

# How (not) to elide negation

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## **Abstract**

This paper examines the behavior of English negative indefinites under VP-ellipsis. The main empirical observation is that negative indefinites cannot take scope out of a verbal ellipsis site. We propose that negative indefinites involve fusion under adjacency between the clausal polarity head and an indefinite determiner, and that this adjacency comes about under multidominance. Multidominance can feed the morphological coalescence of two syntactic terminals that on the surface do not appear to be linearly adjacent. The claim that there is a morphological relation between these two heads—rather than a syntactic one—is supported by the fact that it can be bled by ellipsis. Given that ellipsis is a PF-process, it can block fusion, thus preventing high scope of negative indefinites out of an ellipsis site.

## **Keywords**

negative indefinites, scope, VP-ellipsis, multidominance, fusion

# 1 Introduction and outline

This paper provides a novel perspective on the interaction between ellipsis and negative indefinites in English. Consider first a non-elliptical example in (1).

- (1) Quentin Tarantino can offer no help. ( $\neg > can, \% can > \neg$ )

As indicated by the judgments in the right margin, all speakers we consulted allow the object negative indefinite *no help* to take scope above the modal *can*. In addition, a subset of those speakers also allows inverse scope in this example, with the modal outscoping the negative indefinite (and see Cormack and Smith 2002, Butler 2003, Iatridou and Zeijlstra 2010, Iatridou and Sichel 2011 for confirmation of these judgments, and see section 2.3 for additional discussion). However, when the VP selected by *can* is elided, only the latter judgment remains (for those speakers that allowed it in the first place):

- (2) Q: Who can offer no help?  
A: %Quentin Tarantino can (~~offer no help~~). ( $*\neg > can, \% can > \neg$ )

So, while the object negative indefinite *no help* can either scope above or below the modal *can* in a non-elliptical clause (cf. (1)), it cannot scope above the modal if it is contained in a verbal ellipsis site (cf. (2)). VP-ellipsis thus seems to block high scope of object negative indefinites. This paper investigates these scopal patterns and in so doing, it establishes the following two empirical generalizations:

- (3) THE ANY/NO GENERALIZATION  
While *no* can antecede the ellipsis of *any* in verbal ellipsis, the reverse configuration is disallowed.
- (4) THE SCOPE GENERALIZATION  
A negative indefinite in object position cannot take scope outside of a VP-ellipsis site.

We argue in this paper that negative indefinites should be decomposed into two independent elements, sentential negation (Pol) and an indefinite determiner (D). Their formation is the result of a morphological process, which we refer to as fusion under adjacency. An analysis of English negative indefinites that involves decomposition and fusion might seem surprising at first sight, given that the two components making up the negative indefinite (the clausal polarity marker and the determiner) are not string adjacent in any obvious sense. We propose that the adjacency required for this fusion process is established under multidominance. Moreover, given that fusion is a morphological process, it can be bled by ellipsis. This will form the basis for our account of the generalizations in (3) and (4).

This paper is organized as follows. The next section lays out our central data. It first introduces the general concept of polarity switches under ellipsis (subsection 2.1) and then presents the *any/no*-Generalization (subsection 2.2) and the

Scope Generalization (subsection 2.3). Section 3 provides the background for the analysis. Subsection 3.1 considers possible analyses for negative indefinites and their interaction with VP-ellipsis and points out which aspects of those accounts are problematic in light of the data presented in section 2. Subsection 3.2 introduces Johnson (2012)’s multidominance analysis of *wh*-movement and Quantifier Raising. Section 4 presents our analysis. Subsection 4.1 introduces the core of the account, in which negative indefinites involve multidominance and fusion under adjacency. In subsections 4.2 and 4.3, we return to the two abovementioned empirical generalizations, and show how the interaction between negative indefinites and ellipsis in English follows from our account. Finally, section 5 sums up and concludes.

## 2 The data: negative indefinites and ellipsis in English

This section discusses the behavior of English negative indefinites in verbal ellipsis.<sup>1</sup> We first provide some background on polarity switches under ellipsis in the next subsection. Subsection 2.2 then deals with the interchangeability of *any* and *no* under verbal ellipsis: while *no* can antecede the ellipsis of *any* in verbal ellipsis, the reverse configuration is disallowed (i.e. the *any/no*-Generalization). Finally, in subsection 2.3, we show that negative indefinites in object position cannot take scope out of VP-ellipsis sites (the Scope Generalization).

### 2.1 Background: polarity switches under ellipsis

As is well-known, indefinites and polarity items are interchangeable under ellipsis (cf. Sag 1976, Ladusaw 1979, Hardt 1993, Fiengo and May 1994; Giannakidou 1998, Johnson 2001, Merchant 2013). Consider the VP-ellipsis examples in (5) and (6). In the example in (5), the antecedent VP contains *any*, but the elided VP cannot contain this polarity item (cf. (5a)), as this would violate its licensing conditions: *any* would not be c-commanded by an appropriate licenser. Rather, the elided VP in (5) seems to be equivalent to (5b), with the indefinite *some*. The reverse situation is shown in (6). Here, the antecedent VP includes the indefinite *some*, but the polarity item *any* is required in the ellipsis site (cf. (6a)–(6b)). In short, (5) and (6) show that the negative polarity item *any* can antecede the ellipsis of the indefinite *some* and vice versa.

- (5) John didn’t see **anyone**, but Mary did.  
 a. \* ... but Mary did ~~⟨see anyone⟩~~.

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<sup>1</sup>All of the examples discussed in this section involve negative indefinites in object position. As pointed out by Iatridou and Sichel (2011:610), some speakers of English do not accept negative indefinites in object position, regardless of whether ellipsis is involved. This is confirmed by some of our informants, for whom even non-elliptical sentences with an object negative indefinite are degraded. The judgments concerning object negative indefinites reported in this paper are from the subset of English speakers for whom a negative indefinite in object position is acceptable in non-elliptical contexts.

- b. ... but Mary did  $\langle$ see ~~someone~~ $\rangle$ . [Merchant 2013:449, (15)]
- (6) John saw **someone**, but Mary didn't.
- a.  $\neq$  ... but Mary didn't  $\langle$ see ~~someone~~ $\rangle$ .
- b. ... but Mary didn't  $\langle$ see ~~anyone~~ $\rangle$ . [Merchant 2013:449, (16)]

A similar pattern has been observed for the negative indefinite *no*. Johnson (2001) and Merchant (2013) note that the elided VPs in (7) do not have a negative meaning, even though their antecedents contain the negative indefinite *no*.<sup>2</sup> The sentences in (7) illustrate that a VP-ellipsis site can include the indefinite *a* or *some* while its antecedent contains *no*. In short, *no* can antecede the ellipsis of *a* or *some* in verbal ellipsis.

- (7) a. I could find **no** solution, but Holly might  $\langle$ find ~~\*no/a~~ solution $\rangle$ .  
[Johnson 2001:468-9, (103)-(104)]
- b. "There will be **no** Paradise for me. But if there were  $\langle$ \*no/a paradise for me $\rangle$ , I wouldn't expect to see you there. . ."  
[Merchant 2013:453, (25)-(104)]
- c. Although John will trust **nobody** over 30, Bill will  $\langle$ trust ~~\*nobody~~ /~~somebody over 30~~ $\rangle$ . [Sag 1976:312, (4.1.23)]

This concludes our introduction into polarity switches under ellipsis. In the next two subsections we zoom in on two specific subcases of this phenomenon. For a more complete overview of the possible and impossible polarity switches under verbal (and clausal) ellipsis, we refer the reader to Temmerman (2012:51-6).

## 2.2 The any/no-Generalization

This section investigates the interchangeability of *any* and *no* under verbal ellipsis. We show that while *no* can antecede the ellipsis of *any*, the reverse configuration is not allowed.

### 2.2.1 No can antecede the ellipsis of any

A verbal ellipsis site can include the negative polarity item *any* when the antecedent contains the negative indefinite *no*. This is shown in (8).

- (8) a. Many people there have **no** idea who he was but apparently Obama didn't  $\langle$ have ~~any~~ idea who he was $\rangle$  either.<sup>3</sup>
- b. "I have **no** idea how a hunter would have gotten his hands on it. It makes no sense." — "No, it doesn't  $\langle$ make ~~any~~ sense $\rangle$ ."<sup>4</sup>

<sup>2</sup>For Merchant (2013:453), it is not possible "at all" for the ellipsis sites in (7) to contain the negative indefinite *no*. For Johnson (2001:469), the elided VPs "only marginally" have the negative reading.

<sup>3</sup><http://www.newstatesman.com/blogs/the-staggers/2011/05/special-relationship-visit>

<sup>4</sup><http://bleeding-muse.livejournal.com/92002.html>

- c. There was a pause again. Leoni’s posture, lying back in the chair, was strained. He asked Starmer: “My authentication, what did you really think about it? You were the only one who made **no** comment.” — “Elvira didn’t ~~make any comment~~.” — “Elvira.” He shrugged. “The only one.” He came forward in his chair. “Tell me what you thought. Honestly.”<sup>5</sup>

In all of these (attested) examples—and it is straightforward to find more—the antecedent clause contains a VP with a negative indefinite in object position, while the elided VP most plausibly contains an instance of the NPI *any* (as is witnessed by the negated auxiliary outside of the ellipsis site).

### 2.2.2 Any cannot antecede the ellipsis of no

Consider the example in (9).

- (9) [context: the Cannes Film Festival]  
Who didn’t like **any** movie?
- a. Quentin Tarantino didn’t like **any** movie.
  - b. Quentin Tarantino liked **no** movie.
  - c. Quentin Tarantino didn’t ~~like any movie~~.
  - d. \*Quentin Tarantino did ~~like no movie~~.

Although both (9a) and (9b) are licit (non-elliptical) answers to the question in (9), only the elliptical answer containing *any* in (9c) is allowed. The answer with *no* in the VP-ellipsis site in (9d) is ungrammatical.

One could argue that the ill-formedness of (9d) is due to the presence of *did*, the idea being that a stressed auxiliary is an indication of positive polarity. Note, however, that the effect persists in infinitival VP-ellipsis with a focused subject, as illustrated in (10):

- (10) I know PETER didn’t offer **any** help . . .
- a. . .and I also don’t expect JOHN to offer **any** help.
  - b. . .and I also expect JOHN to offer **no** help.
  - c. . .and I also don’t expect JOHN to ~~offer any help~~.
  - d. \* . .and I also expect JOHN to ~~offer no help~~.

We conclude from these data that in verbal ellipsis, *any* cannot antecede the ellipsis of *no*. Based on the observations in this subsection and the previous one, we present the following empirical generalization:

- (11) THE ANY/NO GENERALIZATION  
While *no* can antecede the ellipsis of *any* in verbal ellipsis, the reverse configuration is disallowed.

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<sup>5</sup>From *A Journey South*, a novelette by John Christopher (1991). Available at <http://www.infinityplus.co.uk/stories/journeysouth.htm>

### 2.3 The Scope Generalization

Consider the VPE-examples in (12) and (13):

- (12) Q: Who liked **no** movie?  
 A: ? Quentin Tarantino did ~~(like **no** movie)~~.<sup>6</sup>
- (13) I know PETER offered **no** help,  
 and I also expect JOHN to ~~(offer **no** help)~~.

The sentences in (12) and (13) show that the negative indefinite *no* can be part of the antecedent of a verbal ellipsis site that contains *no* as well. In the parlance of the *any/no*-Generalization, *no* can antecede the ellipsis of *no*.

However, if the negative indefinite outscopes an element outside of the verbal ellipsis site, *no* can no longer antecede the ellipsis of *no*. Or, in other words, the verbal ellipsis site cannot contain a high-scoping negative indefinite *no*.

A first case in point that illustrates this concerns so-called ‘Neg>Mod-modals’, i.e. modals that typically scope below sentential negation (cf. Cormack and Smith 2002, Butler 2003, Iatridou and Zeijlstra 2010, Iatridou and Sichel 2011). As noted by Iatridou and Zeijlstra (2010) and Iatridou and Sichel (2011), the deontic modal *can* is such a Neg>Mod-modal. That is, for most speakers of English, the sentences in (14) only have a reading in which the negation outscopes *can*. As pointed out by Cormack and Smith (2002), though, a subset of those speakers also allows the modal to outscope the negation. This speaker variation is indicated by means of a percentage sign.

- (14) a. John can not eat vegetables.  
 = It is not the case that John is permitted to eat vegetables.     $\neg > \diamond$   
 = It is permitted that John not eat vegetables.     $\% \diamond > \neg$   
 [Cormack and Smith 2002:13, (29a)]
- b. He can not go to this party.  
 = It is not the case that he is permitted to go to this party.     $\neg > \diamond$   
 = It is permitted that he does not go to this party.     $\% \diamond > \neg$   
 [Iatridou and Sichel 2011:598, (4b)]

As far as negative indefinite DPs are concerned, Iatridou and Sichel (2011) argue that the relative scope of a modal and a negative indefinite DP matches the relative scope of that modal and sentential negation. This generalization is confirmed by our informants for the interaction of the deontic modal *can* and an object negative indefinite. Most speakers can only interpret the object negative indefinite DP in (15) as scoping over deontic *can*; a smaller set of speakers also allows the inverse scope reading.

- (15) John can do no homework tonight.  
 = It is not the case that John is permitted to do homework.     $\neg > \diamond$   
 = It is permitted that John does not do homework.     $\% \diamond > \neg$

<sup>6</sup>The mild markedness of this example could be due to the fact that, in the case of question-answer pairs, some informants prefer a fragment answer over VP-ellipsis.

Now consider the case of verbal ellipsis in (16), in which both the antecedent and the VP-ellipsis site licensed by *can* contain a negative indefinite *no*. This example is ungrammatical in the reading where negation outscopes the modal ( $\neg > \diamond$ ) for all speakers. It is only grammatical for those speakers that allow the negation to scope below the modal, and only with that reading (i.e.  $\diamond > \neg$ ).

- (16) Q: Who can offer **no** help?  
 A: % Quentin Tarantino can ~~offer **no** help~~. \* $\neg > \diamond$ , % $\diamond > \neg$

Thus, a negative indefinite inside a VP-ellipsis site cannot take scope outside of that ellipsis site.<sup>7</sup>

A second pattern representative of the same generalization can be observed when considering the classic example in (17). The sentence in (17) admits two different readings (cf. Jackendoff 1972, Rochemont 1978), which we refer to as ‘the unfortunate dresser reading’ and ‘the nudity reading’:

- (17) Mary looks good with no clothes.  
 = Mary doesn’t look good with any clothes. (*unfortunate dresser reading*)  
 = Mary looks good naked. (*nudity reading*)

Haegeman (1995) and Svenonius (2002) argue that these two readings correlate with two different scope positions for the negative indefinite *no*. In the unfortunate dresser reading, the negative indefinite takes high scope and the negation bears on the entire clause. Under the nudity reading, the negative indefinite takes low scope.

In (18), the PP *with no clothes* is part of an antecedent for VP-ellipsis, and it is contained within the VP-ellipsis site:

- (18) You say MARY looks good with **no** clothes, but I say JULIE does ...  
 ... ~~look good with **no** clothes~~. (*\*unfortunate dresser, <sup>ok</sup>nudity*)

This example shows that under VP-ellipsis, only the nudity reading survives. Hence, when the negative indefinite is part of a VP-ellipsis site, it can only take low scope. High scope—i.e. scope outside of the ellipsis site—is excluded. More generally, based on the examples discussed in this subsection, we propose the following empirical generalization:

- (19) THE SCOPE GENERALIZATION  
 A negative indefinite in object position cannot take scope outside of a VP-ellipsis site.

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<sup>7</sup>For a more extensive empirical overview of the interaction between English modals (not only deontics, but also epistemic and dynamic ones), negative indefinites, and verbal ellipsis, providing additional support for the Scope Generalization, see Temmerman (2012). She also discusses split scope ( $\neg > \text{modal} > \exists$ ) vs. wide scope ( $\neg > \exists > \text{modal}$ ) readings of negative indefinites, a topic that will not concern us here.

## 2.4 Summary

In this section we focused on the behavior of English object negative indefinites in verbal ellipsis. Based on the data discussed in subsections 2.2 and 2.3, we arrived at the following two empirical generalizations:

- (20) THE ANY/NO GENERALIZATION  
While *no* can antecede the ellipsis of *any* in verbal ellipsis, the reverse configuration is disallowed.
- (21) THE SCOPE GENERALIZATION  
A negative indefinite in object position cannot take scope outside of a VP-ellipsis site.

In what follows, we provide an account for these generalizations. We argue that negative indefinites are formed through a morphological process, called fusion under adjacency, that is bleb by verbal ellipsis. The next section provides the background for the analysis.

## 3 Background for the analysis

### 3.1 Possible analyses of negative indefinites and their interaction with verbal ellipsis

Both generalizations discussed in the previous section crucially concern negative indefinites. As already indicated there, the interpretation of a negative indefinite does not always correspond to its surface position. For instance, an object negative indefinite can scope above a deontic modal, even though it surfaces to the right of that modal, as in example (15). There are various accounts in the literature of how such a reading comes about, and we review some of them in this subsection.

The traditional view of negative indefinites is that they are atomic lexical elements; more precisely, they are negative generalized quantifiers (see among others Zanuttini (1991), Haegeman and Zanuttini (1991, 1996), Dahl (1993), Haegeman (1995), Geurts (1996), de Swart (2000), von Stechow and Iatridou (2003), Iatridou and Zeijlstra (2010)). The sentence in (22a) is then analyzed as in (22b), where the meaning of *no* is the generalized determiner NO in (22c):<sup>8</sup>

- (22) a. Andy has no enemies.  
b. NO ( $\llbracket \text{enemies} \rrbracket$ ) ( $\lambda x$  Andy has  $x$ )  
c. NO ( $R$ )( $S$ ) = 1 iff  $\forall x : R(x) \Rightarrow \neg S(x)$
- [Sauerland 2000:416-417, (1)-(2)]

Negative quantifiers are interpreted just like other, non-negative, generalized quantifiers: in order to obtain sentential scope, the negative indefinite under-

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<sup>8</sup>For arguments against this approach independent of the one presented here, see Sauerland (2000), Weiß (2002), Iatridou and Sichel (2011), Penka (2011), Zeijlstra (2011).



goes Quantifier Raising (QR), targeting the same position as other generalized quantifiers (cf. Geurts 1996, de Swart 2000, Iatridou and Zeijlstra 2010).

Another option is to analyze negative indefinites as complex, decomposable lexical items (see among others Jacobs (1980), Rullmann (1995), Giannakidou (1997), Sauerland (2000), Weiß (2002), Tubau (2008), Haegeman and Lohndahl (2010), Johnson (2010), Penka and Zeijlstra (2010), Iatridou and Sichel (2011), Penka (2011), Zeijlstra (2011), Merchant (2013)).<sup>9</sup> In particular, while spelled out as a single word, *no* contains two syntactically and semantically distinct ingredients: (sentential) negation and an indefinite (expressing existential quantification). As such, a sentence containing a negative indefinite is equivalent to a sentence containing a combination of a negative marker and an (NPI) indefinite.<sup>10</sup> This is sketched for example (22a) in (23a) and paraphrased in (23b). Note that the truth conditions of (23a) and (23b) are identical.

- (23) a. NOT ( $\exists x \in \llbracket \text{enemies} \rrbracket$ ) : Andy has  $x$   
 b. ‘It’s not the case that Andy has an enemy.’  
 ‘Andy doesn’t have any enemies.’

[Sauerland 2000:417, (3)]

‘Decomposed’ object negative indefinites are often argued to be the result of Agree or feature checking between a sentential polarity head (an abstract negative operator) and a non-negative indefinite in object position (cf. Giannakidou 1997, Weiß 2002, Tubau 2008, Haegeman and Lohndahl 2010, Penka and Zeijlstra 2010, Penka 2011, Merchant 2013). The presence of an abstract negative marker is needed to license the indefinite. The semantically non-negative indefinite carries an uninterpretable negative feature [ $u\text{NEG}$ ] that has to be checked against a (covert) semantic negation, i.e. against an interpretable negative feature [ $\text{NEG}$ ] on a semantically negative element.<sup>11</sup> The negative indefinite is therefore the visible result of syntactic agreement, similar to phenomena such as subject-verb agreement or multiple gender marking on e.g. nouns and adjectives (cf. Penka and Zeijlstra 2010:781).

A third possible approach to negative indefinites are the amalgamation/incorporation analyses proposed by Bech (1955/57) Jacobs (1980), and Rullmann (1995). They consider an object negative indefinite to be the result of a fairly superficial process of amalgamation or incorporation between a negative marker and

<sup>9</sup>Note that some of these proposals do not involve actual decomposition. In particular, some take the negative indefinite to be a plain indefinite, which gets a negative interpretation because a covert negative operator licenses it in its scope (via Agree or feature checking, see below). As noted by Iatridou and Sichel (2011:609, fn.12), such accounts can nonetheless be grouped in the ‘decomposition camp’ because “on these analyses too negation and the existential are syntactically separate.”

<sup>10</sup>For the treatment of *any* as an existential (on a par with *a/some*) instead of a universal (on a par with *every*), see Klima (1964), Kamp (1973), and Sag (1976), among others (pace e.g. Quine (1960)).

<sup>11</sup>This proposal goes back to the analyses in, for example, Ladusaw (1992) and Zeijlstra (2004) of negative indefinites (or n-words in Laka’s (1990) terminology) in negative concord languages.

a string-adjacent indefinite determiner.<sup>12</sup> Rullman’s rule for Dutch negative indefinites is given in (24) (Rullmann 1995:197, (8)), where *geen* is the negative indefinite ‘no’, *niet* is the sentential negative marker ‘not’, and  $\text{Det}_{\text{indef}}$  is either the overt indefinite determiner *een* ‘a’ or a zero one (used in combination with bare plurals and mass nouns).

$$(24) \quad \textit{niet} \text{ Det}_{\textit{indef}} \Rightarrow \textit{geen}$$

As noted by Iatridou and Sichel (2011) and Zeijlstra (2011), while neither Jacobs nor Rullmann uses the term ‘PF’ to describe the component of the grammar where this process takes place, “the prose implies that this is what was intended” (Iatridou and Sichel 2011:626, fn.27); Rullmann (1995:197) talks about “a relatively superficial level of representation”.

We have now introduced three approaches to negative indefinites: a generalized quantifier + QR-analysis, a decomposition analysis that involves Agree or feature checking, and a decomposition analysis based on PF-amalgamation or -incorporation. When considering the interaction between negative indefinites and verbal ellipsis discussed in the previous section, the first two approaches turn out to be problematic. Recall that a negative indefinite in object position cannot take scope out of a VP-ellipsis site (the Scope Generalization). Relevant examples were given in (15) and (16), repeated here as (25) and (26), respectively:

$$(25) \quad \begin{array}{l} \text{John can do no homework tonight.} \\ = \text{It is not the case that John is permitted to do homework.} \quad \neg > \diamond \\ = \text{It is permitted that John does not do homework.} \quad \% \diamond > \neg \end{array}$$

$$(26) \quad \begin{array}{l} \text{Q: Who can offer **no** help?} \\ \text{A: \% Quentin Tarantino can } \langle \text{offer ~~no~~ help} \rangle. \quad * \neg > \diamond, \% \diamond > \neg \end{array}$$

Let us first consider how a QR-based analysis would handle these facts. It is well-known that VP-ellipsis does not block Quantifier Raising, at least not as long as Parallelism (cf. (27)) and Scope Economy (cf. (28), (29)) are respected (see Fox 2000 for extensive discussion).

$$(27) \quad \textit{Parallelism (a consequence of)}$$

In an ellipsis construction, the scopal relationship among the elements in the antecedent must be identical to the scopal relationship among the parallel elements in the ellipsis site.<sup>13</sup> [Fox 2000:32]

$$(28) \quad \textit{Economy condition on scope shifting (Scope Economy)}$$

An operation can apply only if it affects semantic interpretation (i.e., only if inverse scope and surface scope are semantically distinct). [Fox

<sup>12</sup>The accounts proposed in Iatridou and Sichel (2011) and Zeijlstra (2011) combine a QR-analysis with an amalgamation/incorporation component. In these decompositional analyses, the negative indefinite consists of two separate components, negation and an indefinite. Iatridou and Sichel (2011) take the latter to undergo QR to the position of the former.

<sup>13</sup>Fox (2000) adjusts the principle of Parallelism somewhat in Chapter 3 of his monograph. For our present purposes, the form in (27) suffices.

2000:21]

(29) *The Ellipsis Scope Generalization*

In an ellipsis construction, inverse scope is possible only if it is semantically distinct from surface scope both in the sentence that includes the ellipsis site and in the sentence that includes the antecedent. [Fox 2000:83]

Parallelism (cf. (27)) ensures that in ellipsis environments, the antecedent and the elliptical clause receive isomorphic representations at LF. Even if sentences are potentially scopally ambiguous, the scopal relationships in the antecedent cannot be different from those in the ellipsis site. Either both the antecedent and the ellipsis site have surface scope or they both have inverse scope. The latter option is only available if Scope Economy (cf. (28), (29)) is obeyed. The sentences in (30) and (31) illustrate how Parallelism and Scope Economy operate in VP-ellipsis. The sentence in (31) is restricted to surface scope, whereas the sentences in (30) are not.

(30) a. A boy admires every teacher. A girl does ~~(admire every teacher)~~, too.

[Fox 2000:33, (22e)]

b. Some girl watched every movie, and some boy did ~~(watch every movie)~~, too.

[Ha 2007:160, (10)]

- (i)  $\exists > \forall$  &  $\exists > \forall$  (both conjuncts take surface scope)
- (ii)  $\forall > \exists$  &  $\forall > \exists$  (both conjuncts take inverse scope)
- (iii) \*  $\exists > \forall$  &  $\forall > \exists$  (Parallelism is violated)
- (iv) \*  $\forall > \exists$  &  $\exists > \forall$  (Parallelism is violated)

(31) A boy admires every teacher. Mary does ~~(admire every teacher)~~, too.

[Fox 2000:32, (21)]

- (i)  $\exists > \forall$  &  $\exists > \forall$  (both conjuncts take surface scope)
- (ii) \*  $\forall > \exists$  &  $\forall > \exists$  (Scope Economy is violated)
- (iii) \*  $\exists > \forall$  &  $\forall > \exists$  (Parallelism is violated)
- (iv) \*  $\forall > \exists$  &  $\exists > \forall$  (Parallelism is violated)

In both (30) and (31), the interpretations in (iii) and (iv) are unavailable because they violate Parallelism. In order to explain why the sentences in (30) have the interpretation in (ii) available, while the one in (31) does not, Fox (2000) resorts to Scope Economy (and Parallelism):

(32) “The relevant difference between the two constructions, I propose, is that in [(31)] the ellipsis sentence is scopally uninformative. Therefore, Scope Economy restricts the ellipsis site to surface scope, and Parallelism blocks inverse scope in the antecedent sentence. In [(30a)

and (30b)], the ellipsis sentence is scopally informative and is therefore unrestricted by Scope Economy. Both the ellipsis sentence and the antecedent sentence can receive inverse scope as long as Parallelism is maintained.” [Fox 2000:34]

Note that in the illicit reading of (33) (i.e.  $\neg > \diamond$ ), both Parallelism and Scope Economy are respected:

- (33) Q: Who can offer no help?  
 A: % Quentin Tarantino can ~~offer no help~~.  $*\neg > \diamond, \% \diamond > \neg$

In particular, inverse scope (i.e. the negative indefinite outscoping the modal) is scopally informative, so Scope Economy is respected. This inverse scope reading is available in the antecedent, so following Parallelism, it should also be available in the ellipsis site. This is corroborated by the fact that in the non-elliptical counterpart of (33), inverse scope is freely available:

- (34) Q: Who can offer no help?  $\neg > \diamond, \% \diamond > \neg$   
 A: Quentin Tarantino can offer no help.  $\neg > \diamond, \% \diamond > \neg$

Given that both Parallelism and Scope Economy are respected, QR of the negative indefinite out of the VP-ellipsis site should be allowed, *quod non*:

- (35) Q: Who can offer no help?  $\neg > \diamond$   
 A: \* Quentin Tarantino can ~~offer no help~~.  $*\neg > \diamond$

In short, an analysis of negative indefinites based on QR cannot account for the Scope Generalization discussed in the previous section. Accordingly, we will not adopt such an approach in this paper.

The Agree/feature checking analysis of negative indefinites turns out to be problematic as well in light of their interaction with verbal ellipsis. In particular, it is well-known that VP-ellipsis does not block Agree/feature checking. For example, T can agree with the elided associate of a *there*-expletive. In *there*-expletive constructions, the expletive occupies specTP, while the thematic subject (the associate) remains in the base position inside the *v*P. When VP-ellipsis applies, the associate is included in the ellipsis site. As is shown in (36), the auxiliary outside of the ellipsis site agrees with the elided associate.

- (36) a. I didn't think there were going to be many people at the party, but there **were** ~~many people at the party~~.  
 b. I didn't think there was going to be a famous linguist at the party, but there **was** ~~a famous linguist at the party~~.

[van Craenenbroeck 2010:136, (41)]

Note that this is not due to some (obscure) locality or adjacency effect: even a T-head that is structurally and linearly far removed from the ellipsis site can still agree with an elided associate:

- (37) a. Q: Will there be a linguist at the party?

- A: Well, there **seems** to be likely to be ~~⟨a linguist at the party⟩~~.
- b. Q: Will there be (any) linguists at the party?  
 A: Well, there **seem** to be likely to be ~~⟨linguists at the party⟩~~.
- (38) a. Q: Will there be an independent investigation of the murder?  
 A: There **seems** likely to be ~~⟨an independent investigation of the murder⟩~~.
- b. Q: Will there be independent investigations (by the CIA, the FBI, ... ) of the murder?  
 A: There **seem** likely to be ~~⟨independent investigations of the murder⟩~~.

Given that VP-ellipsis does not interfere with Agree/feature checking, accounts of negative indefinites based on these mechanisms are at a loss to explain why verbal ellipsis disallows negative indefinites to take high scope. If high scope is the result of Agree/feature checking between (the determiner of) the object and a high polarity head, the examples in (36)–(38) suggest that an ellipsis boundary should be unable to interfere with this process.

More generally, we have now reviewed two syntactic approaches to negative indefinites and have concluded that neither of them can account for the interaction between negative indefinites and ellipsis. Therefore, we will pursue a morphological analysis in terms of fusion (incorporation/amalgamation) instead. The first lexical decomposition analyses, put forward by Bech (1955/57), Jacobs (1980), and Rullmann (1995), propose that an amalgamation/incorporation process combines a negative marker and an indefinite determiner into a negative indefinite. As noted by Zeijlstra (2011:19), their proposals crucially rely on phonological string adjacency between the negation and the indefinite. Not surprisingly, Bech, Jacobs, and Rullman focus on German and Dutch. These are SOV languages, which means that the object and the sentential negation marker surface adjacent (i.e. the verb does not intervene between them). Given that English is an SVO-language, though, and that the two components of a negative indefinite are not string adjacent in any obvious sense, an analysis of English object negative indefinites that involves decomposition and fusion seems problematic. This is illustrated in (39), where sentential negation and (the indefinite determiner of) the postverbal object are separated by the verb.

- (39) Vegetarians do **not** eat **any** meat.

Given Rullmann (1995:197)’s claim that “incorporation is blocked by lexical material that lies between *not* and  $Det_{indef}$  at the surface” (our translation), the amalgamation/incorporation accounts of Bech (1955/57), Jacobs (1980), and Rullmann (1995) seem ill-suited to deal with object negative indefinites in English. What we will propose instead in section 4 is that the locality/adjacency required for the fusion of the negation and the indefinite is established under multidominance.<sup>14</sup> Before turning to this analysis, we first introduce the theo-

<sup>14</sup>Note that the various post-syntactic reordering mechanisms proposed in Distributed Morphology (Halle and Marantz 1993), such as Lowering or Local Dislocation, cannot establish

retical background for our account: Johnson (2012)’s multidominance account of *wh*-movement and Quantifier Raising.

### 3.2 A multidominance analysis of *wh*-movement and Quantifier Raising (Johnson 2012)

Johnson (2012) proposes to model *wh*-movement with the operation of remerge (i.e. Internal Merge). He argues that remerge resolves conflicting requirements of the semantics and the morphology of constituent questions. It results in a phrase having two mothers, i.e. in multidominance.

Johnson starts out from the idea that constituent questions involve two components: (i) a DP that introduces a variable in a clause-internal position, and (ii) a question morpheme Q in a left-peripheral position that semantically combines with the clause (marking the scope of the question) and binds off the variable introduced by the DP (Hagstrom 1998, Reinhart 1998, Kishimoto 2005, Cable 2007, 2010). In English, the Q-component is phonologically silent; only the variable component (the *wh*-phrase) is visible. In other languages (e.g. Japanese), both components are overtly realized. In the Japanese example in (40), an interrogative phrase (*dono gakuseiga*) occupies the position of the variable and a question morpheme (*ka*) on the verb marks the scope of the question.

- (40) *(Kimi-wa) dono gakusei-ga nattoo-o tabe-tagatte-iru-to*  
 (you-TOP) which student-NOM nattoo-ACC eat-desirous-be-C  
*omoimasu-ka?*  
 think-Q  
 ‘Which student do you think wants to eat nattoo?’ [Japanese, Johnson 2012:539, (33)]

For Japanese, “we might imagine that the question morpheme and the interrogative phrase are independently merged into the positions that they are pronounced in” (Johnson 2012:539). For English, Johnson adopts Cable (2007, 2010)’s analysis of *wh*-questions in Tlingit. A *wh*-phrase in Tlingit occupies a left-peripheral position (like in English), but at the same time the question contains both a *wh*-determiner and a Q-morpheme (like in Japanese). Unlike the Japanese Q, the Q-morpheme in Tlingit is part of the *wh*-phrase. This is illustrated in (41): the Q-particle *sá* has merged with the DP that contains the *wh*-word *aadóo*.

- (41) *[Aadóo yaagú sá]<sub>i</sub> ysiteen t<sub>i</sub>?*  
 whose boat Q you-saw  
 ‘Whose boat did you see?’  
 [Tlingit, Johnson 2012:539, (34), citing Cable 2010:44, (67)]

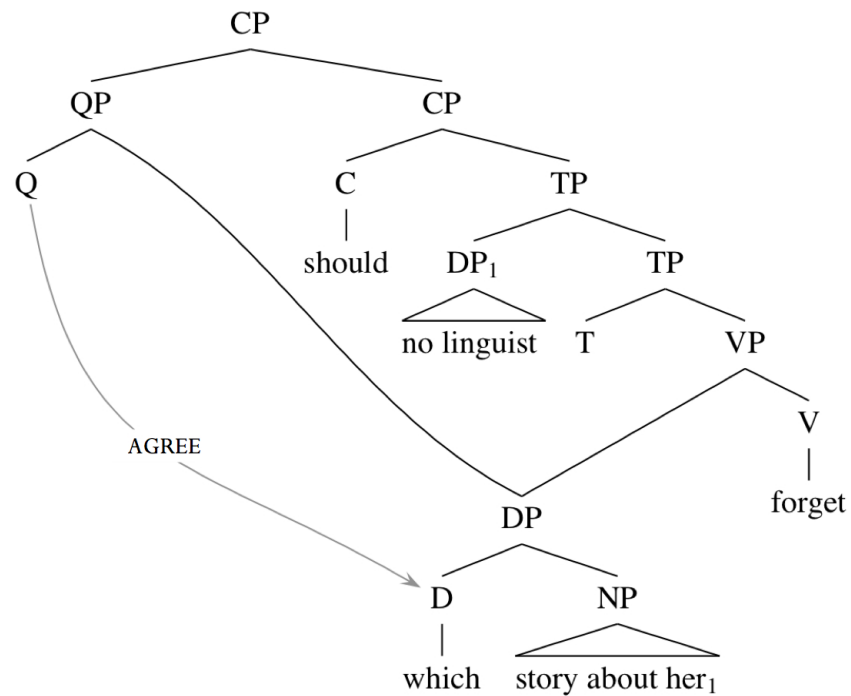
Cable (2007, 2010) proposes that there is an Agree-relation between the Q-particle and the *wh*-word. This Agree-relation is subject to a locality condition, which forces the Q-morpheme to be merged directly with the interrogative the required adjacency relation either; see Temmerman (2012:142-144) for detailed discussion.

phrase (see Cable (2007, 2010) for details)). In English, this Q-morpheme is silent, and the *wh*-determiner *which* is considered to be an agreeing form of D. Put differently, *which* is the overt spell-out of the Agree-relation between Q and D.

Importantly, Q does not combine semantically with the DP it is merged with. Rather, it needs to combine at a clausal level, to turn the entire sentence into a question. The rest of the *wh*-DP, however, is not interpreted in that higher position; only the Q-morpheme is. In other words, the semantics require that the Q-morpheme and the interrogative DP be more distant than the locality condition on the Agree-relation between them tolerates. These conflicting semantic and morphosyntactic requirements are met thanks to remerge, which results in a multidominant representation. To make this more concrete, consider the structure in (43) for the example in (42).

(42) Which story about her<sub>1</sub> should no linguist<sub>1</sub> forget?

(43)



[Johnson 2012:540, (41)]

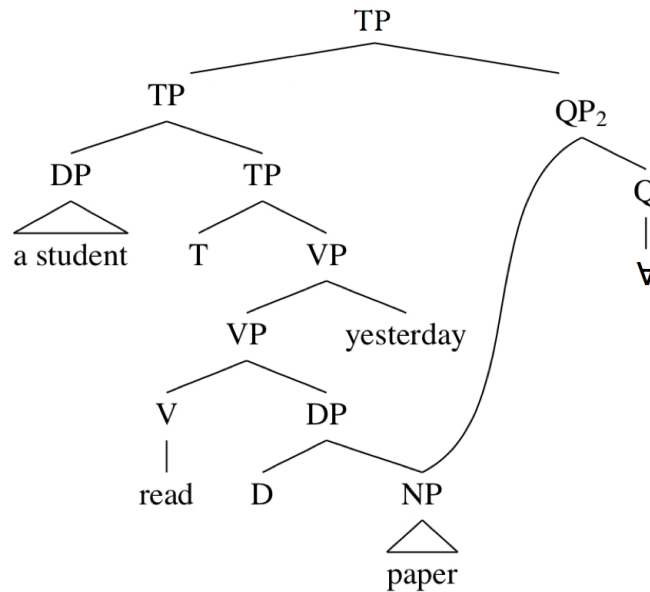
When linearization applies to the structure in (43), the remerged DP, which is related to two positions, can only be linearized in one of these positions. For the

representation in (43), the interrogative DP can either be linearized in specCP or in the base position of the direct object. In a simple constituent question like (42), English chooses the former option, linearizing the interrogative phrase in clause-initial position.

As far as QR is concerned, Johnson proposes that it too involves two components: (i) a DP in a lower position, which has the denotation of a definite description, and (ii) an operator in a higher position that binds this definite description (cf. also Engdahl (1980, 1986) and Fox (2003)). As a generalized quantifier, the operator “combine[s] first with the NP in the quantificational DP and then with another predicate, one that corresponds to the scope of the quantifier” (Johnson (2012:543)).<sup>15</sup> As shown in the structure in (45) for the example in (44), *remerge* puts an NP in two structural positions in a sentence containing QR. The determiner in the lower position and the quantifier in the higher position both combine semantically with this NP.

(44) A student read every paper yesterday.

(45)



[based on Johnson 2012:543, (48)]

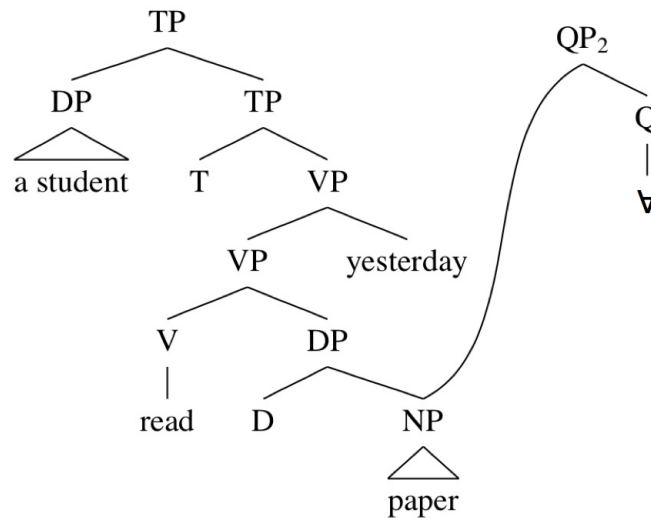
Note that the determiner *every* in (44) is spread over two syntactic positions in

<sup>15</sup>As pointed out by Johnson (2012:543n18), this presupposes that “the quantificational part of a quantificational DP can be expressed syntactically in a position different from where the quantificational DP is”, see also Williams (1986, 1988), Beghelli (1993), Kitahara (1996), Reinhart (1997). Note also that Johnson’s analysis is close in spirit to Kennedy’s (1997:669, fn.10) proposal that the syntactic operation QR “is driven by the need to generate a structure that permits the proper interpretation of a quantificational determiner.”



the representation in (45): on the one hand, the D inside the direct object DP, and on the other, the Q heading the QP adjoined to TP. This raises the question of how these two syntactic nodes can be spelled out as one. In particular, given that there is no c-command relation between D and Q in (45), the spell-out of D as *every* cannot be an instance of an Agree-ing determiner (as was the case for *which* in *wh*-questions, see above). Instead, Johnson proposes that there is a morphological process, fusion, that combines two terminal nodes into one, which is then realized by a single lexical item. However, based on the structure in (45), it is not obvious how fusion can bring together Q and D, as these heads are clearly not adjacent to one another. Johnson suggests that fusion has to occur before the structure in (45) is built. In particular, the morphological requirements of Q and D force (cyclic) linearization to take place prior to the merger of QP and TP, i.e. at the point of the derivation given in (46):<sup>16</sup>

(46)



[Johnson 2012:545, (54)]

The result of this linearization procedure is given in (47):

<sup>16</sup>Johnson (2012:545) formulates it as follows: “I speculate that there is a condition which requires the terminals in a phrase marker to be mapped onto matching morphology. That condition should require the Q holding  $\forall$ , for instance, to be expressed morphologically. But if the term that expresses  $\forall$ —let’s assume it’s *every*—can only be inserted in a position where  $\forall$  and *the* are fused, then this requirement will not be met in a structure formed by QR. [...] I suggest that this has the effect of forcing fusion to occur before QR builds the offending structure. Because fusion requires of the terms to be fused that they be adjacent, this will also require that the linearization algorithm be run on structures formed before QR has applied”. See section 4.2 for further discussion and an alternative.

(47) a. The linearization of TP in (46):

$$\left( \begin{array}{lll} a < \text{student} & \text{student} < T & \text{read} < D \\ a < T & \text{student} < \text{read} & \text{read} < \text{paper} \\ a < \text{read} & \text{student} < D & \text{read} < \text{yesterday} \\ a < D & \text{student} < \text{paper} & D < \text{paper} \\ a < \text{paper} & \text{student} < \text{yesterday} & D < \text{yesterday} \\ a < \text{yesterday} & & \text{paper} < \text{yesterday} \end{array} \right)$$

b. The linearization of QP in (46):  $\{ \forall < \text{paper} \}$

The fusion of two terminals is dependent on a locality condition: they can fuse only if the linearization algorithm assigns them adjacent positions. Johnson defines adjacency as in (48), which can be formally represented as in (49):

(48) *Adjacency*

Two terminal items  $\alpha$  and  $\beta$  are adjacent if the linearization algorithm puts nothing in between them. [cf. Johnson 2012:546, fn.22]

(49) Two terminal nodes  $\alpha$  and  $\beta$  are adjacent iff  $\neg\exists\gamma.((\alpha < \gamma \ \& \ \gamma < \beta) \vee (\beta < \gamma \ \& \ \gamma < \alpha))$

The linearization algorithm has put nothing in between D and  $\forall$  in (47): there is nothing that follows  $\forall$  and precedes D or vice versa. Hence, D and  $\forall$  are allowed to fuse and they get mapped onto a single vocabulary item (the quantifier *every*). This vocabulary item now comes to occupy the positions assigned to D and  $\forall$  in (47). In the end, the linearized string will be *A student read every newspaper yesterday*, with the QRed phrase spelled out in its original position but interpreted with clausal scope.

This concludes our overview of Johnson (2012)’s multidominant analysis of *wh*-movement and QR. In the next section we apply this line of reasoning to negative indefinites.

## 4 The analysis: ellipsis blocks fusion

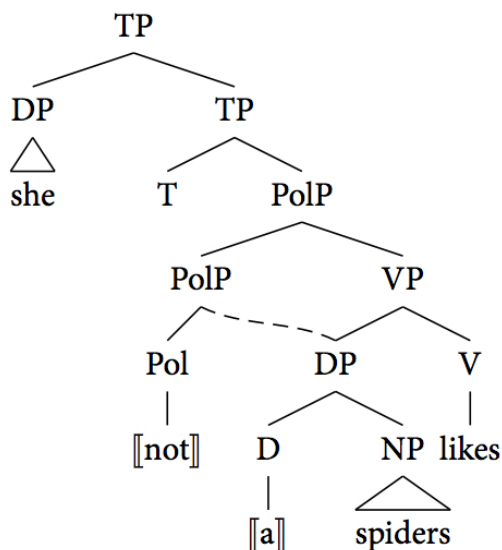
In this section we present our analysis of negative indefinites and their interaction with verbal ellipsis. Subsection 4.1 introduces the core of the account: negative indefinites involve remerge and fusion under adjacency. Because of remerge, the locality required for fusion is obtained, and the negative head and the indefinite can fuse together. In subsections 4.2 and 4.3, we return to the two empirical generalizations discussed in section 2, and show how the interaction between negative indefinites and verbal ellipsis in English follows from our account. We argue that the PF-process of ellipsis bleeds fusion, thus blocking the formation of a negative indefinite in certain contexts.

#### 4.1 The core of the analysis: negative indefinites involve multidominance

Johnson (2010) proposes to extend the analysis outlined in the previous section to negative indefinites. In particular, even though the negative indefinite is spelled out as a single word (i.e. *no*), it is spread across two distinct syntactic positions: sentential negation and an indefinite determiner. Moreover, negative indefinites involve a multidominant derivation: the indefinite direct object first merges with the verb and later (re)merges with sentential negation. The multidominant phrase marker proposed by Johnson (2010) for (50) is given in (51). The Pol-head in (51) combines semantically with VP—it negates the proposition—but morphologically with DP.<sup>17</sup>

(50) She likes no spiders. (= *She doesn't like (any) spiders.*)

(51)



[Johnson 2010]

Johnson proposes that an Agree relation is established between the Pol-head and the determiner of the DP Pol merges with (like in his analysis of *wh*-movement, see above). This is where we diverge from his account. We propose that the Pol-head does not undergo Agree with the D-head, but rather fusion under adjacency. We define fusion under adjacency as the morphological process whereby two syntactic terminals are spelled out by a single lexical item, provided

<sup>17</sup>This is why the tree branch connecting PolP and DP is a dashed line: the merger of these two elements has no semantic import. See Johnson (2012) for details.

these two terminals are adjacent when the syntactic structure is linearized.<sup>18</sup> We have two reasons for proposing that negative indefinites involve fusion under adjacency rather than an Agree-relation. First, an Agree analysis of negative indefinites would predict the Probe (the head Pol) and the Goal (the head D) to be able to be spelled out simultaneously. Recall that in Tlingit the *wh*-form of D (= the Goal) and the Q-particle (= the Probe) overtly co-occur (cf. Cable (2007, 2010)). A relevant example was given in (41), repeated here as (52):

- (52) *[Aadóo yaagú sá]<sub>i</sub> ysiteen t<sub>i</sub>?*  
 whose boat Q you-saw  
 ‘Whose boat did you see?’  
 [Tlingit, Cable 2010:44 (67) as cited in Johnson 2012:539 (34)]

Negation and an agreeing D-head cannot be spelled out simultaneously, as illustrated in (53).

- (53) a. \*John did not buy nothing. (\* under the single negation reading)<sup>19</sup>  
 b. \*John does not read no novels. (\* under the single negation reading)

An analysis in terms of fusion, on the other hand, correctly predicts sentential negation and negative indefinites to be in complementary distribution: the two syntactic terminals undergoing fusion are by definition realized as a single vocabulary item.

Secondly, negative indefinites often transparently consist of two components (negation + indefinite), as discussed at length in Sauerland (2000). For instance, in Mohawk the negative indefinite *yahuhka* ‘nobody’ consists of the sentential negation morpheme *yah* ‘not’ and the existential indefinite *uhka(k)* ‘anybody’ (data originally from Baker (1995:28–29) and Baker (1996:58–60)):

- (54) *Shawatis yahuhka to-shako-ka-0.*  
 John nobody NEG-AGR-see-STAT.  
 ‘John saw nobody.’  
 [Mohawk, Sauerland 2000:421 (10)]

- (55) *Yah to-shako-ka-0 uhka.*  
 not NEG-AGR-see-STAT anybody  
 ‘He didn’t see anybody.’  
 [Mohawk, Sauerland 2000:422 (15)]

Similarly, in Norwegian, the negative indefinite *ingen* ‘no’ consists of the negation *ikke* ‘not’ and the indefinite *noen* ‘any’ (cf. (56), data originally from Chris-

<sup>18</sup>This process differs from the DM-version of fusion in that the latter takes two discrete terminal nodes that are sisters under a single category node and collapses them into a single terminal node (Halle and Marantz 1993:116). In our structures, Pol and D are not sisters under a single category node. Moreover, head movement from D to Pol is disallowed, so they cannot *become* sisters either.

<sup>19</sup>Note that this leaves room for an analysis of negative concord in terms of Agree rather than fusion. We will not explore this possibility here, but see Temmerman (2012:Ch.6) for some discussion.

tensen (1986) as cited in Kayne (1998)), and in Dutch, the negative indefinite *niets* ‘nothing’ can be decomposed into negation *niet* ‘not’ and the indefinite *iets* ‘something’, as shown in (57).<sup>20</sup>

- (56) a. *Jon leser inger romaner.*  
 John reads no novels  
 ‘John reads no novels.’  
 b. *Jon leser ikke noen romaner.*  
 John reads not any novels  
 ‘John does not read any novels.’  
 [Norwegian, Sauerland, 2000, 423, (17)-(18)]
- (57) a. *Jan heeft niets gekocht.*  
 John has nothing bought  
 ‘John has bought nothing.’  
 b. *Dat is niet iets wat Jan gekocht heeft.*  
 that is not something what John bought has  
 ‘That is not something John has bought.’  
 [Dutch]

Summing up, while we agree with Johnson that negative indefinites express in a single word information that is present in two distinct syntactic terminals and that this involves a multidominant derivation, we take the relation connecting the two pieces of the negative indefinite not to be syntactic in nature (Agree), but rather morphological (fusion under adjacency).<sup>21</sup> In what follows, we show how this accounts for the two empirical generalizations laid out in the first half of the paper.

## 4.2 Returning to the Scope Generalization

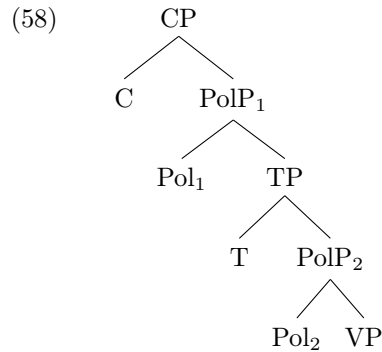
### 4.2.1 Three basic assumptions

Before we present our account of the Scope Generalization, we need to clarify three basic assumptions. First, we follow the bulk of the literature on negation in assuming that clauses contain (at least) two scopal positions dedicated to negation (see among others Lasnik (1972), Robbers (1992), Zanuttini (1997),

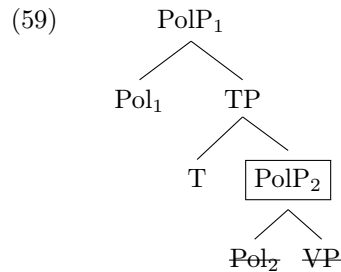
<sup>20</sup>Note, as a reviewer reminds us, that the two Dutch examples are not equivalent in meaning: in the second one, the existential quantifier gets a specific interpretation. See Huddleston and de Swart (2014:155) for a similar example from Afrikaans and a discussion of the meaning difference.

<sup>21</sup>Note that this means that we are introducing a third kind of configuration into Johnson’s ontology: our analysis of negative indefinites is like his account of *wh*-movement in that it is the DP rather than the NP that is multiply dominated, but it is like his account of QR in that Pol and D are combined through fusion rather than Agree. As far as we are able to ascertain, adopting this type of analysis makes the correct predictions within Johnson’s system (in addition to making the correct predictions outlined in the main text above). For example, it predicts that like QR, NEG-shift is always covert. This aligns nicely with the observation that alleged instances of NEG-shift typically piggyback on independently attested movement operations, such as scrambling (Haegeman (1995)), object shift (Svenonius (2002)), or focus movement (Tubau (2008:136ff)).

Oosthuizen (1998), Kemenade (2000), Barbiers (2002), Cormack and Smith (2002), Haegeman (2002), Holmberg (2003), Schwarz and Bhatt (2006), Biberauer (2008), Tubau (2008), van Craenenbroeck (2010)). More specifically, the clause structure we adopt is the one in (58), with two Pol(arity)Ps,<sup>22</sup> one dominating and one dominated by TP.<sup>23</sup>



Secondly, we follow Zagana (1988), Lobeck (1995), Martin (1996), Johnson (2001), Merchant (2001), Aelbrecht (2009) and others in assuming that ellipsis requires a licensing head. That is, only particular heads with a certain feature specification (the licensors) can trigger PF-deletion of their complement. For VP-ellipsis in English, the licensing head is generally taken to be the inflectional head T when it is occupied by a finite auxiliary, a modal, or the infinitival marker *to*. This means that VP-ellipsis is actually ellipsis of the complement of T, i.e. in light of the structure in (58), ellipsis of the lower PolP:



Thirdly, we adopt Fox and Pesetsky (2003, 2004)'s definition of ellipsis, given in (60):

(60) *Ellipsis* [cf. Fox and Pesetsky (2003:21)]

<sup>22</sup>As is customary, we assume that positive and negative polarity are expressed by a single functional projection. For discussion (and a variety of different names for this projection), see Pollock (1989), Laka (1990), Culicover (1991), Zanuttini (1997), Holmberg (2003), Zeijlstra (2004), Tubau (2008).

<sup>23</sup>The tree structure in (58) is a schematic representation in that it abstracts away from projections like *v*P, AgrSP, AgrOP, AspP, ModP, AuxP, etc., and from the possibility of further splitting up TP and/or CP.

Ellipsis of  $\alpha$  involves (i) the non-pronunciation of any terminal element dominated by  $\alpha$  and (ii) the deletion from the Ordering Table of all ordering statements referring to the terminal elements dominated by  $\alpha$ .

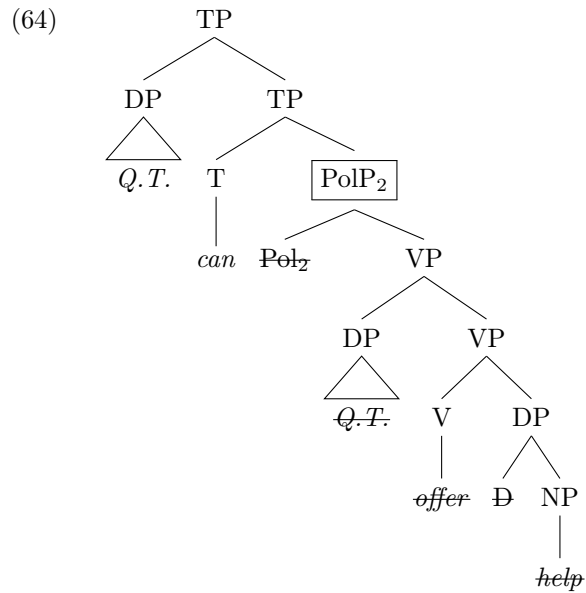
The notion of ‘Ordering Table’ is defined by Fox and Pesetsky (2003:16) as follows: “An Ordering Table receives the output of [the linearization algorithm] at various points as the derivation proceeds. The information that the Ordering Table receives from [Linearization] at any given stage is added to the information already present in the Ordering Table.” What sets this definition apart from other ‘deletion/non-insertion’ approaches to ellipsis (Ross 1969, Sag 1976, Johnson 2001, Lasnik 2001, Merchant 2001) is that ellipsis not only affects the pronunciation of terminal elements, it also deletes the linearization statements referring to these terminals.

#### 4.2.2 Deriving the Scope Generalization

Recall the Scope Generalization in (61) and the examples illustrating it in (62) and (63):

- (61) THE SCOPE GENERALIZATION  
A negative indefinite in object position cannot take scope outside of a VP-ellipsis site.
- (62) Q: Who can offer no help?  
A: \* Quentin Tarantino can ~~offer no help~~. ( $*\neg > \diamond$ )
- (63) Q: Who can offer no help?  
A: % Quentin Tarantino can ~~offer no help~~. ( $\% \diamond > \neg$ )

In what follows, we first present the derivation of the sentence in (62). After merger of the VP (and arguably also Spell-Out and linearization, cf. Chomsky’s (2000, 2001) Phase Theory), PolP<sub>2</sub> and T are merged. T attracts the subject to its specifier and triggers deletion of its complement, i.e. all linearization statements referring to terminal elements dominated by PolP<sub>2</sub> are removed from the ordering table. This point in the derivation is shown in (64), and the linearization of the elided PolP<sub>2</sub> is given in (65):



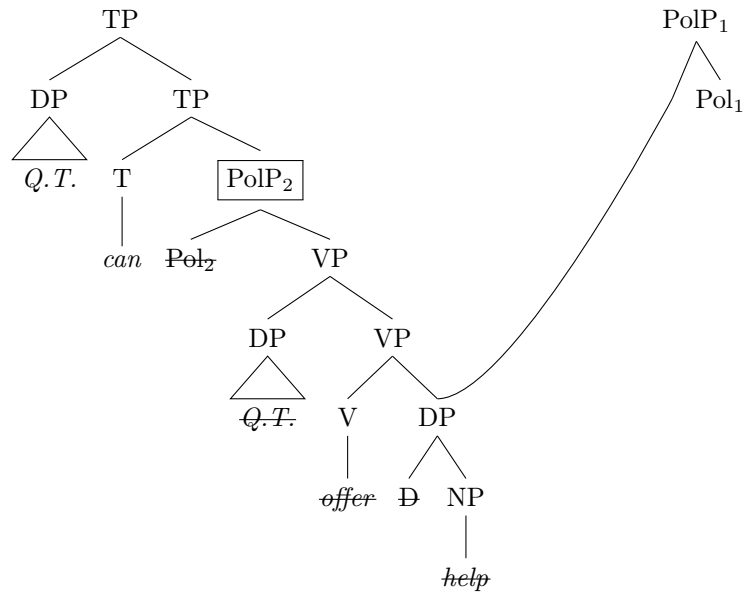
(65) The linearization of PolP<sub>2</sub> is:

$$\left\{ \begin{array}{l} \text{Pol}_2 \leftarrow \text{Q.T.} \quad \text{Q.T.} \leftarrow \text{offer} \quad \text{offer} \leftarrow \text{D} \quad \text{D} \leftarrow \text{help} \\ \text{Pol}_2 \leftarrow \text{offer} \quad \text{Q.T.} \leftarrow \text{D} \quad \text{offer} \leftarrow \text{help} \\ \text{Pol}_2 \leftarrow \text{D} \quad \text{Q.T.} \leftarrow \text{help} \\ \text{Pol}_2 \leftarrow \text{help} \end{array} \right\}$$

Given that in the example we are trying to derive (i.e. (62)), negation outscopes the modal in T, it is the highest of the two PolPs that is used to indicate the scope of the negative indefinite. Accordingly, in the next step of the derivation Pol<sub>1</sub> merges with DP:

(66)





This is the point in the derivation where  $\text{Pol}_1$  and D would normally undergo fusion to form the lexical item *no* (i.e. right before the merger of  $\text{Pol}_1$  and TP, compare with Johnson’s account in (46) above). As it turns out, however, D has already been elided, which means there is nothing to fuse with: fusion is bled and  $\text{Pol}_1$  can only be spelled out as an independent lexical item, i.e. as *not/n’t*. In other words, the derivation just sketched is spelled out as (67); the example in (68) can—in the intended reading—simply not be derived by our system.

(67) Quentin Tarantino can’t  $\langle$ offer ~~(any)~~ help $\rangle$ . ( $\neg > \diamond$ )

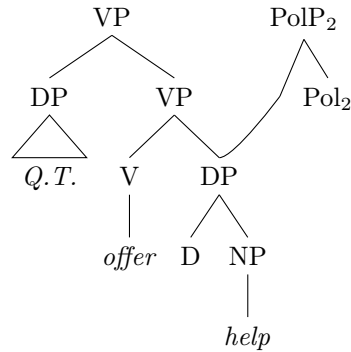
(68) \*Quentin Tarantino can  $\langle$ offer ~~no~~ help $\rangle$ . ( $*\neg > \diamond$ )

Now let’s turn to the other scope reading, i.e. the grammatical example in (63), repeated below.

(69) Q: Who can offer no help?  
 A: % Quentin Tarantino can  $\langle$ offer ~~no~~ help $\rangle$ . ( $\% \diamond > \neg$ )

For those speakers who allow the modal *can* to outscope negation, this reading is also available in VPE-contexts. Given that in this case negation scopes below T, it is  $\text{Pol}_2$  that merges with the direct object. This is shown in (70).

(70)



At this point, the morphological requirements of Pol<sub>2</sub> and D trigger (cyclic) linearization. The result is shown in (71) and (72):

(71) The linearization of VP:

$$\left\{ \begin{array}{lll} \text{Q.T.} < \text{offer} & \text{offer} < \text{D} & \text{D} < \text{help} \\ \text{Q.T.} < \text{D} & \text{offer} < \text{help} & \\ \text{Q.T.} < \text{help} & & \end{array} \right\}$$

(72) The linearization of Pol<sub>2</sub>:

$$\left\{ \begin{array}{ll} \text{Pol}_2 < \text{D} & \text{D} < \text{help} \\ \text{Pol}_2 < \text{help} & \end{array} \right\}$$

Given the definition of adjacency in (48)-(49), Pol<sub>2</sub> and D are adjacent. The linearization algorithm has put nothing in between them, which means they can undergo fusion under adjacency into *no*:

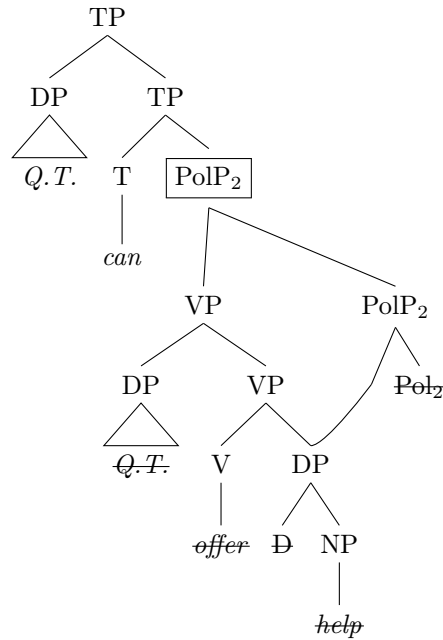
(73) The linearization of VP:

$$\left\{ \begin{array}{lll} \text{Q.T.} < \text{offer} & \text{offer} < \text{no} & \text{no} < \text{help} \\ \text{Q.T.} < \text{no} & \text{offer} < \text{help} & \\ \text{Q.T.} < \text{help} & & \end{array} \right\}$$

(74) The linearization of Pol<sub>2</sub>: {no < help }

In the next step of the derivation, VP and PolP<sub>2</sub> are merged together, and after that, T is merged. It attracts the subject to its specifier and triggers deletion of its complement. This point in the derivation is shown in (75), and the linearization of the elided PolP<sub>2</sub> in (76):

(75)



(76) The linearization of PolP<sub>2</sub>:

$$\left\{ \begin{array}{l} \text{Q.T.} \leftarrow \text{offer} \quad \text{offer} \leftarrow \text{D} \quad \text{no} \leftarrow \text{help} \\ \text{Q.T.} \leftarrow \text{no} \quad \text{offer} \leftarrow \text{help} \\ \text{Q.T.} \leftarrow \text{help} \end{array} \right\}$$

Finally, the rest of the structure is merged (Pol<sub>1</sub>, C, etc.) and the derivation is spelled out as (77):

(77) % Quentin Tarantino can ~~offer no help~~.

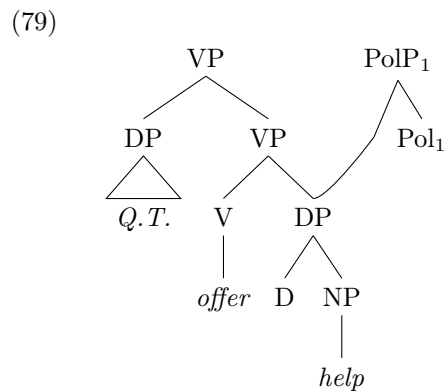
What the combination of these two derivations shows, is that is is the *timing* of ellipsis *vis-à-vis* fusion that plays a crucial role in determining whether or not negative indefinites can sit inside an ellipsis site. If fusion takes place prior to ellipsis (i.e. if D merges with Pol<sub>2</sub>), the derivation converges and the VP-ellipsis site can contain an object negative indefinite. If this fusion operation tries to target a structure that has already been elided (i.e. if D merges with Pol<sub>1</sub>), the target for fusion is gone and the operation is bled. The net result is that a negative indefinite cannot take scope outside of a VP-ellipsis site, i.e. we have derived the Scope Generalization.

Before turning to the *any/no*-Generalization, however, let us consider an alternative derivation of the example in (62) (repeated below as (78)), one that at first glance has the unwanted potential of ruling in the inverse scope reading.<sup>24</sup>

<sup>24</sup>Many thanks to a *Syntax*-reviewer for suggesting this alternative.

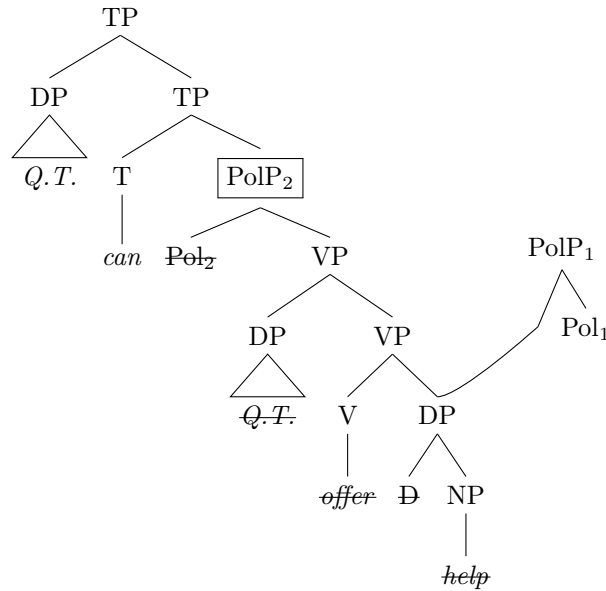
- (78) Q: Who can offer no help?  
 A: \* Quentin Tarantino can ~~offer no help~~. (\*¬ > ◇)

The alternative account essentially amounts to combining elements from the two derivations sketched above: like in the derivation in (70), the polarity head is introduced early in the derivation, i.e. before VP-ellipsis takes place, but like the structure in (66), polarity is integrated into the clausal spine only *after* TP has merged. More specifically, let's assume that after the VP is finished, the direct object is merged with Pol<sub>1</sub> (or, that there is parallel merge of the object DP with V and Pol<sub>1</sub>). The resulting structure is (79):



At this point in the derivation, Pol<sub>1</sub> and D can undergo fusion under adjacency to form the negative determiner *no*, as the linearization algorithm has placed nothing in between the two elements. Next, PolP<sub>2</sub> and TP are merged, T attracts the subject to its specifier, and triggers VP-ellipsis. This is shown in (80).

- (80)



Note that is the exact same tree as (66), except that it has been arrived at through a different derivation. In particular, the timing of the merger between  $\text{Pol}_1$  and D and the application of VP-ellipsis has been reversed: the former now precedes the latter. Given that it was precisely that timing that played a crucial role in our analysis of the Scope Generalization, the alternative derivation sketched in (79)-(80) is potentially damaging. We will present two possible responses to this challenge (without choosing between the two). The first will remain very close to the proposal of the Scope Generalization outlined in this section and will suggest a way of ruling out the derivation step shown in (79), i.e. the ‘early merger’ of  $\text{Pol}_1$ . The second option will be to allow the derivation in (79)-(80), but to make a slight change to Johnson (2012)’s spell-out algorithm so as to be able to retain the timing aspect of our account.<sup>25</sup>

The first approach one could take towards ruling out the alternative derivation in (79)-(80) would be to block  $\text{Pol}_1$  from being merged into the derivation at the stage shown in (79). In particular, assume that the merger of the functional heads in the clausal spine has to follow the functional sequence familiar from cartographic work (e.g. Cinque (1999)). This can be implemented as a requirement on the operation Select: it can only select the  $\text{Pol}_1$ -head from the Numeration after it has first selected T (which itself is dependent on the selection of  $\text{Pol}_2$ , etc.). Indeed, if access to the lexicon proceeds not in bulk, but via lexical arrays or subnumerations as proposed by Chomsky (2000), the

<sup>25</sup>Note that—contrary to what a reviewer suggested—Chomsky (1995)’s Extension Condition cannot help us choose between the two derivations. As argued in detail by de Vries (2009, 2013), the type of structure-building operation used here (called external remerge by De Vries) always has at least one root node as its input (regardless of when Pol and D are merged) and as such can be argued to extend the derivation. See the papers cited for details.

Pol<sub>1</sub>-head would simply not be available for selection at the stage of the derivation illustrated in (79). At any rate, whatever the precise mechanism driving the restriction, the result would be that Pol<sub>1</sub> cannot be introduced into the derivation until after T is merged, which means that our analysis of the Scope Generalization as we have presented it above can be upheld without changes.

A second approach towards the analysis in (79)-(80) would be to allow these derivations, but to tweak the linearization mechanism that we have been assuming so far. Recall that we have followed Johnson (2012) in assuming that what drives linearization during the derivation (apart from phasal spell-out) are the morphological requirements of the heads about to undergo fusion ( $\forall$  and D in Johnson (2012)'s analysis of QR, Pol and D in our account). In Johnson (2001:545)'s phrasing, the fact that  $\forall$  in English can only be expressed morphologically in a single lexical item that also expresses D/*the* "has the effect of forcing fusion to occur before QR builds the offending structure. Because fusion requires of the terms to be fused that they be adjacent, this will also require that the linearization algorithm be run on structures formed before QR has applied." On closer inspection, however, this approach has a number of downsides. Most notably, there's a clear lookahead flavor to it:  $\forall$  seems to have to 'know beforehand' that it runs the risk being unpronounced in order for it to force the derivation to undergo linearization prematurely. A second reason to be suspicious is that it seems unlikely for the morphological properties of individual lexical items to control central properties in the flow of the syntactic derivation. A possible alternative would be to adopt the multiple spell-out model of Uriagereka (1999). A central ingredient of that proposal is that complex specifiers or adjuncts need to be spelled out (and hence linearized) before they are merged into the clausal spine. Applying that to the derivation in (79)-(80), it becomes clear that at the point in the derivation shown in in (79), there is no trigger to linearize PolP<sub>1</sub>: it is not a phase, and it is not yet integrated into the clausal spine. However, as long as PolP<sub>1</sub> is not linearized, Pol<sub>1</sub> and D are not adjacent and fusion cannot take place. It is only at the stage depicted in (80), right before PolP<sub>1</sub> gets integrated into the clausal spine, that Uriagereka-style multiple spell-out forces PolP<sub>1</sub> to be linearized. However, at this point, D has already been elided and fusion is no longer an option.

Summing up, we have discussed two approaches towards dealing with the alternative derivation sketched in (79)-(80). As pointed out above, we will not choose between them here, as we believe both to be viable options. Moreover, both retain the central intuition of our analysis of the Scope Generalization, namely the fact that this empirical generalization finds its explanation in the timing of the various components of the derivation (merger, linearization, ellipsis). In the next subsection we direct our attention to the *any/no*-generalization.

### 4.3 Deriving the *any/no*-Generalization

The *any/no*-Generalization is repeated in (81) and some relevant examples are given in (82) and (83):

- (81) THE ANY/NO GENERALIZATION  
While *no* can antecede the ellipsis of *any* in verbal ellipsis, the reverse configuration is disallowed.
- (82) Martin Scorsese liked **no** movie and Quentin Tarantino didn't (~~like **any** movie~~) either.
- (83) Who didn't like **any** movie?  
\* Quentin Tarantino did (~~like **no** movie~~).

It should come as no surprise that we want to try and account for these facts with the same mechanisms that were responsible for the Scope Generalization, i.e. the question of whether the determiner of the direct object is merged with the higher or the lower of the two Pol-heads. In fact, the examples in (82) and (83) already follow straightforwardly from our account. Let us see why this is the case.

As pointed out above, we follow Fox (2000) in assuming that an ellipsis site has to be scopally parallel to its antecedent. With respect to the data that we are concerned about (negative indefinites under verbal ellipsis), we take this to mean that it has to be the same polarity head that is activated in both the ellipsis-containing clause and the antecedent clause (see also Fox and Lasnik (2003) for similarly fine-grained structural sensitivities in ellipsis parallelism). With this in mind, let us turn to (82). The fact that the negation *n't* in the second clause occurs outside of the ellipsis site indicates that this is the spell-out of Pol<sub>1</sub>. Parallelism requires that this same polarity phrase be activated in the first clause as well. We have seen that in a non-elliptical clause (barring any other scope-taking elements), a negative indefinite can be the result of fusion with either polarity head: thus, Parallelism can be respected in this case, and the example is correctly ruled in. Things are different, though, in the second example, i.e. in (83). Cormack and Smith (2002) have argued that the contracted negation *n't* is invariably the spell-out of the higher polarity head. This means that in the antecedent clause, it is Pol<sub>1</sub> that is activated. Parallelism now requires that the same be true of the ellipsis sentence, but this raises a problem. Given that VP-ellipsis bleeds fusion between the high Pol-head and the determiner of the direct object (see the previous section), the elided VP cannot contain a negative indefinite that is the result of fusion between Pol<sub>1</sub> and D. Parallelism (requiring Pol<sub>1</sub> to be activated) cannot be respected here, and the example is (correctly) ruled out.

Summing up, our account of the *any/no*-Generalization is essentially the same as that of the Scope Generalization. The presence of *any* in the antecedent clause forces the negative indefinite to take scope outside of the ellipsis site. This is, however, impossible, because the negative indefinite in a verbal ellipsis site cannot be the result of fusion between the D-head and the high Pol-head, given that ellipsis bleeds this fusion operation. As a result, Parallelism is violated and the example is ruled out.

It should be clear, though, that the pair in (82)-(83) does not exhaust the range of possible configurations we need to look at in the context of the *any/no*-

Generalization. In particular, consider the following example (provided to us by a reviewer, and with the judgment confirmed by our informants):

- (84) John did not read any book yesterday.  
 \* Bill did ~~read no book~~ today.<sup>26</sup>

In this case, we are not using the contracted negator *n't*, but rather its full form *not*. Following standard practice, we assume this form can be merged in either the low or the high polarity position. This means that it should in principle be possible to construct a converging derivation for this example: the *not* in the antecedent clause is the spell-out of Pol<sub>2</sub>, and the negative indefinite in the ellipsis site arises as the result of a fusion process between Pol<sub>2</sub> and the determiner of the direct object, obeying Parallelism. Given that this fusion operation is wholly contained inside the ellipsis site, it is not bled by the application of ellipsis and the example should be fine. The fact that it isn't, we believe, is due to the nature of the two polarity phrases. So far we have presented the two PolPs as being fully interchangeable, distinguished only by their position in the clausal functional hierarchy. Let us assume, however, that this difference in structural height corresponds to a more contentful distinction as well. In particular, assume that the high PolP expresses propositional negation, and the lower one predicate negation. To make this more concrete, consider the example in (85) and its two possible logical interpretations in (86) (the example is from Butler (2003:983)):

- (85) My Hoover isn't working.  
 (86) a.  $\neg$ [my Hoover is working]  
 b. my Hoover is [ $\neg$  working]

The formula in (86a) “denies a proposition, while [(86b)] affirmatively ascribes a negated predicate to a subject” (Butler (2003:983)). In the absence of other scope-bearing material in the clause, the two interpretations are truth-conditionally equivalent, but what we want to propose is that the default option is the higher, propositional negation. More specifically, in the absence of any indications to the contrary, the default merge position for *not* is Pol<sub>1</sub>. This not only explains why the example in (84) is not well-formed, it also makes a clear prediction: if we can force a low reading for *not* in the antecedent, a switch from *any* in the antecedent to *no* in the ellipsis site should be grammatical. Consider in that respect the following variation on the example in (84):

- (87) [context: John and Bill are being very uncooperative in class, and moreover, John seems to be influenced by Bill's (bad) behaviour.]  
 John will probably NOT read any book today, just like Bill did yesterday.

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<sup>26</sup>Note that for some of our informants the string *Bill did today* has a grammatical parse in this context, with the meaning ‘Bill did read a book today’. We ignore this reading in what follows.



Our informants confirm that this example is not only grammatical, it also has an ellipsis site with a negative interpretation, unlike the one in (84). A similar example is given in (88).

- (88) [context: There’s an eating contest and both John and Mary want to end last in the contest. Peter and Julie are discussing this.]  
 Peter: So can John forfeit the game?  
 Julie: Well, he COULD not eat anything, I guess.  
 Peter: But then, Mary could too.

The problem with these kinds of examples, though, is that there is no way of telling if the ellipsis site contains a (fused) negative indefinite or an NPI licensed by Pol<sub>2</sub>. The ellipsis site in (87) could have either of the two structures in (89), and similarly for (88) and (90).

- (89) a. John will probably NOT read any book today, just like Bill did  
 <not read any book> yesterday.  
 b. John will probably NOT read any book today, just like Bill did  
 <read no book> yesterday.
- (90) a. But then, Mary could <not eat anything> too.  
 b. But then, Mary could <eat nothing> too.

Summing up, then, the account we have provided for the Scope Generalization carries over to the *any/no*-Generalization, at least in so far as the clearest examples are concerned (cf. data such as those in (82)-(83)). For the more complicated examples such as the one in (84), we have suggested that there is a general preference for sentential negation to target the higher of the two PolPs.<sup>27</sup> We can have the context override this preference, but then it becomes

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<sup>27</sup>Note that this preference might also be at play in examples where *no* antecedes the ellipsis of *no*, see section 2.3. In particular, a reviewer provides the example in (i) and points out that for him/her the second sentence can only get a positive interpretation (‘Steve scored at least one goal today’).

- (i) John scored no goals yesterday.  
 ? Steve did today.

Most of our informants share this judgement. All of them, however, agree that the example vastly improves (with the relevant negative reading of ‘Steve scored no goals yesterday’) when presented in the following context: ‘John and Steve are both playing a soccer video game, and they have certain achievements that they need to unlock. One is to go through a whole soccer match without scoring any goals. John unlocked that achievement yesterday, Steve today.’ So once again, forcing the negation to be interpreted low improves the acceptability of the examples.

As for the examples we presented in section 2.3 ((12) and (13) in particular), it is worth pointing out that both of them contain additional operator material (*wh*-movement and subject focus respectively). If Butler (2003) is right in proposing that there is a tight connection between the high PolP and FocP (he goes so far as to equate them), then the presence of operator material in FocP might be what allows/triggers the low PolP to be activated in these examples.

Finally, note that the absence of *no* in the ellipsis sites in (7) (see also note 2) is of a different nature: having a negative indefinite in the ellipsis sites here would simply render the

impossible to determine whether the ellipsis site contains a negative indefinite or a low negator combined with an NPI in object position.

## 5 Summary and conclusions

In this paper, we have taken a close look at the scopal patterns of English negative indefinites in VP-ellipsis contexts. We have presented the following two empirical generalizations:

- (91) THE ANY/NO GENERALIZATION  
While *no* can antecede the ellipsis of *any* in verbal ellipsis, the reverse configuration is disallowed.
- (92) THE SCOPE GENERALIZATION  
A negative indefinite in object position cannot take scope outside of a VP-ellipsis site.

We have argued that negative indefinites do not undergo QR or Agree/feature checking. Rather, they decompose into two independent elements, sentential negation (Pol) and an indefinite determiner (D). Their formation is the result of a morphological process, fusion under adjacency. The locality/adjacency required for fusion of the negation and the indefinite comes about under multidominance (i.e. it is established through remerge). When ellipsis, a PF-process, precedes this kind of fusion, it can bleed it. This, we have argued, is what blocks the occurrence of high-scoping negative indefinites inside VP-ellipsis sites, and what prevents *not...any* from anteceding *no* in VP-ellipsis.

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