notion of *phases* (vP and CP). However, F&P's theory differs from Chomsky's in how cyclicity is derived in that it does not postulate 'phase impenetrability'.<sup>7</sup> Under F&P's conception, it is not the uninterpretability of features that drives movement of a phrase out of a Spell-out Domain

<sup>6</sup>Thoms (to appear) solves this issue by arguing that focused correlates in clausal ellipsis can also take scope by in situ choice function mechanisms. Since this addition does not solve any of the other problems of the LF parallelism theory, I refrain from discussing it here.

<sup>7</sup>Under Chomsky's conception, phasal domains are sent off to the PF and LF interfaces at the point of Spell-out. After sending a phase off to the interfaces, it is impenetrable for further syntactic computations. The main consequence of phase impenetrability is that any uninterpretable feature must have vacated the Spell-out Domain prior to Spell-out. If it does not, this unvalued uninterpretable feature will be unable to become valued and consequently cause the derivation to crash at (one of) the interfaces.

(and thus cyclic movement), but considerations of linear precedence. At the point of Spell-out, Linearization applies. I give F&P's definitions of Spell-out Domain and Linearization in (52).

(52) **Spell-out Domains**

- a. Spell-out Domain: domains whose construction is immediately followed by linearization (roughly Chomsky's notion of *phases* (CP, DP, vP/VP)).
- b. Linearization adds new ordering statements to the set of statements established by the linearization of previous Spell-out Domains.

Linearization adds ordering statements to an ordering table. What drives cyclic movement is that, once a phrase  $\alpha$  gets ordered, say after another phrase  $\beta$ ,  $\alpha$  cannot come to precede  $\beta$  in a later stage of the derivation.  $\alpha$  can only come to precede  $\beta$  by moving across  $\beta$  prior to Spell-out (i.e. prior to the calculation of ordering statements). To illustrate how this derives cyclicity, consider the following schematic scenario's.

The Spell-out Domain D in scenario 1 in (53) contains X, Y and Z. At the point of Spell-out, Linearization applies and ordering statements of the elements within D are added to an ordering table, see (53a). Upon Spell-out of the next Spell-out Domain D', Linearization adds new ordering statements to the ordering table. Note that X has moved from an edge position of D to a position within D'. This is possible, since X preceded all other elements within D.

(53) **Scenario 1 (Movement from an edge position)**

- a.  $[_D \text{ X Y Z }]$   
*Ordering table:*  
 $X < Y, X < Z$   
 $Y < Z$
- b.  $[_{D'} \dots \overset{\text{X}}{\uparrow} \text{ W } [_D \text{ t}_X \text{ Y Z } ]]$   
*Updated ordering table:*  
 $X < W, X < Y, X < Z$   
 $W < Y, W < Z$   
 $Y < Z$

(54) **Scenario 2 (Movement from non-edge position)**

- a.  $[_D \text{ X Y Z }]$   
*Ordering table:*  
 $X < Y, X < Z$   
 $Y < Z$
- b. \*  $[_{D'} \dots \overset{\text{Y}}{\uparrow} \text{ W } [_D \text{ X t}_Y \text{ Z } ]]$   
*! Updated ordering table:*  
 $Y < W, \mathbf{Y < X}, Y < Z$   
 $W < X, W < Z$   
 $\mathbf{X < Y}, X < Z$

Scenario 2 in (54) illustrates what happens when a phrase moves out of a Spell-out Domain when it does not precede all other elements within that Spell-out Domain. Upon Spell-out of D in (54a), Y is ordered before Z and after X (i.e.  $X < Y$ ,  $Y < Z$ ). In (54b), Y has moved out of D into D' crossing W. Upon Spell-out of D', the ordering statements  $Y < W$  and  $Y < X$  are added to the ordering table. At this point, the ordering table contains an ordering contradiction, namely  $X < Y$  and  $Y < X$ .<sup>8</sup> That is, Y is required to both precede and follow X. Subsequently, this derivation will crash at the PF interface.

Cyclicity follows in F&P's theory, as a consequence of the fact that the linear ordering of syntactic units is fixed at the point of Spell-out. If a phrase must check features in a higher Spell-out Domain, the only way for it to get there, is to move via the edge of its current Spell-out Domain.

F&P argue that ellipsis makes non-edge movement possible. They submit that ellipsis eliminates all ordering statements making reference to elements contained in the ellipsis site. Consider scenario 3 in (55), which differs from scenario 2 in (54) in that D gets elided. The ordering conflict ( $X < Y$ ,  $Y < X$ ) caused by movement of Y in (55b) is resolved by ellipsis when ellipsis applies in (55c). Ellipsis eliminates all ordering statements that make reference to elements within the ellipsis site. In this case, the ellipsis site contains X and Z. Hence, all ordering statements that make reference to X and Z will be eliminated. Since this includes the ordering statements  $X < Y$  and  $Y < X$ , the ordering conflict that caused the derivation in scenario 2 to crash, is resolved.

- (55)        **Scenario 3 (Movement from non-edge position (i.e. scenario 2) followed by ellipsis)**
- a.         $[_D \text{ X Y Z }]$   
*Ordering table:*  
 $X < Y, X < Z$   
 $Y < Z$
- b.         $[_{D'} \dots \overset{Y}{\uparrow} W [_D \text{ X } t_Y \text{ Z } ]]$   
*! Updated ordering table:*  
 $Y < W, \mathbf{Y < X}, Y < Z, Y < Z$   
 $W < X, W < Z$   
 $\mathbf{X < Y}, X < Z$
- c.         $[_{D'} \dots Y W [_D \text{ X } t_Y \text{ Z } ]]$   
*Updated ordering table:*  
 $Y < W, \mathbf{Y < X}, \mathbf{Y < Z}, \mathbf{Y < Z}$   
 $\mathbf{W < X}, \mathbf{W < Z}$   
 $\mathbf{X < Y}, \mathbf{X < Z}$

Let's now consider an empirical illustration of scenarios 2 and 3. Takahashi (2004) shows that F&P's theory of Spell-out Domains, plus the assumption that ellipsis

<sup>8</sup>I indicate an ordering table that creates an ordering conflict with !. This indicates that there is an ordering conflict, but it does not mean that the derivation will ultimately turn out to be ungrammatical.

eliminates ordering statements, explains why EM is possible in Pseudogapping. Consider first the case in (56), where no VP ellipsis applies (this example corresponds to scenario 2 in (54)). Within the VP Spell-out Domain, we have the ordering statement *travelled*<*to India*.<sup>9</sup> When *to India* moves to a position outside the VP, see (56b), this PP comes to precede *travelled*. Upon spell-out of the TP Spell-out Domain, the ordering statement *to India*<*travelled* is added to the ordering table, creating an ordering conflict, see the ordering table in (56b).

(56) \* (John has travelled to Spain and) Bill has [to India]<sub>i</sub> travelled t<sub>i</sub>.

a. [<sub>VP</sub> travelled to India].

*Ordering table VP Spell-out Domain:*

travelled < to India

b. **to India undergoes EM:**

[<sub>TP</sub> Bill has [to India]<sub>i</sub> [<sub>VP</sub> travelled t<sub>i</sub> ]].

! *Ordering table TP Spell-out Domain:*

Bill < has, Bill < to India, Bill < travelled

has < to India, has < travelled

**to India < travelled**

**travelled < to India**

The example in (57) illustrates scenario 3 in (55), with D as the VP. Ellipsis of the VP eliminates all the ordering statements that make reference to elements within the VP. Since the VP includes *travelled*, both ordering statements *travelled*<*to India* and *to India*<*travelled* are deleted from the ordering table. The ordering conflict is thus resolved by ellipsis and the derivation is grammatical. Note that it is crucial to stipulate that the movement of *to India* does not take place via the edge of the VP. If *to India* were to move to the edge of VP prior to spell-out of the VP, *to India* will not be stated to follow *travelled* at any point in the derivation. The prediction in that case is that the derivation without ellipsis would be grammatical as well, contrary to fact (cf. (51a)).

(57) (John has travelled to Spain and) Bill has [to India]<sub>i</sub> [~~<sub>VP</sub> travelled t<sub>i</sub>~~].

a. [<sub>VP</sub> travelled to India].

*Ordering table VP SOD:*

travelled < to India

b. **to India undergoes EM**

[<sub>TP</sub> Bill has [to India]<sub>i</sub> [<sub>VP</sub> travelled t<sub>i</sub> ]].

! *Ordering table TP SOD:*

Bill < has, Bill < to India, Bill < travelled

has < to India, has < travelled

**to India < travelled**

**travelled < to India**

<sup>9</sup>For convenience sake, I am abbreviating 'to<India' here as *to India*.

c. **VP ellipsis:**

$[_{TP} \text{ Bill has } [_{\text{to India}}]_i [_{VP} \text{ travelled } t_i ]]$ .

*Updated ordering table:*

Bill < has, Bill < to India, ~~Bill < travelled~~

has < to India, ~~has < travelled~~

**to India < travelled**

**travelled < to India**

At this point, we have answered the ellipsis question: EM is possible only in ellipsis contexts, because in ellipsis contexts the conflicting ordering statements induced by EM can be deleted, a form of repair by deletion.

## 4.2 Answering the landing site question

Next, I address the landing site question. The question is, why does *to India* have to land next to the ellipsis site in (51a)? That is, why is (51b) ungrammatical? As it stands, there is nothing that leads us to suspect this example to be ungrammatical. Consider the derivation in (58a-c). At the point of spell-out of the VP, *to India* is not ordered with respect to *has*, because *has* has not been merged in the structure yet. At the point of spell-out of the TP, *to India* has moved over *has*, leading to the ordering statement *to India < has*. The only ordering conflict, namely *travelled < to India - to India < travelled*, is resolved by VP ellipsis as before.

(58) \* John has travelled to Spain and Bill to India has.

a.  $[_{VP} \text{ travelled to India}]$ .

*Ordering table VP Spell-out Domain:*

travelled < to India

b. ***to India* undergoes EM**

$[_{TP} \text{ Bill } [_{\text{to India}}]_i \text{ has } [_{VP} \text{ travelled } t_i ]]$ .

! *Ordering table TP Spell-out Domain:*

Bill < to India, Bill < has, Bill < travelled

to India < has, **to India < travelled**

has < travelled

**travelled < to India**

c. **VP ellipsis:**

$[_{TP} \text{ Bill } [_{\text{to India}}]_i \text{ has } [_{VP} \text{ travelled } t_i ]]$ .

*Updated ordering table:*

Bill < to India, Bill < has, ~~Bill < travelled~~

to India < has, **to India < travelled**

~~has < travelled~~

**travelled < to India**

As a solution to the landing site problem, I propose that EM is counter-cyclic. After Spell-out, a phrase may undergo EM and 'tuck-in' somewhere in the structure. With

F&P's theory in place, we can actually explain why this tuck-in position must be the position right next to the ellipsis site. Consider the schematic derivation in (59). In (59a), the Spell-out Domain D' has been spelled out and ordering statements have been calculated for it. In (59b), Z moves counter-cyclically to a position next to D, which contains Y. Consequently, a new ordering statement, namely Z<Y is added to the ordering table. This ordering statement is in conflict with the ordering statement Y<Z. When D is deleted in (59c), all ordering statements that make reference to the elements within D are eliminated. This includes the ordering conflict Z<Y-Y<Z. The example in (60) is similar to (59). The difference is that in (60), Z moves out of YP to a position *above* X. This adds to the ordering table in (60a), the ordering statements Z<Y and Z<X, creating the conflicts Z<Y-Y<Z and Z<X-X<Z. The first of these ordering conflicts is resolved by ellipsis. The second, on the other hand, is not eliminated by ellipsis. The reason is that neither Z nor X are part of the ellipsis site. Hence, ordering statements containing both X and Z will not be eliminated.

(59) Illustration: EM lands next to the ellipsis site.

- a.  $[_{D'} X [_D Y Z]]$   
*Ordering table:*  
 $X < Y, X < Z$   
 $Y < Z$
- b.  $[_{D'} X Z [_D Y t_z]]$   
*! Updated ordering table:*  
 $X < Y, X < Z$   
 $\mathbf{Y < Z}$   
 $\mathbf{Z < Y}$
- c. Ellipsis of D:  
 $[_{D'} X Z [_D Y t_z]]$   
*Updated ordering table:*  
 ~~$X < Y, X < Z$~~   
 $\mathbf{Y < Z}$   
 $\mathbf{Z < Y}$

(60) Illustration: EM lands higher than right next to the ellipsis site.

- a.  $[_{D'} X [_D Y Z]]$   
*Ordering table:*  
 $X < Y, X < Z$   
 $Y < Z$
- b.  $[_{D'} Z X [_D Y t_z]]$   
*! Updated ordering table:*  
 $X < Y, \mathbf{X < Z}$   
 $\mathbf{Y < Z}$   
 $\mathbf{Z < X, Z < Y}$

- c. Ellipsis of D:  
 $[_D, X Z [_D Y t_Z]]$   
 ! Updated ordering table:  
~~X~~ < Y, X < Z  
~~Y~~ < Z  
 Z < X, Z < Y

To see how this proposal works for Pseudogapping, consider the derivation in (61) for a standard case of Pseudogapping. After construction of the TP Spell-out Domain (cf. (61a,b)), *to India* moves to a VP-external position. In this case this adds the ordering statement *to India*<*travelled* to the ordering table giving rise to the ordering conflict *to India*<*travelled* - *travelled*<*to India*. As before, this ordering conflict is eliminated by VP ellipsis.

(61) John has travelled to Spain and Bill has to India.

- a.  $[_{VP} \text{travelled to India}]$ .  
*Ordering table VP Spell-out Domain:*  
 travelled < to India
- b.  $[_{TP} \text{Bill has } [_{VP} \text{travelled to India}]]$ .  
*Ordering table TP Spell-out Domain:*  
 Bill < has, Bill < travelled, Bill < to India  
 has < travelled, has < to India  
 travelled < to India
- c. **Countercyclic EM of to India:**  
 $[_{TP} \text{Bill has } [_{\text{to India}}]_i [_{VP} \text{travelled } t_i ]]$ .  
 ! Updated ordering table:  
 Bill < has, Bill < travelled, Bill < to India  
 has < travelled, has < to India  
**travelled < to India**  
**to India < travelled**
- d. **VP ellipsis:**  
 $[_{TP} \text{Bill has } [_{\text{to India}}]_i [_{VP} \text{travelled } t_i ]]$ .  
*Updated ordering table:*  
 Bill < has, ~~Bill~~ < ~~travelled~~, Bill < to India  
~~has~~ < ~~travelled~~, has < to India  
**travelled < to India**  
**to India < travelled**

Now consider the derivation in (62), where, after spell-out of the TP Spell-out Domain, *to India* moves counter-cyclically and tucks in between *Bill* and *has*. After this movement, the ordering statement *to India*<*has* is added to the ordering table. This ordering statement conflicts with the statement *has*<*to India*. Since neither *has* nor *to India* are in the VP, the ordering conflict is not resolved by VP ellipsis.

(62) \* John has travelled to Spain and Bill to India has.

a. [<sub>VP</sub> travelled to India].

*Ordering table VP Spell-out Domain:*

travelled < to India

b. [<sub>TP</sub> Bill has [<sub>VP</sub> travelled to India]].

*Ordering table TP Spell-out Domain:*

Bill < has, Bill < travelled, Bill < to India

has < travelled, has < to India

travelled < to India

c. **Countercyclic EM of to India**

[<sub>TP</sub> Bill [<sub>to India</sub>]<sub>i</sub> has [<sub>VP</sub> travelled t<sub>i</sub>]].

! *Updated ordering table:*

Bill < has, Bill < travelled, Bill < to India

**to India < has, to India < travelled, has < travelled, has < to India**

**travelled < to India**

d. **VP ellipsis:**

[<sub>TP</sub> Bill [<sub>to India</sub>]<sub>i</sub> has [<sub>VP</sub> ~~travelled t<sub>i</sub>~~]].

! *Updated ordering table:*

Bill < to India, Bill < has, ~~Bill < travelled~~

**to India < has, ~~to India < travelled~~, has < ~~travelled~~, has < to India**

**~~travelled < to India~~**

To sum up this section, I have shown that F&P's theory provides us with an answer to the landing site question if EM is counter-cyclic. In that case, the answer to the landing site question is that EM can only target a position next to the ellipsis site, because if EM lands any higher, it will induce an ordering conflict with the non-elliptical material it crosses. In the next section, I show that the counter-cyclic nature of EM correctly predicts that there are cross-linguistic differences with regard to EM.

### 4.3 A note on reordering of remnants

If EM takes place counter-cyclically, it is predicted that the 'regular syntax' (i.e. the syntax that is incrementally build by feature driven merge, in accordance with the Extension Condition) feeds EM. Since languages show differences in their syntax, the prediction is that there is cross-linguistic variation when it comes to movement under ellipsis. This variation should not be due to EM, as no reordering between remnants is possible under EM, but due to the differences in the regular syntax of these languages. Any reordering must have been established in the regular syntax, prior to EM. To see this, consider the following schematic derivations. In (63), XP and ZP reorder in the regular syntax. In (63a), XP moves over ZP within D. This results in an ordering statement XP < ZP. In (63b), ZP undergoes EM to a position below XP. This does not add a new ordering statement to the ordering table. Ellipsis



subsequently targets D and the ordering statement  $XP < ZP$  determines that we end up with a string  $XP ZP$ . In (64), reordering happens by EM. In (64a), the ordering table of D' contains  $ZP < XP$ . When EM takes place of ZP in (64b), an ordering statement  $XP < ZP$  (and also  $XP < Y$ ) is added to the ordering table. This gives rise to an ordering conflict  $XP < ZP - ZP < XP$ . Because neither XP nor ZP are part of the ellipsis site, this conflict is not resolved by ellipsis, since ellipsis only eliminates ordering statements which contain elements that are in the ellipsis site.

(63) Remnants XP and ZP reorder prior to EM.

a. **XP moves over ZP within D': no ordering conflict:**

$[_{D'} XP [_D t_{xp} Y ZP t_{xp}]]$

*Ordering table:*

$XP < Y, XP < ZP$

$Y < ZP$

b. **EM of ZP under XP:**

$[_{D'} XP ZP [_D t_{xp} Y t_{zp} t_{xp}]]$

*Updated ordering table:*

$XP < Y, XP < ZP$

**$Y < ZP ZP < Y$**

c. **Ellipsis of D:**

$[_{D'} XP ZP [_D t_{xp} Y t_{zp} t_{xp}]]$

*Updated ordering table:*

~~$XP < Y, XP < ZP$~~

**$Y < ZP ZP < Y$**

(64) Remnants XP and ZP reorder by EM.

a.  $[_{D'} ZP [_D Y XP]]$

*Ordering table:*

$Y < XP$

$ZP < Y, ZP < XP$

b. **EM of XP resulting in reordering of XP and ZP:**

$[_{D'} XP ZP [_D Y t_{xp}]]$

! *Updated ordering table:*

**$XP < ZP, XP < Y$**

**$ZP < Y, ZP < XP$**

**$Y < XP$**

c. **Ellipsis of D:**

$[_{D'} XP ZP [_D Y t_{xp}]]$

! *Updated ordering table:*

**$XP < ZP, XP < Y$**

**$ZP < Y, ZP < XP$**

**$Y < XP$**

The prediction that reordering under ellipsis is only possible when the reordering is possible in non-elliptical contexts is borne out cross-linguistically. Let's first consider English. Contrary to common assumptions (see e.g. Hartmann, 2000), Gapping does not require strong syntactic parallelism (Abeillé et al., 2014). As first noted by Sag et al. (1985) for English, the order of remnants in the ellipsis clause does not necessarily parallel that of their correlates in the antecedent, see (65).

- (65) a. A policeman walked in at 11, and at 12, a fireman walked in.  
 b. A policeman walked in at 11, and at 12, a fireman. (Sag et al., 1985)

(63) and (64) showed that remnants cannot reorder by EM. Any reordering of remnants must be established prior to EM (i.e. must be allowed by regular syntactic movement). This explains why (66b) is ungrammatical. (66a) shows that the reordering of *rice* and *Bill* is not possible in the regular syntax. Consequently, this reordering is not possible under ellipsis either. This is so, since EM, which is only possible under ellipsis, cannot reorder *rice* and *Bill*. This is illustrated in (67).

- (66) a. \* John eats macaroni and rice, Bill eats.  
 b. \* John eats macaroni and rice, Bill.

(67) Remnants *Bill* and *rice* reorder by EM.

- a. [TP Bill [VP eats rice ]]  
*Ordering table:*  
 Bill < eats, Bill < rice  
 eats < rice
- b. **reordering of *Bill* and *rice* by EM of *rice*:**  
 [TP rice<sub>i</sub> Bill [VP eats t<sub>i</sub> ]]  
 ! *Updated ordering table:*  
**rice < Bill, rice < eats**  
 Bill < eats, **Bill < rice**  
**eats < rice**
- c. **Ellipsis of VP:**  
 [TP rice Bill [~~VP~~ eats t<sub>r</sub> ]]  
 ! *Updated ordering table:*  
**rice < Bill, rice < eats**  
 Bill < eats, **Bill < rice**  
**eats < rice**

As Abeillé et al. (2014) point out, languages with free word-order, like Romanian, allow remnants to be ordered freely under ellipsis. In this language, any of the word-orders possible in the regular syntax is also possible under ellipsis.

- (68) a. Dimineața (eu) spăl (eu) vesela (eu), iar seara  
 in-the-morning (I) wash (I) the-dishes (I) and in-the-evening  
 Ioana.  
 Ioana
- b. Eu spăl vesela dimineața, iar seara Ioana.  
 I wash the-dishes in-the-morning and in-the-evening Ioana
- c. Eu spăl vesela dimineața, iar Ioana Seara.  
 I wash the-dishes in-the-morning and Ioana in-the-evening
- d. Dimineața spăl eu vesela, iar Ioana Seara.  
 in-the-morning wash I the-dishes and Ioana in-the-evening  
 'I wash the dishes in the morning, and Ioana in the evening.'
- (Abeillé et al., 2014)

To sum up this section, reordering of remnants under ellipsis is only possible when this reordering of remnants is possible independent of ellipsis. The reason is that EM cannot reorder remnants, because this reordering leads to contradictory ordering statements. Note that this only follows from a theory of EM if EM takes place counter-cyclically. The ordering conflict that arises from reordering arises because an ordering statement established in the 'EM cycle' contradicts an ordering statement in the 'regular syntax cycle'. If EM did not take place counter-cyclically, it is unclear why reordering is not possible in (66b) (repeated here as (69c)), as it should pattern with (69b) in that case.

- (69) a. John eats macaroni and Bill [<sub>VP</sub> eats rice]
- b. **EM of rice below Bill**  
 John eats macaroni and Bill rice<sub>i</sub> [<sub>VP</sub> eats t<sub>i</sub>]
- c. \* **EM of rice above Bill**  
 John eats macaroni and rice<sub>i</sub>, Bill [<sub>VP</sub> eats t<sub>i</sub>]

## 5 Answering the locality question

In this section, I consider the locality of EM. In section 5.2, I discuss ellipsis types which leave a single remnant. In section 5.3, I discuss ellipsis types which leave multiple remnants.

### 5.1 Exceptional movement is finite clause bound

As already anticipated in section 2, EM is very local. In that section, I also hypothesized that there is a difference between exceptional and non-exceptional movement with regard to locality. In the ellipsis types in which the remnant is able to escape ellipsis by non-exceptional movement, the remnant may cross a finite clause boundary. In the ellipsis types in which the remnant escapes ellipsis by EM, the remnant cannot cross a finite clause boundary. This is shown in the following examples. For the first remnant in multiple remnant constructions, the locality restriction is hard to test independent of the second remnant. Like above, I assume

that initial remnants move like they do in single remnant constructions. This is in line with the theory of EM sketched so far, as the assumption has been that the regular syntax provides the input for ellipsis/EM.

- (70) **Sluicing - Non-exceptional movement**  
 I admitted I saw someone, but  
 I forgot [who]<sub>i</sub> [~~I admitted~~ [~~I saw t<sub>i</sub>~~]]
- (71) **Multiple Sluicing - Exceptional movement**  
 One of the students said that Mary spoke to one of the professors, but  
 I don't know which student [to which professor]<sub>i</sub> [~~spoke t<sub>i</sub>~~]
- (72) **Fragments - Non-exceptional movement**  
 A: Who did you admit you saw?  
 B: [Bill]<sub>i</sub> [~~I admitted~~ [~~I saw t<sub>i</sub>~~]]
- (73) **Multiple Fragments - Exceptional movement**  
 A: Who said you bought what?  
 \* B: John [a book]<sub>i</sub> [~~said~~ [~~I bought t<sub>i</sub>~~]] (and Mary a pencil)
- (74) **Stripping - Subject remnant: No EM**  
 a. John claimed that birds can fly, and [bats]<sub>i</sub>, John also claimed can fly t<sub>i</sub>.  
 b. John claimed that birds can fly at the conference, and also [bats]<sub>i</sub> [~~John claimed~~ [~~t<sub>i</sub> can fly at the conference~~]]
- (75) **Stripping - Direct object remnant: No EM**  
 a. Lucie didn't write that bees make jam, but [honey]<sub>i</sub>, Lucie wrote (that) bees make t<sub>i</sub>.  
 b. Lucie didn't write that bees make jam in her book, but [honey]<sub>i</sub> [~~Lucie wrote~~ [~~bees make t<sub>i</sub> in her book~~]]
- (76) **Gapping - Exceptional movement**  
 \* John thinks that Bill will see Susan and Harry [Mary]<sub>i</sub> [~~thinks~~ [~~that Bill will see t<sub>i</sub>~~]]
- (77) **Pseudogapping - Exceptional movement**  
 \* Kathy thinks Henry should study astronomy  
 but she doesn't [meteorology]<sub>i</sub> [~~think~~ [~~Henry should study t<sub>i</sub>~~]].

(78)

Ellipsis type in English		EM	Clause bound
Sluicing		X	X
Multiple Sluicing	1st remnant	X	X
	2nd remnant	✓	✓
Fragments		X	X
Multiple Fragments	1st remnant	X	X
	2nd remnant	✓	✓
English Stripping		X	X
Gapping	1st remnant	X	X
	2nd remnant	✓	✓
Pseudogapping		✓	✓

The conclusion to be drawn from this table is that EM is finite clause bound. In section 6, I provide a tentative explanation for why this is the case.

## 5.2 Ellipsis with a single remnant

Let's see how the fact that EM is finite clause bound together with F&P's theory accounts for the locality of remnants under ellipsis.

In F&P's theory of Spell-out Domains, spell-out of D only involves Linearization of the elements within D. This means that all Spell-out Domains remain accessible throughout the course of the derivation. Hence, the expectation is that counter-cyclic movement is not constrained by locality. In the previous section I showed that, contrary to expectation, this prediction is incorrect. Rather than unbounded, EM is finite clause bound. To illustrate this, consider first the case of Pseudogapping in (79). This example involves EM of *meteorology* to a position outside the VP headed by *want*.

- (79) Pseudogapping, local EM.
- a. Kathy wants to study astronomy, but she doesn't meteorology.
  - b. **Exceptional movement of *meteorology*:**  
 ... she doesn't [meteorology]<sub>i</sub> [VP want to study t<sub>i</sub> ]
  - c. **VP Ellipsis:**  
 ... she doesn't [meteorology]<sub>i</sub> [~~VP want to study t<sub>i</sub>~~]

Consider now the ungrammatical (80) again. In this example, *meteorology* moves out of the VP headed by *thinks*. The ungrammaticality of (80) must be due to the fact that EM of *meteorology* crosses a finite clause boundary, because there is no ordering conflict, since *meteorology* lands next to the ellipsis site (cf. section 4.2)

- (80) \* Kathy thinks Henry should study astronomy but she doesn't meteorology.
- a. **Exceptional movement of *meteorology* across finite clause boundary:**  
! ...she doesn't [meteorology]<sub>i</sub> [<sub>VP</sub> think [Henry should study *t<sub>i</sub>* ]]
- b. **VP ellipsis (can't save the day):**  
\* ...she doesn't [meteorology]<sub>i</sub> [<sub>VP</sub> think [~~Henry should study *t<sub>i</sub>*~~ ]]

The Fragments case in (81) involves movement of *Albanian* across a finite clause boundary. Recall, however, that the single remnant in Fragments is not an instance of EM, see (78) (cf. section 2). The input for ellipsis in (81b) is thus not a phrase marker with *Albanian* in its base position, but rather a phrase marker with *Albanian* in topicalized position, as indicated in (81a).

- (81) A: Did Abby claim she speaks GREEK fluently?  
B: No, ALBANIAN.
- a. **Topicalization of *Albanian*:**  
[Albanian]<sub>i</sub> [Abby claims [she speaks *t<sub>i</sub>* fluently]]
- b. **Ellipsis:**  
[Albanian]<sub>i</sub> [Abby claims [~~she speaks *t<sub>i</sub>* fluently~~]]

The data in (80) and (81) shows that a remnant *can* cross a finite clause boundary, but only if it does so via regular syntactic movement, not by EM. The cross-linguistic prediction, then, is that languages that allow for a particular type of movement, also allow for this movement under ellipsis. This prediction is borne out. Consider the example in (82) from Spanish (taken from Saab 2010). This example shows that Clitic Left Dislocation can feed ellipsis.<sup>10</sup> In languages lacking CLLD, such as English, the equivalent of (82a) in (83a) is ungrammatical, and so is the equivalent of the elliptical (82b) in (83b).

- (82) Yo no dije que desaprobaron a María  
I not said that failed.3PL ACC Mary
- a. y a Ana<sub>i</sub> tampoco [<sub>TP</sub> dijiste qua la<sub>i</sub> desaprobaron]  
and ACC Ana neither said.2SG that CL.ACC.3SG.F failed.3PL
- b. y a Ana<sub>i</sub> tampoco [~~<sub>TP</sub> dijiste qua la<sub>i</sub> desaprobaron~~]  
and ACC Ana neither
- (83) a. \* I did not say that Mary failed nor [Anna]<sub>i</sub> [did I say failed *t<sub>i</sub>* ]  
b. \* I did not say that Mary failed nor [Anna]<sub>i</sub> [~~did I say failed *t<sub>i</sub>*~~ ]

<sup>10</sup>I assume here that CLLD involves movement, an assumption that is not uncontested. The important point here, however, is that the regular syntax of a language feeds ellipsis and that EM is constrained. This point can be made regardless of the correct analysis of CLLD.

Note that the contrast between (82) and (83) is not predicted by the LF parallelism theory of EM (cf. section 3.2). In that theory, EM is not constrained in the syntax. What matters is that the variables in the antecedent and the ellipsis clause are bound from identical positions. Regardless of whether LF parallelism is satisfied in (82) and (83), the LFs of the antecedent and ellipsis site in English should pattern with those in Spanish. Given this, (82) and (83) should thus have the same grammaticality status, contrary to fact.

The Italian examples in (84)-(86) (Laura Migliori p.c.) illustrate the same point as the Spanish data above. These examples all involve CLLD. (85) and (86) involve CLLD from an adjunct island. As the b-cases show, Stripping is possible in Italian in cases where, according to the interpretation, the remnants seem to have extracted from an island context.

- (84) a. *Maria<sub>i</sub>, siamo contenti che tutti la<sub>i</sub>*  
 Mary be.1PL.PRES.IND happy.M.PL that everyone her.F.SG  
*amino*  
 love.3PL.PRES.SUBJ  
 'Mary, we are happy that everyone loves her.'
- b. *Siamo contenti che tutti amino Maria*  
 be.1PL.PRES.IND happy.M.PL. that everyone love.3PL.PRES.SUBJ Mary  
*e anche Susanna*  
 and also Susan  
 'We are happy that everyone loves Mary, and also Susan.'
- (85) a. *Gianni<sub>i</sub>, vado via se lui<sub>i</sub> arriva*  
 John go.1SG.PRES.IND away if he.M.SG arrive.3SG.PRES.IND  
 'John, I will leave if he arrives.'
- b. *Vado via se arriva Gianni, e anche Pietro*  
 go.1SG.PRES.IND away if arrive.3SG.PRES.IND John and also Peter  
 'I will leave if John arrives, and also Peter.'
- (86) a. *Gianni<sub>i</sub>, mi preparerò prima di parlar-gli<sub>i</sub>.*  
 John myself prepare.1SG.FUT.IND before of speak.INE.PRES-him.DAT  
 'To John, I will prepare myself before speaking to him.'
- b. *Mi preparerò prima di parlare a Gianni, e*  
 myself prepare.1SG.FUT.IND before of speak.INE.PRES to John and  
*anche a Pietro.*  
 also to Peter  
 'I will prepare myself before speaking to John, and also to Peter.'

I take it that the a-cases underlie the ellipsis in the b-cases. This analysis explains why the corresponding Stripping cases in English are ungrammatical, as shown in b-cases in (87)-(89). This is so, since the syntax of English does not allow for movement out of the islands in the non-elliptical a-cases in (87)-(89). These data again support the hypothesis that the regular syntax of a language feeds ellipsis and that EM under ellipsis is constrained.

- (87) a. \* Mary<sub>i</sub>, we are happy that everyone loves t<sub>i</sub>.  
 b. \* We are happy that everyone loves Mary, and also Susan.
- (88) a. \* John, I will leave if t<sub>i</sub> arrives.  
 b. \* I will leave if John arrives, and also Peter.
- (89) a. \* [To John]<sub>i</sub>, I will prepare myself before speaking t<sub>i</sub>.  
 b. \* I will prepare myself before speaking to John, and also to Peter.

### 5.3 Ellipsis with multiple remnants

I now turn to discuss ellipsis types with multiple remnants. Consider the Multiple Fragments example in (90). This example is derived by EM of *a book* to a position below *John*, as shown in the derivation of (90) in (90a-c).

- (90) A: Who bought what?  
 B: John the book, (and Mary the bicycle).
- a. **Build TP:**  
 [<sub>TP</sub> John bought the book]
- b. **EM of *the book*:**  
 [<sub>TP</sub> [John] [<sub>the book</sub>]<sub>i</sub> [<sub>T'</sub> bought t<sub>i</sub>]]]
- c. **Ellipsis:**  
 [<sub>TP</sub> [John] [<sub>the book</sub>]<sub>i</sub> [<sub>T'</sub> ~~bought t<sub>i</sub>~~]]]

Next, I consider a more complicated example of Multiple Fragments, which involves movement across a finite clause boundary, as in the example in (91).

- (91) A: Who said you bought what?  
 B: \*John the book (and Mary the bicycle).

There are two derivations to consider for (91). The first derivation is one in which *the book* undergoes EM across the finite clause boundary. I showed in the previous section that EM is not possible across a finite clause boundary. The derivation in (92) is thus ruled out due to a locality violation, as shown in (92b).

- (92) Multiple Fragments with non-local EM of second remnant.
- a. **Build matrix TP:**  
 [<sub>TP</sub> John said I bought the book]
- b. **EM of *the book* across a finite clause boundary, and EM of *John*:**  
 \* [<sub>TP</sub> [John]<sub>j</sub> [<sub>the book</sub>]<sub>i</sub> [<sub>T'</sub> t<sub>j</sub> said I bought t<sub>i</sub>]]]
- c. **Ellipsis:**  
 \* [<sub>TP</sub> [John]<sub>j</sub> [<sub>the book</sub>]<sub>i</sub> [<sub>T'</sub> ~~John said I bought t<sub>i</sub>~~]]]



The second possible derivation for (91) is one in which *the book* undergoes regular syntactic movement (i.e. topicalization) across the finite clause boundary, see (93). After building the matrix TP and topicalization of *the book*, the ordering table includes a statement *the book*<*John*. The next step is EM of *John* over *the book*, after which the ordering statement *John*<*the book* is added to the ordering table. At this point, there is an ordering conflict, namely *the book*<*John* - *John*<*the book*. This ordering conflict cannot be resolved by TP ellipsis, as neither *John* nor *the book* are included in the ellipsis site, see (93c).

(93) Multiple Fragments with non-local regular movement of second remnant.

a. **Build matrix TP plus topicalization of *the book*:**

$[_{TP} [\text{the book}]_i [_{TP} \text{John said I bought } t_i]]$

*Ordering table:*

the book < John, the book < said, the book < I, the book < bought

John < said, John < I, John < bought

said < I, said < bought

I < bought

b. **Exceptional movement of *John*:**

$[_{TP} [\text{John}]_j [_{TP} [\text{the book}]_i [_{TP} t_j \text{ said I bought } t_i]]]$

! *Updated ordering table:*

**the book** < **John**, the book < said, the book < I, the book < bought

**John** < **the book**, John < said, John < I, John < bought

said < I, said < bought

I < bought

c. **Ellipsis:**

$[_{TP} [\text{John}]_j [_{TP} [\text{the book}]_i [_{TP} t_j \text{ said I bought } t_i]]]$

! *Updated ordering table:*

**the book** < **John**, ~~the book~~ < ~~said~~, ~~the book~~ < ~~I~~, ~~the book~~ < ~~bought~~

**John** < **the book**, ~~John~~ < ~~said~~, ~~John~~ < ~~I~~, ~~John~~ < ~~bought~~

said < I, said < bought

I < bought

Just as with single remnant ellipsis types, we also find cross-linguistic variation with multiple remnant ellipsis. Serbo-Croatian has multiple *wh*-fronting. Importantly, a second *wh*-phrase can move over a finite clause boundary, see (94). As explained in section 4.2, my account predicts that the regular syntax of a language should feed ellipsis (possibly followed by an instance of EM). Serbo-Croatian shows that this prediction is borne out. A derivation with multiple *wh*-fronting in which the second *wh*-phrase moves over a finite clause boundary in the regular syntax, feeds Multiple Sluicing, see (94b).

- (94) a. Ko sta misli da je Petar pojeo?  
 who what thinks that is Petar eaten  
 ‘Who thinks that Petar ate what?’
- b. A. Neko misli da je Ivan nesto pojeo.  
 someone thinks that is Ivan something ate  
 ‘Someone thinks that Ivan ate something.’
- B. ? Pitam se [ko]<sub>i</sub> [sta]<sub>j</sub> [t<sub>i</sub> neko misli da is Ivan t<sub>j</sub> pojeo]  
 ask self who what  
 ‘I wonder who what.’ (Lasnik, 2013)

Russian is a multiple *wh*-fronting language. As shown in (95a), Russian allows multiple *wh*-fronting in a single clause. Russian differs, however, from Serbo-Croatian in that it does not allow multiple *wh*-fronting where the second *wh*-phrase is extracted across a finite clause boundary, see (95b). As correctly predicted, my account of EM in which EM is clause bound correctly predicts that Multiple Sluicing is fine when the source is (95a), but not when the source is (95b), see (96).

- (95) a. Kto-to chto-to sjel, no ja ne znaju kto chto sjel  
 someone something ate but I not know who what ate  
 ‘Someone ate something, but I don’t know who ate what.’
- b. \* Kto-to dumajet chto Petja chto-to sjel, no ja ne znaju kto  
 someone thinks that Peter something ate but I not know who  
 chto dumajet cho Petja sjel  
 what thinks COMP Peter ate  
 (Int.) ‘Someone thinks Peter has eaten something, but I don’t know  
 who thinks Peter has eaten what.’ (Lena Karvovskaya, p.c.)
- (96) a. Kto-to chto-to sjel, no ja ne znaju kto chto  
 someone something ate but I not know who what
- b. \* Kto-to dumajet chto Petja chto-to sjel, no ja ne znaju kto  
 someone thinks that Peter something ate but I not know who  
 chto  
 what (Lena Karvovskaya, p.c.)

In a language which lacks multiple *wh*-fronting, such as English, cases like (94a) are ungrammatical. An example is given in (97a). As shown in (97b), the corresponding Multiple Sluicing case is ungrammatical, as well. The reason is that the second *wh*-phrase cannot cross the finite clause boundary in the regular syntax (cf. (97a)), nor can it move over this finite clause boundary by EM, because that would violate the locality condition on EM that it cannot apply across a finite clause boundary.

- (97) a. \* One of the students said that Mary spoke to one of the professors, but  
 I don’t know [which student]<sub>i</sub> [to which professor]<sub>j</sub> [ t<sub>i</sub> said that Mary  
 spoke t<sub>j</sub> ]
- b. \* One of the students said that Mary spoke to one of the professors, but  
 I don’t know [which student]<sub>i</sub> [to which professor]<sub>j</sub> [t<sub>i</sub> said that Mary  
 spoke t<sub>j</sub>] (Lasnik, 2013)

To sum up this section, I have shown that the answer to the locality question is that EM is finite clause bound. This means that any appearance to the contrary must involve regular syntactic movement, potentially feeding an additional instance of EM. I have also shown that the hypothesis that EM is finite clause bound correctly predicts that there is cross-linguistic variation as to what is possible under ellipsis regarding reordering and locality (a prediction that is not made by the rightward movement accounts in section 3.1 nor by the LF parallelism theory of EM in section 3.2).

## 6 Answering the trigger question

In the previous sections, I have shown that EM and its properties can be accounted for in Fox and Pesetsky's (2005) theory of Spell-out. Two ingredients were crucial in accounting for all of EM's properties. The first ingredient is that EM is counter-cyclic and the second is that EM is finite clause bound. In this section, I account for why EM has these properties. I propose that EM is an interface movement in the sense of Reinhart (2006). Below, I first discuss the motivation behind interface movement.

### 6.1 Interface movement

It is important to realize that it is unlikely that EM is driven by features. Chomsky's (1995) Minimalist Program strives for a theory in which the computational system (i.e. syntax, henceforth CS) is a mechanical system driven by the feature specification of lexical items, such as the need to value  $\phi$  or Case features. Valuation of features is necessary for these features to be legible to the interface. This hypothesis has several consequences. First, there is no room for optionality in such a system. This is so, because for any given numeration  $N$ , the CS can only give one output  $O$ . In other words, the CS is deterministic. Second, the hypothesis that the CS involves a blind mechanical procedure, means that the interfaces cannot be inspected during it. A direct consequence of the postulation of a purely mechanical CS, is that every property of language must be encoded in the lexical items. However, as Reinhart (2006) points out, if the properties encoded directly in the lexicon do not, in fact, belong there, we are heading for a dead end. Reinhart argues extensively that there are phenomena that better not be encoded directly in the CS. I consider one such phenomenon in detail.

Quantifier Raising (QR) is a phenomenon which is problematic for the Minimalist Program for at least two reasons. First, QR is optional and second, QR is not feature driven. Reinhart points out that, although it is possible to encode QR in the CS by postulating a QR-feature (cf. Szabolcsi, 1997; Beghelli and Stowell, 1997), this is against the spirit of the Minimalist Program, as there is no morphological evidence for such a feature. Fox (2000) presents a view of QR, which does not face these problems, though at the cost of deviating from a strict Minimalist theory in that it allows for some consultation of the interfaces.

Sag (1976) and Williams (1977) note that there is a contrast between (98a) and (98b).

- (98) a. A doctor will examine every patient. ( $\exists < \forall, \forall < \exists$ )  
 b. A doctor will examine every patient, and Lucie will too. ( $\exists < \forall, * \forall < \exists$ )

Clearly, VPE is the cause for the contrast in (98). Importantly, Hirschbühler (1982) points out that the wide scope reading of the universal is possible in (99). Crucially, (99) also involves VPE.

- (99) An American flag was hanging in front of every building and a Canadian flag was too.

Fox (2000) presents the following account for the data in (98)-(99). Fox's solution is based on the notion of LF parallelism, repeated here from (42).

- (100) **LF parallelism (Fox and Lasnik, 2003):**  
 Variables in the antecedent A and the elliptical clause E must be bound from parallel positions.

The representation of (99) is given in (101). In both conjuncts, the universal quantifier binds its trace/variable from the same position.

- (101) [every building]<sub>i</sub> [an American flag was [<sub>VP</sub> hanging in front of t<sub>i</sub>]] and  
 [every building]<sub>i</sub> [a Canadian flag was [<sub>VP</sub> hanging in front of t<sub>i</sub>]] too.

If QR applies optionally, then it should be possible for (98b) to receive a similar representation as (101). To rule out wide scope in (98b), Fox hypothesizes that QR is not optional, but rather, it can only apply when its application results in a semantically distinct scope construal. Under this view, the LF representation for the wide scope construal of (98b) is as in (102).

- (102) [every patient]<sub>i</sub> [a doctor will [<sub>VP</sub> examine t<sub>i</sub>]] and  
 [Lucie will [<sub>VP</sub> examine every patient]] too.

If QR does not apply freely, but must have an effect on output, QR cannot apply in the second conjunct in (102). The reason is that QR of *every patient* over *Lucie* will not yield an interpretation that differs from the narrow scope construal with the universal quantifier in situ. With these assumptions, then, it is clear why wide scope in the first conjunct in (98b) is impossible. The reason is that the wide scope construal as represented in (102) violates LF parallelism: a universal quantifier binds a variable in a TP-adjunction position in the antecedent, but there is no parallel variable binding in the elliptical conjunct. The facts in (98)-(102) strongly suggest that QR does not apply optionally, but only when movement derives a semantically distinct scope construal.

Even though QR is not optional, it can still not be directly encoded in the CS without further assumptions. An important insight deducible from Fox's theory, is that whether or not QR applies or not is not a matter of feature checking. Rather,

to determine whether or not QR can apply, the interface must be consulted to see whether QR has an effect on interpretation. Consulting the interface, however, is, as I mentioned, not possible in a purely deterministic conception of the CS. The solution to this problem proposed by Golan (1993) and Reinhart (1993), is to allow for at least some consultation of the interface. As Reinhart (2006) puts it, intuitively, the idea behind interface economy is that, ‘in actual human practice, deriving sentences is not an activity motivated just by a compulsion to check features, but speakers use their innate tools to express ideas, or reach other interface goals.’ In the case of QR, the ‘interface goal’, is obtaining a distinct interpretation. Fox (2000) formally implements this intuition into the definition of Reference Set: the set out of which interface economy selects the most economical derivation (this set includes only derivations derived from the same numeration). The line explored in Reinhart (2006) is that considerations of economy apply at the interface, and not in the CS. If correct, this means that any operation driven by interface goals will follow the derivation in the CS. Although Reinhart doesn’t go this far, this view actually explains some of the peculiarities of QR. As Bianchi and Chesi (2010) point out: ‘With regard to the current definition of MOVE, QR remains exceptional [...]’ They note that QR is not feature driven, is counter-cyclic and is finite clause bound (cf. May, 1985). The first two of these properties fall out immediately from the system sketched above. QR is not feature driven, because it takes place at the interface (not in the CS), where it is driven by interface goals. Because QR takes place at the interface, it takes the output of the CS as its input, hence its counter-cyclicity. Its finite clause boundedness can be accounted for if finite CPs are phases. Under this view, finite CPs would be shipped off from the CS to the interface. The fact that interface operations are confined to finite clauses, follows from the fact that it receives CPs as input. Note that, under the view that vPs are phases, too, there is no one-to-one correspondance between what are phases for in CS and what are phases at the interface. In essence, this would mean that we need two different notions of phases. Since we currently have a very poor understanding of what phases are (cf. Boeckx and Grohmann, 2007), I will not enter into an elaborate discussion of phases. I do note, however, that if the view outlined here is on the right track, it provides an argument for taking CPs, and only CPs, as phases.

The view of interface movement just sketched has an important consequence for our understanding of reference sets. Under the view just sketched, a reference set contains an output of the CS, call it  $\alpha$ , plus a set of derivations which differ from  $\alpha$  only in that they involve an instance of interface movement. This picture of reference sets is significantly less complex than the earlier picture where reference sets (given a numeration) contain a set of pairs of possible derivations and interpretations. Under the current view of reference sets, economy becomes a matter of whether performing an operation on the output of the CS satisfies an interface goal.

## 6.2 EM as an interface movement

I now return to EM. I propose that EM is also a movement driven by interface needs. Just like QR, EM is not feature driven, is counter-cyclic and is finite clause bound. Setting aside the last property, the first two properties follow immediately under the view that EM is driven by interface goals, as just explained for QR. If EM is driven by interface goals, the question, of course, is what this interface goal is. In other words, what need of the interface is satisfied when EM applies in the output of the CS? I propose that EM is licensed by the interface goal of recoverability. The effect of EM is that the moved phrase is taken out of the background (i.e. the material that is given). This sets up a new/given-partition that ellipsis subsequently takes as its input.

There is good reason to believe that something along these lines is on the right track. As is well-known, only given material can be targeted by ellipsis. The standard view is that only given material can elide because given material is recoverable from the context. This contrasts with focused material, which is new information and is hence not recoverable from the context (cf. Nakao, 2008). The idea is that, if focused phrases cannot undergo ellipsis because their content is not recoverable, EM must take place to ensure that all syntactic units with semantic content are recoverable in an elliptical expression. This hypothesis predicts that if recoverability is not at stake, EM is ruled out by interface economy. In other words, EM of  $\alpha$  is only licensed when  $\alpha$  is not given. This hypothesis provides an explanation for the well-known restriction on remnants of ellipsis that they be focused. (103), for example, is ungrammatical under my proposal, because *a banana* moves out of the ellipsis site by EM in violation of interface economy. Interface economy dictates that EM can only take place when the derivation without EM would give rise to an irrecoverable instance of ellipsis, which is not the case in (103), as *a banana* is given in the antecedent.

(103) \* John eats a banana and [Bill]<sub>i</sub> [a banana]<sub>j</sub> [~~t<sub>i</sub> eats t<sub>j</sub>~~], too.

We have seen that EM and QR share a set of properties (namely, non-feature driven, counter-cyclic and clause-bound) and that this can be explained if both are taken as instances of interface movement. Further support for the idea that EM and QR are both instantiations of the same type of movement (though not necessarily interface movement) is that both are subject to the same locality restrictions. The examples in (104)-(106) (taken from Thoms (2013)) show that both EM and QR are possible out of a control complement (104), but not out of an ECM complement (105). Moreover, both QR and EM are possible across a finite clause boundary when the subject of the embedded clause is coreferent with the subject of the matrix clause (106).

- (104) a. *QR out of control complement.*  
 Someone wants to visit everyone. ∀ > ∃
- b. *EM out of control complement.*  
 A: Who wants to talk about what?  
 B: Mary the weather, and Rab the government.

- (105) a. *QR out of ECM complement.*  
 Someone wants John to visit everyone. (Lasnik, 2006), \* $\forall > \exists$
- b. *EM out of ECM complement.*  
 A: Who wants John to talk about what? (Pair-list unavailable)  
 ?\* B: Mary the weather, and Rab the government.
- (106) a. *QR out of finite complement, coreferent subjects.*  
 [At least one of these men]<sub>i</sub> thinks he<sub>i</sub> is in love with each of these woman.  $\forall > \exists$
- b. *EM out of finite complement, coreferent subjects.*  
 A: Which lawyer<sub>i</sub> said he<sub>i</sub> was representing which war criminal?  
 B: Cochrane Milosevic, and Derschowitz Sharon.

### 6.3 Interface movement and ordering statements

I have adopted F&P's idea that Spell-Out involves shipping off a Spell-Out domain to the interface, at which point ordering statements are calculated. I have argued that interface movement may take place after Spell-Out. That is, interface movement is a counter-cyclic movement operation that takes the output of the CS as its input, hence its counter-cyclic nature. To put it differently, interface movement is a 'second cycle' operation. In light of F&P's theory, the consequence of this view on interface movement in general is that interface movement must be order preserving. This is so, since ordering statements have already been calculated for the Spell-out Domains shipped off from the CS. These ordering statements cannot be contradicted by interface movement in the next cycle. Interface movement must thus be order preserving. If it is not, like in the case of EM, ellipsis must take place to eliminate the conflicting ordering statements. Another possibility for interface movement to take place without inducing ordering conflicts, is to move covertly. This is precisely what happens in the case of QR. When the interface movement is covert (i.e. when only the semantic and formal syntactic features of a phrase are copied, cf. Drummond (2013)), semantically motivated interface movement becomes possible.

In this respect, it is interesting to recall the facts of Lasnik (2013) which identify many similarities between EM and rightward movement in the form of Heavy NP Shift. 'Heavy', of course, has no place in a deterministic conception of the CS. In light of the current discussion, then, it is an interesting question whether HNPS can be analyzed as an interface movement. If so, it would explain why it doesn't seem to be feature driven, why it is clause bound and why it is similar to EM.

## 7 Can ellipsis repair locality violations?

Since Ross (1969), ellipsis is widely believed to have the ability to repair ungrammatical outputs of the grammar, a hypothesis sometimes referred to as 'repair by

ellipsis' or 'salvation by deletion'. Ross discovered that ellipsis has an ameliorating effect on structures that contain an island violation. Island violations were already briefly considered in chapter 3, section 6.3. In this section, I outline the theory of Barros (to appear), which holds that there is no island repair under ellipsis. This theory nicely complements the claims of this chapter, in particular the claim that exceptional movement under ellipsis is finite clause bound.

Compare the non-elliptical example in (107a) with the grammatical Sluicing example in (107b).

- (107) a. \* They hired someone who speaks a Balkan language, but I don't know  
[which]<sub>i</sub> they hired someone who speaks t<sub>i</sub>.  
b. They hired someone who speaks a balkan language, but I don't know  
[which]<sub>i</sub> [~~they hired someone who speaks t<sub>i</sub>~~]

The example in (107a) is ungrammatical, because it involves an island violation: *which* has moved out of a complex NP. Ross hypothesizes that the same derivation underlies (107b). Surprisingly, this example *is* grammatical.

In recent work it has been argued that the ameliorating powers of ellipsis are actually not at work in examples like (107) (cf. Merchant, 2001; Fukaya, 2007; Abels, 2011; Barros, to appear; Barros et al., to appear; Marušič and Žaucer, 2013). These works argue that (107a) is not the source of (107b). Rather, the ellipsis site contains a 'short' antecedent, in which there is no island to begin with. In these theories the source that underlies ellipsis in (107b) is (108).

- (108) They hired someone who speaks a balkan language,  
but I don't know [which]<sub>i</sub> [~~(s)he speaks t<sub>i</sub>~~]

Barros (to appear) presents a theory of (illusory) island repair based on Roberts' (1996) theory of information structure. In this theory, F-marking presupposes congruence with a Question under Discussion (QUD) (cf. chapter 3, section 3.2.1).

- (109) **Presupposition of prosodic focus in an utterance, U:**  
U is congruent to the QUD at the time of utterance.

From (109) it follows that the focus value of the antecedent in (108) must be equivalent to the QUD (i.e.  $[[\text{Antecedent}]]^f = [[\text{QUD}]]^0$ ). Barros argues that no QUD is set up in (108), because the antecedent contains no contrastive focus and can therefore be construed with broad focus. Since it is the antecedent of the ellipsis which introduces the QUD that the elliptical utterance must be congruent with, there are two possible construals for (108); a 'short' one (110a) and a 'long' one' (110b). That is, either the ellipsis clause is congruent to the QUD in (110a) or it is congruent to the QUD in (110b). In both cases (109) is satisfied. Barros argues that, although both QUDs in (110a) and (110b) are in principle available for the ellipsis clause to be congruent to, the long construal is ruled out, because it entails an island violation in the ellipsis clause, as shown in (111).



- (110) a. QUD<sub>TP1</sub>: {They hired someone who speaks  $x$ :  $x \in D_{\langle e \rangle}$  }  
 b. QUD<sub>TP2</sub>: {s\he speaks  $x$ :  $x \in D_{\langle e \rangle}$  }
- (111) They hired someone who speaks a Balkan language,  
 but I don't know [which]<sub>*i*</sub> [~~they hired [someone who speaks  $t_i$ ]~~]

Barros' theory captures why contrast Sluicing and contrast Fragments cannot repair islands. Consider the example in (112).

- (112) A: Did Ben leave the party because SALLY didn't dance with him?  
 B: \*No, CHRISTINE

The QUD that A's utterance gives rise to is given in (113).

- (113)  $\llbracket$ Ben left the Party because Sally<sub>*F*</sub> didn't dance with him $\rrbracket^f$   
 = {Ben left the party because  $x$  didn't dance with him:  $x \in D_{\langle e \rangle}$  }  
 =  $\llbracket$ QUD $\rrbracket^0$

The QUD that licenses the focus marking in speaker A's Yes/No question is an implicit *wh*-question, roughly paraphrasable as 'who is such that Ben left the party because s/he wouldn't dance with him?' B's fragment answers this implicit QUD. As (114b) shows, B's fragment is congruent with the QUD set up by the focus marking in the antecedent. The problem with (114b) is that it involves an island violation, and is therefore ruled out. This leaves only the QUD in (114a) as a possible construal for B's fragment. The problem with (114a) is that this short construal does not answer the QUD. That is, 'Christine didn't dance with him' does not answer the QUD 'who is such that Ben left the party because s/he wouldn't dance with him?'

- (114) a.  $\llbracket$ Christine<sub>*F*</sub> didn't dance with him $\rrbracket^f$   
 = { $x$  didn't dance with him:  $x \in D_{\langle e \rangle}$  }  
 $\neq \llbracket$ QUD $\rrbracket^0$   
 b.  $\llbracket$ Christine<sub>*F,i*</sub> Ben left the party because  $t_i$  didn't dance with him $\rrbracket^f$   
 = {Ben left the party because  $x$  didn't dance with him:  $x \in D_{\langle e \rangle}$  }  
 =  $\llbracket$ QUD $\rrbracket^0$

In general, contrastively focused remnants cannot occur in island contexts, because a short construal is unavailable: a short construal does not answer the implicit QUD. A long construal, which does answer the QUD, involves an island violation.

As Marušič and Žaucer (2013) point out, a theory in which ellipsis fixes islands overgenerates, since it predicts that every improper movement can be repaired by ellipsis. This cannot be the case, since there is variation as to which islands can be ameliorated (see, in particular, Barros et al. (to appear)). Also, it is well-known that, whereas clausal ellipsis shows island amelioration (cf. Merchant, 2008b), VP ellipsis doesn't (e.g. Fox and Lasnik, 2003). If ellipsis has ameliorating powers when it comes to locality violations, such variation is surprising. This chapter supports the idea that ellipsis does not repair locality violations. This is so, because, if that were

the case, it would not be expected that EM is finite clause bound. If ellipsis repairs locality violations, the prediction would be that EM could move in an unbounded fashion. Moreover, a consequence of the hypothesis that ellipsis repairs locality violations, is that ellipsis has this power in every language. If that were the case, the cross-linguistic variation observed in section 5 would be surprising. The observed intra- and cross-linguistic variation with respect to locality can be made sense of in a theory of information structure like Barros' theory outlined above and a theory of EM as advocated in this chapter.

## 8 Summary

In this chapter, I have shown why EM is allowed by the grammar and what properties it has. I have argued that EM is only possible in ellipsis contexts, since ellipsis repairs the conflicting ordering statements that it induces. I identified three peculiar properties of EM: it is counter-cyclic, finite clause bound and non feature driven. Since EM shares these properties with Quantifier Raising, I proposed that EM and QR are both instantiations of movement driven by interface goals. For EM, I proposed that it is driven by the interface requirement of recoverability.

The theory of EM advocated in this chapter supports the 'repair by ellipsis' hypothesis (Lasnik, 2001; Merchant, 2001, 2002; Craenenbroeck and Dikken, 2006; Craenenbroeck, 2010) in that ellipsis has the ability to eliminate problematic ordering statements due to illicit movements by removing them from the ordering table.

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## Conclusion and future prospects

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### 1 Summary of the dissertation

This dissertation has been concerned with the syntax and licensing of Gapping and Fragments and the movement of the remnants in these and other kinds of ellipsis, which in many cases involves exceptional movement.

In chapter 2, based on Merchant's (2004) argument for Fragments, I argued that there is syntactic structure in the ellipsis site in Gapping, as well. Moreover, I showed that Gapping, like Fragments, involves movement of the remnants of ellipsis out of the ellipsis site, as illustrated in (1a) for Gapping and (1b) for Fragments.

- (1) a. Max ate the apple and [[[<sub>DP</sub> Sally]<sub>i</sub> [<sub>DP</sub> the hamburger]<sub>j</sub> [<sub>XP</sub>  $t_i$  ate  $t_j$ ]]]  
 b. Who did you see? - [[<sub>DP</sub> Bill]<sub>i</sub> [<sub>XP</sub> I saw  $t_i$ ]]

I argued that there is no fixed constituent targeted by Gapping or Fragments. That is, XP in the examples in (1) can be any category (i.e. AP, vP, TP and CP). This flexibility in ellipsis size seems adverse to the severely restricted distribution of Gapping and Fragments. In chapter 3, I showed that Gapping and Fragments cannot be embedded with respect to their antecedent, nor can the antecedent be embedded with respect to the ellipsis site. On the basis of these and some other observations, I argued that Gapping and Fragments are licensed by the condition in (2).

- (2) **Non-hierarchical Licensing Condition on Gapping and Fragments (NLC):**  
 Gapping and Fragments are licensed when antecedent and ellipsis are in a non-hierarchical relation in the discourse component.

(2) expresses that Gapping and Fragments cannot be embedded with respect to their antecedent or vice versa, and that Gapping and Fragments cannot be in a hierarchical relation with their antecedent. Interestingly, in the discourse model I adopted in chapter 3 – in which the output of syntax forms the input for the discourse component – (2) explains why the ellipsis site can be of variable size. Under this view, any lexical item or constituent may constitute a discourse unit in principle. Since non-hierarchical relations are not confined to hold between clauses, by (2), ellipsis is also predicted to be licensed when a non-hierarchical relation holds between smaller constituents. (2) thus correctly predicts that ellipsis is licensed when antecedent and ellipsis are in a semantically symmetrical coordination in the syntax. Ellipsis is thus possible in vP, AP, TP and CP coordinations alike (as long as the discourse relation between the conjuncts will be non-hierarchical).

Under the here adopted movement plus deletion approach to ellipsis, Gapping and Fragments involve deletion of the constituent that has been vacated by the remnants of ellipsis. This movement out of the ellipsis site is often exceptional in the sense that the movement is not allowed when no ellipsis takes place. In chapter 4, I have considered what drives movement of remnants out of the ellipsis site and how they are constrained. I showed that movement of remnants has the following properties.

- (3)
- No reordering of remnants is possible under exceptional movement (EM).
  - Remnants always move to a position directly next to the ellipsis site.
  - EM is only possible under ellipsis.

These properties were shown to follow from Fox and Pesetsky's (2005) theory of cyclic linearization in which ordering statements are calculated for each phase and added to an ordering table. The fact that reordering is not possible when remnants move follows from the fact that reordering leads to contradictory ordering statements (and contradictory ordering statements, in turn, lead the derivation to crash). I argued that the reason why remnants have to move to a position next to the ellipsis site has a similar cause. In particular, I showed that if a remnant were to move to a higher position, thereby crossing material that will not be elided, this too will result in a conflicting ordering statement. For this argument to go through, a crucial assumption is that EM happens counter-cyclically. This hypothesis is not without support. First, with this hypothesis in place, the prediction is that the regular ('first-cycle') syntax feeds ellipsis, and possibly exceptional movement. In other words, the prediction is that languages vary as to what kind of movements they allow for under ellipsis, while at the same time the idea can be retained that EM is constant across languages. Secondly, the idea that EM happens counter-cyclically puts it in the realm of Quantifier Raising (QR) which also applies counter-cyclically. Strikingly, EM shares two other properties with QR. First, QR is also clause bound, and second, QR is not feature driven. Rather, QR is driven by the interface goal to express a different meaning. For EM, I argued that the interface goal is recoverability. That is, movement of remnants out of the ellipsis site is allowed, because if they

wouldn't move, they would not be recoverable. The result of EM in Gapping and Fragments is that it creates a partitioning between the focused material (i.e. the remnants) and the given material (i.e. the elided constituent).<sup>1</sup>

## 2 A classification of ellipsis types in light of the results

As discussed in chapter 1, in the literature Gapping has often been set aside from (other) ellipsis types, such as VP ellipsis, Sluicing and NP ellipsis (cf. Lobeck, 1995). Hankamer (1979) puts Gapping and Fragments into one category and VP ellipsis, Sluicing and NP ellipsis in another. The reason why a two-way split in ellipsis types has often been suggested, is that not all ellipsis types pattern the same. In chapter 1, three properties were identified that uniquely distinguish Gapping and Fragments from other types of ellipsis. I repeat these properties (based on Jackendoff, 1971; Hankamer, 1979; Williams, 1977; Chao, 1988; Lobeck, 1995) here in current terminology.

- (4)
- Gapping and Fragments appear to elide non-constituents.
  - Gapping and Fragment clauses must bear a non-hierarchical relation to their antecedent.
  - There is no licensing element in Gapping and Fragments.

The first property in (4), that ellipsis operates on phrasal categories, only distinguishes Gapping and Fragments from other types of ellipsis under the assumption that the remnants of ellipsis do not undergo movement. As shown in (5a) for Gapping, if remnants do not move, ellipsis indeed seems to target a non-constituent (*ate quickly*). If, however, as argued in chapter 2 and 4, remnants of ellipsis do move out of the ellipsis site, ellipsis does target a constituent, as illustrated in (5b). Gapping and Fragments, then, are just like Sluicing, VP ellipsis and NP ellipsis in this respect, see (6).

- (5) **Gapping**
- a. Max ate the apple quickly and Sally ate the hamburger quickly.
  - b. Max ate the apple quickly and  $[_{DP} \text{ Sally}]_i$   $[_{DP} \text{ the hamburger}]_j$   $[_{XP} t_i \text{ ate } t_j \text{ quickly}]$

<sup>1</sup>What is still an open question at this point is why ellipsis only targets constituents. The answer likely depends on what ellipsis is, a subject that I haven't touched upon in this dissertation. One view (within the framework of Distributive Morphology) is that ellipsis involves non-insertion of lexical material at Vocabulary Insertion (Bartos, 2000, 2001; Kornfeld and Saab, 2002; Saab, 2009). Under that view, it is not immediately clear why ellipsis has to target a constituent. Under this approach, the question remains why we don't find 'scattered' non-insertion (i.e. non-constituent deletion). Another view of ellipsis is that it involves deletion (either syntactic deletion (e.g. Ross (1967); Sag (1976) or PF deletion e.g. Tancredi (1992); Chomsky and Lasnik (1993); Merchant (2001)). Under this view, it might follow that ellipsis only targets constituents. A crucial assumption is that deletion targets a particular syntactic *node* (one that dominates a constituent that fulfills Parallelism) and that this node is subject to deletion. In that case, it follows that everything dominated by this node will also be deleted.

- (6) **VP ellipsis**
- a. Max ate the apple and Sally did [<sub>VP</sub> eat the apple]<sub>i</sub>, too.
- Sluicing**
- b. Max ate something, but Sally doesn't know what<sub>i</sub> [<sub>TP</sub> Max ate t<sub>i</sub>].
- NP ellipsis**
- c. Max ate two apples and Sally ate three [<sub>NP</sub> apples].

The second property of Gapping and Fragments that sets these apart from other ellipsis types is that the ellipsis and antecedent must be in a non-hierarchical relation. This property of Gapping and Fragments is illustrated in (7). Sluicing, VP ellipsis and NP ellipsis, on the other hand, are fine in embedded contexts, even if a non-hierarchical relation holds between the (clause embedding the) antecedent and the (clause embedding the) ellipsis, as shown in (8).

- (7) **Gapping**
- a. \* Harry has invited Sue and I know that Bill Mary.
- b. Max ate the apple, because Sally the hamburger.
- Fragments**
- c. A: Who has John invited?  
B: \* I know Mary.
- d. \* A: [<sub>S1</sub> John has red hair.]  
B: (Of course) [<sub>S2</sub> His parents ~~have red hair.~~]
- (8) **Sluicing**
- a. John has invited someone, although I don't know who ~~John has invited.~~
- VP ellipsis**
- b. Harry has invited Sue, after he found out that Bill has ~~invited Sue,~~ too.
- NP ellipsis**
- c. Harry bought two books, after Mary had bought four ~~books.~~

The third property that sets Gapping and Fragments apart from other ellipsis types is that there is no licensing element in Gapping and Fragments, as noted in chapter 3. In Sluicing, VP ellipsis and NP ellipsis, ellipsis is only possible when the ellipsis is headed by a particular lexical item, the licenser. The licenser in Sluicing is a *wh*-phrase heading an interrogative clause, see (9). Sluicing is not licensed by complementizers (10a) or *wh*-phrases that head relative clauses (10b) or clefts (10c).

- (9) Jack bought something, but I don't know **what**.

- (10) a. \* Even though Mary hopes **that**, she wonders if anyone interesting is speaking tonight.  
 b. \* Someone has done the dishes, but I don't know the person **who**.  
 (Kim, 1997a, p.157)  
 c. \* Somebody stole the car, but noone knew that it was Ben **who**.  
 (Merchant, 2001, p.59)

VP-ellipsis is licensed by an 'AUX-element' (Lobeck, 1995; Johnson, 2001), such as auxiliaries, modals and infinitival *to*, see the examples in (11). Lexical verbs or light verbs do not license ellipsis, as shown in (12).

- (11) a. José Ybarra-Jaegger likes rutabagas, and Holly **does**, too.  
 b. José Ybarra-Jaegger ate rutabagas, and Holly **has**, too.  
 c. José Ybarra-Jaegger is eating rutabagas, and Holly **is**, too.  
 d. Mag Wildwood wants to read Fred's story, and I also want **to**.  
 (Johnson, 2001)
- (12) a. \* Sally Tomato started running down the street, but only after José **started**.  
 b. \* Sally Tomato made Mag laugh, and then José **made**. (Johnson, 2001)  
 c. \* Fire began pouring out of the building, and then smoke **began**.  
 (Bresnan, 1976)

Finally, NP ellipsis is licensed by the quantifiers *most, some, all, each* and numerals, see (13a). Plural demonstratives and the possessive suffix 's also license NP ellipsis, as shown in (13b) and (13c). The examples in (14) show that NP ellipsis is not possible with the definite determiner (14a), the indefinite determiner (14b), singular demonstratives (14c) and the universal quantifier *every* (14d).

- (13) a. The students attended the play, but **most/some/all/each/two** students went home disappointed.  
 b. Although she might order **these** books, Mary won't buy those books on Egyptian art.  
 c. The fact that John's **analysis** was poorly presented made the committee adopt Mary's analysis instead. (Lobeck, 1995, p.42)
- (14) a. \* A single protestor attended the rally because **the** protestor apparently felt it was important.  
 b. \* Mary toyed with the idea of buying a windsurfer, then decided she didn't want **a** windsurfer at all.  
 c. \* Although John doesn't like **this** air conditioner that he bought at Sears, he likes that new air conditioner that Mary got at K-mart.  
 d. \* John called out the children's names, and **every** child answered.  
 (Lobeck, 1995, p.44,45)

The examples in (9)-(14) show that Sluicing, VP ellipsis and NP ellipsis are only licensed when the ellipsis site is headed by a particular lexical item, a ‘licensor’. This property sets Sluicing, VP ellipsis and NP ellipsis apart from Gapping and Fragments.

### 3 Towards a unified theory of ellipsis licensing

Ideally, we would like to somehow relate the three properties that uniquely distinguish Gapping and Fragments from Sluicing, VP ellipsis and NP ellipsis (cf. (4)). In chapter 3, I have shown for Gapping and Fragments that they are licensed when a discourse relation holds between ellipsis and antecedent. In this section, I explore for Sluicing the possibility that this ellipsis type is licensed in the same way. That is, I explore the possibility that Sluicing is licensed when a discourse relation holds between ellipsis and antecedent. In section 3.3, I show that, if on the right track, this proposal sheds light on the properties in (4) that set Gapping and Fragments apart from other ellipsis types.

#### 3.1 López’ (2000) account of licensing Sluicing

In chapter 3, I discussed López’ (2000) account of ellipsis licensing in which ellipsis licensors are functional categories that have the property of connecting with a discourse topic. According to López, the functional head that licenses Sluicing is C. Licensors in López’ conception are D-linking, which is syntactically encoded with a D-linking feature on the licensing head. In Sluicing, C is equipped with a D-linking feature that instructs the interpretative component to ‘connect with a discourse topic’. It is not exactly clear to me what constitutes a ‘discourse topic’. Therefore, I set this point aside here, and characterize the D-linking relation in different terms below.

The elliptical category is an  $X^0$  pro-form. This pro-form has to adjoin to the licensing head. This is shown in (15) for Sluicing.

- (15) [Ann invited someone] but I don’t know who [ $pro_i$  C<sub>[D-linking]</sub>]  $t_i$  ]
- 

The adjunction of *pro* to C locates the pro-form in the checking domain of C. Consequently, the pro-form is resolved by the discourse topic that the D-linking feature on the licensing head links to. The guiding idea here is that a null pronoun cannot retrieve an antecedent in and of itself. The licensing head mediates the necessary link between pro-form and antecedent.

The attractiveness of López’ proposal is that it attempts to explain the licensing condition from the independent principle of recoverability. As noted in chapter 3, López specific implementation is incompatible with some of the assumptions I have made in this dissertation. The idea of ellipsis being a pro-form, for example, is incompatible with the view that there is a full-fledged syntactic structure in the ellipsis site (cf. chapter 2). As noted in chapter 3 section 3.2.3, the idea of the



ellipsis site moving to the licensing element means that elided constituent would have to move to a head position. Another problematic assumption is that if C is present in Sluicing, this predicts that material in C can survive ellipsis, which is not the case (Merchant, 2001; Thoms, 2010), observe the contrast between (16a) and (16b). These facts strongly suggests that C is part of the ellipsis site in Sluicing and is therefore unlikely to be the licensor.

- (16) A: John bought something.  
 a. B: [<sub>CP</sub> What [<sub>C</sub> ~~did John buy~~]]?  
 b. B': \* [<sub>CP</sub> What did [<sub>TP</sub> ~~John buy~~]]?

Stripping down López' proposal to its essentials, the main idea is that ellipsis sites are unable to retrieve an antecedent in and of themselves and that therefore this retrieval must be mediated by a D-linking licensor. We can retain this basic idea even if we assume that it is the licensor itself that D-links the ellipsis site to the antecedent.

In the next section, I present some data involving Sluicing that support the hypothesis that D-linking the ellipsis to an antecedent licenses ellipsis.

### 3.2 Sluicing and D-linking

One piece of data supporting López' D-linking account is the impossibility of Sluicing with aggressively non D-linked *wh*-phrases, see (17). By assumption, the *wh*-phrase does not have the ability of D-linking in this case and thus also lacks the ability to mediate the link between pro-form and antecedent. Ellipsis, therefore, cannot be resolved (see Sprouse (2006) for an alternative explanation of the ungrammaticality of Sluicing with aggressively non-D-linked *wh*-phrases).

- (17) \* I know Pat wants to buy something, but I don't know what the hell.  
 (López, 2000, p.185)

The idea that Sluicing involves a *wh*-phrase that D-links the ellipsis clause to an antecedent does not immediately rule out the cases of Sluicing in relative clauses and clefts in (10b,c), repeated here as (18). If the D-linking account of ellipsis licensing is on the right track, these examples must be ungrammatical because the *wh*-phrase is not D-linking. Therefore, ellipsis cannot be resolved.

- (18) a. \* Someone has done the dishes, but I don't know the person [<sub>who</sub>]<sub>i</sub> [<sub>TP</sub> ~~has done the dishes~~]  
 b. \* We thought it was Abby who stole the car, but it was Ben [<sub>who</sub>]<sub>i</sub> [<sub>TP</sub> ~~stole the car~~]

One thing to note is that interrogative *wh*-phrases (e.g. *what* in (16a)) have a different feature specification than the *wh*-phrases in (18). This can be established from the fact that languages may spell them out differently. In Dutch, for example, the interrogative *wh*-phrase corresponding to 'who' is *wie*, as shown in (19a). In the Dutch examples in (19b,c) corresponding to (18a,b), however, a relative pronoun shows up that is homophonous with the singular demonstrative.

- (19) a. Iemand heeft de afwas gedaan, maar ik weet niet **wie**.  
 Someone has the dishes done but I know not who
- b. Iemand heeft de afwas gedaan, maar ik ken de persoon **die** dat  
 Someone has the dishes done but I know the person that has  
 heeft gedaan niet.  
 that done not
- c. Wij dachten dat het Abby was die de auto stal, maar het was Ben **die**  
 We thought that it Abby was that the car stole but it was Ben that  
 dat had gedaan.  
 that had done

The examples in (19) show that interrogative *wh*-phrases and relative pronouns differ in their feature specification. One could speculate that this difference stems from the presence of a D-linking feature in the *wh*-phrases versus the absence of this feature in relative pronouns, but in lack of further support, I lay this speculation to rest.

AnderBois (2011) presents some interesting facts that support the idea that interrogative *wh*-phrases are D-linking. In particular, he notes a restriction on Sluicing much similar to the ban on Sluicing with non D-linked *wh*-phrases. The restriction Anderbois observes is that Sluicing cannot occur when the antecedent is in an appositive clause.

- (20) a. \* Joe, who once killed a man in cold blood, doesn't even remember who.  
 b. \* Amy, who coined a new word last night, forgot what.

Anderbois explains these facts in the framework of inquisitive semantics. I sketch here the basic idea. A crucial ingredient of Anderbois' account is the idea from Kratzer and Shimoyama (2002) and others that one of the core semantic properties of indefinites is to evoke a set of alternatives. This set of alternatives is said to introduce an *issue* into the discourse as to which alternative holds. According to Anderbois, an interrogative clause anaphorically retrieves this issue. In other words, there is an anaphoric discourse link between the interrogative *wh*-phrase and the indefinite correlate. We can represent this idea as follows.

- (21) a. John bought *something* but I don't know *what*
- ↑  
 anaphoric D-link
- b. ISSUE evoked by *something* =  $\left\{ \begin{array}{l} \text{John bought } x \\ \text{John bought } y \\ \text{John bought } z \end{array} \right\}$

Collins et al. (2014) experimentally tested whether Sluicing can retrieve an antecedent from an appositive clause. They found that, although the examples in (20) are indeed degraded, they are not systematically ruled out. Collins et al. (2014) also tested examples like (22) with *which*-phrases ('contentfull' in their terminology). Interestingly, these examples were judged better than the variants with a regular *wh*-phrase in (20).

- (22) a. ? Joe, who once killed a man in cold blood, doesn't even remember which man.  
 b. ? Amy, who coined a new word last night, forgot which word.

The difference in acceptability between (20) and (22) suggests that D-linking is involved in Sluicing. Since the content of appositives is less 'at issue' than the content of the main clause, retrieving an issue from an appositive is more difficult than retrieving an issue from a main clause. *Which*-phrases have a strong link to the discourse (Pesetsky, 1987), and are therefore better equipped to establish an anaphoric link with an issue raised in an appositive than regular *wh*-phrases. This might be because the contentful noun helps establish this relation.<sup>2</sup> The idea that it is the *wh*-phrase itself that establishes the anaphoric relation with the antecedent correctly predicts the contrast between (20) and (22).

The idea that the *wh*-phrase in Sluicing establishes a link with the indefinite correlate in the antecedent is further supported by examples such as the one in (23) (from Ginzburg (1992, p.301-302) via López (2000)). This example shows that Sluicing can only retrieve an antecedent which contains an issue raised by an indefinite. This holds for the antecedent in (23a), where the issue of which students John likes is retrieved by the *wh*-phrase. The absence of the interpretation in (23b) shows that it is not possible for the sluice to be resolved by an antecedent that does not involve the issue raised by the indefinite.

- (23) John likes some students, but I don't know who.  
 a. = I don't know who the students that John likes are.  
 b. ≠ I don't know who John likes.

The example in (24) provides another illustration that the idea that the *wh*-phrase must be D-linked to an indefinite in the antecedent is on the right track. In (24), there is no indefinite correlate in the antecedent at all. The fact that Sluicing is ungrammatical in this case firmly supports the idea that the *wh*-phrase in Sluicing is anaphoric and must D-link to an antecedent in which an indefinite raises an issue.

- (24) \* John whispered that he liked the movie, but I couldn't hear what ~~John~~ whispered.

In the next section, I move on to discuss how the three properties in (4), that set apart Gapping/Fragments from other ellipsis types, follow from the theory of licensing ellipsis through D-linking.

### 3.3 Towards a unified theory of ellipsis licensing

It can be concluded from the above discussion that Sluicing is dependent on an anaphoric relation between the sluice and an antecedent. If López (2000) is correct, this dependency follows from the general condition that an ellipsis must be D-linked to an antecedent in order to be licensed. I state this hypothesis in (25).

<sup>2</sup>Compared to aggressively non-D-linked *wh*-phrases, *which*-phrases can thus be viewed as sitting on the opposite end of the spectrum when it comes to how strongly they link to the discourse. Regular *wh*-phrases fall somewhere in between.

(25) **Discourse licencing condition on ellipsis**

Ellipsis is licenced when the ellipsis site can be D-linked to an antecedent.

As said, the intuition behind the hypothesis in (25) is that ellipsis is unable to retrieve an antecedent in and of itself. I have argued in chapter 2 that ellipsis sites are full-fledged syntactic structures subject to deletion. The fact that ellipsis sites must be D-linked might follow then from these two factors: first, ellipsis sites are silent. Therefore, there is no overt indication that could be taken as an instruction as to how to link the ellipsis to the discourse. The second reason ellipsis sites must be D-linked is that, unlike pronouns, they are not indexical expressions. Ellipsis sites lack the property/feature of pronouns to instruct the grammar to D-link them to an antecedent or referentially anchor them to an event or individual in the context. An advantage of (25), then, is that it attempts to explain ellipsis from the D-linking property of the licenser (the *wh*-phrase in Sluicing) and the lack of this property of the ellipsis site. In other words, (25) is not an ellipsis specific licencing condition. In fact, given (25), ellipsis can be taken to apply freely. The only requirement on ellipsis is that the ellipsis can be D-linked to an antecedent. Rather than an ellipsis specific requirement, (25) follows from a general requirement on recoverability.

Let us now turn to the question why there is no licencing element in Gapping and Fragments. In (26) I present the licencing condition on Gapping and Fragments as formulated in chapter 3.

(26) **Non-hierarchical Licencing Condition on Gapping and Fragments (NLC):**

Gapping and Fragments are licenced when antecedent and ellipsis are in a non-hierarchical relation in the discourse component.

I argue that (26) can actually be taken as a more specific version of (25). That is, (26) captures a subset of the ellipsis types that (25) captures. In the model of discourse adopted in chapter 3, discourse relations between two discourse units can be established in two ways. Either there is a direct relation between the discourse units, which may be established by a connective, as in (27a,b), or a relation is established anaphorically through the use of discourse adverbials, as the relation between S1 and S3 in (28a,b).

- (27) a. S1 (*connective*) S2  
 b. [<sub>S1</sub> John left] because [<sub>S2</sub> Mary arrived.]

- (28) a. S1 S2 [<sub>S3</sub> ... *adverbial* ... ]  
 b. [<sub>S1</sub> Because Fred is ill] [<sub>S2</sub> you will have to stay home.] [<sub>S3</sub> Whereas *otherwise* the two of you could have gone to the zoo.] (Webber et al., 2003)

In the previous section, we established that the *wh*-phrase in Sluicing establishes a discourse relation between the ellipsis and an antecedent anaphorically. The *wh*-phrase can therefore be considered a discourse adverbial. As said, retrieving an antecedent is necessary for ellipsis to be resolved, since ellipsis, unlike pronouns, does

not have the property of D-linking to an antecedent in the discourse. Therefore, D-linking must be mediated. This is what (25) expresses. (26), on the other hand, states that ellipsis in Gapping and Fragments is licensed when ellipsis and antecedent are in a non-hierarchical relation in the discourse. In this configuration, too, there is a discourse relation between ellipsis and antecedent, though the relation here is direct and not anaphorically established. Given this, we can see that (26) merely expresses a more specific licensing configuration than (25). If we view Gapping and Fragments in light of (25), it follows that there is no licensing element because the ellipsis site is directly D-linked to the antecedent. Hence, no licensing element is necessary to D-link the ellipsis to an antecedent.

It remains to be seen whether the D-linking account of ellipsis licensing in (25) can capture VP ellipsis and NP ellipsis, as well. In order for the D-linking account to successfully capture those ellipsis types, one needs to show that the ellipsis licensors in VP ellipsis and NP ellipsis (cf. (11) and (13), respectively) are D-linking. I refer the reader to López (2000) for some preliminary ideas.

If the D-linking account in (25) is on the right track, the properties in (4), repeated here as (29), can be shown to be related.

- (29)
- Gapping and Fragments appear to elide non-constituents.
  - Gapping and Fragment clauses must bear a non-hierarchical relation to their antecedent.
  - There is no licensing element in Gapping and Fragments.

The fact that Gapping and Fragments, as opposed to Sluicing, VP ellipsis and NP ellipsis, appear to elide a non-constituent, is because these ellipsis types delete the whole phrase that is in a non-hierarchical relation to its antecedent. This means that everything that is not *given* within the constituent targeted for ellipsis must vacate this constituent. In Sluicing, VP ellipsis and NP ellipsis, on the other hand, what is deleted is the sister of the licensing element. This phrase may be deleted if this phrase is given. In case this phrase is given, no movement of remnants is necessary. The second and third property follow straightforwardly from (25). If ellipsis must be D-linked, it follows that, in the absence of a D-linking licensor, there must be a direct relation between ellipsis and antecedent. Of course, the opposite also holds. In the case of NP ellipsis, VP ellipsis and Sluicing, the presence of a D-linking licensor allows ellipsis to take place in a phrase that does not bear a direct relation to the antecedent.

Summing up, if the hypothesis that elliptical phrases must be D-linked in order to be retrievable is correct, the two-way split in ellipsis types follows from the fact that there are two ways of D-linking, either the elliptical phrase bears a direct relation to its antecedent or this relation is established anaphorically. More research is needed to see whether this hypothesis is correct. Importantly, if this theory proves to be on the right track, the fact that there is a two-way split in ellipsis types does not warrant the conclusion that ellipsis itself is not a uniform phenomenon.



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## Dutch summary

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In hoofdzaak handelt deze dissertatie over ellipsis. Meer specifiek gaat deze dissertatie in op twee ellipsisconstructies, Gapping en Fragments. Deze twee constructies zijn geïllustreerd in (1). Gapping wordt doorgaans gedefinieerd als ellipsis die plaatsvindt in het tweede conjunct van een coördinatie en Fragments als ellipsis in een op zichzelf staande zin. Het voorbeeld in (1b) is een voorbeeld van Fragments in een vraag-antwoordpaar.

- (1) a. Jan ziet Marie en Karel ziet Suzan. Gapping  
b. A: Wie heeft Jan gezien?  
B: ~~Jan~~ heeft Marie gezien. Fragments

In zowel (1a) als (1b) is tenminste het werkwoord onderhevig aan ellipsis. De overgebleven zinsdelen, *Suzan* in (1a) en *Marie* in (1b), zijn de zogenaamde remnants van ellipsis. In Gapping worden er twee of meer remnants achtergelaten en in Fragments maar een. Dit is echter niet de enige mogelijkheid. Gapping met één remnant en Fragments met twee of meer remnants is ook mogelijk. Alhoewel deze constructies respectievelijk Stripping en Multiple Fragments worden genoemd, neemt men vaak aan dat dit subtypen zijn van Gapping en Fragments. Ook ik neem in deze dissertatie aan dat de constructies in (1a) en (2a) hetzelfde type ellipsis zijn, net als (1b) en (2b), al is de aandacht voornamelijk gericht op Gapping en Fragments.

- (2) a. Jan ziet Marie en Karel ~~ziet Marie~~ ook. Stripping  
b. A: Wie heeft wie gezien?  
B: Jan ~~zag~~ Marie en Karel ~~zag~~ Suzan. Multiple Fragments

De belangrijkste claim in deze dissertatie is dat niet alleen Gapping en Stripping, en Fragments en Multiple Fragments subtypen van elkaar zijn, maar dat alle constructies in (1) en (2) hetzelfde type ellipsis behelzen. Ik bereik deze conclusie door aan te tonen dat Gapping en Fragments dezelfde syntaxis hebben. Bovendien toon ik aan dat de distributie van deze ellipsis types hetzelfde is. In de literatuur wordt aangenomen dat de distributie van ellipsis wordt bepaald door hoe ellipsis is *gelicenceerd*. Ellipsis kan alleen plaatsvinden als is voldaan aan bepaalde condities.

Deze condities worden formeel gevangen in een licenseringsconditie op ellipsis. Mijn claim is dus dat Gapping en Fragments op dezelfde wijze worden gelicenseerd door dezelfde licenseringsconditie. Een belangrijke claim hierbij is dat licenseren een discourseaangelegenheid is en dat de syntaxis hierbij geen rol speelt. Ik kom hier dadelijk op terug.

In hoofdstuk 1 zet ik uiteen wat voor typen ellipsis er onder andere zijn en wat voor theorieën er zijn voorgesteld als verklaring voor dit fenomeen. Een van de debatten in de literatuur gaat over wat een ellips eigenlijk is. Sommige theorieën gaan ervan uit dat ellipsis een pronomen is zonder syntactische structuur dat niet fonetisch wordt gerealiseerd. Andere theorieën gaan ervanuit dat een normale syntactische structuur ten grondslag ligt aan ellipsis, waarbij de morfemen in deze syntactische structuur niet fonetisch worden gerealiseerd. In deze dissertatie sluit ik me aan bij de aanhangers van de laatste theorie (waarvoor ik in hoofdstuk 2 verscheidene argumenten naar voren breng). Naast het uiteenzetten van wat ellipsis is en hoe we dit fenomeen kunnen verklaren, ga ik dieper in op de Gappingconstructie. Ik bespreek verscheidene eigenschappen van Gapping, waaronder de zeer restrictie distributie (meer hierover in hoofdstuk 3). Met verscheidene argumenten toon ik aan dat de huidige theorieën van Gapping niet alle feiten kunnen verklaren. In de hierop volgende bespreking van Fragments benadruk ik de gelijkenis tussen deze constructie en Gapping. De hoofdstukken 2 en 3 richten zich vervolgens op het nader onderzoeken van deze gelijkenis, wat uiteindelijk leidt tot een nieuwe analyse die zowel de eigenschappen van Gapping als Fragments verklaart.

In hoofdstuk 2 toon ik aan dat Gapping en Fragments dezelfde syntaxis hebben. Ten eerste toon ik aan, op basis van connectiviteitsrelaties tussen de remnants en de ellips, dat er syntactische structuur aanwezig is in de ellips. Deze conclusie gaat op voor zowel Gapping als Fragments. Sommige connectiviteitsrelaties tonen niet alleen de aanwezigheid van structuur in de ellips aan, ook vormen zij een argument voor de aanname dat de remnants verplaatsen uit de ellipsite. Wederom lopen de argumenten voor Gapping hier parallel aan die voor Fragments. De gelijkenis tussen Gapping en Fragments houdt niet op bij de aanwezigheid van structuur in de ellips, ook is er gelijkenis tussen de variabele grootte van de elliptische structuur. In de literatuur is vaak beweerd dat de eigenschappen van Gapping alleen kunnen worden verklaard als wordt aangenomen dat de grootte van de ellipsische structuur variabel is. Deze aanname is bijvoorbeeld nodig om de ambiguë bereikeigenschappen van negatie en coördinatie te verklaren. Ik beargumenteer dat er in Fragments, in tegenstelling tot wat wordt beweerd in de literatuur, geen bewijs is voor een vaste constituent die wordt geëlideerd. Aannemelijker is dat de grootte van de ellips variabel is in Fragments, net als in Gapping.

Hoofdstuk 3 gaat over het licenseren van ellipsis. Nu in hoofdstuk 2 is aange-toond dat Gapping en Fragments dezelfde syntaxis hebben, is de meest prominente vraag wat het verschil is tussen Gapping en Fragments op het niveau van de grammatica. In de literatuur wordt aangenomen dat ellipsis gelicenseerd moet worden om plaats te vinden. De hypothese dat licenseren nodig is voor ellipsis is gebaseerd op de observatie dat niet elke context ellipsis toelaat. Om een voorbeeld te geven, in (1a) is Gapping mogelijk in een nevenschikking met *en*. Gapping is echter niet

mogelijk in een ondergeschikte zin met *omdat* als hoofd, zie (3a), noch is Gapping mogelijk als de ellips niet direct is genevenschikt aan het antecedent, zoals geïllustreerd in (3b).

- (3) a. \* Jan zag Marie omdat Piet Karel.  
b. \* Jan zag Marie en ik weet dat Piet Karel.

Een belangrijke observatie voor de claim dat Gapping en Fragments hetzelfde type ellipsis behelzen, is dat de restricties op Gapping ook opgaan voor Fragments. Merk als eerste op dat twee losstaande zinnen (die dus niet zijn verbonden door een onderschikkend voegwoord) desalniettemin de interpretatie van een onderschikking kunnen hebben. In (4a) bijvoorbeeld, geeft B aan dat de maan schijnt omdat de zon schijnt. De aanwezigheid van deze onderschikkende interpretatie heeft tot gevolg dat ellipsis niet mogelijk is hier, zoals te zien is in (4b). Ik beargumenteer dat wat ten grondslag ligt aan de ongrammaticaliteit van (4b) ook ten grondslag ligt aan de ongrammaticaliteit van (3a). Verder is Fragments, net als Gapping, onmogelijk als de ellipsis is ingebed, zie (5).

- (4) a. A: De maan schijnt.  
B: Allicht, de zon schijnt.  
b. \* A: De maan schijnt.  
B: Allicht, de zon *schijnt*.
- (5) A: Wie heb Jan gezien?  
B: \*Ik weet Marie.  
(vgl. B': Ik weet dat Jan Marie heeft gezien.)

Syntactisch bezien is er uiteraard een verschil tussen of zinsdelen gecoördineerd zijn zoals in Gapping of dat er een aaneenschakeling is van twee losstaande zinnen zoals in Fragments. De vraag is of dit syntactische verschil relevant is voor het licenseren van ellipsis. Ik beargumenteer dat dit niet het geval is. Ik bespreek verschillende theorieën over het licenseren van ellipsis, onder meer syntactisch georiënteerde theorieën waarin wordt aangenomen dat er een syntactische relatie moet worden vastgesteld tussen een element buiten de ellipsis en de ellipsis zelf. Ook bespreek ik theorieën waarin wordt gesteld dat er een relatie moet zijn tussen het antecedent en de ellipsis. In een notendop is het grootste probleem voor al deze theorieën dat de gepostuleerde relatie, of dit nu een syntactische relatie tussen een element buiten de ellipsis en de ellipsis zelf betreft of een relatie tussen antecedent en ellipsis, ook tot stand kan komen in de contexten in (3), (4b) en (5). Er wordt door de theorieën over het licenseren van ellipsis dus foutief voorspeld dat ellipsis mogelijk zou moeten zijn in deze contexten. Bovenstaand probleem in acht genomen, als ook de gelijkens tussen de distributie van Gapping en Fragments, stel ik voor dat ellipsis wordt gelicenseerd door de conditie in (6).

- (6) **Niet-hiërarchische licenseringsconditie op Gapping en Fragments (NLC):**  
Gapping en Fragments zijn gelicenseerd als het antecedent en de ellipsis een niet-hiërarchische relatie hebben in de discourse component.

Ik laat zien dat de NLC de feiten in (3)-(6) verklaart. Bovendien beargumenteer ik dat de NLC, omdat deze is gedefinieerd als een conditie die effect heeft in de discourse component van de grammatica, een verklaring levert voor het feit dat Gapping enerzijds in sommige gevallen mogelijk is in syntactisch ondergeschikte zinnen (bijv. *Jan zag Marie, net als Piet Karel zag*) en anderzijds soms juist weer niet in syntactisch nevenschikte zinnen (bijv. \**Jan groette Marie, want zij hem*).

Een van de conclusies uit hoofdstuk 2 is dat de remnants van ellipsis verplaatsen uit de ellips. In hoofdstuk 4 doe ik nader onderzoek naar deze verplaatsingen. Meer specifiek ga ik nader in op drie vragen. De eerste vraag is wat deze verplaatsingen mogelijk maakt. Zoals is geïllustreerd in (7) is de verplaatsing die de remnant doet uit de ellips niet mogelijk zonder ellipsis. We noemen dit soort verplaatsing daarom *uitzonderlijke verplaatsing* ('exceptional movement'), kortweg UV.

- (7) a. Jan ziet Marie en [[[Karel]<sub>i</sub> [Suzan]<sub>j</sub> {t<sub>i</sub> ziet t<sub>j</sub>}]].  
 b. Jan ziet Marie en [[[Karel]<sub>i</sub> [Suzan]<sub>j</sub> [t<sub>i</sub> ziet t<sub>j</sub>]]].

De tweede vraag is aan welke localiteitscondities UV moet voldoen. Ik beargumenteer dat UV niet plaats kan vinden over een finiete clause. De derde vraag is wat UV 'triggert'. Onder de aanname dat verplaatsingen (en meer algemeen, syntactische operaties) kostbaar zijn, moet er een trigger aan UV ten grondslag liggen. Deze trigger lijkt, onder meer door de verscheidenheid aan mogelijke verplaatsingen onder ellipsis, afwezig te zijn. Samen vormen de localiteitsconditie en de afwezigheid van een syntactische trigger een zeer opmerkelijke gelijkenis met de verplaatsingen van kwantoren. Op basis van deze parallel beargumenteer ik dat UV een interfaceverplaatsing is: een verplaatsing die plaatsvindt om aan een interface conditie te voldoen. De interfaceconditie waaraan UV moet voldoen is het dat de remnant die verplaatst nieuwe informatie moet bevatten. Alleen in dat geval mag, en moet, een remnant UV ondergaan. De reden dat een remnant moet verplaatsen is dat de betekenis van deze constituent niet meer te achterhalen is als deze onderhevig is aan ellipsis. De aanname dat UV moet voldoen aan een interfaceconditie verklaart ook waarom verplaatsing niet mogelijk is als de remnant géén nieuwe informatie bevat, zoals in (8). In dit geval is Jan al eerder genoemd en daarom mag de DP *Jan* niet verplaatsen. Indien deze DP zou verplaatsen zou dit een schending opleveren van de interfaceconditie dat verplaatsing alleen mag plaatsvinden als dit nodig is.

- (8) \* Jan ziet Marie en [[[Karel]<sub>i</sub> [Suzan]<sub>j</sub> {t<sub>i</sub> ziet t<sub>j</sub>}]].

Hoofdstuk 5 is de conclusie. Dit hoofdstuk bevat een samenvatting, plus een mogelijke verklaring voor de NLC. Zoals de NLC is voorgesteld in (6), is deze conditie op het licenseren van Gapping en Fragments een stipulatie. In hoofdstuk 5 schets ik een theorie die een verklaring geeft voor de NLC. De hypothese is dat een ellips een relatie in de discoursecomponent aan moet gaan met een antecedent. Het idee hierachter is dat een ellips hierin niet verschilt van een pronomen. Een pronomen is een element dat de inherente eigenschap heeft een relatie te moeten aangaan met een antecedent in de context of in de discourse om zo betekenis te krijgen. Een ellips daarentegen, heeft al betekenis, gezien deze bestaat uit een normale syntactische structuur. Deze syntactische structuur heeft in tegenstelling tot



een pronomen echter geen *inherente* eigenschap om een relatie aan te gaan met een antecedent in de discourse. Deze relatie is echter noodzakelijk om de betekenis van een ellips te kunnen achterhalen. Ik stel voor dat ellipsis in Gapping en Fragments mogelijk is in de contexten die aan (6) voldoen, omdat precies in deze contexten de benodigde discoursrelatie tussen ellips en antecedent aanwezig is.



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## Curriculum Vitae

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Enrico Boone was born in Harderwijk, The Netherlands on February 27<sup>th</sup> 1985. He obtained a bachelor's degree in Dutch Language and Culture from Utrecht University in 2007, majoring in linguistics. Continuing his studies of linguistics in Utrecht, he completed his MPhil in linguistics in 2009. From 2010-2014, he carried out his PhD research at the Leiden University Institute for Linguistics, which has led to the present thesis.