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ARTICLE

Distribution and function of embedded V–Neg in Norwegian: A corpus study

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Abstract

Mainland Scandinavian displays a main clause phenomenon (MCP), where some embedded clauses allow the word order V(erb)–Neg(ation), in addition to the canonical Neg–V. Much has been written on the licensing conditions for embedded V–Neg, but formulating the exact conditions has proven difficult. This may be due to the fact that research has typically focussed on selected sets of clauses allowing this phenomenon and much of it has been based on the authors' grammaticality judgements. Drawing conclusions about the licensing conditions for embedded V–Neg requires examining all types of environments that allow it in natural speech as well as the types of environments that disallow it. Therefore, the primary goal of this paper is to map out the full distribution of embedded V–Neg. This paper examines embedded V–Neg collected from five corpora of spontaneous Norwegian speech. The data provide information on the relative frequency of V–Neg in various constructions and identify hitherto unattested contexts for this word order. The paper shows that V–Neg is productive in adjunct clauses, a fact difficult to accommodate under accounts claiming it is licensed under selection of specific predicates. The data support a more discourse-oriented approach to embedded V–Neg.

Keywords: corpus study; embedded V–Neg; embedded V2; main clause phenomena; Norwegian; word order

1. Introduction

This paper examines a MAIN CLAUSE PHENOMENON (MCP) found in a subset of embedded clauses in Norwegian, where the verb (V) precedes negation (Neg) or other sentence adverbs (V–Neg), as in (1b), instead of following them (Neg–V), as in (1a), which shows the canonical word order.[1]

(1) a. Da mente han [at han **ikke** *kunne* være gift] (Neg–V)
then felt he that he not could be married
'Then he felt he couldn't be married.'

b. Da mente han [at han *kunne* **ikke** være gift] (V–Neg)
then felt he that he could not be married
'Then he felt he couldn't be married.'

(ScanDiaSyn)[2]

Past work on this word order variation (e.g. Vikner 1995; Bentzen et al. 2007; Wiklund et al. 2009; Julien 2010, 2015) has focussed on two inter-related areas: (i) the appropriate syntactic analysis of both word orders, and (ii) the nature and distribution of the pragmatic and semantic contexts licensing V–Neg (since this non-canonical word order is not always permitted).

Despite extensive research on embedded V–Neg, there is no consensus on which environments allow it, how to best analyze it, and where it is licensed. This may be due to the fact that most studies based their conclusions about the licensing of embedded V–Neg on analyses of a restricted set of syntactic environments (complement clauses) and the specific semantic traits of the context.[3] Further, many of the studies also rely heavily on authors' intuitions, which may provide biased estimates of the phenomenon's distribution. Thus, research may have overlooked relevant data on the structure and licensing conditions of embedded V–Neg.

This study aims to fill an empirical gap by providing a comprehensive overview of the distribution of embedded V–Neg in Norwegian natural speech. Such an overview is a prerequisite for developing an accurate analysis of the phenomenon: understanding the distribution of embedded V–Neg can shed light on its function and licensing conditions as well as how it may relate to other main clause phenomena.

To fulfil its aim, the study provides an overview of all embedded clause types with the V–Neg word order in five corpora of spoken Norwegian. It builds and improves on prior corpus studies of this or closely related main clause phenomena in Scandinavian languages (viz. Julien 2010, Jensen & Christensen 2013, Christensen, Jensen & Christensen 2015) by offering both frequency information and a more fine-grained taxonomy of embedding environments. The frequency information contributes to determining which examples are representative of the word order's use in natural speech. The taxonomy helps pinpoint the syntactic, semantic, and pragmatic factors that may govern its distribution, in addition to helping identify the common properties of clauses allowing V–Neg.

All previous accounts of the licensing conditions for embedded V–Neg seem to be correct TO SOME EXTENT, but no approach explains all possible occurrences. This is potentially due to the fact that they do not consider its full distribution. Therefore, the present study asks: Which theoretical direction can best explain the distribution of the data in this corpus?

I examine the verb's position only as it relates to negation. Other adverbs are excluded from the investigation since adverb type can affect the frequency with which word orders (Verb–Adverb/Adverb–Verb) appear (Christensen et al. 2015). To avoid the influence of adverb type, I focus on the order of the verb and negation.

The paper opens with a review of the existing literature on the distribution of embedded V–Neg and discusses the seminal studies on the phenomenon. I then examine my own corpus findings, including features such as frequency, contexts allowing or disallowing embedded V–Neg, and the different embedding environments. Lastly, I discuss the implications of these findings for current accounts of V–Neg and show that the data support a more discourse-oriented approach to embedded V–Neg.

2. Distribution: Where is V–Neg found?

There are a number of instances where the canonical embedded clause word order (2a) is changed to a word order resembling that of main clauses. The verb is consistently the second constituent after the complementizer, but the first element varies.[4]

(2) a. Han meinte [at han **ikkje** *var* klar for eksamen] (Canonical, Neg–V)
he meant that he not was ready for exam.DEF
'He meant that he wasn't ready for the exam.'
b. Han meinte [at han *var* **ikkje** klar for eksamen] (V–Neg)
he meant that he was not ready for exam.DEF
'He meant that he wasn't ready for the exam.'
c. Han meinte [at eksamen *var* han klar for] (Non-subject-initial)
he meant that exam.DEF was he ready for
'He meant that the exam he was ready for.'

It can be a subject, as in (2b), in which case we can tell that the word order is non-canonical only if the verb precedes an adverbial or negation, or it can be another argument or adjunct phrase, as in (2c). These configurations are often considered part of the inventory of embedded verb second (V2). Subject-initial and non-subject-initial cases of V2 typically have the same distribution in Mainland Scandinavian (see e.g. Wiklund et al. 2009), but there is disagreement on whether subject-initial cases should be treated like cases where non-subjects are clause-initial. In this paper, I focus on subject-initial cases, like those in (2b).

2.1 Embedding environments

In this section, I first discuss cases where, according to the existing literature, embedded V–Neg is allowed in complement clauses. Then, I discuss complement clauses claimed to disallow it. Lastly, I explore whether and when V–Neg is possible in adjunct clauses.

2.1.1 Complement clauses

Clause types allowing embedded V–Neg are typically declarative complement clauses, i.e. complement clauses with the complementizer *at* 'that' (Faarlund, Lie & Vannebo 1997:983), as in (3).[5]

(3) Selmer sa [at han *visste* **ikkje** om noko festlegare]
Selmer said that he knew not about anything funnier
'Selmer said that he didn't know about anything more fun.'

Embedded V–Neg clauses can also be predicates in copula constructions, as in (4) below, and complements of nouns, as in (5) (Julien 2010:14–15 ex. (20) and (23)).

(4) *Copular predicate*
Mitt poeng er [at vi *kjenner* **ikke** omfanget]
my point is that we know not extent.DEF
'My point is that we do not know the extent.'

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(5) *Noun complement*
Så trekker han konklusjonen [at annet *er* **ikke** å vente]
then draws he conclusion.DEF that other is not to expect
'Then he draws the conclusion that nothing else is to be expected.'

In addition, embedded V–Neg is found in so-called 'consequence of degree constructions' (Julien 2010, also mentioned in more general terms as embedded V2 in Heycock 2006) of the type 'so X that', as in (6) (Julien 2010:18 ex. (31)).

(6) *Consequence of degree*
Det var så liten plass [at vi *kunne* **ikke** bo der]
it was so little space that we could not live there
'The place was so small that we couldn't live there.'

These clauses are often overlooked in the literature on embedded V–Neg. It is not clear whether they are so rare that ignoring them is legitimate, so information about the frequency of V–Neg in these clauses may be crucial.

Certain semantic classes of predicates seem to disallow embedded V–Neg in their complement clauses. Embedded V–Neg clauses are normally not found in complements of factive matrix predicates, as in (7), (e.g. Faarlund et al. 1997: 983), whereas assertive verbs, such as verbs of saying and thinking (Heycock 2006:192) generally allow V–Neg in the complement, as in (8), (examples from Wiklund et al. 2009).

(7) *Factive predicate*
*Han angret på [at han *hadde* **ikke** sunget]
he regretted on that he had not sung
'He regretted that he had not sung.'

(8) *Asserted complement*
Han sa [at han *kunne* **ikke** synge i bryllupet]
he said that he could not sing in wedding.DEF
'He said that he couldn't sing at the wedding.'

Prior work has tried to understand which verbs allow embedded V–Neg in the complement clause by using a classification system originally proposed by Hooper & Thompson (1973). This classification seems able to predict broad classes of predicates that allow or disallow embedded V–Neg, as shown in Table 1. V–Neg is allowed under strongly (class A) and weakly (class B) assertive matrix predicates and semi-factive predicates (class E). Under factive (class D) and non-assertive (class C) matrix predicates, embedded V–Neg is not allowed (Wiklund et al. 2009:1917). Although this classification seemingly makes mostly accurate predictions, its appropriateness is debatable. This will be addressed in Section 2.2.

Lastly, it has been reported that embedded 'that'-clauses do not permit V–Neg if the matrix predicate is negated, as shown in (9) (Faarlund et al. 1997:983; Heycock 2006:193).

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Table 1. Verb classes according to assertive and factive status (Wiklund et al. 2009:1917, based on Hooper & Thompson 1973).

Class A (strongly assertive)	Class B (weakly assertive)	Class C (non-assertive)	Class D (factive)	Class E (semi-factive)
Say	Believe	Doubt	Regret	Discover
Claim	Think	Deny	Be sad about	Understand

(9) *Negated matrix predicate*
*Espen sa ikkje [at Therese *kunne* **ikkje** vinne]
Espen said not that Therese could not win
'Espen didn't say that Therese couldn't win.'

However, Bentzen et al. (2007:108) argue that this generalization does not hold if the matrix verb is semi-factive. Thus, it is debatable whether negated matrix predicates allow V–Neg and, if so, which ones do.

2.1.2 Ungrammatical environments

According to the literature, a few environments never permit embedded V–Neg: relative clauses, as in (10), and indirect *wh*-questions, seen in (11) (Franco 2010:143).

(10) *Relative clause*
*Den jenta [som *har* **ikkje** kamma håret]
that girl.DEF who has not combed hair.DEF
'The girl who hasn't combed her hair.'

(11) *Indirect* wh*-questions*
*Eg lurer på [kven ho *dansa* **ikkje** med]
I wonder on who she danced not with
'I wonder who she didn't dance with.'

Even though there seems to be agreement on this, it needs to be verified in language production.

2.1.3 Adjunct clauses

It is often claimed that embedded V–Neg is not allowed in adjunct clauses (Faarlund et al. 1997). Temporal and conditional clauses, (12) and (13), respectively, block V–Neg (Hrafnbjargarson & Wiklund 2009:29).

(12) *Temporal adverbial clause*
*John såg Louise [når ho *gjekk* **ikkje** heimover]
John saw Louise when she walked not towards.home
'John saw Louise when she wasn't walking towards home.'

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(13) *Conditional clause*
*Han kjem heim [viss han *får* **ikkje** legetime]
he comes home if he gets not doctor's.appointment
'He comes home if he doesn't get a doctor's appointment.'

Also, according to Faarlund et al. (1997:1036), 'so that'-clauses can never embed V–Neg. Additionally, *fordi* 'because'-clauses potentially allow V–Neg, but it is heavily dispreferred (ibid.). Heycock (2006:192–193) also states that in Mainland Scandinavian and Frisian embedded verb second (as a larger category including embedded V–Neg) is not possible in adjuncts, with one exception: 'rationale clauses introduced by *om't*, *omdat* or *omreden dat*', which would correspond to 'because'-clauses.

Data like (12) and (13) seem to have contributed to the general perception that there is a ban on embedded V–Neg in all adjunct clauses. However, there is evidence that such a ban would be too restrictive. Haegeman (2006a, b, 2010, 2012a, b) looks more generally at main clause phenomena (MCP) and argues that some adverbial clauses allow certain MCP, depending on the clause's degree of integration into the matrix clause. Adverbial clauses that are less integrated into the matrix clause are defined as PERIPHERAL. Their function is to structure the discourse, rather than modify the matrix clause. Peripheral clauses are found to allow MCP (ibid.). Bentzen (2011) agrees with this claim and argues that V–Neg is allowed in certain adverbial clauses, such as PERIPHERAL temporal clauses, PERIPHERAL cause clauses with the complementizer *fordi* 'because', and consequence clauses with the complementizer *sånn at* 'so that', as in (14) (example modified from Bentzen 2011:4 ex. (14)).

(14) *Consequence clause*
Han gjemte boka mi, [sånn at jeg *kunne* **ikke** gjøre
he hid book.DEF my so that I could not do
alle leksene mine]
all homework.DEF mine
'He hid my book, so I couldn't do all my homework.'

Adverbial clauses that are temporally integrated into the matrix clause and modify the event introduced in its embedding clause are called CENTRAL. They are claimed to disallow MCP in general (Haegeman 2012b) and also embedded V–Neg specifically (Bentzen 2011), as in (12) above. Contrary to Bentzen (2011), Hrafnbjargarson & Wiklund (2009:29) claim that clauses of purpose, in (15), and reason, in (16), should allow embedded V2, which embedded V–Neg is often argued to be a subset of.[6]

(15) *Purpose clause*
Han gøymde bøkene [slik at dei *skulle* **ikkje** bli funne]
he hid books.DEF so that they would not be found
'He hid the books so that they wouldn't be found.'

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(16) *Reason clause*
Han gøymde seg [fordi (at) dei *slutta* **ikkje** å jage han]
he hid REFL *because that they stopped not to chase him*
'He hid because they never stopped chasing him.'

Lastly, there is also a question of whether concessional clauses allow V–Neg in Norwegian. According to Bentzen (2011), concessional clauses with the complementizer *selv om* 'even though' disallow this word order and clauses with the complementizer *skjønt* 'although' allow it. In Danish, *selv om* 'even though' allows the V–Adv word order (Christensen et al. 2015:106), and *fastän* 'although' allows the seemingly related phenomenon of non-subject topicalization in Swedish (Hrafnbjargarson & Wiklund 2009:29).

A thorough study of the word order in adverbial clauses in Danish finds that the word order V–Adv is quite common in such environments (Christensen et al. 2015). This may apply to Norwegian as well, since Danish resembles Norwegian in many respects (e.g. general word order). However, embedded negation in Danish seems to have properties diverging from Norwegian in several ways (Eide 2002, Ørsnes 2012).

It is clear that research on V–Neg in adverbial clauses in Norwegian disagrees on what is possible in spoken language and to what extent one can apply conclusions from related languages. Part of the problem seems to be that the literature is based largely on introspection, not taking into account authentic speech production. The lack of consensus on the status of V–Neg in adverbial clauses makes this phenomenon particularly interesting to study in corpora of spoken language.

2.1.4 Embedded verb type

The literature on children's acquisition of embedded clauses notes that children use the word order V–Neg in embedded clauses more frequently than adults in Scandinavian languages (Håkansson & Dooley Collberg 1994, Westergaard & Bentzen 2007, Heycock et al. 2013, Waldmann 2014). Håkansson & Dooley Collberg (1994) and Heycock et al. (2013) also observe that children use the word order V–Neg more often when the verb is an auxiliary than when it is a main verb. It has not been established whether this is a property of adult language. To get a complete picture of V–Neg's distribution, this question will be addressed in the current study.

2.1.5 Summary

This section provided an overview of claims regarding where embedded V–Neg may be found and showed that there is uncertainty about the scope of the phenomenon. Although there is relative agreement on which complement clauses allow embedded V–Neg, there is disagreement on its distribution in adjunct clauses. Additionally, the research discussed here does not make any claims of exhaustiveness. Thus, we might find V–Neg in environments never considered until now. Claims about the distribution of V–Neg differ substantially, so evidence from natural speech is needed to clarify the phenomenon.

2.2 Approaches to the licensing of V–Neg

Existing approaches to embedded V–Neg can be grouped into two categories according to the licensing conditions they advocate: some claim V–Neg is only possible in clauses that are selected by a predicate of a particular semantic type (Caplan & Djärv 2017, Djärv, Heycock & Rohde 2017), while others argue that the licensing of V–Neg is driven by local (clause) pragmatics (Wiklund et al. 2009, Julien 2010, Jensen & Christensen 2013).[7] Teasing the approaches apart is difficult because there is a tight relationship between the semantics of verbs and the discourse-pragmatic properties of the clauses they embed. One might argue that approaches such as Julien (2010, 2015) constitute a third category, involving speaker orientation, i.e. the speaker's connection to the larger pragmatic context. For our purposes, distinguishing between lexical-semantic and pragmatic licensing accounts is adequate.

Most existing approaches deal to some extent with factivity and thus presupposition, given the natural relationship between these two notions (see Karttunen 1971, Kiparsky & Kiparsky 1971). I will assume that a presupposition is an implicit expression of a fact or common knowledge (see e.g. Stalnaker 1978) and that factive predicates embed presupposed propositions (Hooper & Thompson 1973). Existing proposals on the licensing conditions of V–Neg typically discuss how it is related to assertion. Unless otherwise specified, I will assume that an assertion is a proposition that adds new information to the discourse or is an expression of the utterer's beliefs (see Hooper & Thompson 1973, Wiklund et al. 2009). In this view, assertivity and presupposition do not overlap.

Authors discussing how embedded V–Neg relates to assertivity and presupposition (e.g. Heycock 2006; Bentzen et al. 2007; Wiklund et al. 2009; Julien 2010, 2015; Caplan & Djärv 2017; Djärv et al. 2017) follow the tradition of Hooper & Thompson (1973), who in their seminal work discuss the licensing of MCP in embedded clauses. Hooper & Thompson (1973) claim that MCP are only licensed in embedded clauses selected by assertive – not factive – predicates, as shown in Table 1 and examples (7) and (8) above.

Djärv et al. (2017) show through acceptability judgements that in Swedish, embedded V–Neg is dispreferred in complements of factive predicates and strongly preferred under assertive predicates. However, V–Neg is licensed in the complement of semi-factive predicates in a factive mode (Wiklund et al. 2009), as are other MCP, as pointed out by Hooper & Thompson (1973). This can be seen when the truth of the complement is entailed even when the matrix predicate is negated, in ENTAILMENT UNDER NEGATION (Kiparsky & Kiparsky 1971). Surprisingly, V–Neg is also embedded under factive predicates in texts of certain genres (Caplan & Djärv 2017) and under factive predicates in spoken corpus production (Julien 2010). These findings show that what licenses embedded V–Neg must be more nuanced than assumed by Hooper & Thompson (1973), leading some to argue that properties other than (non-)factivity make up the licensing conditions for embedded V–Neg. Such accounts typically claim that what licenses embedded V–Neg is not lexical selection, but the pragmatic function within the clause or of the clause in the discourse. I will review a few such accounts.

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A typical view of how pragmatic function influences the occurrence of V–Neg advocates that embedded V–Neg is licensed in clauses constituting the core meaning of a sentence, i.e. the part of a clause that can be questioned and denied (Wiklund et al. 2009:1927). This is referred to as the MAIN POINT OF THE UTTERANCE (MPU; Wiklund et al. 2009; the term was introduced by Simons 2007), FOREGROUNDING (Jensen & Christensen 2013) or AT-ISSUE-NESS (Caplan & Djärv 2017). In this view, clauses containing the non-canonical word order V–Neg are claimed to receive more focus, or attention, than their canonical Neg–V counterparts (Jensen & Christensen 2013:39–40). Crucially, as pointed out by Wiklund et al. (2009), the possibility a clause has of being the MPU never hinges on the V–Neg word order. Thus, these accounts do not claim that a clause's status as MPU is an explanation for the function of V–Neg or a completely necessary prerequisite for V–Neg. Rather, they show that embedded V–Neg is typically co-distributed with embedded clauses holding the MPU status in a sentence.[8] Not all pragmatic accounts of embedded V–Neg agree that the MPU approach is correct. The approach has a few problems: an experimental study by Djärv et al. (2017) suggests that certain manipulations affecting participant perception of MPU do not affect where participants allow V–Neg. Furthermore, some contexts can make up the MPU but still do not allow embedded V–Neg (Julien 2015:161). Based on corpus data showing production of V–Neg in clauses embedded under factive predicates, Julien (2010) argues that the licensing of embedded V–Neg is related to assertivity (as a discourse-pragmatic function, not directly determined by lexical properties). Contrary to general views on assertivity as distinct from presupposition (Kiparsky & Kiparsky 1971), she argues that a presupposed clause can simultaneously be asserted (Julien 2010:13). This happens in cases where the speaker utters a presupposed clause that might convey new information to the hearer, e.g. as a reminder. Given the inclusiveness of this definition of assertivity, it is not clear how its impact on word order can be tested: what would be rejected as assertive under this account?

Lastly, a discourse-lexical explanation considers V–Neg licensed by the lexical class of embedding predicates, so the relevant property for licensing is not factivity. Such a proposition is put forward by Caplan & Djärv (2017), who found the V–Neg word order under factive predicates in their study of Swedish. Investigating matrix predicates embedding and not embedding V–Neg, they suggest that another property distinguishes the two types – discourse-familiarity: predicates such as 'appreciate' require the content of the embedded clause to be familiar in the discourse and disallow embedded V–Neg, whereas predicates such as 'say' might convey discourse-new information in the following complement clause and therefore allow V–Neg.[9] This can also be seen when assertive predicates such as 'say' and 'think' are negated: in such cases, they embed discourse-familiar information, as in (17), and rarely embed V–Neg (ibid.).

(17) They didn't say on the radio [that Trump resigned].

Since discourse-familiarity relates to pragmatics, Caplan & Djärv (2017) argue that it is constrained by the semantics of specific predicates, but not determined by it.

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Table 2. Overview of corpora used in this paper.

Corpus	From	Total utterances	Speaker's dialect(s)
BigBrother	Tekstlab	79,352	Different varieties
ScanDiaSyn	Tekstlab	358,659	Varieties from the whole country
NoTa	Tekstlab	150,769	Oslo
Ringstad	CHILDES	52,622	Trøndelag, Nordland, Eastern Norway
Simonsen	CHILDES	11,928	Eastern Norway
Total		653,330	

To sum up, current approaches provide relatively reliable explanations for where V–Neg is licensed. However, even though they can explain the distribution and licensing of V–Neg, they consider such fine-grained properties that they all find counterexamples. Furthermore, accounts claiming embedded V–Neg is licensed by selection of a matrix predicate cannot explain the licensing of this word order in adjunct clauses. The overview of the distribution of V–Neg in this study will indicate which existing theoretical direction seems most promising in explaining the actual distribution of V–Neg and doing so comprehensively.

3. Corpora and methodology

Data were collected from five corpora of spontaneous monolingual speech. Three corpora belong to Tekstlab, University of Oslo, and are the largest accessible corpora of Norwegian natural speech: NoTa (Tekstlab 2004), ScanDiaSyn (Johannessen et al. 2009) and BigBrother (Tekstlab 2009).[10] Two additional corpora are taken from the CHILDES database: Ringstad (Ringstad 2014) and Simonsen (Simonsen 1990). All adult utterances are drawn from the two CHILDES corpora and most are child-directed. Table 2 provides information on the corpora and the number of utterances in each.[11,12]

The NoTa and the ScanDiaSyn corpora comprise recorded dialogues and the speakers in each dialogue use the same dialect. In this study, these corpora are represented by 117 and 303 speakers, respectively. The BigBrother corpus comprises transcripts of all dialogues between the contestants on the BigBrother TV show in 2001. This study includes relevant data (i.e. production of embedded clauses with negation) from 11 participants. The CHILDES corpora consist of a dialogue between a child and an adult. Data from the Ringstad corpus is child-directed speech produced by five adults, each a close relative of the child, whereas data from the Simonsen corpus come from one speaker, an investigator. The range of speech situations, speakers and dialects represented in the dataset provides a representative picture of the distribution of V–Neg.

All three Tekstlab corpora are tagged for part of speech (POS), and the search strings used to extract utterances from these corpora can be found in Table A1 in the appendix. The two CHILDES corpora are not tagged, so a manual search was

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Table 3. Number of clauses relevant for this paper (in parentheses), with the percentage given for the proportion of each word order for all relevant clauses.

	Neg–V clauses		V–Neg clauses	
Adult corpora				
ScanDiaSyn	57%	(292)	43%	(219)
NoTa	73%	(210)	27%	(79)
BigBrother	77%	(200)	23%	(61)
Sub-totals	66%	(702)	34%	(359)
Child corpora				
Ringstad	77%	(59)	23%	(18)
Simonsen	100%	(7)	0%	(0)
Sub-totals	79%	(66)	21%	(18)
Totals	67%	(768)	33%	(377)

carried out for all complementizers followed by a clause containing negation. Only clauses corresponding to the strings in the Tekstlab search were included in the study.

None of the corpora are tagged for covert elements, so it was not possible to search for embedded clauses without an overt complementizer as this would mean manually searching through all utterances in existing corpora, an overwhelming task. It is not clear, however, that including clauses without complementizers would yield higher numbers of embedded clauses allowing V–Neg. According to Faarlund et al. (1997), the V–Neg word order is not possible in clauses with an omitted complementizer in Norwegian (contrary to the findings for Danish, where the V–Adv word order is more frequent in clauses that lack a complementizer; Christensen et al. 2015).[13]

Several types of sentences were excluded from the current study even though they were relevant hits in the corpus search. In Norwegian, in addition to occurring pre- or postverbally, negation can also occur directly following the complementizer, as in (18).

(18) Det er ein grunn til [at **ikkje** prinsen *held* tale]
there is a reason for that not prince.DEF holds speech
'There is a reason the prince doesn't give a speech.'

Since this position will not be discussed in this paper, clauses with this word order were excluded. A few clauses with the word order V–Neg were also excluded. This concerns clauses with the initial element *for* 'for'. Even though this element looks similar to other adverbial complementizers, it is – according to the Norwegian tradition – classified as a clausal conjunction operator (Faarlund et al. 1997:25) and not a subordinator.[14] Table 3 gives an overview of clauses relevant for this paper.

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Table 4. Overview of relevant corpora numbers. Token numbers in parentheses.

Corpus	All non-embedded clauses	Embedded clauses, % of all utterances		Embedded clauses with negation, % of all utterances	
Adult corpora					
ScanDiaSyn	338,516	6%	(20,143)	0.38%	(1361)
NoTa	140,761	7%	(10,008)	0.51%	(762)
BigBrother	74,031	7%	(5321)	0.76%	(607)
Sub-totals	553,308	6%	(35,472)	0.46%	(2730)
Child corpora					
Ringstad	48,362	8%	(4260)	0.29%	(151)
Simonsen	11,144	7%	(784)	0.34%	(40)
Sub-totals	59,506	8%	(5044)	0.30%	(191)
Totals	612,814	6%	(40,516)	0.45%	(2921)

The dialects of all speakers were categorized into one of ten larger dialectal areas (Table A2 in the appendix) according to a map of Norwegian dialects (Mæhlum & Røyneland 2012:179 map 6). I verified that V–Neg occurs in all dialects represented in the corpora. Since V–Neg is acceptable in all dialects, no speakers were excluded from this investigation due to dialectal differences. This is in line with Bentzen (2014), who found very little geographical variation in judgements of V–Neg (except for V–Neg under semi-factives, where there are SOME variable judgements). I have listened through a large portion of the data material to exclude possible instances of restarts in speech production. One such restart is used in example (19) for illustrative purposes.

4. Findings

Table 4 provides information on the frequency of embedded and non-embedded clauses. Unfortunately, none of the corpora used allows exclusion of questions, so we cannot ensure that the non-embedded clauses are all declaratives. The embedded clauses include nominal, adverbial, and relative clauses as well as indirect questions. Across all utterances, only 6% contain an embedded clause. Embedded clauses with negation are rarer, constituting only 0.45% of all utterances. This means that embedded clauses containing negation are infrequent in speech.

Section 2.1 discussed the environments considered ungrammatical for V–Neg: relative clauses, indirect *wh*-questions and a few types of adverbial clauses (conditional and temporal) (e.g. Hrafnbjargarson & Wiklund 2009, Franco 2010). A search in the corpora shows that V–Neg is not found in any embedded *wh*-questions, conditional and temporal clauses, or relative clauses.[15,16] The literature also claims that concessional clauses with the complementizer *selv om* 'even though' should not allow V–Neg in Norwegian (Bentzen 2011), even though this word order is allowed in Danish. Corpus data show that V–Neg surprisingly IS

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Table 5. Numbers for contexts where V–Neg is claimed to be ungrammatical. These numbers are drawn from the ScanDiaSyn, BigBrother and NoTa corpora. The question mark indicates an occurrence highly likely to be a restart.

Clause type	Neg–V	V–Neg
Temporal	185	0
Conditional	372	0
Relative	680	?1
Embedded Q	2	0
om 'if'	78	5
Concessional (*selv om*)	54	5
Negated matrix predicate	62	18

found in a few concessional clauses. Table 5 gives an overview of occurences of V–Neg in contexts where it is claimed to be ungrammatical.

According to Faarlund et al. (1997:983), Heycock (2006:193), and others, negated matrix predicates generally do not allow embedded V–Neg (as noted in Section 2.1 above, Heycock (2006) discusses embedded V2 in general, but seems to include embedded V–Neg in this larger category). Twenty-three embedded clauses with V–Neg were found to have a negated matrix predicate. Five of these clauses, such as (19), seemed to be restarts or pauses and were therefore excluded from the data material.

(19) Jeg sier ikke [at jeg *sier* **ikke** at den er dårlig]
I say not that I say not that it is bad
'I don't say that I don't say that it's bad.'

(NoTa)

However, (20) shows that V–Neg is found under negated predicates that are not semi-factive. Thus, we can tentatively conclude that negated matrix predicates do not completely rule out the embedded word order V–Neg.[17]

(20) Jeg sier ikke [at man *skal* **ikke** alltid måtte si ting]
I say not that one should not always have.to say things
'I'm not saying one shouldn't always have to say things.'

(BigBrother)

4.1 Embedding environments for V–Neg

4.1.1 Complement clauses

Section 2.1 showed that some complement clauses allow embedded V–Neg. This is supported by the corpus data: example (21) shows one finding of V–Neg in a nominal clause embedded with the complementizer *at* 'that'.

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Table 6. Word order as a factor of clause type and/or function.

Clause type/function	Complementizer	Neg–V	V–Neg	Total
Consequence of degree	*så* X *at* 'so X that'	24 (29.3%)	58 (70.7%)	82
Complement	*at* 'that'	584	279	863
	bare at 'just that'	3	4	7
	bortsett fra at 'except that'	0	1	1
	med at 'with that'	1	0	1
	pluss at 'plus that'	2	1	3
Coordinating	*eller at* 'or that'	1	0	1
	men at 'but that'	0	2	2
Comparative	*enn at* 'or that'	1	0	1

(21) problemet oppi der er [at du *kan* **ikke** hogge
problem.DEF up there is that you can not cut
noe mye skog]
any much wood
'The problem up there is that you can't cut much wood.'

(ScanDiaSyn)

Since existing studies do not map the distribution of V–Neg in complement clauses exhaustively, the findings of this study offer new insights into complement clauses in which speakers use this word order.

Table 6 maps out the distribution of Neg–V and V–Neg in clauses embedded with the complementizer *at* 'that'. As it demonstrates, 'consequence of degree'-clauses, as in (22), are surprisingly frequent and 70% of these clauses display the V–Neg word order.

(22) Puslespillet er så stort [at vi *får* nesten **ikke** plass
jigsaw.puzzle.DEF is so big that we get almost not place
på bordet]
on table.DEF
'The puzzle is so big that we almost don't have room on the table.'

(Ringstad)

Such a high frequency of V–Neg indicates that this clause type might have a particular function rendering V–Neg necessary.

Additionally, Table 6 includes a few instances of coordinating and comparative clauses embedded with the complementizer *at* 'that'. Even though there are only a few occurrences of each, they are important to note for understanding the distribution of embedded V–Neg.

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Table 7. The most frequent matrix predicates embedding complement clauses with both word orders and the most frequent matrix predicates only embedding one of the word orders classified according to semantic function, loosely following Levin's (1993) verb classes and classified according to pragmatic function following Hooper & Thompson's (1973) verb classes. Numbers given in parentheses show occurrences of complement degree clauses ('so X that'-clauses).

Function	Hooper & Thompson (1973) class	Embedding verb	Neg–V number	V–Neg number
Copula	NA	*være* 'be'	216 (18)	119 (36)
		bli 'become'	17 (1)	15 (7)
Communication	assertive	*si* 'say'	52	46
Opinion		*mene* 'mean'	9	5
Epistemic	(weakly) assertive	*tru* 'think/believe'	12	3
		tenke 'think'	10	2
		synes 'feel/think'	8	1
Knowledge	semi-factive	*vite* 'know'	22	12
Perception	(semi-)factive	*høre* 'hear'	6	5
		sjå 'see'	5	2
	(weakly) assertive	*føle* 'feel'	7	2
Cognition	(semi-)factive	*huske* 'remember'	3	5
	semi-factive	*skjønne* 'understand'	9	4
Command	assertive	*passe på* 'look after'	16	—
Desire	non-factive	*håpe* 'hope'	7	—
Cognition	semi-factive	*forstå* 'understand'	4	—
Conjecture	assertive	*må innrømme* 'must admit'	—	2

4.1.2 Embedding verbs (i.e. matrix predicates)

In Section 2.2, we saw that many studies of embedded V–Neg claim that this word order is related to the matrix predicate either by the embedded clause being asserted or presupposed by the matrix predicate or by expressing a particular function in the discourse through the matrix predicate. I have grouped the matrix verbs embedding both word orders and occurring twice or more according to verb function (loosely following Levin's (1993) classification of verb classes) and pragmatic function (following Hooper & Thompson's (1973) classes by applying Kiparsky & Kiparsky's (1971) entailment under negation test and Karttunen's (1971) test of embedding semi-factives under a conditional). The results are in Table 7 (a complete version of this table can be found in the appendix, as Table A3).

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Table 8. Overview of the copula constructions embedding the word orders Neg–V and V–Neg.

Construction type	Neg–V	V–Neg
Predicational clause	72	76
Cleft clause	5	0
det er bare	4	2
det er det	10	5
Specificational clause	3	8
Extraposed	63	3

Copula (*være* 'be') is by far the most frequent matrix verb: it embeds V–Neg 119 times and Neg–V 216 times; *bli* 'become' embeds these word orders 15 and 17 times, respectively. The high frequency of copular constructions is surprising, as they are hardly mentioned in the existing literature. I now examine more closely the types of copular constructions instantiated.

Looking more closely at the copula constructions (*være* 'be'), we find the following (overview in Table 8): embedded V–Neg is used mostly in predicational contexts (N = 76), as in (23), where the predicate denotes a property of the subject (a referential *det* 'it', or other expression), or a more general property when the subject is an expletive *det* 'it'.

(23) *Predicational copula*
Sommerbilen var [så senka [at han *kunne* **ikke** ha den
summer.car.DEF was so lowered that he could not have it
om vinteren]]
in winter.DEF
'The summer car was so lowered that he couldn't use it in the winter.'
(ScanDiaSyn)

In addition, V–Neg occurs in eight copula clauses with a specificational reading (as described in Mikkelsen 2005), where the predicate identifies the subject, as in (24).

(24) *Specificational copula*
Problemet er [at hun *husker* **ikke**]
problem.DEF is that she remembers not
'The problem is that she doesn't remember.'

The V–Neg word order is also found in constructions with an extraposed subject (N = 3), as in (25), where a complex subject is extraposed and referred to by a cataphoric *det* 'it/that' (see Åfarli & Sakshaug 2006, Borthen 2011).

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(25) *Extraposed subject*
Så er det helt klart [at vi *hadde* **ikke** fått
then is it completely obvious that we had not gotten
filmen først]
movie.DEF first
'Then it is completely obvious that we had not gotten the movie first.'

In addition, V–Neg is found embedded in five copula constructions I dub *det er det* 'it is that' (26a) and two I dub *det er bare* 'it is just' (26b).

(26) a. *Det er det* 'it is that'
Det var det [at vi *behøvde* **ikke** være på meieriet
it was that that we needed not be at dairy.DEF
så tidlig]
so early
'It was that we didn't have to be at the dairy so early.'
(ScanDiaSyn)

b. *Det er bare* 'it is just'
Det er bare [at jeg *har* **ikke** fått tatt dem på]
it is just that I have not got taken them on
'It is just that I haven't taken them on.'
(Ringstad)

The word order Neg–V is generally found in similar environments as V–Neg in copular clauses. However, while Neg–V is found in five clefted clauses, illustrated in (27), V–Neg is not attested in any such clause types in this study.

(27) *Cleft clause*
Det er flere ganger [at Anita **ikke** *har* giddet det]
it is several times that Anita not has bothered that
'It has been several times that Anita couldn't be bothered to do that.'

Additionally, Neg–V is found in 63 clauses with an extraposed subject, whereas V–Neg occurs in only three such clauses. The significant difference suggests that different clause functions may require different word order, since the verb is constant while the clause function varies.

Predicates other than the copula that embed both word orders frequently (Table 7) can be grouped into verbs of communication (e.g. *si* 'say'), perception (e.g. *sjå* 'see'), epistemic verbs (e.g. *tru* 'think/believe') and verbs of knowledge (*vite* 'know'). The frequently found matrix predicates are assertive (i.e. *si* 'say' and *fortelle* 'tell') and semi-factive (i.e. *sjå* 'see' and *finne ut* 'find out'). Predicates never found with embedded V–Neg include predicates of command (*passe på* 'look after') and desire (*håpe* 'hope'). The latter supports claims from Hacquard & Lidz (2018), that attitude verbs expressing preferences do not take complements displaying main clause word order. *Passe på* 'look after' has a commanding function in seven occurrences, as shown in (28a); in the others, it describes someone's actions, as shown in (28b).

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Table 9. Occurrences of V–Neg and Neg–V in adjunct clauses in percentages (token numbers in parentheses).

Claue type/function	Complementizer	Neg–V		V–Neg		Total
Reason	*fordi*, *fordi at*, *for det at* 'because (that)'	52%	(63)	48%	(59)	122
Purpose/reason	*for at* 'for that'	78%	(50)	22%	(14)	64
Purpose/consequence	*så at*, *slik at*, *sånn at* 'so that'	76%	(48)	24%	(15)	63
Conditional	*hvis at* 'if that'		2		1	3
Concessional	*i og med at* 'since that'		1		0	1
	når at 'when that'		1		0	1
	om at 'if that'		2		0	2
Purpose/reason	*på grunn av at* 'because that'		4		1	5

(28) a. Pass på [at det **ikke** *er* for tungt]
look after that it not is too heavy
'Look after that it's not too heavy.'
(BigBrother)

b. så passe de på [at den **ikkje** *fær* for langt]
then look they after that it not goes too far
'Then they make sure that it doesn't go too far.'
(Ringstad)

4.1.3 Adjunct clauses

As shown in Section 2.1, the existing literature does not provide a clear picture of the status of V–Neg in adjunct clauses. Some adverbial clauses are argued to allow main clause phenomena in general (Haegeman 2012a), and the word order V–Neg/Adv is found in such clauses in Scandinavian languages other than Norwegian (Christensen et al. 2015), but this possibility is not examined for Norwegian. In the hope of contributing to settling this question, the current section presents all relevant findings of V–Neg in adjunct clauses in Norwegian.

The literature has mainly focussed on the distinction between 'because'-clauses and 'so that'-clauses. Table 9 provides counts for V–Neg and Neg–V in both environments, showing that these adverbial clauses seem to allow V–Neg in Norwegian. The V–Neg word order is firstly found in adverbial clauses embedded with a complementizer variation such as *fordi* 'because', *fordi at* 'because that', *for at* 'for that' or *for det at* 'for it that', as shown in (29). (I henceforth use *fordi* to refer to all these clause types except *for at* 'for that'-clauses.)

(29) hadde låst rommet da [for det at jeg *gidder* **ikke** fyre
had locked room.DEF DM for it that I bother not heat
opp hele huset]
up whole house.DEF
'[I] had locked the room because I cannot be bothered to heat the whole house.'
(NoTa)

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Faarlund et al. (1997:1041) state that clauses embedded under *for at* 'for that' always have the canonical embedded word order (Neg–V). The data in the present study invalidate that: 24% of embedded clauses with negation under *for at* display the V–Neg word order. However, it seems this complementizer still differs from all other variations of *fordi* when it comes to licensing the non-canonical word order, as the proportion of Neg–V vs. V–Neg under *for at* differs from that of other variations of *fordi*, as shown in Table 9.[18] Clauses with negation embedded under *fordi* are split nearly equally between the word orders Neg–V and V–Neg.

V–Neg is also seen in adverbial clauses with the complementizer variation *så at* 'so that', *slik at* 'such that' or *sånn at* 'so that', as in (30), although Neg–V is more frequent in such clauses.

(30) blitt ødelagt [sånn at de *kunne* **ikke** sende det]
become broken so that they could not send it
'[It has] been broken so that they couldn't send it.'

(ScanDiaSyn)

These findings confirm and expand on Julien (2010), who finds V–Neg in 'causal subjunctions' such as *slik at* and *for*(*di*) (*at*).

Waldmann (2014) investigates verb placement under the complementizers *for at* and *så at* in Swedish, and finds that V–Neg is used in respectively 77% and 33% of clauses with these complementizers. In Danish, the word order V–Adv is found in 89% of clauses with the complementizer *fordi* (Christensen et al. 2015:105). These numbers indicate that there might be a difference in the usage of V–Neg between Norwegian and Swedish, particularly in 'for that'-clauses (although note that the distribution of V–Adv word order might be slightly diverging from Verb–Negation, since adverbs are found to behave differently in this context, as mentioned previously, e.g. Christensen et al. 2015).

Table 9 also shows that V–Neg is possible in other various contexts, such as conditional clauses with the complex complementizer *hvis at* 'if that' and concessional clauses with the complex complementizers *i og med at* 'since that', *når at* 'when that', and *om at* 'if that'.

4.1.3.1 Adverbial clauses' function and integration status

In Section 2.1.3, I introduced the claims that adverbial clauses allowing V–Neg (or MCP in general) are less integrated with the embedding clause than adverbial clauses disallowing it (Bentzen 2011, Haegeman 2012a). In this section, I look at whether these claims are confirmed by the corpus data.[19]

V–Neg should be allowed in less integrated (peripheral) *fordi* 'because'-clauses and disallowed in clauses of a central type, following Bentzen (2011) and Haegeman (2012a). One way to test whether a clause is one type or the other is to look at the scope of a matrix negation: central clauses fall within the scope of matrix negation whereas peripheral ones do not (Haegeman 2012a:161).

I applied this diagnostic to the corpora occurrences of 'because'-clauses where the embedding predicate contains a negation. I also extracted all clauses

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with the simple complementizer *fordi* 'because' complete enough to perform such a test on (10 clauses with Neg–V and 13 clauses with V–Neg) and inserted a negation in the embedding clause. All clauses with V–Neg seem to be peripheral, as in (31), and all clauses with Neg–V seem central, as in (32), as expected.

(31) Jeg takler ikke sånne folk [fordi de *har*
I deal.with not such people because they have
ikke ryggrad]
not spine
'I cannot deal with such people because they don't have a spine.'
(BigBrother)[20]

(32) Du blir ikke stemt ut [fordi dem **ikke** *liker* deg
you become not voted out because they not like you
men de stemte . . .]
but they voted
'You won't be voted out because they don't like you but they voted.'
(BigBrother)

The 'because'-clause in (31) seems peripheral as the matrix negation does not scope over it: *fordi de ikke har ryggrad* (*ikke* (*jeg takler sånne folk*)) 'because they don't have a spine (not (I deal with such people))'. In addition, it establishes a causal relation between the verbal action in the matrix clause and the speaker's attitude towards it; it provides the speaker's evidence for making a claim about not being able to deal with such people. This is in line with what Haegeman (2012a:162) describes for less integrated clauses.

The 'because'-clause in (32) seems to be central and thus more integrated with the matrix clause for two reasons, as described by Haegeman (2012a:162). Firstly, it falls within the scope of the matrix clause negation: *ikke* (*du blir stemt ut* (*fordi de ikke liker deg*)) 'not (you will be voted out (because they don't like you))'. This can be paraphrased as 'You will be voted out, not because they don't like you but for some other reason'. Secondly, the 'because'-clause expresses a cause for the proposition in the matrix clause: the reason for someone being voted out.

In addition to the embedded clause's level of integration with the matrix clause, other functions of adverbial clauses are claimed to influence (non-)licensing of V–Neg. For clauses embedded under a *slik at* 'such that' variation, it is claimed that if they express consequence, V–Neg will be allowed; if they express purpose, V–Neg is disallowed (Bentzen 2011). For many of the clauses in this study embedded under *slik at* 'such that', it is possible to pinpoint whether they are clauses of purpose or consequence.

All clauses with this complementizer containing the V–Neg word order seem to be clauses of consequence, as in (33a). Of the clauses of this type with the Neg–V word order that can be classified, the majority are clauses of purpose, as in (33b), and only a few seem to be clauses of consequence.

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Table 10. Occurrences of word order combinations as a function of verb type in percentages (token numbers in parentheses).

	ScanDiaSyn		NoTa		BigBrother		Ringstad		Total	
Aux										
Neg–V	52%	(79)	70%	(51)	77%	(72)	86%	(12)	64%	(214)
V–Neg	48%	(74)	30%	(22)	23%	(22)	14%	(2)	36%	(120)
Main Verb										
Neg–V	57%	(124)	74%	(105)	78%	(70)	70%	(30)	67%	(329)
V–Neg	43%	(94)	26%	(37)	22%	(20)	30%	(13)	33%	(164)
Copula										
Neg–V	70%	(76)	66%	(40)	72%	(42)	81%	(13)	70%	(171)
V–Neg	30%	(33)	34%	(21)	28%	(16)	19%	(3)	30%	(73)

(33) a. har vært opptatt med mange andre ting [sånn at jeg
have been busy with many other things such that I
har **ikke** sett så mye]
have not seen so much
'[I] have been busy with many other things so I haven't seen a lot.'
(NoTa)

b. . . . knyte veldig stramt [sånn at buksa **ikke** *driver* og
tie very tight so that trouser.DEF not keeps and
glir ned] . . .
sliding down
'tie very hard so that the trousers don't keep sliding down'
(BigBrother)

These findings support the claims in Bentzen (2011).

4.2 Embedded verb types

Children have been shown to produce embedded V–Neg more frequently with auxiliary verbs than with main verbs (Håkansson & Dooley Collberg 1994, Heycock et al. 2013). In Section 2.1, I asked whether the same was true of adults. Table 10 shows the frequency of each word order with each verb type (main verb, auxiliary, and copula), for four corpora. If adult language is similar to child language, auxiliaries should occur more frequently than main verbs in V–Neg. Aggregating the total counts across all corpora, we observe that auxiliaries occur at a slightly higher rate with V–Neg (36%) than main verbs (33%) or copula verbs (30%). A chi-squared test of independence was run to determine whether the numerical trend reflects a statistically significant difference. The test included all occurrences of embedded clauses with negation where verb type could be determined across all corpora. The table had three rows corresponding to verb type: auxiliaries, main verbs and copula verbs, and two rows for word order:

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V–Neg and Neg–V. The association between these two variables was not statistically significant, $\chi^2(2) = 3.05$, $p = .21$, suggesting that word order does not depend on verb type in adult productions.

4.3 Summary of findings

This section presented data from a large corpus study showing the distribution of embedded V–Neg in Norwegian. There are several findings. Firstly, some environments – relative clauses, indirect *wh*-questions and temporal and conditional clauses – never contain this word order. This finding supports claims by Hrafnbjargarson & Wiklund (2009) and Franco (2010). Several types of adverbial clauses frequently embed the word order V–Neg. This is particularly true for *fordi* 'because'-clauses and *så at* 'so that'-clauses (the latter contra Faarlund et al. 1997). *Så at* 'so that'-clauses are found to embed V–Neg when they express consequence, but not purpose, supporting claims from Bentzen (2011) (contra Hrafnbjargarson & Wiklund 2009). Lastly, *fordi* 'because'-clauses embedding V–Neg are found to be of a peripheral, or less integrated, type, as in Bentzen (2011) and Haegeman (2012a) (the latter not pertaining to embedded V–Neg specifically but MCP more generally). Additionally, even though verb type seems relevant to word order in child production (see Håkansson & Dooley Collberg 1994, Heycock et al. 2013), the current data show that verb type has no effect on word order in adult production.

5. Discussion

In the beginning of the paper, I questioned whether existing accounts of embedded V–Neg have discussed all relevant contexts for V–Neg. As I pointed out, identifying all environments where this phenomenon occurs is crucial for specifying the conditions that license it.

The empirical findings in this study confirm that there are restrictions on the distribution of embedded V–Neg: some clause types simply do not allow this word order in Norwegian. This is true for relative clauses and embedded questions, in addition to temporal and conditional embedded clauses. Despite occurring quite frequently with negation in the corpora, these clauses never display the word order V–Neg.[21] Section 2 showed that the existing literature does not agree on which environments (dis)allow embedded V–Neg. In addition to confirming syntactic environments disallowing the word order, the present study establishes that this word order is found in a number of clause types previously argued to disallow it. This is true for complement clauses under negated matrix predicates, concessional *selv om* 'even if'-clauses, and a number of adjunct clause types (particularly *fordi* 'because'- and *slik at* 'so that'-clauses). This study also establishes that embedded V–Neg is a robust phenomenon: 33% of all clauses allow it (as shown in Table 3). The same main clause phenomenon is found in very different environments, which raises the question of whether the mechanism responsible for the non-canonical word order is independent of clause type. I advocate an approach that examines the same licensing conditions for the same phenomenon and requires us to look clause-externally.

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In Section 2.2, I pointed out that the existing literature on embedded V–Neg explains its licensing conditions TO SOME EXTENT. However, each study finds counterexamples to other studies. The data in the present study suggest that we must dismiss accounts of V–Neg as conditioned on lexical selection by the matrix verb (work building on Hooper & Thompson 1973): lexical selection accounts are not able to explain V–Neg in adjunct clauses, as they are not selected by the matrix predicate. As previously explained, the general notion in such approaches is that factivity blocks main clause phenomena (Hooper & Thompson 1973). It is also problematic for these approaches that V–Neg is found in the complement of NPs (here and in Julien 2010, in particular in consequence of degree-constructions) since it is the selecting verb that is thought to entail factivity, not an NP. The issue of optionality – the ability of a subset of embedded clauses to allow word order alternation – is also not addressed adequately in the literature: environments allowing V–Neg also allow Neg–V, so Neg–V is never disallowed. Assuming that something governs when each word order can occur, existing accounts face a problem. If embedded V–Neg is lexically licensed – by predicates that are non-factive, as in Hooper & Thompson (1973) or predicates that introduce discourse-new-ness, as in Caplan & Djärv (2017) – we are left with no explanation as to why a speaker sometimes chooses the canonical word order Neg–V and sometimes the non-canonical word order V–Neg under the same predicate. In (34), both word orders are found embedded under the matrix predicate *veit* 'know'.

(34) a. Du veit [at du **ikkje** *får* lov] (Neg–V)
you know that you not get permission
'You know that you're not allowed.'
(Ringstad)

b. Eg veit [at eg *skulle* **ikkje** synest det] (V–Neg)
I know that I should not think that
'I know I shouldn't think so.'
(ScanDiaSyn)

I already dismissed lexical selection accounts based on the fact that adjunct clauses allow V–Neg. Now we see also that these accounts cannot explain word order alternation. However, similar problems arise for more pragmatically oriented approaches as well. Julien (2010) argues that assertion licenses V–Neg: an assertion is made by the speaker adding content to the conversation (see Stalnaker 1978), so it does not seem plausible to claim that a clause such as (35b) is asserted whereas (35a) is not.

(35) a. Hun sa egentlig [at man **ikke** *burde* dusje] (Neg–V)
she said actually that one not should shower
'She actually said that one shouldn't shower.'
(BigBrother)

b. Da sa jeg [at jeg *er* **ikke** interessert] (V–Neg)
then said I that I am not interested
'Then I said that I am not interested.'
(BigBrother)

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The same problem arises for accounts of MAIN POINT OF THE UTTERANCE (MPU) and AT-ISSUE-NESS. An environment that can be the MPU can also display V–Neg (Wiklund et al. 2009:1927).[22] This entails that the same environment has the possibility of displaying Neg–V.[23] An adequate account of V–Neg's licensing conditions needs to explain the possibility of alternating between two word orders in the subset of clauses allowing V–Neg. The facts laid out here suggest that we might need to look clause-externally and examine the broader discourse. Are certain properties of the discourse what licenses or bans V–Neg?

Caplan & Djärv (2017) suggest that discourse-familiarity is a relevant property: it disallows embedded V–Neg, making V–Neg licensed only in environments where the content of the utterance is not familiar. However, their analysis faces a problem since they claim that discourse-familiarity is a property of a selecting matrix predicate. Based on the data in the present study, we can rule out lexical selection as the primary licenser for embedded V–Neg. Discourse-familiarity in itself might license (or ban) embedded V–Neg, but not as a property of a matrix predicate. In that view, when a speaker expresses a proposition that contains familiar information, V–Neg is not licensed. Familiar information might be something already introduced in the discourse, or information presumed to be known to the participants in the conversation (COMMON GROUND, BACKGROUND INFORMATION, or PRESUPPOSED INFORMATION; see Stalnaker 1974, 2002). Thus, V–Neg is licensed in clauses expressing new information.

Assuming that a property of the discourse (such as familiarity) is relevant for licensing V–Neg covers adjuncts, as their ability to allow V–Neg will depend on whether or not the adjunct's content is familiar. Additionally, it can explain why we find V–Neg under certain matrix predicates and not under others: the matrix predicate might be an expression of the larger discourse-pragmatic function. It then follows that certain discourse-pragmatic properties are typically expressed using verbs of a specific kind, i.e. information known in the discourse might be conveyed through matrix predicates known to be factive. Familiar information might be conveyed through non-factive predicates. Such an approach can potentially explain why the same matrix predicate can embed both Neg–V and V–Neg: a predicate such as *si* 'say' takes complements with both word orders, depending on whether the content of the complement clause is already introduced in the discourse. This suggestion could be compatible with that of Jensen & Christensen (2013), where V–Neg is a foregrounder, i.e. typically focussing new information.

Some of the findings of this study support the claim that familiar information facilitates the word order Neg–V and new information the word order V–Neg. Further specifying what property (or properties) of the discourse might be relevant for licensing V–Neg is a topic for future research, as the following discussion will rest heavily on this author's introspection. Firstly, some argue that adverbial clauses differ with regard to factuality and presupposition (and thus also familiarity, following Stalnaker's (1974) definition of presupposition).[24] The present study confirms that V–Neg is typically found in clauses of reason and purpose. Such clauses are claimed to be non-presupposed (Hengeveld 1998, contra Nordström 2010), i.e. express new information. V–Neg is not found in temporal clauses, which are claimed to be presupposed (Hengeveld 1998:353–357), i.e. express familiar information.[25]

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In addition, the current findings reveal a striking discrepancy within copula clauses: while almost none of the V–Neg clauses embedded under a copula were found with an extraposed subject, a large number of the Neg–V clauses were. Extraposed subjects can be said to contain presupposed, i.e. familiar, information (Kiparsky & Kiparsky 1971:148; Gentens 2015).[26] This seems to be the case in the extraposed subjects in (36), where the information in the embedded clauses seems known, and the speaker uses the matrix clause to assert something about the presupposed fact in the complement clause/extraposed subject. This is supported by corresponding structures in Kiparsky & Kiparsky (1971:148).

(36) a. Det er veldig bra [at det **ikke** *er* så god mikrofon]
it is very good that it not is so good microphone
'It's very good that the microphone isn't so good.'
(Ringstad)

b. Det er greit [at vi **ikke** *kjøpte*]
it is okay that we not bought
'It's ok that we didn't buy.'
(NoTa)

Lastly, it seems that 'because'-clauses with the two word orders reveal a discourse relevant difference. Whereas adding a contrasting clause, such as *ikke fordi jeg er dum* 'not because I am stupid', at the end of the 'because'-clause with the word order V–Neg in (37a) produces the infelicitous (38), contrasting the content of the Neg–V 'because'-clause shown in (37b) is possible.[27]

(37) a. Det går dårlig på eksamen [fordi jeg *har* **ikke**
it goes bad at exam.DEF because I have not
med kalkulator]
with calculator
(V–Neg)
'The exam will go badly because I didn't bring a calculator.'

b. Det går dårlig på eksamen [fordi jeg **ikke** *har*
it goes bad at exam.DEF because I not have
med kalkulator]
with calculator
(Neg–V)
'The exam will go badly because I didn't bring a calculator.'

(38) Det går dårlig på eksamen [fordi jeg *har* **ikke**
it goes bad at exam.DEF because I have not
med kalkulator], #ikke fordi jeg er dum
with calculator not because I am stupid
'The exam will go badly because I didn't bring a calculator, not because I'm stupid.'

The possibility of contrasting the content of the Neg–V clause, indicates that the utterer could have chosen several possible reasons for the exam going badly. This entails that the participants in the conversation have knowledge that there is a range of reasons why the exam might go badly. Since contrasting the content of the V–Neg clause (37a) yields an infelicitous result, this suggests that the

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'because'-clause with V–Neg does not entail known information, and thus introduces new information or states facts.

Future research should further investigate this distinction between 'because'-clauses embedding the two word orders as well as the exact properties of discourse relevant to the licensing of embedded V–Neg.

It seems that by pursuing the idea that embedded V–Neg might be conditioned by discourse properties we are able to utilize knowledge from existing approaches, as clause internal pragmatics as well as clause types and matrix predicates will necessarily interact with the larger discourse. Thus, we are not dismissing the promising accounts already advanced, but incorporating what they have shown to be correct in an approach looking at licensing conditions from a different perspective. Furthermore, by looking for discourse properties as licensing conditions for this main clause phenomenon, we investigate the mechanism responsible for the same phenomenon in both complement and adjunct clauses.

6. Conclusion

This paper examines embedded clauses containing negation drawn from five Norwegian corpora. The aim was to determine the distribution of a main clause phenomenon found in Norwegian and other Scandinavian languages: the embedded word order V(erb)–Neg(ation). A complete overview of this word order's distribution was conducted to help explain which environments allow and disallow it.

The data revealed previously unknown environments allowing V–Neg (concessional clauses) and pinpointed the frequency with which V–Neg is found in thoroughly discussed environments such as complement clauses, and in more uncharted clauses such as adjuncts (purpose and reason clauses) and copula clauses. The latter two are uncharted territory in most previous literature on the topic. Based on these findings, I offered some suggestions for directions research on embedded V–Neg can take in the future – studying how the choice of word order is made based on the discourse-familiarity of its containing clause. I hope this work will stimulate further investigations into the connections between embedded V–Neg and discourse, and the function and structure of the clauses discussed in this paper.

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Notes

1 Use of Verb–Negation word order in embedded clauses is considered a main clause phenomenon (MCP; Heycock 2006) because it is identical to the word order used in matrix clauses. Throughout the text, negation will be shown in bold in the examples, and the finite verb in italics.

2 http://www.tekstlab.uio.no/nota/scandiasyn/

3 Previous work has typically studied embedded V–Neg as part of a larger phenomenon – embedded V2. Embedded V2 often includes non-subject topicalization as well as the word order V–Neg. This paper focuses on V–Neg for two reasons: (i) it is not clear that non-subject topicalization and V–Neg are both V2 phenomena, as their underlying structures are much debated (e.g. Travis 1984, Vikner 1995) and so their distributions are best studied separately, and (ii) searching for production of non-subject topicalized elements in embedded clauses is not possible in the corpora used in this study.

4 In this article the term COMPLEMENTIZER refers to an element introducing a subordinate clause.
5 In this study, complement clause is defined as a clause that is subcategorized for by a lexical head, whereas adjunct clause is defined as a clause that modifies a lexical head without being subcategorized for by that lexical head (see Trask 1993:8, 51).
6 Hrafnbjargarson & Wiklund (2009) do not make this claim about V–Neg specifically, but they do claim that these clause types allow non-subject topicalization, which is treated in much literature as a phenomenon similar or identical to embedded V–Neg (see endnote 3).
7 Selection approaches such as Caplan & Djärv 2017, Djärv et al. 2017 resemble that of Hooper & Thompson (1973), but Hooper & Thompson only discuss main clause phenomena in English, and not the particular word order studied here.
8 The way I read Jensen & Christensen (2013), V–Neg focusses the embedded clause, such that a V–Neg clause is always MPU. Additionally, the Neg–V word order is neutral with respect to MPU, so Neg–V clauses are not necessarily MPU but they may be. This might explain the possibility of word order alternation within the same environments.
9 Caplan & Djärv (2017) apply a test to check whether a clause conveys new or familiar information: one imagines a clause uttered out of the blue, beginning with 'Guess what'. Something that is already familiar in the discourse should then be infelicitous. If the matrix predicate is 'say', as in (i), new information can be conveyed in the following complement clause. A matrix predicate such as 'appreciate', as in (ii), must by necessity take a complement clause with some degree of familiarity, such that uttering this familiar complement out of the blue is infelicitous or odd. According to Caplan & Djärv (2017), V–Neg is allowed in a clause embedded under 'say', as in (i), and disallowed under 'appreciate', as in (ii).

(i) Guess what – they said on the radio *that Trump resigned*.
[Discourse-familiarity of embedded clause not required. V–Neg allowed.]

(ii) Guess what – #they appreciate *that Trump resigned*.
[Discourse-familiarity of embedded clause required. V–Neg disallowed.]

10 https://www.hf.uio.no/iln/om/organisasjon/tekstlab/
11 https://childes.talkbank.org/
12 As there is no overview of the number of total utterances in the corpora utilized for this study, I searched for all utterances minimally containing a verb. Thus, 'all utterances' means all utterances of at least a verb, including incomplete utterances.
13 A reviewer pointed out that clauses without an overt complementizer might behave differently than clauses with a complementizer with regards to the word order they embed. While it would be interesting to include complementizer-less clauses in the present study and to compare them with clauses with overt complementizers, this must be left to future research.
14 The Norwegian reference grammar (Faarlund et al. 1997) argues that *for* 'for'-clauses normally contain new information, and thus they are more independent than e.g. *fordi* 'because'-clauses that typically contain known information (ibid.:1139). The independence of *for* 'for'-clauses points to *for* 'for' being a conjunction connecting two main clauses rather than functioning as a subordinator.
15 For conditionals with the V–Neg word order, two results were obtained, but turned out to be obvious restarts.
16 Thirteen instances of relative clauses with the word order V–Neg were obtained. When examined more closely, all but one were excluded for the following reasons: restarts/pauses, the negation being a constituent negation or the relative pronoun and the verb being the collocation *som sagt* 'as I said'. The remaining relative clause, in (i) below, displays V–Neg and cannot be excluded as a restart, but it seems to be an utterance consisting of fragments and pauses (the symbol # indicates pauses).

(i)	Været	var	så	dårlig	at	de	som	innbyggerne	oppå	# Newfoundland #
	weather.DEF	*was*	*so*	*bad*	*that*	*they*	*REL*	*inhabitants*	*on*	*Newfoundland*
	venninna	hans	M13	som	*kom*	**ikke**.				
	friend.DEF	*his*	*M13*	*REL*	*came*	*not*				

'The weather was so bad that they who lived on Newfoundland... The friend of M13 who didn't come.'
(ScanDiaSyn)

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17 A reviewer points out that double negation is generally dispreferred by language users, leading to V–Neg embedded under a matrix negation being avoided. Determining whether a preference against double negation is the reason for the low number of such clauses can be done with a fuller survey of embedded V2 order with adverbials, but such a survey is beyond the scope of the current paper.

18 **Table (i).** Specification of numbers categorized as complementizer variation of *fordi* 'because'. Occurrences of word order combinations in percentages (token numbers in parentheses).

Complementizer	Neg–V		V–Neg		Total
for det at 'because (that)'	40%	(14)	60%	(21)	35
fordi 'because'	55%	(36)	45%	(29)	65
fordi at 'because (that)'	56%	(10)	44%	(8)	18

19 Even though I apply tests when investigating the clauses in this section, some degree of introspection is required. For this reason, the clauses discussed here should be subjected of future research including large scale acceptability judgements or the like, to make sure there is consensus among speakers on these intuitions.

20 The utterance is slightly rewritten for analysis purposes. The original utterance is *Sånne folk takler jeg ikke fordi de har ikke ryggrad i det hele tatt* 'Such people I cannot deal with because they don't have a spine at all '.

21 All mentioned clause types are found with well over 100 occurrences in the corpora searches, with the exception of embedded questions, where only two occurrences were found.

22 Wiklund et al. (2009) refer to V–Neg by the larger category V2, which also includes topicalizing of non-subject elements (see note 3 above).

23 Jensen & Christensen (2013) and Christensen et al. (2015) discuss how the word order V–Neg (V–Adv) can be used as a foregrounding signal, such that this is a function inherent in the main clause word order. However, they take environmental factors, such as the (non-)existence of overt complementizer, in support of a clause displaying a foregrounding signal. Therefore, one could say their approach considers both the function of using the word order V–Neg (V–Adv) and what environments facilitate it. As such, it seems reasonable to also include their approach to V–Neg as a foregrounding signal in this discussion.

24 Stalnaker's (1974:200) definition of presupposition:

> A proposition P is a pragmatic presupposition of a speaker in a given context just in case the speaker assumes or believes that P, assumes or believes that his addressee assumes or believes that P, and assumes or believes that his addressee recognizes that he is making these assumptions or has these beliefs.

25 Presupposition in adjuncts is more complicated than portrayed here, since V–Neg is not used in all clauses of reason and purpose, but is split between central and peripheral clauses of reason and purpose, as shown in Section 4.

26 Gentens (2015) discusses the presupposition/givenness status of extraposed OBJECTS. This might be a factor of extraposition as a function, independently of whether the extraposed element is the subject or the object.

27 I have slightly altered the utterance presented in (37) for analysis purposes. The actual utterance as found in the corpus reads as follows: *Men jeg kommer til å slite i dag altså for jeg har ikke du vet kalkulatoren min* 'But I am going to have a hard time today because I don't have, you know, my calculator'.

References

Åfarli, Tor & Laila Sakshaug. 2006. *Grammatikk: Syntaks og morfologi med norsk i sentrum* [Grammar: Syntax and morphology with Norwegian in focus]. Oslo: Det Norske Samlaget.

Bentzen, Kristine. 2011. The status of the embedded V–Neg word order. Handout, University of Tromsø.

https://doi.org/10.1017/S0332586519000210 Published online by Cambridge University Press

Bentzen, Kristine. 2014. Embedded Verb Second (V2). *Nordic Atlas of Language Structures (NALS) Journal* **1**.

Bentzen, Kristine, Gunnar H. Hrafnbjargarson, Thorbjörg Hróarsdóttir & Anna-Lena Wiklund. 2007. The Tromsø guide to the Force behind V2. *Working Papers in Scandinavian Syntax* **79**, 93–118.

Borthen, Kaja. 2011. Hvor mange 'det' fins det i norsk? En studie med utgangspunkt i Norsk Ordbok [How many 'it' are there in Norwegian? A study based on the Norwegian Dictionary]. *Det Kongelige Norske Videnskabers Selskabs Skrifter* **1**, 93–136.

Caplan, Spencer & Kajsa Djärv. 2017. Embedded-Verb Second is anti-licenced by discourse familiarity. Presented at Meaning in Flux 2017, Yale University. [Handout]

Christensen, Tanya K., Torben J. Jensen & Marie H. Christensen. 2015. Adverbielle ledsætningers ledstilling i dansk talesprog [Adverbial sub-clauses' word order in Danish speech]. *MUDS* **15**, 97–115.

Djärv, Kajsa, Caroline Heycock & Hannah Rohde. 2017. Assertion and factivity: Towards explaining restrictions on embedded V2 in Scandinavian. In Laura R. Bailey & Michelle Sheehan (eds.), *Order and structure in syntax I: Word order and syntactic structure*, 3–28. Berlin: Language Science Press.

Eide, Kristin Melum. 2002. Adjunction sites for Negation in Norwegian: Modals and negation. *Nordic Journal of Linguistics* **25**(2), 225–252.

Faarlund, Jan T., Svein Lie & Kjell I. Vannebo. 1997. *Norsk referansegrammatikk* [Norwegian reference grammar]. Oslo: Universitetsforlaget.

Franco, Irene. 2010. Issues in the syntax of Scandinavian embedded clauses. *Working Papers in Scandinavian Syntax* **86**, 137–177.

Gentens, Caroline. 2015. The discursive status of extraposed object clauses. *Leuven Working Papers in Linguistics*, 105–128.

Hacquard, Valentine & Jeffrey Lidz. 2018. Children's attitude problems: Bootstrapping verb meaning from syntax and pragmatics. *Mind and Language* **34**(1), 1–24.

Haegeman, Liliane. 2006a. Argument fronting in English, Romance CLLD and the left periphery. In Héctor C. Zanuttini, Elena Herburger & Paul Portner (eds.), *Negation, Tense and Clausal Architecture: Cross-Linguistic Investigations*, 27–52. Washington, D.C.: Georgetown University Press.

Haegeman, Liliane. 2006b. Conditionals, factives and the left periphery. *Lingua* **116**(10), 1651–1669.

Haegeman, Liliane. 2010. The internal syntax of adverbial clauses. *Lingua* **120**(3), 628–648.

Haegeman, Liliane. 2012a. The syntax of MCP: Deriving the truncation account. In Rachel Nye, Lobke Aelbrecht & Liliane Haegeman (eds.), *Main Clause Phenomena* (New Horizons 190), 113–134. Amsterdam & Philadelphia, PA: John Benjamins.

Haegeman, Liliane. 2012b. *Adverbial Clauses, Main Clause Phenomena, and Composition of the Left Periphery*. Oxford: Oxford University Press.

Håkansson, Gisela & Sheila Dooley Collberg. 1994. The preference for Modal + Neg: An L2 perspective applied to Swedish L1 children. *Second Language Research* **10**(2), 95–124.

Hengeveld, Kees. 1998. Adverbial clauses in the languages of Europe. In Johan van der Auwera (ed.), *Adverbial Constructions in the Languages of Europe*, 335–419. Berlin: Mouton de Gruyter.

Heycock, Caroline. 2006. Embedded root phenomena. In Martin Everaert & Henk van Riemsdijk (eds.), *The Blackwell Companion to Syntax*, **vol. II**, 174–209. Oxford: Blackwell.

Heycock, Caroline, Antonella Sorace, Zakaris S. Hansen & Frances Wilson. 2013. Acquisition in variation (and vice versa): V-to-T in Faroese children. *Language Acquisition* **20**(1), 5–22.

Hooper, Joan & Sandra Thompson. 1973. On the applicability of root transformations. *Linguistic Inquiry* **4**(4), 465–497.

Hrafnbjargarson, Gunnar H. & Anna-Lena Wiklund. 2009. General embedded V2: Icelandic A, B, C, etc. *Working Papers in Scandinavian Syntax* **84**, 21–51.

Jensen, Torben J. & Tanya K. Christensen. 2013. Promoting the demoted: The distribution and semantics of 'main clause word order' in spoken Danish complement clauses'. *Lingua* **137**, 38–58.

Johannessen, Janne B., Joel Priestly, Kristin Hagen, Tor A. åfarli & Øystein A. Vangsnes. 2009. The Nordic Dialect Corpus: An advanced research tool. In Kristiina Jokinen & Eckhard Bick (eds.), *Proceedings of the 17th Nordic Conference of Computational Linguistics NODALIDA 2009* (NEALT

Proceedings Series Volume 4). http://tekstlab.uio.no/nota/scandiasyn/ (accessed between 1 September and 15 December 2015).

Julien, Marit. 2010. Embedded clauses with main clause word order in Mainland Scandinavian. http://ling.auf.net/lingbuzz/000475 (accessed 1 September 2015).

Julien, Marit. 2015. The force of V2 revisited. *Journal of Comparative Germanic Linguistics* **18**, 139–181.

Karttunen, Lauri. 1971. Some observations on factivity. *Research on Language and Social Interaction* **4**(1), 55–69.

Kiparsky, Paul & Carol Kiparsky. 1971. Fact. In Danny Steinberg & Leon Jakobovits (eds.), *Semantics: An Interdisciplinary Reader in Philosophy, Linguistics and Psychology*, 345–369. Cambridge: Cambridge University Press.

Levin, Beth. 1993. *English Verb Classes and Alternations*. Chicago, IL & London: The University of Chicago Press.

Mæhlum, Brit & Unn Røyneland. 2012. *Det norske dialektlandskapet* [The Norwegian dialect landscape]. Oslo: Cappelen Damm Akademisk.

Mikkelsen, Line. 2005. *Copular Clauses: Specification, Predication and Equation*. Amsterdam: John Benjamins.

Nordström, Jackie. 2010. *Modality and Subordinators*. Amsterdam: John Benjamins.

Ørsnes, Bjarne. 2012. Negating the verum: The syntax and semantics of preposed negation in Danish. *Journal of Comparative Germanic Linguistics* **15**, 49–105.

Ringstad [Larsen], Tina L. 2014. Byggeklossar i barnespråk [Building bricks in child language]. Master's thesis, Norwegian University of Science and Technology.

Simons, Mandy. 2007. Observations on embedding verbs, evidentiality, and presupposition. *Lingua* **117**(6), 1034–1056.

Simonsen, Hanne Gram. 1990. *Children's Phonology: System and Variation in Three Norwegian Children and one Samoan Child*. Ph.D. dissertation, Department of Linguistics and Philosophy, University of Oslo.

Stalnaker, Robert. 1974. Pragmatic presuppositions. In Milton Karl Munitz & Peter Unger (eds.), *Semantics and Philosophy*, 197–214. New York: New York University Press.

Stalnaker, Robert. 1978. Assertion. In Peter Cole (ed.), *Pragmatics* (Syntax and Semantics 9), 315–332. New York: Academic Press.

Stalnaker, Robert. 2002. Common ground. *Linguistics and Philosophy* **25**, 701–721.

Tekstlab. 2004. Norsk talespråkskorpus – Oslodelen [Norwegian speech corpus: The Oslo part]. Tekstlaboratoriet, ILN, University of Oslo.

Tekstlab. 2009. BigBrother-korpuset [The BigBrother corpus]. Tekstlaboratoriet, ILN, University of Oslo.

Trask, Robert L. 1993. *A Dictionary of Grammatical Terms in Linguistics*. London: Routledge.

Travis, Lisa. 1984. *Parameters and Effects of Word Order Variation*. Ph.D. dissertation, MIT.

Vikner, Sten. 1995. *Verb Movement and Expletive Subjects in the Germanic Languages*. New York: Oxford University Press.

Waldmann, Christian. 2014. The acquisition of Neg–V and V–Neg order in embedded clauses in Swedish: A microparametric approach. *Language Acquisition* **21**(1), 45–71.

Westergaard, Marit R. & Kristine Bentzen. 2007. The (non-)effect of input frequency on the acquisition of word order in Norwegian embedded clauses. In Insa Gülzow & Natalia Gagarina (eds.), *Frequency Effects in Language Acquisition: Defining the Limits of Frequency as an Explanatory Concept*, 271–306. Berlin: Mouton de Gruyter.

Wiklund, Anna-Lena, Kristine Bentzen, Gunnar H. Hrafnbjargarson & Thorbjörg Hróarsdóttir. 2009. On the distribution and illocution of V2 in Scandinavian *that*-clauses. *Lingua* **119**(12), 1914–1938.

Appendix. Detailed corpora findings and search information

Table A1. Search strings used for search in corpora. In all searches the maximum number of elements between the search elements was 1.

Search for	Search string
Embedded clauses with negation	complementizer + noun/pronoun + negation + verb
	complementizer + noun/pronoun + verb + negation
Embedded *wh*-questions with negation	verb + *wh*-word/*om* 'if' + noun/pronoun + verb + negation
	verb + *wh*-word/*om* 'if' + noun/pronoun + negation + verb
Relative clause	relative pronoun *som* + verb + negation
	relative pronoun *som* + negation + verb

Table A2. Geographical production by the dialectal areas. Occurrences of word order combinations in percentages (token numbers in parentheses).

Area	Neg–V		V–Neg		Total
The North	64%	(135)	35%	(75)	212
Troms and Finnmark	58%	(65)	42%	(47)	113
Northern Nordland	57%	(14)	33%	(7)	21
Southern Nordland	72%	(56)	27%	(21)	78
Trøndelag	55%	(32)	45%	(26)	58
Coastal Trøndelag	61%	(11)	39%	(7)	18
Inland Trøndelag	53%	(21)	48%	(19)	40
The West Coast	66%	(79)	33%	(39)	120
Northern West Coast	55%	(23)	43%	(18)	42
Southern West Coast	72%	(56)	27%	(21)	78
The South	38%	(12)	59%	(19)	32
The East	72%	(248)	28%	(96)	344
The Midlands	56%	(35)	43%	(27)	63

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Table A3. All matrix predicates embedding a complement clause. Number of consequence of degree clauses in parentheses, i.e. 'N of clauses (N of consequence clauses)'.

Embedding verb	Neg–V number	V–Neg number
bety 'mean'	5 (1)	2
bli 'become'	17 (1)	15 (7)
finne ut 'discover'	2	3
fortelle 'tell'	1	4
føle 'feel'	7	2
få beskjed om 'get told'	2	2
gjøre 'do/make'	10	1
gå 'go, walk'	4 (2)	1 (1)
ha + *NP* 'have, own'	3	7 (4)
huske 'remember'	3	5
høre 'hear'	6	5
innrømme 'admit'	1	1
love 'promise'	2	1
lære 'learn'	1	1
mene 'mean'	9	5
regne med 'assume'	2	1
sjå 'see'	5	2
si 'say'	52	46
skjønne 'understand'	9	4
skrive (+XP) 'write' (+XP)	4	1
snakke om 'talk about'	3	2
synes 'have the opinion'	8	1
tenke 'think'	10	2
tru 'believe'	12	3
vil + XP 'want to + XP'	3	1
vise (*seg*) 'show (REFL)'	1	2
vite 'know'	22	12
være 'be'	216 (18)	119 (36)
angre på 'regret'	3 (1)	—
bestemme 'decide'	2	—
bli til 'become such that'	1	—
bli å VP 'going to VP'	1	—

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Table A3. (*Continued*)

Embedding verb	Neg–V number	V–Neg number
bære preg av 'bear evidence of'	1	—
ende med 'end with'	1	—
foreslå 'suggest'	1	—
forestille seg 'imagine'	1	—
forstå 'understand'	4	—
få høre 'get to hear'	2	—
få følelse/forståelse av 'get a feeling/understanding'	3	—
få tru/håpe 'should believe/hope'	4	—
garantere 'guarantee'	2	—
gjøre + XP 'do + XP'	3	—
gnage meg 'bother me'	1	—
ha med 'include'	1	—
ha en følelse av 'have a feeling'	1	—
holde styr på 'keep track of'	1	—
håpe 'hope'	7	—
irritere meg 'annoy me'	2	—
kan hende 'could be'	4	—
kan huske 'can remember'	1	—
kan love 'can promise'	1	—
kan risikere 'can risk'	1	—
kjenne 'know, feel'	1	—
komme (*med*) + XP 'come (with) + XP'	3	—
komme på 'remember'	1	—
kunne merke 'could notice/feel'	1	—
kødde med 'joke with'	1	—
late som 'pretend'	2	—
legge merke til 'notice'	1	—
legge skjult på noe 'hide'	1	—
lese 'read'	1	—
like 'like'	1	—
medføre 'entail'	1	—
måtte reparere 'had to repair'	1	—
må tilstå 'must confess'	1	—

(*Continued*)

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Table A3. (*Continued*)

Embedding verb	Neg–V number	V–Neg number
nekter å tro 'refuse to believe'	1	—
oppleve 'experience'	1	—
overdrive 'exaggerate'	1	—
overbevise 'convince'	1	—
passe på 'look after, make sure'	16	—
plage meg 'bother me'	1	—
prege meg 'mark me'	1	—
prøve å fortelle deg 'try to tell you'	1	—
påstå 'claim'	1	—
reagere på det 'react to it'	1	—
redd for 'afraid'	1	—
satse på 'bet on'	1	—
skulle ha/sikre/bare mangle 'should have/secure. . .'	3	—
sjekke 'check'	2	—
snakke for meg sjøl 'talk for myself'	1	—
stå i avisen 'say in the paper'	1	—
svare 'answer'	1	—
sørge for 'make sure'	2	—
tilsi 'indicate'	1	—
vedde på 'bet on'	1	—
ønske 'wish'	1	—
beregne 'estimate'	—	1
danse 'dance'	—	1 (1)
forsikre seg om noe 'ensure'	—	1
få inntrykk av 'get an impression'	—	1
få tak i 'catch'	—	1
få til 'manage'	—	1
gi beskjed om 'send a message'	—	1
ha + VP 'have + VP'	—	9
hende 'happen'	—	1
komme 'come'	—	1
komme til 'come to'	—	1
kunne ha vært 'could have been'	—	1

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Table A3. (*Continued*)

Embedding verb	Neg–V number	V–Neg number
leke 'play'	—	1 (1)
merke 'notice'	—	1
må innrømme 'must admit'	—	2
må tenke meg om 'must think about'	—	1
påpeke 'point out'	—	1
se ut som 'look like'	—	1
sette fingeren på 'point out'	—	1
skal love deg 'will promise you'	—	1
smake 'taste'	—	1 (1)
spise 'eat'	—	1 (1)
sykle 'cycle'	—	1 (1)

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