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CHAPTER 4

EPISTEMIC/DYNAMIC MODALS, NEGATIVE INDEFINITES & ELLIPSIS

1 Introduction

In sections 2.2 and 2.3 of chapter 3, I discussed the interaction of deontic modals, negative indefinites, and verbal ellipsis. I showed that only the *de re* interpretation (where the deontic modal outscopes the negative indefinite) is allowed in verbal ellipsis – irrespective of the relative scope of the modal and the object negative indefinite in a non-elliptical clause. The table in (1) gives a schematic overview:

(1) *Overview: deontic modals licensing VPE*

	Mod>Neg deontic modal		Neg>Mod deontic modal	
	full clause	VP-ellipsis	full clause	VP-ellipsis
<i>de re</i> allowed	YES	YES	YES	YES
<i>split</i> allowed	NO	NO	YES	NO
<i>de dicto</i> allowed	NO	NO	YES	NO

The observations regarding deontic modals substantiated the VPE/NI Generalization in chapter 3, repeated here in (2):

(2) THE VPE/NI GENERALIZATION

A negative indefinite (NI) in object position cannot scope out of a VP-ellipsis (VPE) site.

This chapter presents an extensive empirical overview of the interaction of epistemic/dynamic modals, negative indefinites, and verbal ellipsis. It is shown that only a narrow scope reading is available for an object negative indefinite in verbal

ellipsis licensed by an epistemic or dynamic modal, irrespective of its scopal possibilities in a non-elliptical clause.¹ This confirms the VPE/NI Generalization in (2). In section 4.1 of chapter 3, the VPE/NI Generalization was accounted for as follows: negative indefinites result from a PF-process, Fusion Under Adjacency, and ellipsis (a PF-process as well) can block the morphological process of FUA in the formation of a negative indefinite. The timing of FUA and ellipsis plays a crucial role. FUA can occur before the ellipsis licenser is merged. After the licensing head has been merged and the ellipsis site has been shipped off to PF, FUA with the D-head of the object DP can no longer take place. This explains why negative indefinites cannot scope out of a verbal ellipsis site. This account straightforwardly carries over to verbal ellipsis licensed by epistemic and dynamic modals.

When an epistemic modal co-occurs with an aspectual auxiliary in verbal ellipsis, however, the elliptical sentence can not only have a *de re* reading, but also a *split* and/or *de re* interpretation. Similarly, when a dynamic modal does not license ellipsis, but is part of a VPE-site licensed by dummy *do*, all scopal possibilities become available. I argue that the former state of affairs is accounted for if there is co-licensing of VPE (by the epistemic modal and aspectual auxiliary) and co-licensing only happens after movement of the epistemic modal to a higher functional head, Mod. The latter observation (regarding dynamic modals and dummy *do*) follows straightforwardly from the account presented in chapter 3 if the dynamic modals under scrutiny involve a biclausal structure.

This chapter is organized as follows. Section 2 focuses on epistemic modals. After an introductory subsection (2.1), subsection 2.2 presents the empirical observations concerning the relative scope of an object negative indefinite and an epistemic modal. First, scopal behavior under licensing by the epistemic modal itself is considered. Second, it is shown that scopal possibilities differ when the epistemic modal co-occurs with an aspectual auxiliary. Subsection 2.3 presents the analysis of the data described in subsection 2.2. The topic of section 3 is dynamic modals. Subsection 3.1 describes the empirical facts regarding the scope of negative

¹ Note, as in section 2.3 of chapter 3, that Parallelism (cf. (i)) is respected in the sentences under scrutiny in this chapter.

(i) *Parallelism (A consequence of)* [Fox 2000:32]
 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.

In principle, all scopal possibilities (of the modal and negation) allowed in the antecedent are allowed in the elliptical clause as well, as long as the sentence obeys Parallelism. The fact that the sentences discussed in this section only allow narrow scope of the negative indefinite cannot be due to Parallelism. See section 6.3 of chapter 3 and section 2 of chapter 5 for more on Parallelism.

indefinites and dynamic modals in verbal ellipsis; subsection 3.2 provides an account. Section 4 concludes.

2 Epistemic modals and negative indefinites in ellipsis

2.1 Background

Epistemic modality expresses the speaker's judgment (i.e. his/her confidence or lack of confidence) about the truth of a proposition (i.e. whether it is possible, probable, or necessarily true), based on the kind of information (s)he has (cf. Coates 1983; McArthur 1998; Cinque 1999).

It is standardly assumed that epistemic modals always outscope sentential negation (cf. Cinque 1999; Drubig 2001; Cormack & Smith 2002). Relevant examples are given in (3):

- (3) [von Fintel & Iatridou 2003:184, (43)]
- | | | |
|----|---------------------------|---------------------|
| a. | John must not be at home. | $(\Box > \neg)$ |
| b. | John may not leave. | $(\Diamond > \neg)$ |

However, Butler (2003) argues that there is a difference between epistemic possibility and epistemic necessity: while epistemic necessity modals (e.g. *must*) always scope above negation, epistemic possibility modals (e.g. *can*) may also scope below negation (see also the discussion in Gergel 2009). According to von Fintel & Iatridou (2003:184), the epistemic necessity modal *have to* can either scope above or below sentential negation. Moreover, "there appear to be perfectly epistemic modals that are almost specialized as narrow scope epistemic modals", such as *need* and *can* (von Fintel & Iatridou 2003:184). Note that both narrow scope *have to* and *need* contradict Butler's generalization that only possibility epistemic modals can scope below negation.

- (4) [von Fintel & Iatridou 2003:184, (44)-(45)]
- | | | | |
|----|-----------------------------------|---------------------|----------------------|
| a. | John does not have to be at home. | $(\neg > \Box)$ | He might be at work. |
| b. | John need not be home. | $(\neg > \Box)$ | He might be at work. |
| c. | John can't be at home. | $(\neg > \Diamond)$ | He must be at work. |

Epistemic modals do not generally license verbal ellipsis, unlike deontic ones (cf. Gergel 2009:200). When verbal ellipsis occurs in the context of a modal, the epistemic reading of this modal becomes considerably degraded, even if it is fully acceptable in a non-elliptical clause (cf. McDowell 1987; Drubig 1998, 2001; Depiante 2000; López & Winkler 2000; Gergel 2003, 2009; Winkler 2003). For instance, the non-elliptical sentence in (5)a has both a deontic and an epistemic reading. In the elliptical counterpart in (5)b, however, this ambiguity is not preserved: only the deontic reading is available.

- (5) [Drubig 2001:30]
- a. John must wash his care every day. (✓deontic, ✓epistemic)
 - b. John must wash his car every day and Peter must too. (✓deontic, *epistemic)

According to Gergel (2009), however, some epistemic modals – in particular, the existential (possibility) ones (*could*, *may*, *might*) – do license verbal ellipsis. These modals contrast with universal (necessity) epistemic modals such as *must* and *will*, which do not license VP-ellipsis. This contrast is illustrated in (6) and (7).

- (6) [Gergel 2009:196-7, (93)-(96)-(98)]
- a. John will fly to London and Mary may too. (✓epistemic)
 - b. Jane may wash her car and Mary may/might/could too. (✓epistemic)
 - c. “You have to be a real masochist to want to direct,” he says with a smile. But Fearheiley does, and Smith might, too. (✓epistemic)

- (7) [Gergel 2009:196-7, (93)-(96)-(98)]
- a. She might have been watching television more often than he might. (✓epistemic)
 - b. * She might have been watching television more often than he must. (*epistemic)
 - c. ? Mary may be a successful student, and they say Frances may too. (✓epistemic)
 - d. * Mary must be a successful student, and they say Frances must too. (*epistemic)

Moreover, it has been noted by Winkler (2003) and Gergel (2009) that adding an (aspectual) auxiliary to the elliptical clause makes an epistemic reading possible for all modals. This is called “co-licensing” (vs. “direct licensing”) in Gergel (2009). This is shown in the examples in (8), which allow for epistemic interpretations.

- (8) [Gergel 2009:190, (77)]
- a. Ben could have answered the question, but John couldn't have.
(✓epistemic)
 - b. John shouldn't have been being blackmailed, but George should have
(been).
(✓epistemic)

In short, regarding the interaction of epistemic modality and negation, the literature presents a diverse picture. Moreover, when it comes to epistemic modality and ellipsis licensing, it is not that clear from the literature whether or not (or which) epistemics directly license verbal ellipsis. In what follows, I present the judgments of my informants regarding the scope interactions between epistemic modals and object negative indefinites, both in non-elliptical clauses and in verbal ellipsis. It is not my intention to present an analysis for all the different judgments given by my informants. Rather, I wish to discuss the general picture emerging from the judgments, for which I will present an analysis in section 2.3.

2.2 The data

The judgments of my informants confirm the observation that most epistemic modals do not directly license verbal ellipsis. In a few instances, though, the epistemic modal can occur to the immediate left of a verbal ellipsis site. As shown in subsection 2.2.1, if this is the case, the elliptical clause only gets a *de re* interpretation (with the epistemic modal scoping above the object negative indefinite), irrespective of the scopal possibilities in the non-elliptical counterpart. This confirms the VPE/NI Generalization in (2) that an object negative indefinite cannot scope out of a VPE-site. The account of the VPE/NI Generalization developed in chapter 3 can thus trivially be extended to epistemic modals.

Although most epistemic modals do not directly license ellipsis, verbal ellipsis is possible if these modals co-occur with an (aspectual) auxiliary. In this case, we get a mixed picture regarding the scopal possibilities with respect to an object negative indefinite: all relative scopes in principle seem to be available.^{2,3} The data are

² This is not to say that all scopal relations are available in all elliptical sentences. The three scopal possibilities (narrow, split, and wide) are, however, attested, which suggests that none of the readings is blocked in principle. I gloss over this here, as this section aims to derive the difference between one possible reading (*de re*) in the case of (only) an epistemic modal vs. multiple possible readings in the case of an epistemic modal accompanied by an auxiliary. Why some readings are not allowed for some informants is not my primary concern here.

presented in subsection 2.2.2. In light of the account developed in chapter 3, the observations in 2.2.2 might seem puzzling at first sight. In section 2.3, I present an analysis that handles all observations regarding epistemic modals introduced in this section.

2.2.1 THREE EPISTEMIC MODALS LICENSING VPE

The three epistemic modals that license verbal ellipsis without an extra auxiliary present are *can*, *may*, and *need to*.⁴ Note that the fact that *need to* (which expresses epistemic necessity) licenses verbal ellipsis contradicts Gergel's (2009) claim that only epistemic possibility modals directly license VP-ellipsis.

When it comes to the epistemic possibility modal *may* and its scope relative to an object negative indefinite, most of my informants only allow the *de re* interpretation (i.e. only reading 1), while a minority allows both the *de re* and the *split* interpretation (i.e. both reading 1 and reading 2).⁵

- (9) John may sell no cars this month.
Reading 1: It is possible that John won't sell cars this month.
Reading 2: It is not possible that John will sell cars this month.
Reading 3: There are no cars for which it is possible that John will sell them this month.

Although most of my informants do not allow epistemic *may* to license verbal ellipsis (or only permit a positive/contradictory reading for the elliptical clause, due to the presence of the conjunction *but*), a minority does allow for (10) with a negative reading.⁶ In that case, (10) can only get a *de re* interpretation, with the modal scoping

³ As was also the case for elliptical clauses with a deontic modal (see section 2.3 of chapter 3) some of my informants only allow a positive/contradictory interpretation for elliptical clauses with an epistemic modal:

- (i) Who must have read no history books? John must (have).
Reading: John must have read history books.

⁴ For my informants, an epistemic reading for the NPI modal *need* is in general degraded or unacceptable. This is the case in both elliptical and non-elliptical clauses. Therefore, *need* will not be discussed here.

⁵ Recall that the paraphrases of reading should be read as 'there is/are no specific X that...'. If the paraphrases of reading 3 are interpreted as 'there is/are no X whatsoever that...', then this reading is indistinguishable from reading 2.

⁶ The percentage sign (%) preceding the sentence in (10) and the other elliptical examples in this chapter is meant to indicate that not all of my informants accept the elliptical sentence with a negative reading.

above the object negative indefinite. Importantly, this is also true for the second group of informants, who allow a split interpretation in the non-elliptical counterpart. This observation confirms the VPE/NI Generalization in (2).

- (10) % Mary said Peter may sell no cars this month, but I think John may.
- | | |
|---|-----|
| <i>Reading 1:</i> It is possible that John won't sell cars this month. | YES |
| <i>Reading 2:</i> It is not possible that John will sell cars this month. | NO |
| <i>Reading 3:</i> There are no cars for which it is possible that John will sell them this month. | NO |

For a sentence containing the modal *can* and an object negative indefinite, only some of my informants can get an epistemic reading (indicated by %).⁷ Gergel (2009:217,fn.8) notes that the modal *can* “does not generally express epistemic meaning. However, on its negated form, it can arguably have an epistemically flavored reading.” The informants who judge (11) as perfectly grammatical on an epistemic interpretation get all three readings, only *split* and *de re* (i.e. readings 2 and 1), or only *split* (i.e. reading 2).

- (11) % Stephen Hawking can have made no serious claims about God.
- | | |
|---|--|
| <i>Reading 1:</i> It is possible that S.H. made no serious claims about God. | |
| <i>Reading 2:</i> It is not possible that S.H. made serious claims about God. | |
| <i>Reading 3:</i> There are no serious claims about God for which it is possible that S.H. made them. | |

Only a very small portion of my informants allows epistemic *can* to license verbal ellipsis with a negative reading, as in (12). Importantly, only the *de re* interpretation is available in that case (again supporting the VPE/NI Generalization).

- (12) % Who can have made no serious claims about God? Stephen Hawking can.
- | | |
|--|-----|
| <i>Reading 1:</i> It is possible that Stephen Hawking made no serious claims about God. | YES |
| <i>Reading 2:</i> It is not possible that Stephen Hawking made serious claims about God. | NO |
| <i>Reading 3:</i> There are no serious claims about God for which it is possible that Stephen Hawking made them. | NO |

⁷ Some of my informants point out that they can only get an epistemic reading with *could* instead of *can*.

For a sentence containing epistemic *need to* and an object negative indefinite, the judgments of my informants again show quite some variation. Some only get a *de re* interpretation (i.e. only reading 1) for the sentence in (13), while others get readings 1 and 2.

(13) % John needs to have played no video games.⁸

Reading 1: It is necessarily the case that John played no video games.

Reading 2: It is not necessarily the case that John played video games.

Reading 3: There are no video games for which it is necessarily the case that John played them.

A minority of my informants permits the epistemic necessity modal *need to* to license verbal ellipsis, and again, only the *de re* reading (with the modal outscoping the negative indefinite) is allowed. Crucially, this judgment was also obtained from informants allowing readings other than the *de re* interpretation in the non-elliptical sentence. This again corroborates the VPI/NI-Generalization.

(14) % Mary needs to have played no video games and John also needs to.

Reading 1: It is necessarily the case that John played no video games. YES

Reading 2: It is not necessarily the case that John played video games. NO

Reading 3: There are no video games for which it is necessarily the case that John played them. NO

Summarizing, my informants' judgments regarding the scopal possibilities in non-elliptical sentences containing an epistemic modal and an object negative show a considerable amount of variation, and only a small minority of the informants allows epistemic *may*, *can*, and/or *need to* to license verbal ellipsis with a negative reading. Nevertheless, even from this very limited data set, it is clear that when an epistemic modal licenses verbal ellipsis, only the *de re* interpretation – with the epistemic modal outscoping the object negative indefinite – is allowed (as summarized in the table in (15)). This was also observed in the case of verbal ellipsis licensed by a deontic modal (discussed in sections 2.2 and 2.3 in chapter 3, cf. the overview in table (16)). As such, verbal ellipsis licensed by an epistemic modal substantiates the VPE/NI Generalization established in section 2 of chapter 3. In section 4.1 of chapter 3, the VPE/NI Generalization was accounted for based on the interaction

⁸ The percentage sign in (13) is due to the fact that some of my informants can only get a deontic interpretation for *need to*.

between the PF-processes of ellipsis and Fusion Under Adjacency. It was argued at length in chapter 3 that the formation of negative indefinites involves a PF-process, FUA. Ellipsis, which is also a PF-process, blocks the formation of a negative indefinite, accounting for the observation that high scope for a negative indefinite is blocked in verbal ellipsis. The account developed in chapter 3 can be straightforwardly extended to verbal ellipsis licensed by an epistemic modal.

(15) *Overview: epistemic modals licensing VPE*

	epistemic <i>may, can, need to</i>	
	full clause	VP-ellipsis
<i>de re</i> allowed	YES	YES
<i>split</i> allowed	YES	NO
<i>de dicto</i> allowed	YES	NO

(16) *Overview: deontic & epistemic modals licensing VPE*

	deontic modal		epistemic modal	
	full clause	VP-ellipsis	full clause	VP-ellipsis
<i>de re</i> allowed	YES	YES	YES	YES
<i>split</i> allowed	YES/NO	NO	YES	NO
<i>de dicto</i> allowed	YES/NO	NO	YES	NO

2.2.2 ASPECTUAL AUXILIARIES

For the other epistemic modals, none of my informants allows them to license ellipsis on their own. Verbal ellipsis is possible, though, when not only the epistemic modal precedes the ellipsis site, but also an (aspectual) auxiliary, *have* or *be*. The judgments given by my informants regarding the scopal possibilities in verbal ellipsis result in a very mixed picture. All scope options seem to be possible. Or, more precisely, none of the scopal possibilities seems to be excluded on principled grounds. In what follows, I present my informants' judgments (an analysis is developed in section 2.3).

The epistemic necessity modal *have to* can only scope above an object negative indefinite (i.e. only reading 1 is available). Informants permitting the elliptical counterpart of (17) only allow epistemic *have to* to occur in an ellipsis context when

combined with an extra auxiliary (*be* in this case). Only a *de re* interpretation is available for VPE in (17)b. This is unsurprising as the non-elliptical sentence also only has the *de re* reading.

- (17) a. % John has to be watching no TV show.⁹
 b. % John has to be watching no TV show and Mary also has to be.
- Reading 1:* In view of the evidence available, it is necessarily the case YES
 that John is not watching a TV show.
- Reading 2:* In view of the evidence available, it is not necessarily the NO
 case that John is watching a TV show.
- Reading 3:* In view of the evidence available, there is no TV show for NO
 which it is necessarily the case that John is watching it.

For the relative scope of the epistemic necessity modal *must* and an object negative indefinite, most of my informants only allow the *de re* interpretation (i.e. only reading 1), but some allow both the *de re* and the *split* interpretation (i.e. both reading 1 and reading 2), and still others both the *de re* and the *de dicto* interpretation (i.e. both reading 1 and reading 3).

- (18) John must have read no history books.
- Reading 1:* In view of the evidence available, it is necessarily the case that
 John did not read history books.
- Reading 2:* In view of the evidence available, it is not necessarily the case
 that John read history books.
- Reading 3:* In view of the evidence available, there are no history books for
 which it is necessarily the case that John read them.

Epistemic *must* does not license ellipsis by itself: an auxiliary (*have* in this case) also has to precede the ellipsis site. For the speakers who allow (19) with a negative reading, judgments vary. Those speakers only allowing the *de re* interpretation in the non-elliptical clause, also only allow the *de re* reading in the elliptical variant (which is unsurprising). For those speakers permitting both the *de re* and another reading (*split* or *de dicto*), the latter is always allowed in the elliptical clause as well, while the former is only for some speakers.¹⁰

⁹ Not all informants allow (17)a to have an epistemic reading, which is indicated by the percentage sign.

¹⁰ ‘YES’ for the three readings in (19), and also in (20) and (21), represents the cumulative judgments of my informants.

(19) % Who must have read no history books? John must have.

Reading 1: In view of the evidence available, it is necessarily the case that John did not read history books. YES

Reading 2: In view of the evidence available, it is not necessarily the case that John read history books. YES

Reading 3: In view of the evidence available, there are no history books for which it is necessarily the case that John read them. YES

The judgments for the relative scope of the epistemic probability modal *should* and an object negative indefinite fall into two groups: either the speakers permit only the *de re* interpretation (i.e. only reading 1), or they allow for all three readings.^{11,12} This is the case for both the non-elliptical and the elliptical variants in (20). Epistemic *should* on its own, i.e. unaccompanied by an aspectual auxiliary, does not license VP-ellipsis.

(20) a. USAF customers should have noticed no changes to aircraft quality.¹³
 b. % The army should have noticed no changes to aircraft quality and USAF customers also should have.

Reading 1: It is assumed that USAF customers did not notice changes to aircraft quality. YES

Reading 2: It is not assumed that USAF customers noticed changes to aircraft quality. YES

Reading 3: There are no changes to aircraft quality for which it is assumed that USAF customers noticed them. YES

Finally, the universal modal *will* can also get an epistemic probability reading. For the judgments regarding the relative scope of this modal and an object negative indefinite, my informants can once again be divided into two groups. The first only allows for the *de re* reading; the second permits all three readings – both for the non-elliptical sentence and its elliptical counterpart. Direct VPE-licensing by epistemic *will*, not co-occurring with an aspectual auxiliary, is degraded according to most of my informants.

¹¹ Reading 2 of the sentences in (20) and (21) has a NEG-raising interpretation that is irrelevant for my purposes and that was controlled for.

¹² For the majority of my informants, the other probability modal, *ought to*, can only get a deontic interpretation. Therefore, it is not discussed here.

¹³ USAF = United States Air Force. This example is based on an attested sentence, see <http://www.flightglobal.com/news/articles/boeing-alenia-part-ways-on-c-27j-final-assembly-talks-323148/>

- (21) a. John will have given no clues.
 b. Who will have given no clues? John will have.
Reading 1: In view of the evidence available, it is probably the case that
 John did not give clues. YES
Reading 2: In view of the evidence available, it is not probable that John
 gave clues. YES
Reading 3: In view of the evidence available, there are no clues for
 which it is probably the case that John gave them. YES

Summarizing, it seems that when an epistemic modal is combined with an extra (aspectual) auxiliary in verbal ellipsis, speakers allow for more scopal possibilities.¹⁴ In the case of an epistemic modal licensing ellipsis on its own, only the *de re* interpretation is allowed (as was the case for deontic modals licensing verbal ellipsis, cf. chapter 3, and here summarized once more in (16)). The *split* and *de dicto* readings become available when an extra aspectual auxiliary (*have* or *be*) accompanies the epistemic modal. A schematic overview of epistemic modals in verbal ellipsis is given in (22).

(16) Overview: deontic & epistemic modals licensing VPE

	deontic modal		epistemic modal	
	full clause	VP-ellipsis	full clause	VP-ellipsis
<i>de re</i> allowed	YES	YES	YES	YES
<i>split</i> allowed	YES/NO	NO	YES	NO
<i>de dicto</i> allowed	YES/NO	NO	YES	NO

¹⁴ It should be noted that this also applies to the epistemic modals discussed in the previous subsection (2.2.1). If the epistemic modal co-occurs with an aspectual auxiliary, more scope options become available.

(12)' % Who can have made no serious claims about God? Stephen Hawking can have.

(13)' % Mary needs to have played no video games and John also needs to have.

For (12)' and (13)', some of my informants also permit the *de dicto* reading (with the negative indefinite outscoping the modal) next to the *de re* reading (with the modal outscoping the negative indefinite).

(22) Overview: epistemic modals and VPE

	epistemic modal		epistemic modal + <i>have/be</i>	
	full clause	VP-ellipsis	full clause	VP-ellipsis
<i>de re</i> allowed	YES	YES	YES	YES
<i>split</i> allowed	YES	NO	YES	YES
<i>de dicto</i> allowed	YES	NO	YES	YES

It is clear that the scopal possibilities of an object negative indefinite with respect to a modal are different in case ellipsis is directly licensed by the modal (deontic or epistemic) or when the (epistemic) modal co-occurs with an aspectual auxiliary in verbal ellipsis. The next section provides an analysis for this contrast.

2.3 The analysis

When a (deontic or epistemic) modal licenses verbal ellipsis, an object negative indefinite can only get a narrow scope reading with respect to that modal. When an epistemic modal is followed by an aspectual auxiliary (*have/be*) in verbal ellipsis, however, all scopal possibilities (*de re*, *split*, and *de dicto*) are in principle available. In this section, I show that this follows from the analysis of the VPE/NI Generalization presented in chapter 3, combined with insights from Gergel (2009). I therefore first briefly present some of Gergel's proposals.

2.3.1 GERGEL (2009) ON EPISTEMIC AND DEONTIC MODALS AND VPE

According to Gergel (2009), and as also discussed in McDowell (1987), Cinque (1999), Drubig (2001), and Stowell (2004), epistemic modals generally outscope tense, while tenses can take deontic modals in their scope. For instance, as shown in (23)-(24), the deontic interpretation of *can* allows greater freedom with respect to tense than the epistemic reading. The (epistemic) sentences in (23) only allow "a default interpretation for the time of modal evaluation" (Gergel 2009:60): epistemic modals strongly tend to "anchor to the utterance time rather than falling under the scope of specified temporal operators" (Gergel 2009:172). The deontic modal *can/could* in (24), on the other hand, can anchor to the utterance time (as in (24)a), or it can fall under the scope of the (past) temporal operator (cf. (24)b).

- (23) [Gergel 2009:61, (153)]
- a. Jack's wife can't be very rich.
'It is not possible that Jack's wife is very rich.'
 - b. Jack's wife couldn't be very rich.
'It is not possible that Jack's wife is very rich.'
* 'It was not possible that Jack's wife was very rich.'
- (24) [Gergel 2009:61, (152c-d)]
- a. Max can't go out after dark. (permission at utterance time)
 - b. Max couldn't go out after dark. (permission at a past time)

Moreover, Gergel assumes that epistemic modals are always semantically situated above sentential negation, whereas deontic modals tend to scope below negation. An exception to this generalization is deontic *must*, which must take wide scope over negation. Gergel concludes that, in general, epistemic modals scope higher than deontic ones.

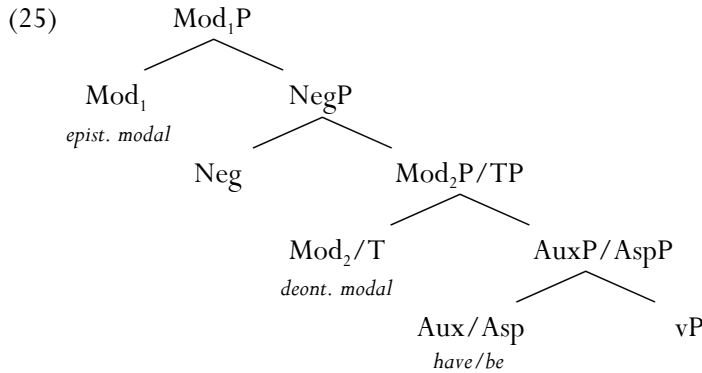
Cinque (1999), Drubig (2001), Cormack & Smith (2002), Butler (2003), and Gergel (2003, 2009) attribute these different scopal properties to configurational syntactic properties. That is, the interpretive distinction between epistemic and deontic modals correlates with a structural distinction (Cinque 1999:78). Different functional projections for epistemic and deontic modals are distinguished. Hence, scopal properties are derived from a universal basic syntactic template, in which epistemic modals are located higher than deontic ones. Moreover, epistemic modals (and deontic *must* according to Gergel 2009) occupy a position higher than the syntactic position dedicated to sentential negation and higher than the functional head representing tense. As a result, epistemic modals outscope tense and sentential negation. Cormack & Smith (2002), for instance, take there to be two positions for modals, Modal1 and Modal2, with sentential negation scoping in between them. According to Cormack & Smith, it is lexically specified (and thus idiosyncratic) which modals are merged in Modal1 and which ones in Modal2.¹⁵

For Gergel (2009:174), "the main modal position is fixed", i.e. I/T, as standardly assumed (cf. section 3.1.1 in chapter 3). He proposes that there are two types of modal projections in English, Mod₁ and Mod₂ (the latter corresponding to T).¹⁶

¹⁵ For a critical discussion of Cormack & Smith (2002) and Butler (2003), see Iatridou & Zeijlstra (2010).

¹⁶ Gergel (2009) also distinguishes two separate syntactic positions for necessity and possibility modals, with necessity occupying a structurally higher position than possibility (cf. also Cinque 1999; Hollander 1999, Cormack & Smith 2002; Butler 2003). As this distinction is not relevant for my purposes, I gloss over it here.

Epistemic modals occupy Mod_1 , while deontic ones occupy Mod_2/T . Gergel's proposal is schematically represented in (25):



The scope position of epistemic modals is Mod_1 , c-commanding and therefore taking scope over TP and NegP. Gergel stresses that the Mod_1 position for epistemic modals, although c-commanding TP, is not as high as the CP-domain.¹⁷ Deontic modals are merged in Mod_2 , which corresponds to T, below the functional projection dedicated to sentential negation. In between Mod_2/TP and vP, other interpretable material, such as aspectual auxiliaries, can be merged.

When it comes to VP-ellipsis, Gergel proposes that the licenser of ellipsis is defined within C_{HL} . Unlike Merchant (2001), who posits that there is an uninterpretable [E]-feature licensing ellipsis, Gergel proposes that ellipsis is licensed by an interpretable and projecting formal feature. In particular, temporality is a formal licensing element: English VP-ellipsis is licensed through the interpretable formal temporal feature [T]. This feature directly c-commands the ellipsis site. Mod_2/T , in which deontic modals are merged, is a licensing position. Gergel proposes that there is a [T]-feature in the feature matrix of deontic modals (as well as some epistemic modals, see below), which licenses ellipsis.

Asp (e.g. *have* or *be*) can also license VP-ellipsis. Gergel incorporates a proposal by Demirdache & Uribe-Etxebarria's (2000) and argues that aspectual heads/auxiliaries "accomplish a similar syntactic task as temporal elements [...]. In a simplified account, aspect orders time intervals relative to one another" (Gergel 2009:191). In particular, aspectual auxiliaries carry a [T]-feature in their feature

¹⁷ Gergel's (2009) proposal that ModP , which c-commands a high NegP/PolP, is not part of the CP-domain is in line with the proposal that the high PolP is part of the TP-domain, not the CP-domain (Holmberg 2003, van Craenenbroeck 2010), as discussed in section 3.1.2 of chapter 3.

matrix. Therefore, aspectual heads can also license ellipsis of their sister, vP. Summing up, the licenser for verbal ellipsis is merged either in the functional Aux/Asp-domain or in the Infl/T-domain.

The fact that epistemic modals do not generally license verbal ellipsis is captured as follows. Epistemic modals are merged in Mod₁, a high scopal position. Mod₁ cannot license ellipsis of its sister, as it does not have formal [T]. Some epistemic modals, however, do license ellipsis (in particular, the existential/possibility ones). Gergel proposes that these epistemic modals may be merged lower down (i.e. in Mod₂/T), where they license ellipsis, after which they move on to their scopal position in Mod₁. Similarly, deontic *must* (merged in Mod₂/T) moves on to Mod₁ as it always scopes high, above sentential negation.

2.3.2 THE ANALYSIS

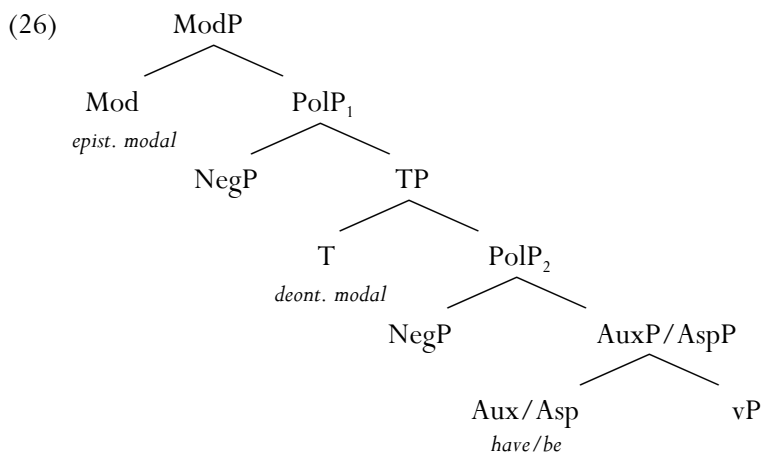
In this section, I first present the account of the relative scope of an object negative indefinite and an epistemic modal in verbal ellipsis licensed by that modal (subsection 2.3.2.1). In particular, I discuss why the negative indefinite only has a narrow scope reading in verbal ellipsis licensed by an epistemic modal. Then, in subsection 2.3.2.2, I provide a proposal for the scopal possibilities of negative indefinites in verbal ellipsis when the epistemic modal co-occurs with an aspectual auxiliary. At the end of that subsection, the analysis is extended to deontic modals co-occurring with an auxiliary in verbal ellipsis.

2.3.2.1 *Epistemic modals licensing VPE*

As discussed in subsection 2.3.1, it is widely assumed that epistemic modals occupy a position higher than deontic modals in the clausal structure. Gergel (2009) proposes that epistemic modals that do not license VP-ellipsis are merged in Mod₁, while those that do are merged in Mod₂/T. The epistemic modals merged in Mod₂/T move to Mod₁ later on. Gergel's proposal is problematic in light of the data discussed in section 2.2. If he is right that epistemic modals that do not license ellipsis on their own are merged in Mod₁, this predicts that these modals should always outscope negation. According to Gergel, epistemic modals indeed always scope above negation. It was observed in section 2.2, however, that when epistemic modals combine with an object negative indefinite, they do not always outscope (the

negative component of) the negative indefinite.¹⁸ This was the case both in non-elliptical clauses and in verbal ellipsis licensed by an epistemic modal + *have/be*.

I propose to combine Gergel's structure (cf. (25)) with the structure suggested in chapter 3: there are two PolPs, one above and one below TP (cf. (26)).



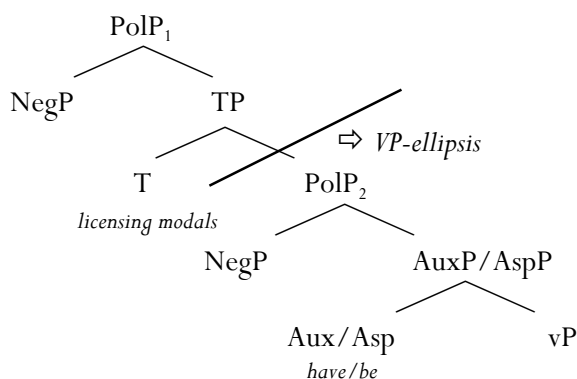
I propose that all modals are merged in T, that is, both deontic and epistemic ones. Verbal ellipsis licensing by a modal (whether deontic or epistemic) only happens in T: in this case, verbal ellipsis is ellipsis of the complement of T (see also section 4 of chapter 3). Mod>Neg epistemic modals, i.e. epistemic modals that always outscope sentential negation and (the negative component of) negative indefinites are an exception to the rule that all modals are merged in T. Instead, they are merged directly in the high projection dedicated for epistemic modals, Mod₁. Here, they can only scope above negation. If this is indeed the case, it is predicted that these Mod>Neg epistemic modals never license ellipsis by themselves (as ellipsis licensing by modals always happens in T). This prediction is borne out.

If a modal (whether deontic or epistemic) merged in T is an ellipsis licenser, it licenses ellipsis of the complement of T, PolP₂. It was discussed at length in section 4 of chapter 3 that the formation of an object negative indefinite with high scope is blocked in this case. As (the D-head of) the object DP is sent off as part of the verbal ellipsis site, Fusion Under Adjacency between D and a high Neg head cannot occur. Narrow scope of the negative indefinite is allowed, though, because FUA occurred before ellipsis of the complement of T. Therefore, an object negative indefinite can

¹⁸ Also recall that von Stechow & Iatridou (2003) contest the claim that epistemic modals scope above sentential negation.

only scope below the modal in verbal ellipsis licensed by a modal in T. Indeed, verbal ellipsis licensed by an epistemic modal only allows for the *de re* interpretation (cf. section 2.2.1 of this chapter), as was the case for verbal ellipsis licensed by a deontic modal (cf. sections 2.2 and 2.3 of chapter 3).

(27)



Thus, the account presented in chapter 3 for the VPE/NI Generalization (which was originally mainly based on observations regarding deontic modals), straightforwardly carries over to epistemic modals. As such, the analysis also captures the limited scopal possibilities of an object negative indefinite with respect to an epistemic modal in verbal ellipsis.

2.3.2.2 Aspectual auxiliaries

In section 2.2.2, it was shown that when an epistemic modal co-occurs with an aspectual auxiliary in verbal ellipsis, speakers allow for more scopal possibilities. When a (deontic or epistemic) modal directly licenses ellipsis, only the *de re* interpretation is allowed. The *split* and *de dicto* readings become available when an extra aspectual auxiliary (*have* or *be*) accompanies the epistemic modal.

As argued in the previous subsection, epistemic modals are merged in T. When merged in T, the epistemic modal either licenses ellipsis of the complement of T, or not (for the former case, see the previous subsection). I discussed in section 2.2.2 that verbal ellipsis is also possible when both an epistemic modal and an aspectual auxiliary immediately precede the ellipsis site. In this case, verbal ellipsis targets the complement of the Aux/Asp head (vP in (27)). If, however, it is Aux/Asp itself that directly licenses ellipsis (immediately sending off its complement vP to PF), it is predicted that high scope of an object negative indefinite will be unattested, contrary

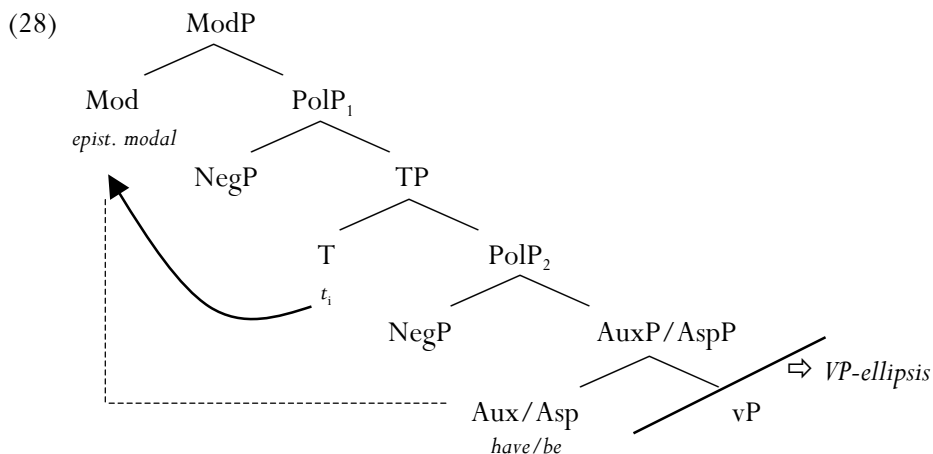
to fact (cf. section 2.2.2). This is because the D-head of the indefinite object will be sent off to PF as part of the verbal ellipsis site before NegP is merged as the specifier of PolP₁. Recall (cf. chapter 3) that it is only when NegP is merged as the specifier of a polarity phrase that the Neg-head is spelled out and Neg and D can undergo Fusion Under Adjacency. When NegP is merged in PolP₁, however, the indefinite head D has already been shipped off to PF. Fusion Under Adjacency between Neg and D is not impossible: high scope of the negative indefinite over the modal is blocked. This is, however, not the case. Given all this, note also that if the low polarity phrase PolP₂ is situated above AuxP/AspP, as indicated in the structure in (27), the D-head and Neg will *never* be able to undergo FUA, thus blocking even the narrow scope reading of the object negative indefinite, again contrary to fact. Therefore, I conclude that the Aux/Asp does not license ellipsis of its complement on its own.¹⁹

I incorporate Gergel's (2009) proposal that – after merger in T – all epistemic modals have to move to a higher position, Mod (where they for instance outscope tense, cf. subsection 2.3.1).²⁰ I propose that is only after the movement of the epistemic modal to Mod that the aspectual head Aux/Asp elides its complement. This is illustrated in (28). The dashed line is meant to indicate the timing of ellipsis, i.e. the complement of Aux/Asp is elided after movement of the epistemic modal to Mod.

¹⁹ In my analysis, the aspectual auxiliary (*have/be*) is not itself the licenser of ellipsis (unlike in Gergel's 2009 account). Like Gergel, Thoms (2011) also proposes that (aspectual) auxiliaries are ellipsis licensers. More precisely, Thoms argues that VP-ellipsis is licensed by overt movement of modals and (aspectual) auxiliaries. Modals move to their surface position T and ellipsis deletes the complement of T. An aspectual auxiliary moves to an aspectual head, and this overt movement licenses ellipsis of the complement of that head. As such, verbal ellipsis targets the complement of (the surface position of) the aspectual auxiliary.

As discussed in the main text, however, these analyses are incompatible with the data presented in section 2.2.2. See also Aelbrecht (2009), who argues that a vP-ellipsis site in English is not directly licensed (i.e. not immediately sent to off PF) by low functional heads such as Voice and Asp on the basis of extraction data.

²⁰ Note that if all epistemic modals have to move from T to Mod (across PolP₁), Neg>Mod epistemic modals should not exist, as the epistemic modal will always be able to outscope negation in a functional projection PolP below Mod. This is confirmed in my research regarding epistemic modals and negative indefinites. My informants either allow a narrow scope reading for the negative indefinite (Mod>Neg), or ambiguity (narrow, split, and/or wide). Only Neg>Mod readings (split and/or de dicto) were not attested for any of the epistemic modals.



If this is the case, NegP is always merged into the structure (either as the specifier of PolP₂ or PolP₁) – and therefore always spelled out – before verbal ellipsis sends off the complement of Aux/Asp to PF. That is, the head Neg and the D-head of the indefinite object can always undergo Fusion Under Adjacency before verbal ellipsis occurs. Verbal ellipsis does not bleed the formation of a negative indefinite. Therefore, an object negative indefinite should be able to scope either below or above an epistemic modal in a verbal ellipsis site that is immediately preceded by an epistemic modal and an aspectual auxiliary. It was shown in section 2.2.2 that all scopal possibilities are indeed allowed in this case.²¹

²¹ Andrés Saab (p.c.) wonders whether the idea that ‘ellipsis bleeds FUA’ in the formation of negative indefinites could be rephrased in terms of ‘ellipsis blocks lexical insertion’ along the following lines. Saab’s reasoning starts out from the *Ellipsis-Morphology Generalization* in (i):

- (i) *Ellipsis-Morphology Generalization* [cf. Saab & Zdrojewski 2010; Lipták & Saab 2012]
 For every morphological operation MO that affects the domain of X, where X contains the target of MO, MO cannot apply in X if X is subject to ellipsis.

Moreover, he supposes the abstract situation in (ii), where X and Y form a syntactic dependency (a chain) and the lexical insertion rules realizing that dependency *must* apply on X or Y. (ii) is assumed to underly the state of affairs in (iii), e.g. X would be (negative) Pol and Y would be (indefinite) D.

- (ii) $\{X, Y\} \rightarrow \{X_{/x/}, Y\}$ or $\{X, Y_{/y/}\}$
 (iii) a. John can *not* offer help.
 b. John can offer *no* help.
 c. * John can *not* offer *no* help.
 d. * John can ~~not~~ offer ~~no~~-help.

Given (i), lexical insertion of the indefinite object is not allowed in verbal ellipsis; the only remaining option then (given (ii)) is that the polarity head outside the ellipsis site is phonetically realized. (*continued on the next page*)

2.3.2.3 *Extending the proposal: deontic modals and aspectual auxiliaries*

In the previous subsection, I incorporated Gergel's (2009) proposal that – after merger in T – all epistemic modals have to move to a higher position (Mod). Gergel does not argue, however, that deontic modals have to move to a higher position. Deontic modals are merged in T and stay there. I argued that deontic modals in T license ellipsis of their complement (cf. section 4 in chapter 3 and section 2.3.2.2 of this chapter). Deontic modals can, however, also co-occur with an aspectual auxiliary in verbal ellipsis. An example is given in (29), where the deontic universal modal *should* (expression deontic necessity, i.e. obligation) and an aspectual auxiliary (*have*) precede the verbal ellipsis site. In this case, the complement of an Aux/Asp head (*have*) is elided.

- (29) a. Saying Weiner should resign is saying that Clinton should have too.²²
 b. Saying Weiner should resign is saying that Clinton should have ~~resigned~~ too.

In the previous subsection, I proposed that the complement of Aux/Asp is only elided after movement of the epistemic modal to Mod. This explained the availability of more scopal possibilities when an epistemic modal co-occurs with an aspectual auxiliary in verbal ellipsis.

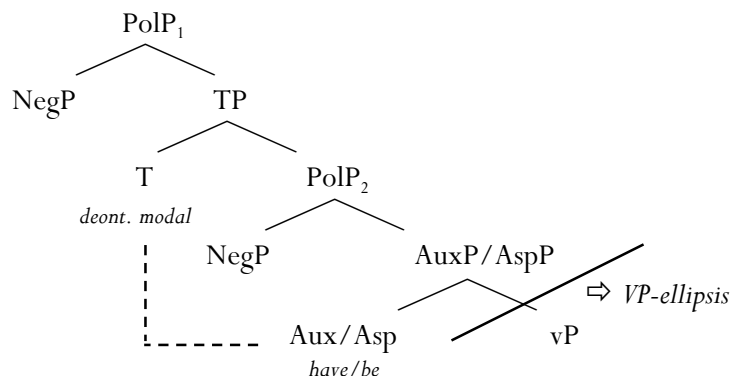
Deontic modals, however, do not move to a higher position: they are merged in T and stay there (unlike epistemic modals). Deontic modals may license ellipsis of their complement in T, or not. If they do not, the complement of Aux/Asp may be elided. As deontic modals do not move, I propose that the complement of Aux/Asp is elided after merger of the deontic modal in T, cf. the structure in (30).

This would explain the lack of high-scoping negative indefinites in verbal ellipsis: only the *not*-option is available. If, on the other hand, the polarity head is also subject to ellipsis, then there is simply no lexical realization of Pol at all (as e.g. in the clausal cases).

The reasoning here supposes that in English, the dependency Pol-D *must* be realized, either as *not* (lexically realizing Pol) or *no* (lexically realizing D) (at least, when the polarity head is not itself part of the ellipsis site). The cases of co-licensing of verbal ellipsis (by an epistemic modal and an aspectual auxiliary) discussed in this section present a problem for this proposal. In these cases, high scope of the object negative indefinite (related to Pol_i) is possible. D is not lexically realized (there is no lexical insertion in DP, which is part of the ellipsis site), but neither is Pol_i. This violates the condition in (ii), but nevertheless, grammatical cases are attested. At first sight, it thus seems that there is more going on than merely 'lack of lexical insertion'. I leave a precise exploration of this issue to further research.

²² http://www.democraticunderground.com/discuss/duboard.php?az=view_all&address=433x686207

(30)



If this is the case, we make a prediction regarding the interaction of deontic modals and object negative indefinites in verbal ellipsis. As shown in (30), verbal ellipsis in the case of deontic modals, even when in combination with an aspectual auxiliary, always happens before the high polarity head PolP_1 is merged. That is, verbal ellipsis in the case of deontic modals always happens before a NegP can be merged as the specifier of PolP_1 (and, hence, before NegP is spelled out). Therefore, if NegP is the specifier of PolP_1 , the D-head of an indefinite object and Neg can never undergo Fusion Under Adjacency in verbal ellipsis. This is because the D-head has already been shipped off to PF as part of the verbal ellipsis site before NegP is merged into the clausal structure. If NegP is the specifier of PolP_2 , on the other hand, NegP is merged (and spelled out) before verbal ellipsis takes place. In that case, the D-head and Neg can undergo FUA before the D-head is sent off as part of the ellipsis site. Thus, it is predicted that, even if verbal ellipsis is licensed by a deontic modal in combination with an aspectual auxiliary *have/be* (i.e. if verbal ellipsis targets the complement of Aux/Asp), only a narrow scope interpretation for the negative indefinite should be available. This prediction is borne out. As I show in the examples below, only a *de re* reading is allowed in verbal ellipsis licensed by a deontic modal in combination with an aspectual auxiliary.

For both the non-elliptical and the elliptical sentence in (31), my informants only permit the *de re* interpretation.²³

²³ Reading 2 is only allowed with a NEG-raising interpretation.

- (31) a. The candidate ought to have read no history books.
 b. Who ought to have read no history books? The candidate ought to have.
- Reading 1:* The desirable situation is one in which the candidate has read no history books (e.g. to apply for the position). YES
- Reading 2:* It is not desirable/recommended for the candidate to have read history books. NO
- Reading 3:* There are no history books that the candidate should have read. NO

For the non-elliptical sentence in (32), my informants allow the *de re* and the *split* interpretation (i.e. reading 1 and 2). In the elliptical variant (33), however, only the *de re* reading is available.

- (32) John needs to have played no video games.
Reading 1: It needs to be the case that John has played no video games (...or he'll be in big trouble).
Reading 2: It's not required for John to have played any video games.
Reading 3: There are no video games that John is required to have played.
- (33) Who needs to have played no video games? John needs to have.
Reading 1: It needs to be the case that John has played no video games (...or he'll be in big trouble). YES
Reading 2: It's not required for John to have played any video games. NO
Reading 3: There are no video games that John is required to have played. NO

For the non-elliptical sentence in (34), my informants allow either only the *de re* interpretation (i.e. only reading 1) or both the *de re* and the *split* interpretation (i.e. reading 1 and 2). In the elliptical variant (35), again only the *de re* interpretation is available.

- (34) The candidate may have had no academic qualifications.
Reading 1: It is permitted that the candidate has had no academic qualifications.
Reading 2: It is not permitted that the candidate has had any academic qualifications.
Reading 3: There are no academic qualifications that the candidate is permitted to have had.

- (35) Who may have had no academic qualifications? The candidate may have.
Reading 1: It is permitted that the candidate has had no academic qualifications. YES
Reading 2: It is not permitted that the candidate has had any academic qualifications. NO
Reading 3: There are no academic qualifications that the candidate is permitted to have had. NO

These observations confirm that the analysis proposed in this section is on the right track. When epistemic and deontic modals license ellipsis on their own (in T), ellipsis of the complement of T only allows a narrow scope reading for a negative indefinite. When the modals are accompanied by an aspectual auxiliary in verbal ellipsis, the scopal possibilities vary with the type of modal. In the case of epistemic modals, all scopal readings are in principle available; in the case of deontic modals, only the *de re* interpretation remains allowed. This is explained if the ellipsis site (the complement of Aux/Asp) is sent off before merger of Pol₁ in the case of deontic modals, but only after completion of PolP₁ in the case of epistemic modals.

To conclude, an empirical overview of deontic and epistemic modals (with and without *have/be*) and the available scope possibilities is given in (36):

- (36) Overview: epistemic & deontic modals and VPE

	epistemic modal		epistemic modal + <i>have/be</i>	
	full clause	VP-ellipsis	full clause	VP-ellipsis
<i>de re</i> allowed	YES	YES	YES	YES
<i>split</i> allowed	YES	NO	YES	YES
<i>de dicto</i> allowed	YES	NO	YES	YES

	deontic modal		deontic modal + <i>have/be</i>	
	full clause	VP-ellipsis	full clause	VP-ellipsis
<i>de re</i> allowed	YES	YES	YES	YES
<i>split</i> allowed	YES/NO	NO	YES	NO
<i>de dicto</i> allowed	YES/NO	NO	YES?	NO

3 Dynamic modals and negative indefinites in ellipsis

This section presents an empirical overview of the interaction between two dynamic modals (*want to* and *dare to*), negative indefinites, and verbal ellipsis. The facts concerning dynamic modals are presented in section 3.1. It is shown that only a narrow scope reading is available for an object negative indefinite in verbal ellipsis licensed by a dynamic modal, irrespective of its scopal possibilities in a non-elliptical clause. This observation again confirms the VPE/NI Generalization in (2) that an object negative indefinite cannot scope out of a VPE-site. When a dynamic modal is part of a VPE-site licensed by dummy *do*, however, all scopal possibilities become available. In section 3.2, I propose that these observations follow straightforwardly from the account developed in this dissertation if the dynamic modals under scrutiny involve a biclausal structure.

3.1 The data

It has been proposed that there is third class of modals, the dynamic ones, that cannot be subsumed under the deontic/epistemic distinction. Dynamic modality ascribes properties such as (physical or mental) ability, volition/willingness, and desire to the subject of the sentence (cf. Palmer 1986; Brennan 1993; Warner 1993; Wurmbrand 2003). As such, unlike deontic or epistemic modality, dynamic modality is “participant-internal” (Ziegeler 2006). Traditionally, the modal *want* is considered dynamic: it “always expresses the subject’s inherent desire” (Aelbrecht 2009:22).

In this section, I discuss two dynamic modals, *want to* and *dare to*.^{24,25} As it turns out, the scopal possibilities in verbal ellipsis differ when the ellipsis is licensed by the modal (*want to* or *dare to*) or by the dummy auxiliary *do*.

When it comes to the dynamic modal *want to* and its scope relative to an object negative indefinite, the judgments of my informants show a considerable amount of variation. Some informants allow all three readings, others only allow the *split* reading (i.e. reading 2), and others only allow the *de re* interpretation (i.e. reading 1).

²⁴ As most of my informants prefer *dare to* to *dare*, and only *dare to* licenses ellipsis, I only consider *dare to* here.

²⁵ In the case of *want to*, I again controlled for the NEG-raising reading in the paraphrase of reading 2.

- (37) John wants to buy no Japanese cars.
Reading 1: John has the desire to buy no Japanese cars.
Reading 2: There's a lack of desire on John's part to buy Japanese cars.
Reading 3: There are no Japanese cars for which John has the desire to buy them.

Consider verbal ellipsis now. Two different cases were tested: VP-ellipsis licensed by *want to* and by dummy *do* (cf. (38) and (39), respectively). The results are not identical. For the elliptical sentence in (38), my informants only allow the *de re* interpretation (i.e. reading 1). This observation confirms the VPE/NI Generalization in (2). When it comes to the elliptical sentence in (39), the judgments of my informants can be divided into two groups: either they only allow the *de re* reading, or they allow all three interpretations.

- (38) % Who wants to buy no Japanese cars? John wants to.
Reading 1: John has the desire to buy no Japanese cars. YES
Reading 2: There's a lack of desire on John's part to buy Japanese cars. NO
Reading 3: There are no Japanese cars for which John has the desire to buy them. NO
- (39) Who wants to buy no Japanese cars? John does.
Reading 1: John has the desire to buy no Japanese cars. YES
Reading 2: There's a lack of desire on John's part to buy Japanese cars. YES/NO
Reading 3: There are no Japanese cars for which John has the desire to buy them. YES/NO

Exactly the same pattern can be found in the case of *dare to*. For the non-elliptical sentence in (40), some informants allow all three readings, while others only allow the *split* interpretation (i.e. only reading 2).

- (40) John dares to watch no horror movies.
Reading 1: John is courageous enough to watch no horror movies.
Reading 2: John is not courageous enough to watch horror movies.
Reading 3: There are no horror movies such that John is courageous enough to watch them.

Again, for verbal ellipsis, two different cases were tested: VP-ellipsis licensed by *dare to* and by dummy *do* (cf. (41) and (42), respectively). The results are once again not

identical. For the elliptical sentence containing *dare to*, the informants only allow the *de re* interpretation (i.e. reading 1). This supports the VPE/NI Generalization (2). For the elliptical sentence with licenser *do*, the judgments can once more be divided into two groups: either only the *de re* reading is permitted, or all three interpretations are.

(41) % Who dares to watch no horror movies? John dares to.

Reading 1: John is courageous enough to watch no horror movies. YES

Reading 2: John is not courageous enough to watch horror movies. NO

Reading 3: There are no horror movies such that John is courageous enough to watch them. NO

(42) % Who dares to watch no horror movies? John does.

Reading 1: John is courageous enough to watch no horror movies. YES

Reading 2: John is not courageous enough to watch horror movies. YES/NO

Reading 3: There are no horror movies such that John is courageous enough to watch them. YES/NO

An overview for the two dynamic modals under scrutiny is given in (43):

(43) *Overview: dynamic modals and VPE*

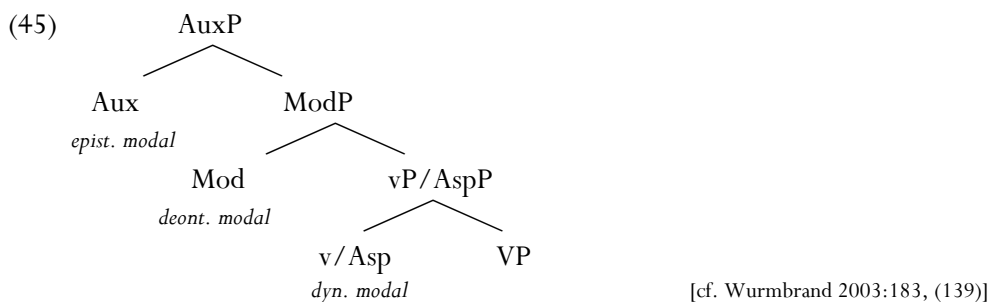
	full clause	VPE licensed by dyn. mod.	VPE licensed by <i>do</i>
<i>de re</i> allowed	YES	YES	YES
<i>split</i> allowed	YES	NO	YES/NO
<i>de dicto</i> allowed	YES	NO	YES/NO

Thus, more scopal possibilities are attested when *want to* and *dare to* are part of the ellipsis site than when these two modals are the licenser of ellipsis, cf. (44). This observation strengthens the idea that the size of the ellipsis site plays a role in determining which scopal relationships are allowed (cf. the Clausal/Verbal Generalization in chapter 3). If the ellipsis site is larger, more scopal options are available.

- (44) a. John wants to / dares to $\langle \dots \rangle$.
 b. John does $\langle \text{want to / dare to } \dots \rangle$.²⁶

3.2 The analysis

Like Gergel (2009) and many others (cf. section 2.3.1), Wurmbrand (2003) takes epistemic modals to occupy a position that is structurally higher than the position in which deontic modals are merged. She also proposes that dynamic modals are generated in a projection below those hosting epistemic and deontic modals: in the voice/aspect head of the clause (v/Asp). This is shown in the tree structure in (45). One of Wurmbrand’s motivations for this connection between dynamic modals and voice is certain competition effects between these modals and other voice elements (e.g. the passive auxiliary, in that dynamic modals are incompatible with the passive).

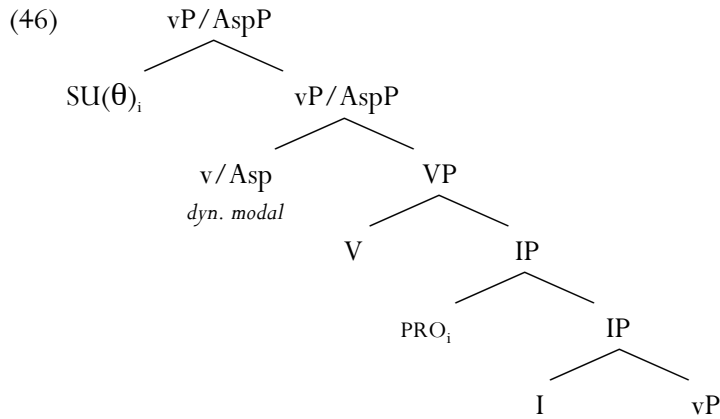


Wurmbrand (2003:169) considers dynamic modals to be “semi-functional categories which [...] assign a θ -role to the subject” (as well as a θ -role to the infinitival complement).²⁷ She takes dynamic modals to involve a control structure (cf. also Aelbrecht (2009) for Dutch *willen* ‘want’). In this biclausal structure, the matrix head V combines with an infinitival complement and the PRO-subject of the infinitive is coindexed with the subject that gets its theta role from the dynamic modal.^{28,29}

²⁶ As such, many of the data in this dissertation fit into a broader set of distinctions between ‘high’ (clausal) and ‘low’ (verbal) ellipses (cf. Merchant 2007, 2011).

²⁷ Ijbema (2002) considers Dutch *willen* ‘want’ to be a lexical head (V) rather than a (semi-)functional one.

²⁸ Note that the dynamic modals *want* and *dare* are followed by the infinitival marker *to*. It has been proposed that this infinitival marker is the phonological realization of the infinitival T head (cf. Akmajian et al. 1979; Stowell 1982; den Besten 1989; van Gelderen 1996, 1997).

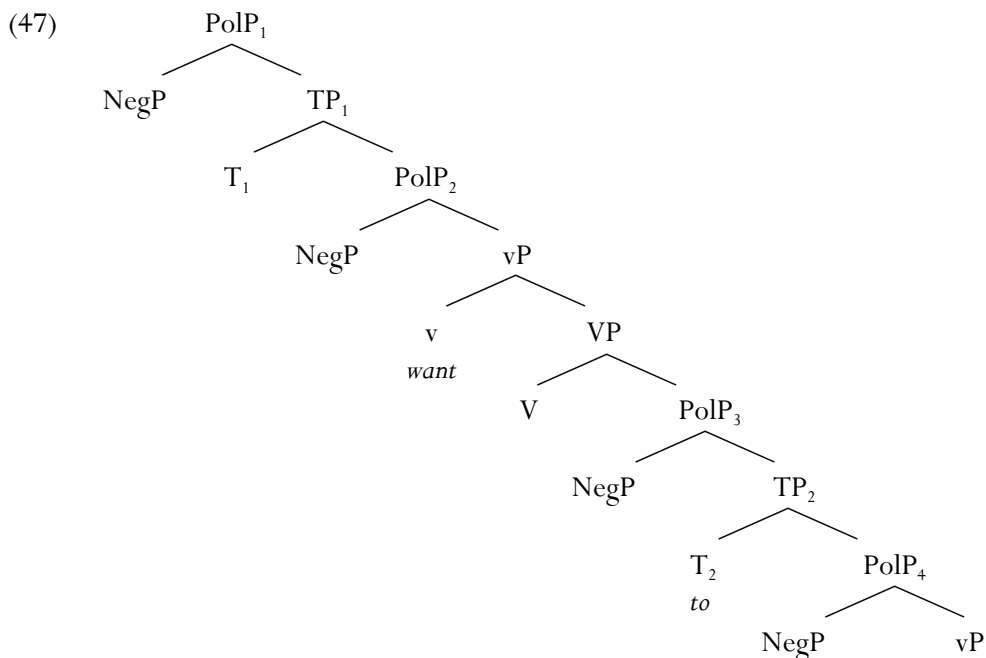


[cf. Wurmbrand 2003:183, (139) and 2003:193, (152a)]

If dynamic modals involve a biclausal structure, i.e. if more than one sentence/clause is present, there are more potential locations for sentential negation (as also noted by den Dikken et al. 1997 and Iatridou & Sichel 2011). I take there to be two PolPs, one above and one below TP, in both the main and the embedded clause. The biclausal structure for *want to* and *dare to* is given in (47): the structure consists of a matrix clause and an embedded clause, both hosting their own polarity projections.³⁰

²⁹ Den Dikken et al. (1997) also argue for a biclausal analysis of *want (to)*-type verbs, whereby *want* takes a clausal CP-complement. Whatever the exact structure for *want to* and other dynamic modals, it seems safe to conclude that these modals involve a biclausal structure, i.e. the dynamic modal combines with a clausal complement (whether CP or IP/TP). Here – following Wurmbrand (2003) – I take the embedded clause to be an IP/TP, with a polarity projection c-commanding the TP.

³⁰ In (47), *want* is merged in *v*. It is not very crucial for my purposes whether this is Wurmbrand's (2003) voice/aspect head, or whether it is a little *v* head below aspect and voice (cf. for instance Thoms 2011). It could even be the case that *want* is base generated in V as a lexical head (instead of a semi-functional or functional one, cf. also footnote 27).



The idea that there are two positions for negation in the embedded clause as well, is confirmed by the data in (48)-(49): these sentences show that negation can occur on either side of the infinitival marker *to*, the realization of T.

(48) [Aelbrecht 2009:182, fn.137, (ia)]
She wanted to not miss her train for once.

(49) [den Dikken et al. 1997:26, (64b)]
Max wants not to have any visitors.

The sentences in (48)-(49) have a low scope reading for negation: the sentence in (49) is “read as asserting Max’s desire to have no visitors” (den Dikken et al. 1997:26), and the sentence in (48) is understood as asserting her desire to catch her train. These data confirm that the infinitival clause, c-commanded by the dynamic modal, contains two positions for sentential negation.

Apart from (48)-(49), with negation linearly following *want*, a sentence like (50) is available as well, with negation linearly preceding *want*:

- (50) [cf. den Dikken et al. 1997:27, (65)]
 Max doesn't / does not want to have any visitors.

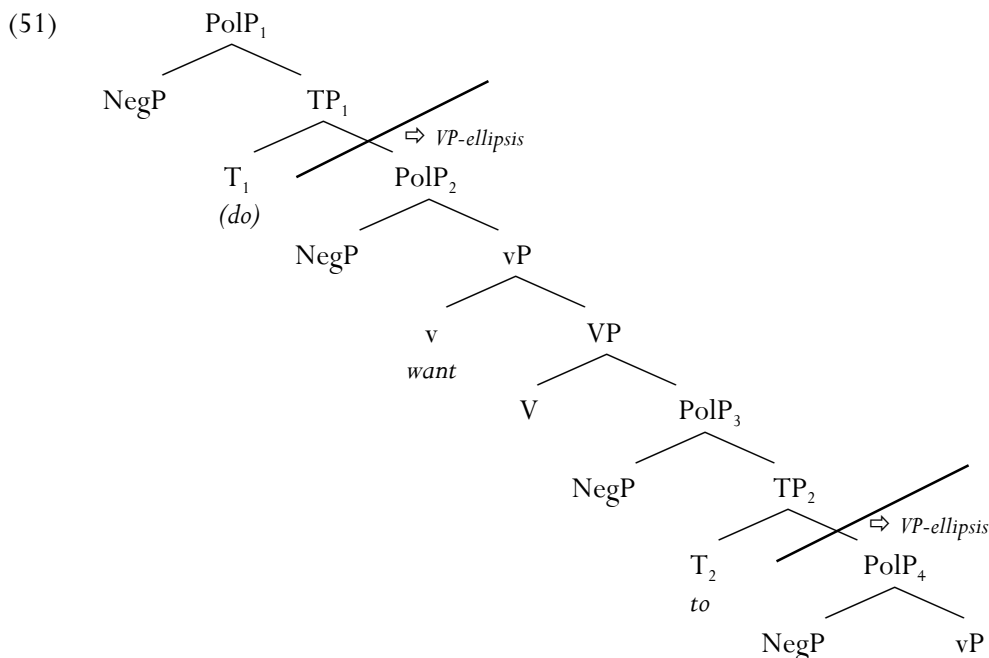
Although the sentence in (50) can also get a NEG-raising reading (i.e. the one also associated with the sentence in (49)), there is an alternative reading available as well, with negation scoping above the modal. In this case, the sentence is understood “as asserting a lack of desire on Max’s part to have visitors” (den Dikken et al. 1997:26).

Recall (cf. earlier in this chapter and chapter 3) that I take the difference between a narrow scope reading and a high scope reading (whether split or wide) for a negative indefinite to correspond to the functional projections available to the interpretation of sentential negation. In the case of a narrow scope reading of the negative indefinite, PolP is situated below the modal, in the case of a high scope reading of the negative indefinite, PolP is situated above the modal. Also recall that the formation of negative indefinites involves a PF-process, Fusion Under Adjacency between the indefinite D-head and a Neg-head.

In the biclausal structure in (51), both T_2 and T_1 can license ellipsis.³¹ If T_2 triggers ellipsis of its complement (PolP₄), only narrow scope of the negative indefinite is possible, because (the D-head) of the object DP is elided before it can be fused with Neg in a polarity phrase above the dynamic modal in matrix v . If ellipsis is licensed by (dummy *do* in) T_1 , on the other hand, all scopal relations are predicted to be possible: D and Neg can fuse in PolP₄, PolP₃, and PolP₂ before ellipsis occurs. The first two instances of Fusion Under Adjacency will result in narrow scope of the negative indefinite, but Fusion in PolP₂ will result in high scope (whether split or wide) of (the negative part of) the negative indefinite with respect to modal *want*.³²

³¹ It has been argued that the infinitival marker *to* (here in T_2) is a licenser of English verbal ellipsis by Zagana (1982, 1988a,b), Johnson (2001), and Aelbrecht (2009), amongst others.

³² Note that the fact that *want to* and *dare to* can be part of a verbal ellipsis site, with ellipsis licensed by dummy *do*, can be considered support for the idea that these modals are actually merged lower in the structure than ‘true’ (deontic and epistemic) modals.



This analysis, however, only deals with the judgments of the group of speakers allowing for all scopal possibilities when ellipsis is licensed by *do*. There was a second group of speakers, though, who only allowed the *de re* reading in this case. It could be that these speakers do not have PolP_2 available in the matrix clause, but only PolP_1 . If this is the case, high scope of the negative indefinite (outscoping the modal *want*) will be blocked in verbal ellipsis licensed by *do* in T_1 , as Fusion cannot occur after the D-head has been sent off as part of the ellipsis site (the complement of T_1). When NegP is merged in PolP_1 , the D-head is no longer available for Fusion Under Adjacency with Neg (as it has been elided).^{33,34}

³³ Alternatively, one could abandon the analysis of *do*-support as a Last Resort insertion in T (cf. e.g. Chomsky 1957; Pollock 1989). Thoms (2011), for instance, proposes that *do*-support is raising of little v . Suppose *do* is merged in (or can occupy) a head below T and Pol_2 , but above *want* (e.g. *Aux/Asp* above v). If the second group of speakers requires *do* to license ellipsis in this position, high scope of the negative indefinite (outscoping *want*) will again be blocked.

³⁴ If this analysis for dynamic modals and their scope relative to object negative indefinites is on the right track, it seems that Fusion Under Adjacency between a Neg -head and a D-head can extend across clausal boundaries. The D-head of the object DP is part of the embedded infinitival clause, while the NegP headed by the Neg -head can be merged as the specifier of one of the PolPs of the matrix clause, from where it outscopes the dynamic modal. That is, (the structure responsible for) Fusion Under Adjacency is not subject to a (clausal) locality condition. This seems to contradict Iatridou & Sichel's (2011:617) claim that an object negative (*continued on the next page*)

4 Conclusion

In this chapter, it was shown that an object negative indefinite in a verbal ellipsis site only has a narrow scope interpretation if the ellipsis is licensed by a modal, whether deontic, epistemic, or dynamic. It was argued that the analysis developed in chapter 3 can be extended to all types of modals.

When an epistemic modal co-occurs with an aspectual auxiliary in verbal ellipsis and when a dynamic modal is part of a verbal ellipsis site licensed by *do*, however, all scopal options become available. In this chapter, I argued that co-licensing (by the epistemic modal and aspectual auxiliary) of verbal ellipsis after movement of the epistemic (from T to Mod) accounts for the former observation. Co-licensing by a deontic modal and an aspectual auxiliary only allows for narrow scope of a negative indefinite, however, given that, unlike epistemic modals, deontic modals do not move (they remain in their merge position, T). The scopal facts regarding dynamic modals were accounted for by considering *want to* and *dare to* to involve a biclausal structure.

indefinite “is licensed by negation (or a negation position) within its clause” (although they only consider *that*-clauses, while the clauses under scrutiny here are infinitival, a non-trivial distinction).

Johnson (2011a:25, fn.22) also notes that the proposal that ‘adjacent elements’ should be defined as ‘the linearization algorithm puts nothing in between these elements’ might “allow fusion across great distances: as long as there is a derivation which, at some point, allows the two terms which are fused to be part of independent roots in the way that multidominant structures are, those terms could fuse. [...] There may be a real problem here”. It might, however, be the case that the observations regarding dynamic modals, negative indefinites, and verbal ellipsis show that nothing in principle prevents Fusion Under Adjacency to span great distances.

