Order and Structure

in Embedded Clauses in Northern Norwegian

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Contents

Acknowledgements

As I am writing up the acknowledgements, *The Smiths* accompanies me on my iPod. An appropriate line just caught my ear... “there’s too much caffeine in your blood stream and a lack of real spice in your life...” In a sense, this is what the final stages of writing a dissertation feel like. Not that linguistics isn’t spicy... but at some point you just feel like you’ve reached the stage where you want to finish. Unfortunately for me, my computer reached that stage a bit earlier than I did. About a week before I submitted my dissertation, my Mac decided that that was it – he’d had it with remnant movement, partial deletion, subjects acting up, Icelandic and Norwegian verb movement, Faroese embedded V2, and children moving verbs all over the place. The term *Regional Northern Norwegian* had been typed one time too many, and he simply crashed! I guess this is any PhD student’s nightmare... A big thank you to Peter, Björn, Gillian, and Antonio for taking me out drinking that nerve-wracking evening – and for backing me up in the following days as I looked for backups of my dissertation on the server! I am also forever grateful to Gunnar – all-knowing LaTeXguru – for reinstalling LaTeXon my new computer, and for patiently helping me out with all kinds of formatting issues (Gunnar, check out the arrow with the star in it in the tree on p.112 – great!). Furthermore, thanks to the administration for quickly providing me with a new computer, and for accepting my submission in the middle of the summer.

Apart from these last few frantic weeks before submitting this dissertation, being a PhD student at CASTL in Tromsø has been a very pleasant experience. When I first came here as an undergraduate, we didn’t have a big castle of linguists yet, but there was a group of great people here already. My first syntax and phonology teachers, Lars-Olof Delsing, Toril Fiva, Marit Julien, and Ove Lorentz triggered my interest in languages and linguistics, and made me realize very early that linguistics was the way to go. In the following years, classes taught by Curt Rice, Peter Svenonius, and Marit Westergaard kept inspiring me to continue doing linguistics, and by the time CASTL was established there was no turning back for me. I am very grateful to this centre for giving me a grant to do my PhD in Tromsø.

As a PhD student at CASTL one is part of an extremely active research community, where people talk about linguistics everywhere and at all times – during lunch breaks, at bars in the evening, on the bus stop, at the weekly CASTL colloquium followed by obligatory wine drinking... It is impossible not to get hooked in this environment!

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CASTL frequently has visitors from outside, and also encourages its students to go to conferences to present their stuff. Therefore I've had to opportu-

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Ok, I hope I haven’t forgotten anyone. Now buckle up, and get ready for a journey into the fascinating intricacies of verb placement in Norwegian and other Scandinavian languages!

Introduction

0.1 The starting point: Word order variation in embedded clauses

The unifying topic for all of the six papers in this dissertation is the position of verbs in embedded clauses in Northern Norwegian. This has relevance for linguistic theory because Northern Norwegian displays patterns which have not been discussed in detail before, and which under certain analyses are somewhat unexpected. The current study addresses various aspects of this topic. For example, Northern Norwegian is shown to allow verbs preceding adverbs in so-called non-V2 contexts, that is clauses in which Verb Second (V2) is not available. Since the verb is separated from its complements by the adverb, we take the verb to have moved from its base position. This indicates that Northern Norwegian employs a sort of short verb movement which is independent of the V2 operation found in main clauses. Such verb movement is not found in Standard Norwegian. Furthermore, this short verb movement in Northern Norwegian also differs from the verb movement found in non-V2 contexts in Icelandic.

The Scandinavian languages are typified by V2, which means that the finite verb appears in the second position in main clauses. However, in embedded clauses there is more variation among the Scandinavian languages. Within the generative linguistics literature it has generally been claimed that only Icelandic and varieties of Faroese allowed verb movement independently of V2 in embedded contexts, so-called *independent V-to-I movement*. In the other Scandinavian languages, verbs were assumed to obligatorily remain in situ in non-V2 contexts (cf. Holmberg and Platzack 1995, Vikner 1995b). This can be illustrated with the following example, where the finite verb 'had' precedes the adverb 'often' in Icelandic, but follows it in Norwegian ((1a) is taken from Vikner 1995b:139).

(1) a. Ég spurði [af hverju Helgi **hefði** oft lesið þessa bók]. (Icelandic)
I asked why Helgi had often read this book

b. Jeg spurte [hvorfor Helge ofte **hadde** lest denne boka]. (Norwegian)
I asked why Helge often had read this book.the
'I asked why Helge often had read this book.'

This split with respect to verb movement in non-V2 contexts has been correlated with rich inflectional morphology (cf. among many others Emonds 1978, Pollock 1989, Bobaljik 1995, Vikner 1995b, Thráinsson 1996, Bobaljik and Thráinsson 1998, Rohrbacher 1999, Bobaljik 2002b). According to the *Rich Agreement Hypothesis (RAH)*, languages with 'sufficiently rich' agreement morphology allow independent V-to-I movement in non-V2 contexts, whereas languages with poor verbal morphology do not display such verb movement. However, in recent years, the empirical base for this correlation has been challenged. Already when the RAH was introduced, people had pointed out the odd counter-examples of dialects that reportedly allowed this verb movement in the absence of rich morphology. The two most frequently cited counter-examples are probably those in (2). Almost 90 years ago Iversen (1918:83-84) pointed out that the Northern Norwegian dialect spoken in Tromsø allowed word orders such as those in (2a). This is still acceptable in the present-day Tromsø dialect. Platzack and Holmberg (1989:74) also illustrate that the Swedish dialect spoken in Kronoby in Finland allows unexpected verb movement patterns, as shown in (2b).

(2) a. Vi va bare tre støkka før det at han Nilsen **kom** ikkje. (Tromsø)
we were only three pieces for it that he Nilsen came not
'We were only three people because Nilsen didn't come.'
b. He va bra et an **tsöfft** int bootsen. (Kronoby)
it was good that he bought not book.the
'It was good that he didn't buy the book.'

In both of these examples, the embedded clause displays verb movement across negation. It is interesting that precisely these examples have been used for years to illustrate that the Tromsø and Kronoby dialects allow this type of verb movement. First of all, at least for the Tromsø example, it is not clear that this really is a non-V2 context. As shown in Bentzen (2003:579) it is possible to topicalize a non-subject in (2a), suggesting that this is actually an embedded V2 clause (which in general is the case for clauses introduced by subjunctions such as *at* 'that' or *for det at* 'because'). This is illustrated in (3).

(3) Vi va bare tre støkka før det at **igår** kom han Nilsen ikkje. (Tromsø)
we were only three pieces for it that y'day came he Nilsen not
'We were only three people because yesterday, Nilsen didn't come.'

Furthermore, it turns out that although these two dialects indeed *do* allow verb movement in non-V2 contexts, such verb movement is generally not able to cross negation!

In this investigation of embedded verb placement, I have consulted my own native intuitions and compared them with those of numerous other speakers from different parts of Northern Norway. The dissertation discusses the nature of the observed word order patterns in detail. In addition, a small survey of the dialects in the Kronoby area is also reported on in Chapter 2. My investigations support the claims Iversen (1918) and Platzack and Holmberg (1989) made about the Tromsø and Kronoby dialects: these (and the surrounding dialects) do allow verbs preceding adverbs in non-V2 contexts. However, as we will see, the issue of verb movement in embedded contexts is much more nuanced than the question of allowing V-to-I movement or not. One point is that the word order V $\prec$ Adv is not always necessarily the result of verb movement, but may reflect the order of merge. In those cases, what needs to be explained is how to derive the order Adv $\prec$ V for those two elements. This is addressed in Chapter 1. Moreover, those cases that unambiguously involve verb movement in non-V2 contexts in Northern Norwegian differ from the type of V-to-I movement found in Icelandic in various respects. The nature of the Northern Norwegian verb movement is discussed in Chapters 2 and 3, and in Chapter 4 this is compared to the verb movement attested in Icelandic. As illustrated above, the short verb movement in Northern Norwegian also differs from embedded V2. The driving forces behind the phenomenon of embedded V2 are discussed in a cross-Scandinavian perspective in Chapter 5. Finally, Chapter 6 addresses verb movement in embedded clauses from the point of view of language acquisition.

0.2 The bigger picture: Order and structure

Set in a wider perspective, this study addresses how word order and clausal structure are derived. These are complex matters, and there are many factors involved in the derivation of word order. In this dissertation I make certain background assumptions which influence my approach to syntax.

First of all I assume that the various constituents in a clause are merged in a way that reflects their scope relations. As the surface word order does not always reflect such relations, displacement of constituents is taken to be a

central property of syntax. However, such displacement is not unrestricted; I assume a number of restrictions which are more or less standard in current literature. First of all, movement is assumed to target positions that are higher in the clause, that is, there is no movement downwards. Furthermore movement must obey the Extension Condition (Chomsky 1993; 1995) which requires that every movement operation targets the root of the clause, and thereby extends the projection. I therefore exclude operations such as 'tucking-in' (cf. Richards 1998), which targets intermediate positions in clause structure that has already been built.

Another general assumption adopted here is that movement is driven by Attract (Chomsky 1995) and proceeds the way outlined in the probe-goal model introduced in Chomsky (2000; 2001). Thus, movement is connected to feature matching between two constituents. A probe P with a certain feature searches for a potential goal G, to enter into a feature agreement relation with. When agreement is established between P and G, feature sharing may either be accomplished through Agree or through Move. In the former case, the goal may remain it its base position, whereas in the latter case, it will move to the position of its probe. Both Attract and movement are furthermore subject to Relativized Minimality (Rizzi 1990). This means that a probe necessarily will have to attract the closest goal with the matching feature. In most of the chapters I also employ a phrasal movement account. A relevant minimality condition in such approaches is the *Phase Impenetrability Condition* (PIC) (cf. Chomsky 2000; 2001). According to the PIC, only elements at the *edge* of a phase (where the edge is taken to be the head and the specifier) are available to operations outside of this phase. These conditions will be discussed in more detail in the relevant chapters.

Within generative linguistics one traditionally distinguishes between head movement and phrasal movement (Travis 1984, Chomsky 1986, Rizzi 1990). Whereas for example subjects, which constitute phrases such as DPs or CPs, are displaced through phrasal movement, verbs, which are terminals or clusters of heads, are displaced through head movement. For example, V2 has been analysed as head movement of the verb from V to C, whereas verb movement that is independent of the V2 operation involves head movement from V to I (cf. among many others den Besten 1977/1983, Pollock 1989, Holmberg and Platzack 1995, Vikner 1995b). Note however, that since Pollock (1989) and Rizzi (1997), both the IP and the CP are taken to be split into more fine-grained structure, so the notions of V-to-I and V-to-C should be taken as broad approximations of the target of verb movement.

In recent years, however, people have questioned the operation of head movement. One of the issues raised against head movement is that it is an

unusual type of movement because it violates the Extension Condition. Since head movement targets a head, it does not extend the projection at its root. An alternative that has been investigated in the last decade or so is to derive the effects of head movement via phrasal movement (cf. Hinterhölzl 1997; 1999, Müller 1998, Koopman and Szabolcsi 2000, Mahajan 2000; 2003). This direction is also pursued in this dissertation. In addition to theory-internal problems with head movement such as the incompatibility with the Extension Condition, I show that a head movement approach encounters certain problems when faced with data from the various dialects of Scandinavian. Thus, a central issue in this dissertation is to investigate the potential of a phrasal movement account of verb movement. To the extent that a phenomenon such as verb movement can be handled by phrasal movement in a satisfying way, the role of head movement may be reduced.

I use adverbs as a diagnostic for the relative position of other elements, such as subjects and verbs. Cinque (1999) proposes a universal hierarchy of adverbs, and Nilsen (2003) and Østbø (2003) have demonstrated that the internal order of adverbs in Norwegian corresponds fairly well to this hierarchy, and I thus adopt the Cinque hierarchy in its broad outlines. Concerning the merge position of adverbs, I follow Ernst (2002), Svenonius (2002), and Nilsen (2003) in assuming that this is connected to scope relations. Nilsen (2003) suggests that adverbs are merged immediately above the projection which they modify, and this general idea is adopted here. Thus, the movement which results in the surface ordering of verbs and adverbs does not generally have any effect on their semantic scope.

Another important issue in the discussion of movement is of course what triggers it. As mentioned above, verb movement in non-V2 contexts has been related to rich inflectional morphology. However, as also discussed above, recent empirical observations have raised questions about the purported close correlation between rich morphology verb movement in non-V2 contexts. The aim here is not to bluntly discard the possibility of such a tendency, but it is clear that in Northern Norwegian and Kronoby Swedish, as well as in Northern Norwegian child language, the driving force behind verb movement cannot be rich morphology, as these varieties lack both person and agreement morphology on finite verbs in any tense. Rather I suggest that movement in non-V2 contexts is triggered by an EPP feature which is related to predicate licensing.

Norwegian clearly has an EPP feature which requires the presence of an overt subject or an expletive in the clause. However, this EPP feature does not appear to be associated with any specific position in the clause. I here propose that the EPP may occur on any head in the clause. As mentioned, this feature

is related to predicate licensing, and I assume that a predicate is licensed by having its specifier filled. In Norwegian non-V2 contexts in general, this requirement is met by moving the subject to the specifier of whichever head carries the EPP feature. However, following Biberauer and Richards (2006) I assume that subjects may optionally pied-pipe the whole vP when they move to license the EPP. This vP pied-piping is what gives the effect of short verb movement in Northern Norwegian. Thus, verb movement is taken to be triggered by predicate licensing in the sense that the subject, which is attracted by the EPP to a specifier higher up in the clause, may take the whole vP with it in this movement.

A final central issue in this dissertation is syntactic micro-variation and optionality. The current study presents new data from various Scandinavian dialects and much of the variation found between the dialects appears to follow from certain syntactic operations being optional rather than obligatory in these dialects. One point of optionality that was already mentioned above is whether or not the subject pied-pipes the vP when moving to license the predicate. In Standard Norwegian and Standard Swedish, the subject always moves on its own, whereas in Northern Norwegian and Kronoby Swedish, it may optionally pied-pipe the whole vP, thus yielding the effects of optional verb movement. Another point of optionality concerns what I here will call verb 'sinking' (cf. Bentzen 2007a, Svenonius 2007). In Standard Norwegian and Standard Swedish all verbs have to follow all adverbs in non-V2 contexts, regardless of the scope relations. In Chapter 1 I argue that this is the result of obligatory verb sinking. However, Northern Norwegian and Kronoby Swedish optionally allow verbs and adverbs to appear in the order of merge. Thus the operation of verb sinking also appears to be optional in these two dialects. One possibility is that the optional character of these dialectal features is the result of language contact, since one of the two options is the unmarked form in many dialects including the standard language. Ultimately, child language data such as that reported on in Chapter 6 may shed light on such questions. The children in that study showed a preference for verb movement sharply distinct from the standard language.

0.3 Outline of the six chapters

0.3.1 What's the better move?

In this chapter I discuss the fact that Northern Norwegian (NN) optionally allows verbs to precede adverbs in non-V2 contexts. Instances of this word order either reflect cases where the verb scopes over the adverb, and is there-

fore merged above it to begin with, $V_1 \prec Adv_2$, or cases where the verb has moved across the adverb $V_2 \prec Adv_1$. In Standard Norwegian (StN), on the other hand, verbs obligatorily have to follow adverbs, regardless of scope relations, yielding the orders $Adv_1 \prec V_2$ and $Adv_2 \prec V_1$. The word orders that need to be accounted for are thus $V_2 \prec Adv_1$ and $Adv_2 \prec V_1$, where the scope orders have been reversed. These facts are discussed with respect to three different approaches to clausal structure. NN is argued to be problematic for a head movement account (cf. Cinque 1999) because multiple verbs may precede a given adverb, leading to violations of the Head Movement Constraint. A 'multiple adjunction points' for adverbs account (cf. Ernst 2002, Svenonius 2002) would assume that any adverb in StN and NN can be adjoined to high positions, which may be problematic with respect to scope relations. A remnant movement approach (cf. Nilsen 2003) can account for both StN and much of the NN data by means of one generalisation. This involves the presence and absence of so-called 'lifters' (which lead to verb sinking). In StN, lifters are obligatory, and this gives the order $Adv_2 \prec V_1$, where the verb has sunk below an adverb that it takes scope over. In NN, on the other hand, lifters are optional, and when they are absent, we get the order of merge, $V_1 \prec Adv_2$. However, a separate generalisation is needed for finite verbs in NN, as these verbs may *precede* adverbs that take scope over them, $V_2 \prec Adv_1$. This phenomenon is addressed in the next chapter. Thus, all three approaches are faced with challenges with respect to the Norwegian data. However, it is argued that the remnant movement approach seems the most promising of the three approaches.

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0.3.2 V-to-T as vP-to-SpecTP

In this chapter I address the nature of verb movement in non-V2 contexts in Regional Northern Norwegian (ReNN) and Northern Ostrobothnian (NOb). These two varieties allow patterns where a finite verb precedes an adverb that scopes over it, and this is taken to imply verb movement. However, this verb movement is different from the verb movement found in V2 contexts, and it is labeled *short verb movement*. I argue that short verb movement should be analysed in terms of phrasal movement rather than head movement. Two variants of phrasal movement are explored: a remnant movement account, and a copying and partial deletion account. Both approaches can be used to describe the verb movement patterns found in ReNN and NOb. However, it is demonstrated that the remnant movement approach faces a look-ahead issue,

and thus the copying and partial deletion approach is suggested to be a more promising alternative.

This chapter will be submitted to a suitable journal.

0.3.3 Subject positions and verb movement

This chapter discusses the position of subjects in embedded non-V2 clauses and its interaction with verb movement. In embedded clauses without verb movement, subjects may precede or follow practically any type of adverb, whereas in clauses *with* verb movement, the finite verb may precede or follow the same types of adverbs. However, these two options cannot be freely combined, and verb movement puts certain restrictions on the distribution of subjects. Although subjects independently are allowed in fairly low positions in the clause, whenever there is verb movement they have to precede the verb. Moreover, not only must subjects precede the verb, but they are actually forced into a very high position in the clause, preceding all adverbs. This holds regardless of how high the verb has moved. Finally, subjects obligatorily receive a strong interpretation in embedded non-V2 clauses with verb movement. I propose an analysis for this in terms of predicate licensing. A predicate is licensed by having an element in its specifier, and in clauses without verb movement this element is the subject. However, I suggest that in ReNN, the subject may optionally pied-pipe the whole vP when it moves to license the predicate. This gives the effect of verb movement. Furthermore I suggest that predicate licensing may be associated with various projections in the clause, and this therefore provides a unified account of the flexible position of subjects in clauses without verb movement, and the flexible position of verbs in clauses with verb movement.

This chapter will be submitted to a suitable journal.

0.3.4 Rethinking Scandinavian verb movement

Coauthored with Gunnar Hrafn Hrafnbjargarson, Þorbjörg Hróarsdóttir, and Anna-Lena Wiklund.

This chapter reconsiders the distribution of verb movement in Scandinavian in light of new data from Norwegian and Icelandic. The main claim is that Regional Northern Norwegian (ReNN) displays optional verb movement to a position in the approximated region of T, sometimes labeled the IP domain, whereas Icelandic has no independent verb movement at all to this domain,

contrary to standard assumptions: All verb movement in Icelandic is to the CP domain of the clause. This claim is based on the observation that the verb movement found in non-V2 contexts in ReNN and in Icelandic differs in several respects. For one thing, ReNN verb movement may intervene between various adverbs, but may not cross negation, whereas Icelandic verb movement must cross all adverbs, including negation. Furthermore, ReNN allows verb movement in all types of infinitives, whereas Icelandic only allows it in control infinitives, and not in ECM constructions. Finally, ReNN verb movement is found to affect the interpretation of subjects, whereas Icelandic verb movement does not. A remnant movement approach to verb movement is explored and it is proposed that movement to the CP domain and movement corresponding to V-to-I movement differ in amount of material pied-piped. The analysis presented captures the observed differences between the two movements.

The chapter will appear in the *Journal of Comparative Germanic Linguistics* 10, 2007.

0.3.5 On the Force behind V2

Coauthored with Gunnar Hrafn Hrafnbjargarson, Þorbjörg Hróarsdóttir, and Anna-Lena Wiklund.

This chapter investigates the distribution of embedded verb second in Faroese, Icelandic, Norwegian, and Swedish. We test the availability of V2 word orders (that is, the word orders V–Neg and XP–V–S) in complements of the five predicate classes introduced by Hooper and Thompson (1973): Class A strongly assertive predicates, Class B weakly assertive predicates, Class C non-assertive predicates, Class D factive predicates, and Class E semi-factive predicates. Two main conclusions can be drawn from the study. First of all, none of the Scandinavian languages can be said to display generalized embedded verb second. Contrary to standard belief, Icelandic displays restrictions of the kind found in the other Scandinavian languages. In complements embedded under Class C and D predicates all the four languages show restrictions with respect to V2: Norwegian and Swedish disallow both V–Neg and XP–V–S; Faroese and Icelandic, although allowing V–Neg, disallow the order XP–V–S. Thus, unrestricted embedded V2 (that is, allowing both the V2 orders) is only found in complements embedded under Class A, B, and E predicates in all the Scandinavian languages. Secondly, there is no clear definition of *assertion* that distinguishes V2. Clauses that support verb second are clauses that form a potential *main point of utterance*, a notion related to

the illocutionary force of *assertion*. However, V2 may occur independently of such a reading of the clause and vice versa.

The chapter is under review at a journal.

0.3.6 The acquisition of embedded word order

Coauthored with Marit Westergaard.

In this chapter we investigate how Norwegian children acquire verb placement in embedded *wh*-questions and all types of embedded clauses containing negation or an adverb. We also consider some data of child-directed speech, as we believe that it is important for studies in first language acquisition take into account the role of input in language development. Lately, the effect of input on the acquisition process has received considerable attention. In much recent work on language acquisition within the constructivist framework (e.g. Tomasello 2003, Theakston et al. 2004), it is argued that input frequency is vital to understanding both the order of acquisition of particular constructions and children's non-target-consistent production. Here we argue that input frequency plays a role in the acquisition of word order, but only in combination with other factors. The children in this study are acquiring a Northern dialect of Norwegian spoken in the city of Tromsø. Two constructions with similar input frequencies are investigated: embedded questions and (all) embedded clauses containing negation or an adverb. Both constructions are very infrequent in the input. Children make mistakes in embedded clauses with negation or an adverb, overgeneralizing the word order from main clauses (producing structures with verb movement across negation or an adverb). On the other hand, they do not overgeneralize main question word order into embedded questions (producing structures with verb movement across the subject). We argue that the lack of input cues for the target-consistent word order in itself is not the reason for children's non-target-consistent production. However, low input frequency may be one of the contributing factors causing the target word order in embedded clauses with negation or an adverb to be acquired relatively late. While children have to rely on input to acquire the word order in lower domains of the clause, UG provides them with the information that embedded questions are different from main clause questions with respect to illocutionary force. Consequently children do not project the same functional architecture for the two constructions, and overgeneralization of features from main to embedded questions should therefore be impossible.

This chapter will appear in the volume *Frequency Effects in Language Acqui-*

sition: Defining the Limits of Frequency as an Explanatory Concept, edited by Insa Gülzow and Natalia Gagarina, Mouton de Gruyter, 2007.

Part I

Verb placement in Norwegian embedded clauses

Chapter 1

What's the better move? On verb placement in Standard and Northern Norwegian[1]

Kristine Bentzen

1.1 Introduction

The position of verbs with respect to adverbs has been used to argue for the architecture of clause structure. Emonds (1978), and later Pollock (1989) discussed the alternations found in French and English word order concerning verb placement. The examples in (1) illustrate this difference (from Pollock 1989:367):

(1) a. Jean embrasse souvent Marie. (Fr)
John kisses often Marie
'John often kisses Marie.'
b. John often kisses Mary. (Eng)

Emonds and Pollock assume that adverbs mark the edge of the VP. Pollock explains the difference between French and English by suggesting that main verbs in French must appear to the left of the adverb *souvent* 'often' because of its rich agreement morphology. In English, on the other hand, such move-

[1]A previous version of this chapter was presented on the Workshop on dialect syntax at *MONS* [Møter om norsk språk] in Kristiansand, 2003, and I thank the participants there for interesting feedback. Also thanks to two anonymous reviewers, as well as to Øystein Vangsnes, Øystein Nilsen, and Madeleine Halmøy for useful comments. And finally thanks to Peter Svenonius for reading and discussing several drafts of this paper. All remaining shortcomings are of course my own.

ment of the verb fails to occur because of the poverty of agreement morphology on verbs. Thus, all English main verbs (except *be*) remain to the right of the adverb.

A corresponding difference has been noted for the Scandinavian languages (cf. Kosmeijer 1986; Holmberg and Platzack 1995). Icelandic verbs show rich inflectional morphology and also appear to the left of the adverb in embedded clauses, as illustrated in (2a). In Mainland Scandinavian on the other hand, here represented by Standard Norwegian, there is no agreement morphology on the verb, and it remains to the right of the adverb in embedded clauses (2b):

(2) a. Það er rétt [að Jón kyssir oft Maríu]. (Ice)
it is true that Jon kisses often Maria

b. Det er sant [at Jon ofte kysser Maria]. (StN)
it is true that Jon often kisses Maria

Within the last decade, several different analyses of the order of verbs and adverbs have been proposed. I will discuss three such recent approaches. First, Cinque (1999) and Alexiadou (1997) have both suggested that adverbs give a precise indication of the spine of the clause. Each adverb has its own fixed position in the specifier of a functional projection, and there is a universal hierarchy determining the organization of these projections. Verbs may move to the various head positions of these projections, yielding several different V-Adv orders.

Second, Ernst (2002) and Svenonius (2002) suggest an approach with a somewhat less strict association of adverbs with functional heads in the clause, as well as less movement. They argue that adverbs adjoin to verbal projections, and that there may be multiple adjunction points for each adverb. The relative order of the verb and the adverb is determined by which projection the adverb has adjoined to, as well as (some) verb movement.

Third, Nilsen (2003) proposes yet a different account for the order of verbs and adverbs. He assumes that adverbs are adjoined right above the verb they take scope over, and that complex remnant movement operations are responsible for the various V-Adv orders found in languages.

In this paper I will discuss these three different approaches to clausal architecture in the light of data from Standard Norwegian and Northern Norwegian (henceforth StN and NN, respectively). It will be shown that a head movement account à la Cinque (1999) runs into problems with the NN data. A 'multiple positions' approach and a 'remnant movement' approach both have advantages and disadvantages, and these will be evaluated and compared.

1.2 Verb placement in standard and Northern Norwegian

The Scandinavian languages are all V2 languages, in which the finite main verb moves to the second position in main clauses, (3). However, it is generally assumed that among the national standards, only Icelandic allows verb movement in non-V2 subordinate clauses, as in (4a). In the Mainland Scandinavian languages there is no verb movement in these constructions, (4b) (Icelandic examples are based on Vikner 1995b:139):

(3) a. Af hverju hefði Helgi **oft** lesið þessa bók? (Ice)
b. Hvorfor hadde Helge **ofte** lest denne boken? (StN)
why had Helge often read this book
'Why had Helge often read this book?'

(4) a. Ég spurði [af hverju Helgi hefði **oft** lesið þessa bók].
I asked why Helgi had often read this book
b. Jeg spurte [hvorfor Helge **ofte** hadde lest denne boken].
I asked why Helge often had read this book
'I asked why Helge often had read this book.'

This movement of the finite verb to I has been correlated to rich verbal inflectional morphology (cf. Vikner 1995a, Vikner 1995b, Vikner 1997, Rohrbacher 1999, Bobaljik 1995, Thráinsson 1996, Bobaljik and Thráinsson 1998). Based on Germanic VO-languages, Vikner (1995a:14) suggests that '[a]n SVO-language has V^o-to-I^o movement if and only if ... person morphology is found in all tenses.' Thus, he assumes a strong two-way correlation between verbal morphology and independent verb movement to an inflectional position. Bobaljik and Thráinsson (1998) argue that there is a weaker one-way correlation between inflectional morphology and verb movement. According to their approach, the verb must have moved out of the VP in languages which have two or more inflectional verbal morphemes.

Both these approaches can account for the standard varieties of the Scandinavian languages. The Mainland Scandinavian languages all lack person morphology (Vikner) and they also do not have more than one inflectional morpheme on the finite verb (Bobalijk and Thráinsson). Hence there is no independent V-to-I movement in these languages. Icelandic, on the other hand, has person morphology and also has more than one inflectional morpheme on the finite verb. Thus, independent V-to-I movement is predicted in this language by both the above approaches.

However, recent studies have shown that independent V-to-I movement is possible in languages which crucially lack the sufficiently rich morphology.

In Bentzen (2003) it was shown that Northern Norwegian (NN)[2] optionally allows finite verbs to move past adverbs in several non-V2 contexts such as relative clauses, subordinate *wh*-questions, and subordinate adverbial clauses, despite the fact that NN has a very impoverished verbal morphology (see also Alexiadou and Fanselow 2002 for similar facts in the Swedish dialect of Kronoby). This is illustrated here with an NN embedded *wh*-question. Topicalization is not possible in NN embedded *wh*-questions, which suggests that embedded V2 is not an option in examples like (5) (from Bentzen 2003:581):

(5) Vi lurte på kem han lånte **vanligvis** penga til. (NN)
we wondered on who he lend usually money to
'We wondered who he usually lent money to.'

In this paper I will show that NN allows verbs to appear in several different positions in subordinate clauses. Not only may finite verbs occur in front of adverbs (as in (5)), but so may non-finite verbs. In addition, multiple verbs may precede a given adverb, making a straight-forward head movement account problematic.

NN thus differs from StN in that the former allows verbs to appear in a much wider variety of positions in subordinate clauses than the latter. In StN, all verbs always have to follow all adverbs in subordinate clauses, as illustrated in Nilsen (2003:72):

(6) ... at det **ikke lenger alltid helt** kunne ha blitt ordnet. (StN)
... that it not any.longer always completely could have been fixed

NN, however, allows several different permutations of the above example. Keeping the relative internal order within the four verbs on the one hand and within the four adverbs on the other, but varying the position of the verbs with respect to the adverbs, there are in all 70 possible permutations of (6). NN allows 22 of these possible permutations. When trying out these various permutations it is crucial to keep the internal order of verbs as well as of adverbs, as NN like StN only allows a strict internal order of these elements. As can be seen in (7) the order of verbs cannot be altered. The examples in (8) show that the same hierarchical order must be preserved within adverbs:

[2]The informants for NN used in both Bentzen (2003) and this paper come from various places in Northern Norway, from the Salten region up to Alta. However, it should be pointed out that speakers of the Tromsø city dialect (also a Northern dialect) often have slightly different intuitions. In the current paper, NN therefore refers to Northern Norwegian, excluding the Tromsø dialect.

(7) a. De bordene burde kunne ha blitt vasket.
those tables.the ought could have been cleaned
'It ought to have been possible to have cleaned those tables.'
b. *De bordene burde vasket kunne ha blitt.
c. *De bordene burde kunne vasket ha blitt.
d. *De bordene burde kunne ha vasket blitt.

(8) a. De bordene er uheldigvis vanligvis alltid opptatt.
those tables.the are unfortunately usually always occupied
'Those tables are unfortunately usually always occupied.'
b. *De bordene er vanligvis uheldigvis alltid opptatt.
c. *De bordene er alltid uheldigvis vanligvis opptatt.
d. *De bordene er alltid vanligvis uheldigvis opptatt.

Consequently the 22 different variants of (6) allowed in NN involve only changing the position of the verbs with respect to the adverbs. A few examples are given below:[3]

(9) a. ... at det **ikke lenger** kunne **alltid** **helt** ha blitt ordnet.
... that it not any.longer could always completely have been fixed
b. ... at det **ikke** kunne **lenger** **alltid** ha blitt **helt** ordnet.
... that it not could any.longer always have been completely fixed
c. ... at det **ikke** kunne **lenger** **alltid** ha blitt ordnet **helt**.
... that it not could any.longer always have been fixed completely

Note that 35 of the 48 ungrammatical permutations involve the finite verb *kunne* 'could' preceding negation. Although NN verbs are allowed in a variety of positions in non-V2 contexts, they crucially cannot precede negation:[4]

(10) a. *... at det kunne **ikke lenger** **alltid** **helt** ha blitt ordnet.
... that it could not any.longer always completely have been fixed
b. *... at det kunne **ikke** ha **lenger** **alltid** blitt ordnet **helt**.
... that it could not have any.longer always been fixed completely

However, in some non-V2 contexts finite verbs may precede high adverbs such as *sannsynligvis* 'probably' (from Bentzen 2003:580):

[3]In the following, Norwegian examples not specified otherwise are NN rather than StN. Note furthermore that the NN examples are given in an approximate dialectal form. However, the present tense ending *-(e)r* is included on verbs although it is actually absent on most NN verbs. The reason for including this is to prevent any confusion as to the finiteness of the verb, as the present tense form in this dialect most of the time is identical to the infinitive.

[4]The remaining 13 ungrammatical permutations of (6) all involve the passive auxiliary *blitt* 'been' or the passive participle *ordnet* 'fixed' preceding the adverbs *lenger* 'any longer' or *alltid* 'always.'

(11) Han e mistenkt siden han tok **sannsynligvis** med sæ alle pengan.
he is suspect as he took probably with REFL *all money.the*
'He is a suspect as he probably took with him all the money.'

There are restrictions on the kinds of verbs that are allowed in a position preceding such high adverbs; finite verbs are more easily accepted in this position than non-finite ones. This will be touched upon in the following sections. In addition, there seem to be slightly different patterns for different kinds of subordinate context. However, this latter issue will not be explored further in the present paper. Rather, I will focus on one type of embedded contexts here, namely clauses introduced by *ettersom* 'as.'

In general, any finite verb may precede adverbs such as *så ofte* 'so often,' *allerede* 'already,' *som oftest* 'usually,' and *alltid* 'always' (all assumed to be positioned in the middle of Cinque's 1999 hierarchy) in NN subordinate contexts. This is true for finite main verbs (12a), finite auxiliaries (12b), finite modals (12c), and finite passive auxiliaries (12d):

(12) a. Ho Hedda kommer til å ruinere sæ ettersom ho kjøper **så ofte**
she Hedda comes to to ruin REFL *as she buys so often*
dyre designerklær.
expensive designer-clothes
'Hedda will drive herself to economic ruin as she so often buys expensive designer clothes.'

b. Ho burde ikke kjøpe flere sko nu ettersom ho har **allerede**
she should not buy more shoes now as she has already
kjøpt tre par denna uka.
bought three pairs this week.the
'She shouldn't buy any more shoes now as she has already bought three pairs this week.'

c. Vi leverte radioen til han Hårek ettersom han kunne **som oftest**
we delivered radio.the to he Hårek as he could as often.est
reparere sånt.
fix such
'We handed the radio over to Hårek as he could usually fix such things.'

d. Æ trengte aldri å dekke frokostbordet ettersom det blei **alltid**
I needed never to set breakfast-table.the as it was always
dekt før æ sto opp.
set before I stood up
'I never needed to set the breakfast table as it was always set by the time I got up.'

Similarly, the infinitive in small clauses may precede these mid adverbs:[5]

(13) a. Han Hårek mente å kunne **som oftest** reparere radioa.
he Hårek thought to could as often.est fix radios
'Hårek considered himself usually able to fix radios.'
b. Det er bare tull å måtte **alltid** kjøre innom sentrum.
it is only nonsense to must always drive through centre
'It is ridiculous to always have to drive through the city centre.'

Furthermore, non-finite verbs may precede adverbs in other contexts where they are not the first verb. This is particularly the case for modal auxiliaries. (14) illustrates that a modal auxiliary in the infinitive can easily precede an adverb such as *som oftest* 'usually.' In (15) a modal auxiliary in the participial form precedes the same adverb. In both cases the adverb could also intervene between the finite and the non-finite auxiliary:

(14) Vi stolte på hennes bedømmelsa ettersom ho måtte **(som oftest)** kunne
we trusted on her judgments as she must (as often.est) could
(som oftest) sies å ha rett.
(as often.est) be-said to have right
'We trusted her judgments as it usually was the case that she could be said to be right.'

(15) Det gjorde ikke nå at han ikke va blitt bedt på festen ettersom
it did not anything that he not was been invited on party.the as
han hadde **(som oftest)** kunnet **(som oftest)** bli lurt med inn
he had (as often.est) could (as often.est) be cheated with in
likevel.
anyway
'It didn't matter that he had not been invited to the party as it had usually been possible to sneak him in anyway.'

However, the perfective auxiliary *ha* 'have' is much more restricted in this pre-adverb position:

[5]The b example was found on the Internet. A few similar examples were found in a Google search, and may not specifically be NN.

(16) Det var ikke uvanlig at flere av studentan strøyk på detta kurset
it was not uncommon that several of students.the failed on this course
ettersom man måtte **(som oftest)** ha **(*som oftest)** lest hele pensum
as one must (as often.est) have (as often.est) read whole syllabus
for å bestå eksamen.
for to pass exam
'It was not uncommon that several students failed this course as one usually had to have read the whole syllabus in order to pass the exam.'

(17) Det var ingen vits i å prøve å skjule sæ bak store solbrilla
it was no point in to try to hide REFL *behind big sunglasses*
lenger ettersom han ville **(som oftest)** ha **(?som oftest)** blitt
any.longer as he would (as often.est) have (as often.est) become
gjenkjent med en gang uansett.
recognized with one time anyway
'There was no point in trying to hide behind big sunglasses anymore as he usually would be recognized at once anyway.'

Thus, it seems that non-finite modal auxiliaries more easily precede mid adverbs than do non-finite perfective auxiliaries.[6]

In the remaining sections I will discuss how the three approaches to verb placement introduced in section 1.1 would account for these facts.

1.3 Head movement

Following Emonds (1978) and Pollock (1989) it has commonly been assumed that the verb's position with respect to the adverb should be analysed in terms of head movement. As mentioned in the introduction Pollock (1989) argues that the difference between the French and English examples in (1a) and (1b) is due to the fact that in French the verb moves to an inflectional head above VP while in English, it remains in situ.

Holmberg and Platzack (1995) have suggested a similar analysis of the differences found within the Scandinavian languages. They argue that in all the Scandinavian languages, a finiteness operator [+F] in C triggers movement of the finite verb to C in all main clauses. However, in subordinate clauses, C is filled by the complementizer. The difference within the Scandinavian languages found in subordinate clauses is explained by the fact that in Icelandic, I has strong Agr features attracting the finite verb there overtly, whereas in

[6]However, as can be seen from the above examples, non-finite perfective auxiliaries appear to be somewhat more acceptable in passive constructions than in active constructions. This point will not be further discussed here.

Mainland Scandinavian (here illustrated by Swedish), I only has weak T features, and thus does not trigger verb movement, as illustrated below (adapted from Holmberg and Platzack 1995:75):

(18) [$_{CP}$ [$_{C[+F]}$ að] [$_{IP}$ Jón$_i$ [$_{I[\pm T,Agr]}$ keypti$_j$] [$_{VP}$ ekki [$_{VP}$ e$_i$ [$_V$ e$_j$] bókina]]]]
that *Jon* *bought* *not* *book*.DEF
(Ice)

(19) [$_{CP}$ [$_{C[+F]}$ att] [$_{IP}$ Ulf$_i$ [$_{I[+T]}$] [$_{VP}$ inte [$_{VP}$ e$_i$ [$_V$ köpte] boken]]]]
that *Ulf* *not* *bought* *book*.DEF
(Swe)

Cinque (1999) also proposes a head movement account for the relative order of verbs and adverbs. He has shown that adverbs seem to follow a universal hierarchy. This universal order of functional elements is found both in languages with independent adverbs as well as in languages with aspectual suffixes. Thus he assumes that adverbs have fixed positions, determined by syntactic selection (c-selection) of functional projections. Every adverb is in the specifier position of its own functional projection. The hierarchy is illustrated in (20):

(20) [*frankly* Mood $_{speech\ act}$ [*fortunately* Mood$_{evaluative}$ [*allegedly* Mood$_{evidential}$ [*probably* Mod$_{epistemic}$ [*once* T(Past) [*then* T(Future) [*perhaps* Mood$_{irrealis}$ [*necessarily* Mod$_{necessity}$ [*possibly* Mod$_{possibility}$ [*usually* Asp$_{habitual}$ [*again* Asp$_{repetitive(I)}$ [*often* Asp$_{freq(I)}$ [*intentionally* Mod$_{volitional}$ [*quickly* Asp$_{celerative(I)}$ [*already* T(Anterior) [*no longer* Asp$_{terminative}$ [*still* Asp$_{continuative}$ [*always* Asp$_{perfect(?)}$ [*just* Asp$_{retrospective}$ [*soon* Asp$_{proximative}$ [*briefly* Asp$_{durative}$ [*characteristically(?)* Asp$_{generic/progressive}$ [*almost* Asp$_{prospective}$ [*completely* Asp$_{SgCompletive(I)}$ [*tutto* Asp$_{PlCompletive}$ [*well* Voice [*fast/early* Asp$_{celerative(II)}$ [*again* Asp$_{repetitive(II)}$ [*often* Asp$_{freq(II)}$ [*completely* Asp$_{completive(II)}$

For every Adv projection there is a head position, and the verb may move upwards in the structure through these functional heads. Crosslinguistic differences with respect to the relative order of a verb and a given adverb would then depend on how high up the verb has moved. Concerning the NN data this approach can account for the fact that the finite verb may precede most adverbs in subordinate contexts. Assuming that the adverbs are in the specifier position and each have a head position which is a potential landing site for the verb, the following NN options are predicted:

(21) ... at det ikke **(kunne)** lenger **(kunne)** alltid **(kunne)** helt
... that it not (could) any.longer (could) always (could) completely
(kunne) ha blitt ordnet.
(could) have been fixed

However, Bobaljik (1999), Ernst (2002), and Svenonius (2002) have all pointed out a potential problem with this analysis. In e.g. Italian both the auxiliary and the participle may occur either preceding or following an adverb such as *mica* 'not.' As both verbs can follow the adverb, Cinque would assume that they are both base generated below the adverb. Thus, the order Aux–V_{Part}–Adv is the result of both the auxiliary and the participle moving past the adverb. This leads to a violation of the Head Movement Constraint (HMC), as the participle *mangiato* 'eaten' will have to move past the trace of the auxiliary *hanno* 'they have.' ((22) is based on Bobaljik 1999:27):

(22) [non hanno [$_{FP}$ mangiato [$_{micaP}$ mica t_{AUX} t_{PART} [$_{piuP}$ più t_{PART} [$_{VP}$ t_{PART}]]]]]
NEG they-have eaten not any.longer

'They have not eaten any longer.' (It)

NN examples like (14) and (15) above pose a similar problem, as more than one verb precede the adverb *som oftest* 'usually.' Like the Italian example in (22), under this approach the NN example leads to a violation of the Head Movement Constraint as the traces of the two verbal elements are crossing each other (only relevant projections included):

(23) [... hadde$_i$ kunnet$_j$ [$_{AspFreq(I)}$ som oftest [t_i t_j bli lurt med inn
had could as often.est be cheated with in
likevel]]]
anyway

For a head movement account like the one proposed by Cinque (1999) to work, one would assume that some adverbs can appear in several positions in order to avoid HMC violations. And indeed, Cinque (2004) does suggest that some adverbs may occur in (at least) two positions. He proposes that this is the case in examples like (24) below, where the adverbs *frequently* and *suddenly* at first glance seem to be freely ordered with respect to each other ((24) is from Ernst 2002:120):

(24) a. She frequently was suddenly rejected by publishers.
b. She suddenly was frequently rejected by publishers.

According to Cinque (2004), 'frequentative' adverbs like *frequently* appear in two distinct projections, one above adverbs such as *suddenly* and one be-

low. Additional evidence for this comes from the fact that in some cases, the 'same' adverb may occur twice in the same sentence ((25) is taken from Cinque 1999:92):

(25) Gianni, saggiamente, *spesso* esce con la stessa persona *spesso*.
'G., wisely, often dates the same person often.'

Similarly, Cinque (2004) also accounts for the fact that the adverb *foolishly* may surface in several positions in (26) (from Svenonius 2002:210) by postulating two distinct positions for this adverb:

(26) a. Foolishly Howard may have been trying to impress you.
b. Howard foolishly may have been trying to impress you.
c. Howard may foolishly have been trying to impress you.
d. Howard may have foolishly been trying to impress you.
e. Howard may have been foolishly trying to impress you.

For (26a) and (26b) Cinque (2004) suggests that *foolishly* has moved from an IP-internal position to the specifier of a Modifier Phrase in the CP field (cf. Rizzi 2004). In (26b) the subject *Howard* has moved across the adverb, resulting in the order *Howard* > *foolishly*. In (26c)-(26d), on the other hand the adverb remains in one out of the two possible merge positions in the IP field (from Cinque 2004:706):

(27) ..<foolishly> may have <foolishly> been trying..

The modal *may* can remain to the right of the higher occurrence of *foolishly*, or move across it. In the latter case, the result is (26c). Similarly, the auxiliary *been* can remain to the right of the lower occurrence of *foolishly*, as in (26d), or move across it, as in (26e). Thus, assuming two separate positions for adverbs such as *foolishly*, all the different orders in (26) can be derived without violating the HMC.

However, to account for all the available orders of verbs relative to adverbs found in NN one would have to assume that many adverbs have (at least) two possible merge positions. This is the case for adverbs such as *helt* 'completely,' which on the surface may occur in five different positions:

(28) ... ettersom det **(helt)** måtte **(helt)** kunne **(helt)** ha **(helt)** blitt **(helt)** ordnet.
... *as it (completely) must (completely) could (completely) have (completely) been (completely) fixed*

To account for all these five potential surface positions for *helt* 'completely' within Cinque's system outlined above, one would assume that this adverb

can occur in (at least) two different positions. Taking the topmost position to be the specifier of a Modifier Phrase in the CP field, the other four positions can be explained by assuming two base positions for the adverb, and some verb movement:

(29) .. måtte <helt> kunne ha <helt> blitt ordnet..

The various orders in (28) can be accounted for along the same lines as the examples in (26). The modal *kunne* 'could' may remain to the right of the higher occurrence of the adverb *helt* 'completely,' or move across it. The passive auxiliary *blitt* 'been' may likewise remain to the right of the lower occurrence of the adverb, or it may move across it.

However, the two positions of the adverb do not correspond to differences in meaning in (28), so it is not obvious why this adverb should have two separate positions in Cinque's hierarchy. In fact, this account of the various surface orders makes Cinque's approach in many ways similar to the multiple adjunction points approach advocated by Ernst (2002) and Svenonius (2002) (this approach will be discussed in more detail in the next section).

Thus, it seems that the head movement account in its present state still has some explanatory shortcomings. It also runs into some serious problems when faced with the NN data. I therefore now move on to the two other approaches to clausal structure and movement introduced in section 1.1.

1.4 Multiple adjunction points for adverbs

Ernst (2002) and Svenonius (2002) suggest a different account for the order of verbs and adverbs. They take adverbs to be adjuncts rather than specifiers. The internal order of adverbs is determined by semantic selection (s-selection), rather than c-selection as assumed by Cinque (1999). According to Ernst (2002), a hierarchy of Fact-Event objects (FEO) determines the order in which adverbs are adjoined. Similarly, Svenonius argues that the internal order of e.g. *evidently* and *probably* can be accounted for in terms of what kinds of objects they modify (Svenonius 2002:213):

(30) a. Al evidently will probably give up.
b. *Al probably will evidently give up.

Svenonius suggests that *probably* modifies a Proposition, and also creates a Proposition when it is adjoined. Further, *evidently* modifies a Proposition as well, but the result of adjoining this adverb is a Fact (in terms of Vendler 1967). Accordingly, *evidently* can modify something already modified by

probably, as this is a Proposition. Thus, *evidently* may precede *probably*. However, assuming that *probably* cannot modify a Fact, it cannot modify something that is already modified by *evidently*, and hence the order *probably* $>$ *evidently* is ruled out. Thus, this approach can account for the transitivity violations pointed out in Nilsen (2003) with respect to internal adverb orders found in e.g. Norwegian. In Norwegian, the triplet of adverbs *muligens* 'possibly,' *ikke* 'not,' and *alltid* 'always' may occur in the following orders: *muligens* $>$ *ikke*, *ikke* $>$ *alltid*. However, *muligens* does not have to precede *alltid*; it can either precede or follow it.

Both Ernst (2002) and Svenonius (2002) argue that adverbs can be adjoined to several verbal projections. The 'loose fit' approach of Ernst (2002) allows adverbs to adjoin to any projection as long as their semantic requirements are met, i.e. as long as they follow the hierarchy of FEO. In short, this means that different types of adverbs may modify different types of objects (Events, Propositions, or Facts), and this determines where a given adverb can be adjoined. In a similar fashion, Svenonius argues that adverbs may adjoin to either VP or TP.

How does this approach fare with the data from Norwegian? Recall from section 1.2 that in StN the only possible position for the adverb(s) is preceding all the verbs. This is also always an option in NN. Thus, any adverb may always precede any finite verb, regardless of the kind of adverb and the kind of finite verb involved. Modified versions of (12a)-(12d) are given as (31a)-(31d) below:

(31) a. ... ettersom ho **så ofte** kjøper dyre designerklær.
... *as she so often buys expensive designer-clothes*
'... as she so often buys expensive designer clothes.'

b. ... ettersom ho **allerede** har kjøpt tre par denna uka.
... *as she already has bought three pairs this week.the*
'... as she has already bought three pairs this week.'

c. ... ettersom han **som oftest** kunne reparere sånt.
... *as he as often.est could fix such*
'... as he could usually fix such things.'

d. ... ettersom det **alltid** blei dekt før æ sto opp.
... *as it always was set before I stood up*
'... as it was always set by the time I got up.'

A 'multiple positions' approach could account for this by assuming that adverbs in this position in StN and NN are adjoined to a functional projection (FP) in which the finite verb is located in embedded clauses (perhaps a projection carrying tense):

(32) a. [$_{FP}$ så ofte [$_{FP}$ kjøper...]]

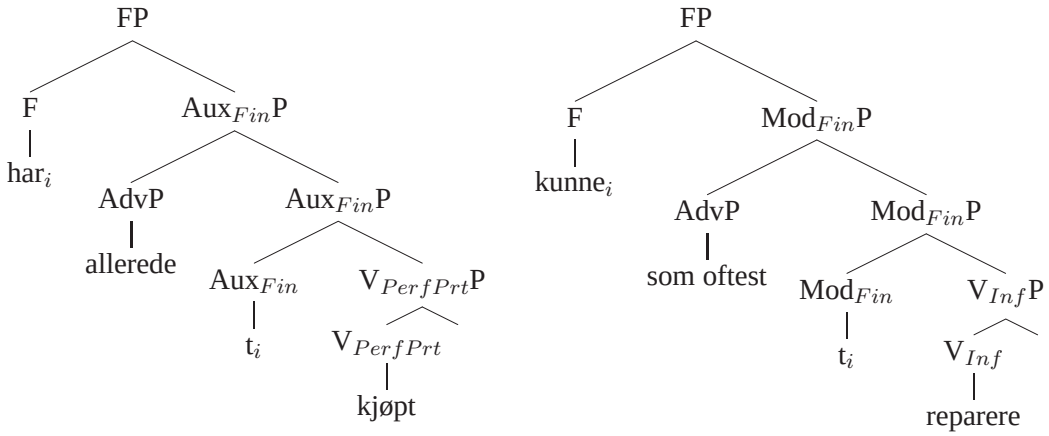
b. [$_{FP}$ allerede [$_{FP}$ har kjøpt...]]
c. [$_{FP}$ som oftest [$_{FP}$ kunne reparere...]]
d. [$_{FP}$ alltid [$_{FP}$ blei dekt...]]

Now, what about the other options in NN? Recall from examples (12a)-(12d) in section 1.2 that finite verbs generally may precede adverbs such as e.g. *så ofte* 'so often,' *allerede* 'already,' *som oftest* 'usually,' and *alltid* 'always.' The relevant parts of (12a)-(12d) are repeated as (33a)-(33d) below:

(33) a. ... ettersom ho kjøper **så ofte** dyre designerklær.
... as she buys so often expensive designer-clothes
'... as she so often buys expensive designer clothes.'
b. ... ettersom ho har **allerede** kjøpt tre par denna uka.
... as she has already bought three pairs this week.the
'... as she has already bought three pairs this week.'
c. ... ettersom han kunne **som oftest** reparere sånt.
... as he could as often.est fix such
'... as he could usually fix such things.'
d. ... ettersom det blei **alltid** dekt før æ sto opp.
... as it was always set before I stood up
'... as it was always set by the time I got up.'

This can be accounted for in a 'multiple positions' approach by allowing adverbs to also be adjoined below FP. It is then also assumed that the finite verb moves to a functional head F in NN subordinate clauses (which is not an uncontroversial assumption). The order of the finite verb and the adverb in NN will depend on whether the adverb is adjoined above or below FP. It thus appears that the F head is irrelevant for adjunction of these kinds of adverbs in NN; the adverbs can adjoin either above or below it. In StN, on the contrary, this F head presumably is not irrelevant for adjunction, and adverbs can only be adjoined above it. The structures for (33b) and (33c) are shown in (34):

(34)



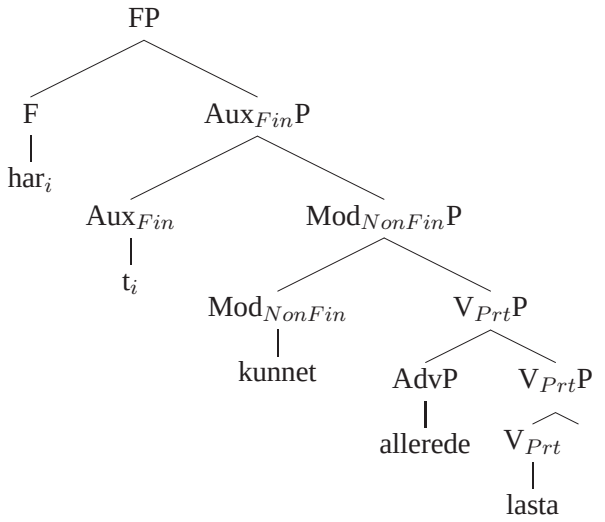
However, neither of the adjunction points above and below FP can account for the fact that certain non-finite auxiliaries may precede adverbs in NN. This was illustrated in (14) and (15) in section 1.2. Here are some other examples following the same pattern:

(35) Vi begynte å bli spent nu ettersom vi ville kunne **allerede** vite
we began to be excited now as we would could already know
resultatet på fredag.
result.the on Friday
'We started getting excited now as we would be able to know the result already on Friday.'

(36) Det er få som planlegger å se denna filmen på kino ettersom
there are few who plan to watch this film.the on cinema as
mange har kunnet **allerede** lasta den ned til sin egen datamaskin.
many have could already loaded it down to their own computer
'Few people plan to go to the cinema to watch this film as many people have already been able to download it to their own computer.'

To account for this, a 'multiple position' approach could postulate an additional adjunction position for adverbs below non-finite modals. This is illustrated for (36) in the tree below:

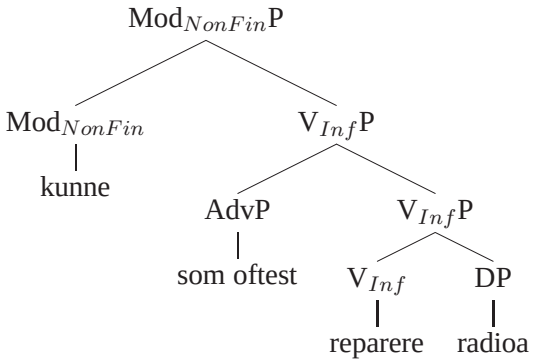
(37)



This is presumably also the adjunction point for adverbs in the NN examples like (13), where the infinitive in a small clause precedes the adverb ((13) is repeated here as (38)). Only the relevant parts of the tree are included:

(38) Han Hårek mente å kunne **som oftest** reparere radioa.
he Hårek thought to could as often.est fix radios
'Hårek considered himself usually able to fix radios.'

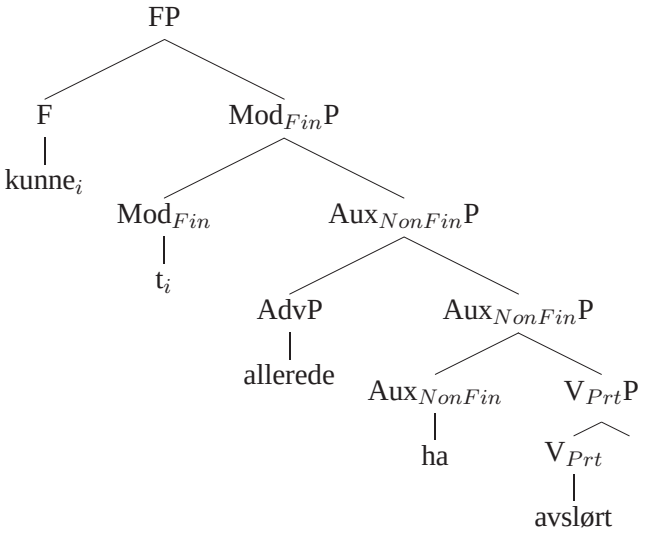
(39)



As we recall, the non-finite perfective auxiliary *ha* 'have' cannot precede the adverb in examples like (16) in section 1.2 and (40) below. This is presumably so because this auxiliary is generated below the adjunction point for adverbs such as *allerede* 'already.' The tree in (41) shows the only possible order of such adverbs and the non-finite perfective auxiliary.

(40) *Vi fant det best å gå i skjul ettersom politiet kunne ha **allerede**
we found it best to go into hiding as police.the could have already
avslørt oss for alt vi visste.
revealed us for all we knew
'We found it best to go into hiding as the police could have found out about us already for all we knew.'

(41)



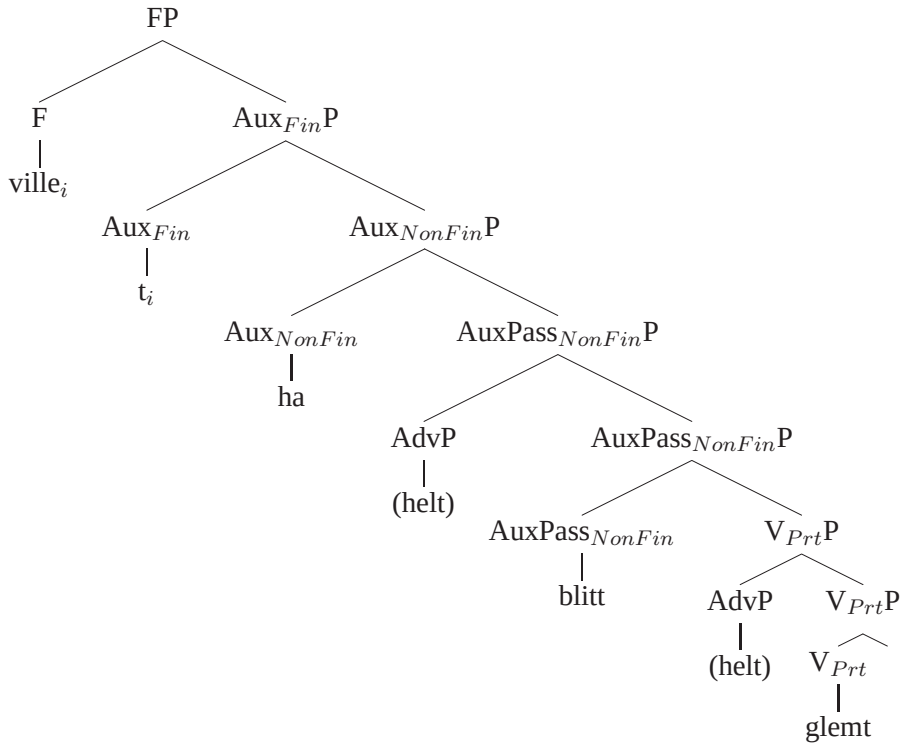
As might be expected, adverbs which according to Cinque's hierarchy are lower that 'usually' and 'already,' like *helt* 'completely' and *igjen* 'again' may in addition be adjoined to an even lower adjunction point in NN. The fact that such adverbs may follow both the non-finite perfective auxiliary and the non-finite passive auxiliary, suggests that they may be adjoined below either of these non-finite auxiliaries. This is illustrated in (43):

(42) Det var bra at vi minte dem på om konserten...
it was good that we reminded them on about concert.the
'It was a good thing that we reminded them about the concert...'

a. ... ettersom de ville ha **helt** glemt den ellers.
... as they would have completely forgotten it otherwise
'... as they would have completely forgotten it otherwise.'

b. ... ettersom den ville ha **(helt)** blitt **(helt)** glemt
... as it would have (completely) been (completely) forgotten
ellers.
otherwise
'... as it would have completely been forgotten otherwise.'

(43)



On the other hand, adverbs which are assumed to be higher in the hierarchy are restricted to the higher adjunction positions in NN. This is the case for *alltid* 'always' (although 'always' is actually positioned lower than 'usually'

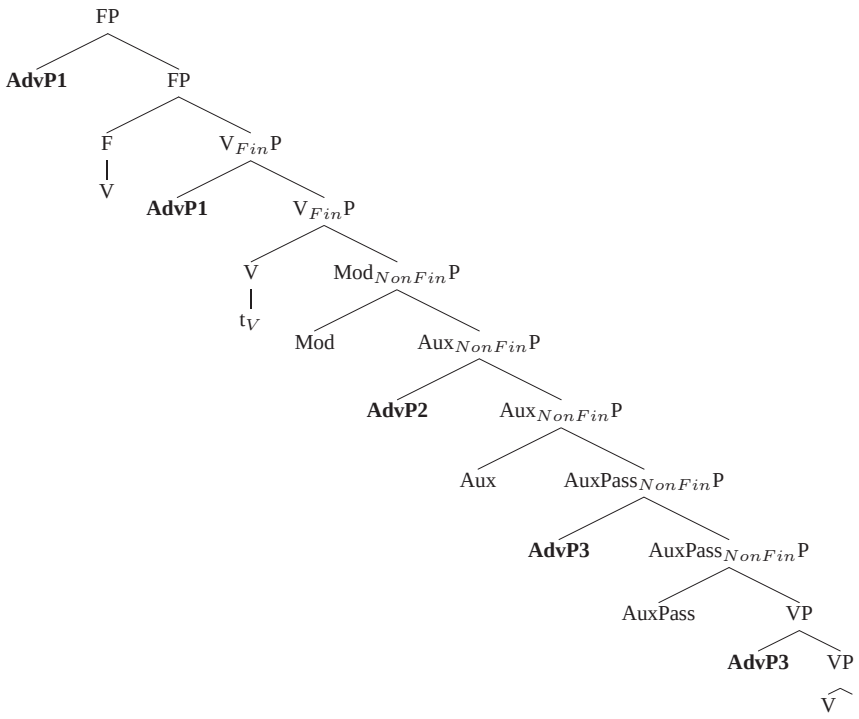
and 'already' in Cinque's hierarchy), as well as even higher (speaker-oriented) adverbs such as *heldigvis* 'fortunately.'

(44) ?? Det gjorde ikke nå at han ikke var blitt bedt på festen
it did not anything that he not was been invited on party.the
ettersom han hadde kunnet **alltid/heldigvis** bli lurt med inn likevel.
as he had could always/fortunately be cheated with in anyway
'It didn't matter that he had not been invited to the party as it always/fortunately had been possible to sneak him in anyway.'

The fact that high adverbs like *heldigvis* 'fortunately' are only marginally accepted following non-finite modal auxiliaries suggests that such adverbs may only adjoin above or below the FP that finite verbs move to, and are prohibited in the adjunction point below non-finite modals.

Summing up the account of the NN data so far, the generalisations seem to be that NN adverbs like e.g. *som oftest* 'usually' and *allerede* 'already' can adjoin above or below the FP that the finite verb moves to in NN, or below non-finite modals, but the adjunction points lower down in the structure are not available to such adverb. Lower adverbs such as *helt* 'completely' may apparently be adjoined lower down, below non-finite perfective auxiliaries and non-finite passive auxiliaries. Finally, high adverbs such as *heldigvis* 'fortunately' seem to be restricted to the adjunction points above and below FP in NN. According to this, the NN embedded clause with its various adjunction points for adverbs will look something like (45). In the tree, AdvP3 corresponds to adverbs such as *helt* 'completely,' AdvP2 corresponds to adverbs such as *som oftest* 'usually' and *allerede* 'already,' and AdvP1 corresponds to adverbs such as *heldigvis* 'fortunately.' Note however that these adjunction points will refer to the lowest possible adjunction point for each class of adverbs. Any adverb in NN may optionally be adjoined to adjunction points above its lowest adjunction point:

(45)



Up to now, we have only looked at sentences with one adverb. How would this account deal with cases of multiple adverbs, as in (46)?

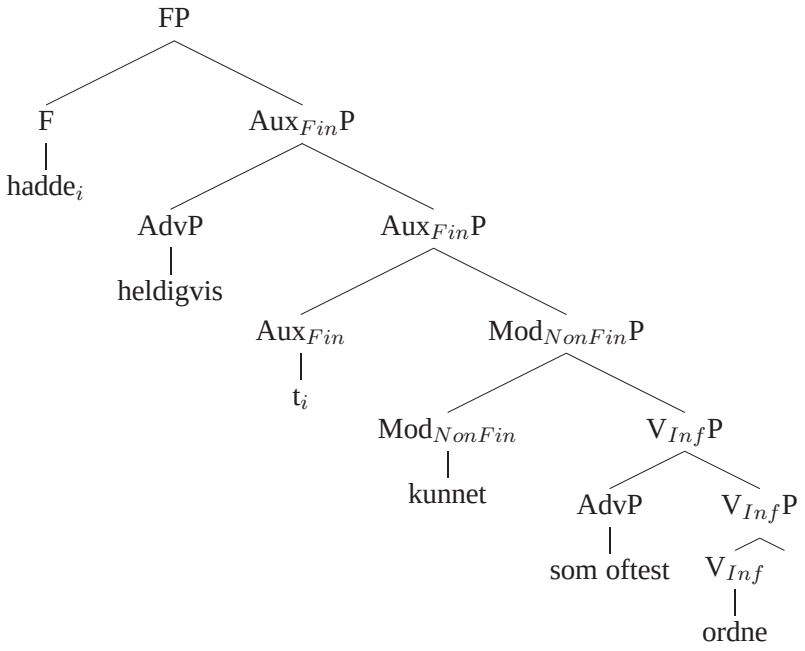
(46) a. ... ettersom han hadde **heldigvis** kunnet **som oftest** ordne det.
... *as he had fortunately could as often.est fix it*
'... as he fortunately had usually been able to fix it.'

b. ... ettersom han hadde kunnet **som oftest helt** ordne det.
... *as he had could as often.est completely fix it*
'... as he had usually been able to fix it completely.'

c. ... ettersom han hadde **heldigvis som oftest** kunnet ordne det.
... *as he had fortunately as often.est could fix it*
'... as he fortunately had usually been able to fix it.'

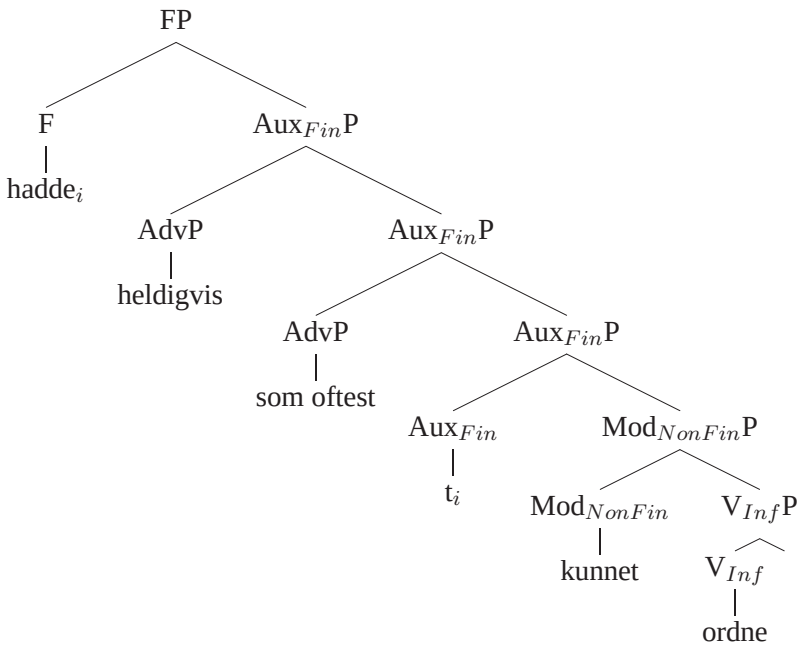
For (46a) one could assume that each of the two adverbs are adjoined in separate positions. The higher adverb *heldigvis* 'fortunately' is adjoined below FP, whereas *som oftest* 'usually' is adjoined below the non-finite modal, as shown in (47):

(47)



In (46b) and (46c), however, both adverbs appear to be adjoined at the same adjunction point. In (46b) both the adverbs *som oftest* 'usually' and *helt* 'completely' are adjoined below the non-finite modal, whereas in (46c), both the adverbs *heldigvis* 'fortunately' and *som oftest* 'usually' are adjoined below FP. The structure for (46c) is given in (48):

(48)



Here the question arises of how to order the two adverbs. As both adverbs obviously can modify the same projection in each of these two examples (i.e. the $V_{Inf}P$ in (46b) and the $Aux_{Fin}P$ in (46c)), a 'multiple positions' account would assume that the internal order of the adverbs is determined by what kinds of objects result from modification. Presumably, the object resulting from modification by 'usually' in (46c) can be modified further by 'fortunately,' whereas the object resulting from modification by 'fortunately' cannot be modified further by 'usually.'

A 'multiple positions' account thus seems to be able to account for much of the NN data. By assuming various adjunction points for adverbs in NN, combined with movement of the finite verb, the NN patterns reported on here are all covered for. There seem to be restrictions on where different classes of adverbs are allowed to be adjoined. Whereas low adverbs such as *helt* 'completely' and *igjen* 'again' apparently are allowed at all adjunction points, the mid adverbs *som oftest* 'usually' and *allerede* 'already' are restricted to the middle and highest adjunction points. Even higher adverbs such as *heldigvis* 'fortunately' seem to only be allowed at the two highest adjunction points in NN. In StN, only adjunction above FP is available for any kind of adverb.

However, there are some remaining questions. First, what restricts how high an adverb can be adjoined? This might well be related to scope, such that e.g. high adverbs such as *heldigvis* 'fortunately' cannot be in the scope of non-finite auxiliaries, and hence cannot be adjoined below them. This would be a welcome result for the approach suggested by Ernst and Svenonius, as they assume that the adjunction points for adverbs are determined by the semantic properties of the object the adverb modifies. However, assuming multiple adjunction points, it also follows that very low adverbs such as *helt* 'completely' can be adjoined very high (in fact, they have to be adjoined in the highest position in StN). These adverbs apparently modify the same object regardless of where they are adjoined, which would not be expected under this approach.

This is related to another problematic issue for a 'multiple positions' account, namely how to deal with the contrast between StN and NN. Again, the question arises as to how an adverb adjoined in the highest position in StN can modify an object in the same way as an adverb adjoined lower down (and closer to the object it modifies) in NN. If adverbs in these two varieties of Norwegian indeed do modify their objects in the same way, regardless of where they are adjoined, this account might assume that some of the intervening projections are irrelevant for modification. Thus, an adverb adjoined in a high position may in fact modify something lower down, without modifying the intervening projections.

Hence, although both StN and NN independently can be accounted for within this approach, there are some problematic questions concerning how scope is related to adjunction both with respect to the analysis of NN, and with respect to the contrast between StN and NN. So, turning to section 1.5, the question is, does a remnant movement account fare better with the data at hand?

1.5 Remnant movement

Nilsen (2003) has proposed a remnant movement approach to account for verb—adverb orders in StN. Like Ernst and Svenonius he assumes that different types of adverbs modify different types of objects. However, like Cinque (1999), Nilsen (2003) argues for a strict merge position for each adverb. He suggests that the internal order of adverbs is semantically conditioned, and the relative underlying order between verbs and adverbs is strictly related to scope. Thus, rather than having all adverbs merge with either VP or TP, he suggests that each adverb is merged immediately above the verbal projection it takes scope over. In clauses with multiple verbs and adverbs the order of merge will be Adv–V–Adv–V–Adv–V, etc., rather than Adv–Adv–Adv–V–V–V, where all the adverbs precede the verbs. When several adverbs precede or follow one or more verbs, Nilsen analyses this as a result of remnant movement (cf. Hinterhölzl 1997, Hinterhölzl 1999, Koopman and Szabolcsi 2000), rather than head movement. According to his approach, there are crossing scope dependencies between the verbs and the adverbs in the StN clause in (6), repeated here as (49a). The merging order is as shown in (49b) (Nilsen 2003:72):

(49) a. ... at det **ikke lenger alltid helt** kunne ha blitt ordnet.
... that it not any.longer always completely could have been fixed
(StN)

b. *... at det **ikke** kunne **lenger** ha **alltid** blitt **helt**
... that it not could any.longer have always been completely
ordnet. (StN)
fixed

Nilsen (2003) argues that (49a) can be derived (from the merging order shown in (49b)) by scope-based merge and a number of remnant movements. Assuming that the order in which adverbs and verbs are merged is determined by scope relations, and that adverbs attract the closest verbal projection, and verbs attract the closest adverb projection, (Nilsen 2003:73) gives the follow-

ing derivation for (49a):

Derivation 1:
[completely [fixed]]

MOVE VP

[fixed [completely]]

MERGE *been*

[been [fixed [completely]]]

MOVE AdvP

[completely [been [fixed]]]

MERGE *always*

[always [completely [been [fixed]]]]

MOVE VP

[[been [fixed]] [always [completely]]]

MERGE *have*

[have [[been [fixed]] [always [completely]]]]

MOVE AdvP

[[always [completely]] [have [been [fixed]]]]

MERGE *any.longer*

[any.longer [[always [completely]] [have [been [fixed]]]]]

MOVE VP

[[have [been [fixed]]] [any.longer [always [completely]]]]

MERGE *could*

[could [[have [been [fixed]]] [any.longer [always [completely]]]]]

MOVE AdvP

[[any.longer [always [completely]]] [could [have [been [fixed]]]]]

MERGE *not*

[not [any.longer [always [completely]]] [could [have [been [fixed]]]]]

Reformulating Nilsen (2003)'s generalisations somewhat, we might say that *below* every auxiliary there is a functional projection lifting up the closest verbal projection. Let us call this functional projection a VP lifter. In addition, *above* every auxiliary, there is a functional projection lifting the closest adverb projection. Let us call this projection an AdvP lifter. This can be stated as Generalisation 1:

Generalisation 1:
Every auxiliary has a VP lifter below it and an AdvP lifter above it.

How would the patterns found in NN be derived within this system? As in StN, NN always allows adverb(s) to precede all verbs. This was shown in e.g. example (31c) above (repeated here as (50)):

(50) ... ettersom han **som oftest** kunne reparere sånt.
... as he as often.est could fix such
'... as he could usually fix such things.'

Such examples indicate that Generalisation 1 may also hold in NN. The simpler sentence in (31c) can be derived in the same way as the more complex sentence in (49a), with a VP lifter below and an AdvP lifter above every auxiliary (here and in the following derivations auxiliaries and their lifters are marked in bold face).

Derivation 2 (= (50)):
[reparere]
MERGE Adv
[som oftest [reparere]]
LIFT VP
[reparere [som oftest]]
MERGE V
[kunne [reparere [som oftest]]]
LIFT AdvP
[som oftest [kunne [reparere]]

Turning to the word orders specific for NN, we recall that NN also generally allows finite verbs to precede adverbs, as in (12c) (repeated here as (51)) and (52):

(51) ... ettersom han kunne **som oftest** reparere sånt.
... as he could as often.est fix such
'... as he could usually fix such things.'

(52) ... ettersom mange har **allerede** kunnet lasta den ned til sin egen
... as many have already could loaded it down to their own
datamaskin.
computer
'... as many people have already been able to download it to their own computer.'

This word order can be derived by assuming that Generalisation 1 may be optional in NN. In both Derivations 3 and 4 the finite auxiliary lacks the pair of lifters above and below it. However, as we see in Derivation 4, the non-finite auxiliary still has both lifters:

Derivation 3 (= (51)):
[reparere]
MERGE Adv
[som oftest [reparere]]
MERGE V
[kunne [som oftest [reparere]]]

Derivation 4 (= (52)):
[lasta]
MERGE Adv
[allerede [lasta]]
LIFT VP
[lasta [allerede]]
MERGE V
[kunnet [lasta [allerede]]]
LIFT AdvP
[allerede [kunnet [lasta]]]
MERGE V
[har [allerede [kunnet [lasta]]]]

The lack of a VP lifter below and an AdvP lifter above the finite auxiliary prevents the adverb(s) from preceding this auxiliary. However, as the non-finite auxiliary still has its lifters in (52), the adverb ends up preceding this auxiliary in Derivation 4.

The next word order allowed in NN are the cases where non-finite modal auxiliaries precede certain adverbs in sentences like (36) (repeated here as (53)) and (54):

(53) ... ettersom mange har kunnet **allerede** lasta den ned til sin egen
... as many have could already loaded it down to their own
datamaskin.
computer
'... as many people have already been able to download it to their own computer.'

(54) ... ettersom han hadde kunnet **som oftest** bli lurt med inn likevel.
... as he had could as often.est be cheated with in anyway
'... as it had most of the time been possible to sneak him in anyway.'

To arrive at this word order, both the finite and the non-finite auxiliaries lack the lifters above and below them, preventing the adverb from preceding them. In fact, what we get in both Derivations 5 and 6 below is the actual order of merge:

Derivation 5 (= (53)):
[lasta]
MERGE Adv
[allerede [lasta]]
MERGE V
[kunnet [allerede [lasta]]]
MERGE V
[har [kunnet [allerede [lasta]]]]

Derivation 6 (= (54)):
[lurt]
MERGE V
[bli [lurt]]
MERGE Adv
[som oftest [bli [lurt]]]
MERGE V
[kunnet [som oftest [bli [lurt]]]]
MERGE V
[hadde [kunnet [som oftest [bli [lurt]]]]]

Infinitives of small clauses preceding an adverb will follow the same pattern as in Derivations 5 and 6:

(55) Han Hårek mente å kunne **som oftest** reparere radioa.
he Hårek thought to could as often.est fix radios
'Hårek considered himself usually able to fix radios.'

Derivation 7 (= (55)):
[reparere]
MERGE Adv
[som oftest [reparere]]
MERGE V
[kunne [som oftest [reparere]]]

Higher adverbs such as *heldigvis* were only marginally accepted in the position following the non-finite modals:

(56) ??... ettersom han hadde kunnet **heldigvis** bli lurt med inn likevel.
... as he had could fortunately become cheated with in anyway
'... as it fortunately had been possible to sneak him in anyway.'

This, however, is not unexpected. Presumably, such higher adverbs are merged above the non-finite modal. As the finite auxiliary lacks the lifters below and above it, the resulting order corresponds to the order of merge:

Derivation 8 (= grammatical version of (56)):

[lurt]

MERGE V

[bli [lurt]]

MERGE V

[kunnet [bli [lurt]]]

MERGE Adv

[heldigvis [kunnet [bli [lurt]]]]

MERGE V

[hadde [heldigvis [kunnet [bli [lurt]]]]]

As pointed out in section 1.2, the non-finite perfective auxiliary *ha* 'have' cannot precede adverbs such as *allerede* 'already' and *som oftest* 'usually.' This was illustrated in (16) (repeated as (57)):

(57) *... ettersom man måtte ha **som oftest** lest hele pensum for å bestå
... *as one must have as often.est read whole syllabus for to pass*
eksamen.
exam
'... as one most of the time had to have read the whole syllabus in order to pass the exam.'

As in the case of (56), this is not a problem if we assume that non-finite perfective auxiliaries are merged below the mentioned adverbs. Again, the finite auxiliary lacks the lifters above and below it:

Derivation 9 (= grammatical version of (57)):

[lest]

MERGE V

[ha [lest]]

MERGE Adv

[som oftest [ha [lest]]]

MERGE V

[måtte [som oftest [ha [lest]]]]

However, as would be expected, lower adverbs such as *helt* 'completely' and *igjen* 'again' may follow the non-finite perfective auxiliary, as these ad-

verbs presumably are merged below this auxiliary (the relevant parts of (42b) are repeated here as (58)):

(58) ... ettersom den ville ha **helt** blitt glemt ellers.
... as it would ha completely been forgotten otherwise
'... as it would have completely been forgotten otherwise.'

Derivation 10 (= (58)):
[glemt]
MERGE Adv
[helt [glemt]]
LIFT VP
[glemt [helt]]
MERGE V
[blitt [glemt [helt]]]
LIFT AdvP
[helt [blitt [glemt]]]
MERGE V
[ha [helt] [blitt [glemt]]]
MERGE V
[ville [ha [helt [blitt [glemt]]]]]

In Derivation 10, the adverb *helt* 'completely' is merged below even the passive auxiliary, but as this auxiliary has the pair of lifters below and above it, the adverb ends up preceding it. However, neither the non-finite perfective auxiliary nor the finite modal have the lifters below and above them, resulting in the adverb following both of them.

Finally, these lower adverbs may also follow non-finite passive auxiliaries in NN, as in (42b) (the relevant parts are repeated here as (59)):

(59) ... ettersom den ville ha blitt **helt** glemt ellers.
... as it would ha been completely forgotten otherwise
'... as it would have completely been forgotten otherwise.'

This word order can be derived by assuming that also the non-finite passive auxiliary may optionally lack the lifters below and above it:

Derivation 11 (= (59)):
[glemt]
MERGE Adv
[helt [glemt]]
MERGE V
[blitt [helt [glemt]]]
MERGE V
[ha [blitt [helt [glemt]]]]
MERGE V
[ville [ha [blitt [helt [glemt]]]]]

Summing up so far, the remnant movement account given for Norwegian here involves the following generalisation (which is a somewhat reformulated version of Nilsen 2003's system):

Generalisation 1:
Every auxiliary has a VP lifter below it and an AdvP lifter above it.

In StN, this generalisation holds obligatorily for all auxiliaries. This yields the order where all adverbs precede all verbs. In NN, on the other hand, Generalisation 1 may be optional for one or more of the auxiliaries. Whenever an auxiliary lacks the pair of lifters, it ends up preceding the adverbs it takes scope over. This option is available for both finite and non-finite auxiliaries. As we have seen from the above examples, the lifters may be lacking for one of the auxiliaries, but not the others within one and the same sentence. This was the case in e.g. example (52), where the finite auxiliary lacked the lifters, but the non-finite auxiliary had them, resulting in the finite auxiliary preceding the adverb, but the non-finite auxiliary following it (cf. Derivation 4).

The system still holds if there are both multiple verbs and multiple adverbs involved, as in (46c), here repeated as (60). Again, the finite verb, *hadde* 'had,' which has the lifters below and above it, precedes the adverb it takes scope over, *heldigvis* 'fortunately.' However, the non-finite verb, *kunnet* 'could,' lacking the lifters, follows the adverb it takes scope over, *som oftest* 'usually':

(60) ... ettersom han hadde **heldigvis** **som oftest** kunnet ordne det.
... as he had fortunately as often.est could fix it
'... as he fortunately usually had been able to fix it.'

Derivation 12 (= (60)):
[ordne]

MERGE Adv

[som oftest [ordne]]

LIFT VP

[ordne [som oftest]]

MERGE V

[kunnet [ordne] [som oftest]]

LIFT AdvP

[som oftest [kunnet [ordne]]]

MERGE Adv

[heldigvis [som oftest] [kunnet [ordne]]]

MERGE V

[hadde [heldigvis [som oftest] [kunnet [ordne]]]]

Reversively, the lifters may be lacking for one of the non-finite auxiliaries but be present for the finite auxiliary, the effect of which only is visible in sentences with multiple adverbs. The result, as illustrated in (61), is that the non-finite auxiliary precedes the adverb it takes scope over, whereas the finite auxiliary follows the adverb it takes scope over:

(61) ... ettersom han **heldigvis** hadde kunnet **som oftest** ordne det.
... as he fortunately had could as often.est fix it
'... as he fortunately usually had been able to fix it.'

Derivation 13 (= (61)):
[ordne]

MERGE Adv

[som oftest [ordne]]

MERGE V

[kunnet [som oftest [ordne]]]

MERGE Adv

[heldigvis [kunnet [som oftest [ordne]]]]

LIFT VP

[[kunnet [som oftest [ordne]]] [heldigvis]]

MERGE V

[hadde [kunnet [som oftest [ordne]]] [heldigvis]]

LIFT AdvP

[heldigvis [hadde [kunnet [som oftest [ordne]]]]]

Finally, the lifters may be lacking in both the finite and the non-finite auxiliary, as in (62), in which case they both precede the adverb they take scope over:

(62) ... ettersom han hadde **heldigvis** kunnet **som oftest** ordne det.
... as he had fortunately could as often.est fix it
'... as he fortunately usually had been able to fix it.'

Derivation 14 (= (62)):
[ordne]
MERGE Adv
[som oftest [ordne]]
MERGE V
[kunnet [som oftest [ordne]]]
MERGE Adv
[heldigvis [kunnet [som oftest [ordne]]]]
MERGE V
[hadde [heldigvis [kunnet [som oftest [ordne]]]]]

However, there are some remaining questions with respect to the remnant movement account as well. The NN examples discussed above all involve auxiliaries ending up in a position preceding an adverb that they take scope over, i.e. that it is merged above. But what about cases where a verb (main verb or auxiliary) ends up preceding an adverb that takes scope over that verb? A few examples of this were given in section 1.2, such as (12a) and (12b) (here repeated as (63a) and (63b)). Another example is (64):

(63) a. ... ettersom ho kjøper **så ofte** dyre designerklær.
... as she buys so often expensive designer-clothes
'... as she so often buys expensive designer clothes.'
b. ... ettersom ho har **allerede** kjøpt tre par denna uka.
... as she has already bought three pairs this week.the
'... as she has already bought three pairs this week.'

(64) ... ettersom han kunne **heldigvis** bli lurt med inn likevel.
... as he could fortunately be cheated with in anyway
'... as he fortunately could be sneaked in anyway.'

In all of these latter cases, the adverb is merged above the finite verb, but still this verb ends up preceding it. This cannot be derived simply by assuming that the finite verb lacks the VP lifter below it and the AdvP lifter above it, as in the previous cases of verbs preceding adverbs. As illustrated in the derivation below, a lack of lifters below and above the finite verb will not have any effect on the order of the verb and the adverb:

Derivation 15 (= unsuccessful derivation of (64)):
[lurt]
MERGE V
[bli [lurt]]
LIFT VP?
[bli [lurt]]
MERGE V
[kunne [bli [lurt]]]
LIFT AdvP?
[kunne [bli [lurt]]]
MERGE Adv
[heldigvis [kunne [bli [lurt]]]]

Thus, to account for this, we need an operation in NN which optionally moves the finite verb to a high position:

Generalisation 2:
The finite verb optionally moves to a high position.

Note that this does not necessarily have to be the *highest* position, as in (65), where the finite verb precedes *allerede* 'already' but follows *heldigvis* 'fortunately' (where both adverbs are merged above *har* 'has'):

(65) ... ettersom ho **heldigvis** har **allerede** kjøpt tre par denna uka.
... as she fortunately has already bought three pairs this week.the
'... as she has fortunately already bought three pairs this week.'

One possible analysis of the position of the finite verb is to assume that this verb moves to a higher position by head movement. If this is the case, it would allow the material within the projection of the finite verb to be stranded below the adverb:

Derivation 16 (= potential derivation of (64) I):
[lurt]
MERGE V
[bli [lurt]]
MERGE V
[kunne [bli [lurt]]]
MERGE Adv
[heldigvis [kunne [bli [lurt]]]]
HEAD MOVE V_{Fin}?
[kunne [heldigvis [bli [lurt]]]]

Alternatively, one might attempt to resolve this by remnant movements, for example by assuming that finite verbs have a lifter immediately above them lifting everything below it, a $\forall$ lifter, followed by a V_{Fin} lifter above that again. This latter lifter must be indifferent to intervening projections as it crucially seems to apply above the adverb *heldigvis* 'fortunately' in the following derivation:

Derivation 17 (= potential derivation of (64) II):
[lurt]
MERGE V
[bli [lurt]]
MERGE V
[kunne [bli [lurt]]]
LIFT $\forall$?
[[bli [lurt]] [kunne]]
MERGE Adv
[heldigvis [bli [lurt [kunne]]]]
LIFT V_{Fin}?
[kunne [heldigvis [bli [lurt]]]]

As mentioned above, non-finite auxiliaries also sometimes marginally may precede adverbs that take scope over them, as in (56). To the extent that such examples are possible, they seem to involve the non-finite verb being moved/lifted above an outscoping adverb in a parallel way to what is generally accepted for finite verbs. Whatever analysis assumed for the possibility of finite verbs preceding outscoping adverbs (whether one of the two suggestions above, or some other mechanism), this might be applied to these marginal cases of non-finite verbs preceding outscoping adverbs as well.

It seems that a remnant movement approach à la Nilsen (2003), and with the modifications made here, can account for much of the NN data in quite an elegant way. Within this account, the various NN word orders are mostly assumed to depend on whether Generalisation 1 is obligatory or optional for the different auxiliaries, i.e. whether or not auxiliaries have the pair of a VP lifter below them and an AdvP lifter above them. However, the cases of finite verbs preceding adverbs that take scope over them required an additional generalisation, Generalisation 2, optionally moving the finite verb to a high position. The nature of this operation is not quite clear. Two possibilities were suggested above, one involving head movement of the finite verb, the other involving remnant movement. In either case, the operation getting the finite verb to this high position is distinct from the operation resulting in verbs preceding adverbs they take scope over. This seems an unattractive point in the otherwise systematic remnant movement account.

1.6 Summary and concluding remarks

In this paper, three approaches to clausal structure were discussed, specifically focussing on the order of verbs and adverbs in two varieties of Norwegian, Standard Norwegian (StN) and Northern Norwegian (NN). As was shown in section 1.2, NN allows many more possible word orders with respect to verbs and adverbs, than StN does.

In section 1.3, a head movement account à la Cinque (1999) was considered. Cinque (1999) suggests that there is a universal hierarchy of adverbs, and that each adverb sits in the specifier position of its own projection. Every projection has a head position which the verb potentially could move to, and languages may vary with respect to how high the verb may move. In NN, the finite verb in general may precede any adverb in subordinate clauses, and this could be accounted for within a head movement approach by allowing NN finite verbs to optionally move to a very high position. However, it was shown that some of the NN data pose challenges to this account in ways parallel to what has been pointed out for e.g. Italian by among others Bobaljik (1999). That is, NN has cases where several verbs may precede one or more adverbs. This will lead to Head Movement Constraint (HMC) violations, as at least one of the verbs apparently will move across the trace of some other verb. But, as pointed out by an anonymous reviewer, it might be premature to dismiss a head movement account solely on the basis of apparent HMC violations. It is of course possible that the HMC in its current version should be modified, and that the NN data reported on here may conform to a head movement account assuming a revised version of the HMC.

Cinque (2004) suggests that some adverbs may occur in two separate positions, and that this might remedy the HMC problems in e.g. Italian. His analysis of the problematic Italian examples may be transfered to the parallel NN examples. But considering all the possible word order patterns in NN, it appears that quite a few NN adverbs need to have (at least) two separate positions. In addition, it is not obvious that these different positions always correspond to differences in the interpretation of the adverbs.

However, even if the apparent HMC violations are set aside, one would still need to account for the fact that the internal order of the verbs is fixed. Something like shape conservation (cf. Williams 1999, Williams 2003) seems to be necessary to ensure that verbs keep their internal order when they are moved in NN.

It thus appears that a head movement account in its present version faces several challenges with respect to the NN data discussed here.

In section 1.4, a 'multiple positions' account was evaluated for the NN data. This account seems to fare somewhat better with the data from NN than a head movement account. Assuming that adverbs can adjoin in several positions, and that the finite verb moves to a Functional head F in NN subordinate clauses, most of the NN data could be accounted for. The assumption that the finite verb moves to F was made here without much discussion, but obviously this is not an uncontroversial issue and such movement should be motivated independently.

The several adjunction points for adverbs assumed within this account may be related to parametric variation in the sense that languages/dialects may vary with respect to how many of the adjunction points they make use of. StN, for example, apparently only allows the topmost adjunction point, above FP. As was briefly mentioned, the Tromsø dialect seems to differ slightly from the rest of the Northern Norwegian dialects. More specifically, preliminary data indicate that only the two highest adjunction points (above and below FP) are available for any kind of adverb in this dialect. The NN data discussed here suggest that NN allows several more adjunction points for various adverbs.

This account would also assume that there are some restrictions with respect to where different kinds of adverbs may be adjoined in NN. High adverbs such as *heldigvis* 'fortunately' may for example not be adjoined below non-finite auxiliaries (or lower). This was pointed out as a nice result for the 'multiple positions' account as Ernst (2002) and Svenonius (2002) suggest that adjunction positions for adverbs are related to scope and which objects the adverb modifies. Presumably, high adverbs like *heldigvis* 'fortunately' cannot be within the scope of certain verbs, such as the auxiliary *ha* 'have.' This would then be the reason why they cannot be adjoined to a position be-

low such auxiliaries.

However, these multiple adjunction points also allow very low adverbs such as *helt* 'completely' to be adjoined in high positions. This is not expected if scope should determine the adjunction point for adverbs. When adverbs are adjoined in the topmost position, a 'multiple position' approach might assume that intervening projections may be irrelevant for modification in the cases of e.g. adverbs such as *helt* 'completely.' This would generally be the case for StN, as adverbs always are merged in the highest position here. In NN, this would be assumed for the cases when the option of high adjunction is made use of for "lower" adverbs, unless the various adjunction points in NN correspond to different interpretations of an adverb. As was shown for *helt* 'completely,' it is not obvious that such a correlation between interpretation and adjunction point holds.

Thus, although a 'multiple positions' approach can account for most of the NN data, the consequences of making high adjunction points available (or even required, as in StN) for any kind of adverb seem to be quite problematic for the assumption that adjunction of adverbs is determined by the semantic properties of the object the adverbs modify.

Finally, in section 1.5, a remnant movement approach was discussed with respect to the NN data. This approach was also able to account for most of the data. Reformulating Nilsen (2003)'s system somewhat, it was suggested that StN auxiliaries have VP lifters below them, and AdvP lifters above them (Generalisation 1). This generalisation is obligatory in StN, resulting in orders where all adverbs precede all verbs. However, it was suggested here that this generalisation might be optional for some or all auxiliaries in NN sentences, resulting in orders where verbs lacking the lifters will precede adverbs.

This assumption worked well for all cases where verbs ended up preceding adverbs that they take scope over. However, finite verbs may also precede adverbs that take scope over them (i.e. that are merged above them). Such patterns required an additional generalisation, Generalisation 2, which stated that the finite verb may optionally be moved to a high position. The nature of exactly how this movement comes about was questioned, and two possible suggestions were made, one involving head movement, and one involving remnant movement. Both the suggestions required an operation that was distinct from the operations in Generalisation 1. The fact that a separate stipulation had to be made for finite verbs could possibly be a challenge to the remnant movement account.

However, this approach may also make some predictions about parametric variation. Whereas Generalisation 1 holds obligatorily in StN, Generalisation 2 is not available in this variety. In NN, Generalisation 1 was shown to be

optional, and Generalisation 2 was available. The preliminary data from the Tromsø dialect indicate that Generalisation 1 is obligatory, as in StN. But contrary to StN, this dialect presumably has Generalisation 2 available, as finite verbs appear to be accepted preceding adverbs, although non-finite verbs are prohibited from pre-adverb positions.

In conclusion, although none of the three appraoches to clausal architecture discussed in this paper are able to account for the NN data without making certain additional stipulations, the remnant movement account seems the most promising of the three. The head movement account is problematic for NN (but not for StN) if one assumes that the HMC in its current version holds. The suggested ways around the HMC violations involving separate positions for adverbs is hard to motivate as they do not directly correspond to differences in interpretation. This latter point is also a problematic issue for the 'multiple positions' account. Assuming that adjunction points for adverbs is determined by scope relations, it is hard to explain why all adverbs have to be adjoined in the topmost position in StN, and may optionally be adjoined in higher positions in NN. The remnant movement approach can account for both the StN data and most of the NN data within a fairly consistent system, and despite the open questions with respect to the movement of finite verbs, at this point, it seems that the remnant movement approach provides the more plausible account for the variability found within NN and between StN and NN with respect to verb movement.

Chapter 2

V-to-T as vP-to-SpecTP[1]

Kristine Bentzen

2.1 Verb movement in non-V2 contexts

All the Scandinavian languages are Verb Second (V2) languages, but only Icelandic and some varieties of Faroese are generally assumed to have verb movement across adverbs in embedded non-V2 contexts, whereas in for example Norwegian, all verbs have to follow adverbs, as illustrated in (1) (where the Icelandic example is taken from Vikner 1995b:139).

(1) a. Ég spurði [af hverju Helgi **hefði** oft lesið þessa bók]. (Icelandic)
I asked why Helgi had often read this book

b. Jeg spurte [hvorfor Helge ofte **hadde** lest denne boka]. (Norwegian)
I asked why Helge often had read this book.the

'I asked why Helge often had read this book.'

However, recent studies have shown that some non-standard varieties of the Norwegian and Swedish also allow verb movement that is clearly independent of the V2 operation found in main clauses. In Bentzen (2003; 2005; 2007a) such verb movement is attested in so-called Regional Northern Norwegian

[1]Thanks to Peter Svenonius for extensive discussion and for feedback on previous drafts of this chapter. Parts of this chapter have been presented at the *Workshop on Inversion and Verb movement* in Tromsø, Norway, January 2006, at the *Workshop for PhD students and young researchers at the ScanDiaSyn Grand Meeting* in Solf, Finland, June 2006, and at *CGSW 22* in Stuttgart, Germany, June 2007. I thank the participants there for useful comments and questions. Thanks also to Klaus Abels, Gunnar Hrafn Hrafnbjargarson, Þorbjörg Hróarsdóttir, and Anna-Lena Wiklund for fruitful discussion of various subparts of the issues addressed in this chapter. Finally, I thank my informants on Northern Norwegian and Northern Ostrobothnian for their judgments and patience!

(henceforth ReNN) (see also Iversen 1918).[2] In this dialect, finite main verbs and finite auxiliaries may optionally precede any type of adverb in non-V2 contexts. This is illustrated in (2), with a finite main verb in (2a), a finite perfective auxiliary in (2b), and a finite modal auxiliary in (2c). Many speakers also allow two auxiliaries preceding certain adverbs (typically those that are assumed to be fairly low in the adverb hierarchy proposed in Cinque 1999), as illustrated in (2d). However, as shown in (3), verbs have to follow negation. I will call this *short verb movement*.

(2) a. Ho ruinerte sæ ettersom ho **kjøpte** så ofte nye klær. (ReNN)
she ruined REFL *as she bought so often new clothes*
'She drove herself to economic ruin as she so often bought new clothes.'

b. Ho får ikke kjøpe flere sko nu ettersom ho **har** allerede kjøpt
she get not buy more shoes now as she has already bought
tre par denna uka.
three pairs this week.the
'She doesn't get to buy more shoes now as she has already bought three pairs this week.'

c. Kjendisen slutta å gå med store solbrilla ettersom han **ville**
celebrity.the stopped to go with big sunglasses as he would
sannsynligvis bli gjenkjent uansett.
probably become recognized anyway
'The celebrity stopped wearing big sunglasses as he would probably be recognized anyway.'

d. Vi bynte å bli spent nu ettersom vi **ville** **kunne** allerede vite
we began to get excited now as we would could already know
resultatet på fredag.
result.the on Friday
'We started getting excited now, as we would already be able to know the result on Friday.'

(3) *Vi kjøpte pizza ettersom han Gøran **ville** ikke spise pølse.
we bought pizza as he Gøran would not eat hot dogs

Platzack and Holmberg (1989) and Alexiadou and Fanselow (2001) have pointed out that the Swedish dialect spoken in the village Kronoby in Finland allows verb movement in non-V2 contexts, and the example in (4a) is often

[2] ReNN refers to several dialects spoken in Northern Norway, from the Salten region in the South to Alta in the North. These dialects behave similarly in the relevant respects, and are thus for the current purposes treated as one dialect. Note, however, that the dialect spoken in the city of Tromsø is not included in ReNN. As is shown in Bentzen 2007a, Tromsø Northern Norwegian (TrNN) behaves slightly differently from ReNN with respect to verb movement in non-V2 contexts. Here and in the following, the ReNN examples are rendered in an approximation of a dialectal form.

cited in the literature as evidence for non-V2 verb movement in this dialect (cf. also Bobaljik 2002b and Alexiadou and Fanselow 2002 for further discussion of this example). Note that (4a) involves verb movement across negation. Anders Holmberg has informed me that the informant whose judgments are reported in Platzack and Holmberg (1989) did not accept the word order V-Neg in adverbial clauses and relative clauses. The word order V-Adv was not tested for adverbs other than negation in his fieldwork. The less often cited example from Alexiadou and Fanselow (2001) in (4b), however, suggests that verb movement across (at least low) adverbs is possible in relative clauses.

(4) a. He va bra et an **tsöfft** int bootsen. (Kronoby)
it was good that he bought not book.the
'It was good that he didn't buy the book.'
b. foltsi som **gar** tykelt i tsyrtson...
people.the that go often to church.the
'the people who often go to church'

Bentzen (to appear) reports on the results of a small survey conducted on the Swedish dialects spoken in Kronoby and the surrounding areas in Northern Ostrobothnia, Finland (henceforth NOb). The patterns of verb movement found in NOb in this survey are very similar to the patterns attested in ReNN. Like ReNN, NOb allows both finite main verbs, (5a), finite perfective auxiliaries, (5b), and finite modal auxiliaries, (5c) preceding various types of adverbs in non-V2 contexts such as embedded *wh*-questions. And again, two modals preceding certain types of adverbs is accepted by some speakers, as in (5d). However, verbs may not precede negation in these contexts, as shown in (6).[3]

(5) a. Ja föstoo int fövaa an **tvättar** så tökält biln sin. (NOb)
I understood not for-what he cleans so often car.the REFL
'I didn't understand why he cleans his car so often.'
b. Ja minns fövaa on **har** alder drotsi mjöltsen.
I remember for-what she has never drunk milk.the
'I remember why she has never been drinking milk.'
c. Veit du fövaa an **måst** alltjämt lån penga åv kompisa?
know you for-what he must always borrow money of friends.the
'Do you know why he always has to borrow money from his friends?'
d. An veit no vann e **sko konn** töklast finns älga.
he knows PRT *where it should could often.est exist moose*
'He probably knows where there might be moose.'

[3]Thanks to Anna Saarukka, Jan-Ola Östman, Lisa Södergård, and Øystein Vangsnes for assistance with the orthographic rendering of the NOb examples.

(6) *Ja veit fövaa Göran **itär** int korv.
I know for-what Göran eats not hot.dogs

It is clear that this type of verb movement is independent of, and different from, the V2 operation. First of all, non-subject topicalization (with or without subsequent subject-verb inversion) is impossible in both the embedded adverbial clauses in (2) and in the embedded *wh*-questions in (5). This is illustrated here with examples from ReNN. In (7a) the direct object *denna boka* 'this book' has been topicalized in an embedded *wh*-question, and in (7b) the time adverbial *ifjor* 'last year' has been topicalized in an embedded adverbial clause. In both cases the result is ungrammatical. However, in an embedded V2 context, such as a *that*-clause, non-subject topicalization is fine, as in (7c).

(7) a. *Æ spurte koffer **den her boka** hadde han Helge lest ofte. (ReNN)
I asked why this here book.the had he Helge read often

b. *Ho ruinerte sæ ettersom **ifjor** kjøpte ho ofte dyre klær.
she ruined REFL *as last-year bought she often expensive clothes*

c. Han Jon sa at **den her boka** likte ikke han Helge.
he Jon said that this here book.the liked not he Helge
'John said that this book, Helge didn't like.'

Secondly, as pointed out above, verb movement across negation is not possible in these types of clauses. In (embedded) V2 contexts in contrast, verb movement is always able to precede negation. As (7c) just showed, *that*-clause are unambiguous embedded V2 contexts, and as illustrated in (8), verb movement across negation is grammatical in such clauses.

(8) Han Jon sa at han Helge **likte** ikke den her boka. (ReNN)
he Jon said that he Helge liked not this here book.the
'John said that Helge didn't like this book.'

It is not obvious what constrains verb movement across negation in non-V2 contexts. Wiklund et al. (to appear) suggest that negation is located in a very high position in the clause, and that ReNN (and NOb) non-V2 verb movement may only target positions lower than this. Note however, that verbs in fact may move to a fairly high position, preceding even speaker-oriented adverbs like *probably* (which occupy the upper part of the hierarchy proposed in Cinque 1999), as in (2c) above and (9) below. In combination with negation, such adverbs always have to precede it, *probably* $\prec$ *not*, suggesting that they may in fact be merged above negation. In fact Nilsen (1997) places negation in Norwegian fairly low, below the adverb *usually*, but above adverbs such as *already* and *always*. In any case, if negation is taken to be merged in a position lower than adverbs the short verb movement normally may cross, something

else must cause negation to block non-V2 verb movement across it. What is relevant here, however, is that verb movement that is part of the V2 operation is not sensitive to this blocking, whereas verb movement in non-V2 contexts is, yielding another difference between the two types of verb movement.

A third difference between V2 and short verb movement is that V2 movement in subject-initial V2 clauses obligatorily crosses *all* the adverbs in a clause (except, of course, adverbs that are topicalized in a clause-initial position). Short verb movement, on the other hand may intervene between any of the adverbs in clauses with multiple adverbs, as shown in (9). This suggests that there are intermediate landing sites for the verb lower down in the structure than the positions normally targeted by V2 movement.[4]

(9) Læreren blei irritert ettersom nån studenta {**misforstod**} sannsynligvis
teacher.the got annoyed as some students misunderstood probably
{**misforstod**} bestandig {**misforstod**} helt oppgaven. (ReNN)
misunderstood always misunderstood completely assignment.the
'The teacher got annoyed as some students probably always completely misunderstood the assignment.'

Finally, there is a difference between verb movement in V2 contexts and short verb movement with respect to island effects. Adjunct extraction is possible out of embedded clauses without verb movement in Norwegian, as illustrated in (10a). This example is ambiguous between reading (i) where what is questioned is why you said something (namely that you met the queen) and reading (ii) where what is questioned in the reason that you met the queen. However, Bentzen et al. (2007a:125) show that embedded V2 induces weak islands for extraction in Norwegian. As can be seen from (10b), adjunct extraction is unavailable, and only reading (i) is possible here when V2 verb movement has taken place. In contrast, short verb movement in ReNN does not induce island effects, and adjuncts can freely be extracted, as illustrated in (11), which is ambiguous between reading (i) and (ii).

(10) a. Hvorfor$_i$ sa du t$_i$ at du ikke **hadde** møtt dronninga t$_i$? (Norw.)
why said you that you not had met queen.the
'Why did you say that you hadn't met the queen?'

[4] In contrast, Icelandic seems to employ the same type of verb movement in non-V2 contexts and in subject-initial V2 contexts. The verb movement is more similar to the V2 type both in that it must cross negation and in that it may not intervene between adverbs. See Wiklund et al. to appear for a detailed discussion of the differences between verb movement in non-V2 contexts in ReNN and Icelandic, where verb movement in such contexts in Icelandic is analysed as a V2 type of verb movement.

b. Hvorfor$_i$ sa du t$_i$ at du **hadde** ikke møtt dronninga *t$_i$?
why said you that you had not met queen.the
'Why did you say that you hadn't met the queen?'

(11) Hvorfor$_i$ sa du t$_i$ at du **hadde** ofte møtt dronninga t$_i$? (ReNN)
why said you that you had often met queen.the
'Why did you say that you had met the queen often?'
'What did you say was the reason you had met the queen often?'

Thus it seems clear that the short verb movement observed in ReNN and NOb non-V2 contexts is different from the verb movement involved in V2. The differences between the two types of verb movements are summarized in (12).

(12) V2 vs. Short verb movement:

	V2 verb movement	**Short verb movement**
Bans non-subject topicalization	No	Yes
Sensitive to negation	No	Yes
May intervene between adverbs	No	Yes
Allows adjunct extraction	No	Yes

As discussed in Bentzen (2005; 2007a) it is not always clear that the word order V-Adv is the result of verb movement. Nilsen (2003) suggests that adverbs are merged immediately above the (verbal) projection they scope over. On this assumption, in clauses where an epistemic modal auxiliary, like *måtte* 'must,' precedes an aspectual adverb, such as *allerede* 'already,' as in (13), the order Mod-Adv does not (necessarily) involve any movement of the verb. Rather, this word order then reflects the order of merge. What needs to be explained in such cases is rather how to derive the pattern found in Mainland Scandinavian in general, where even such epistemic modal auxiliaries (which presumably are merged relatively high in the clause structure) obligatorily have to follow all kinds of adverbs, so-called verb 'sinking' (term from Svenonius 2007; see also Nilsen 2003 and Bentzen 2005; 2007a for a discussion of such patterns.)

(13) Det va unødvendig å gjemme gaven, ettersom ham **måtte** allerede
it was unnecessary to hide present.the as he must already
ha sett den. (ReNN)
have seen it
'It was unnecessary to hide the present as he had to have already seen it.'

In the following I will avoid cases where it is unclear that the word order V-Adv results from verb movement, and rather focus on unambiguous instances

of verb movement across an adverb. On the assumption that all adverbs are merged outside of vP (cf. Cinque 1999), all cases where a finite main verb precedes an adverb, as in (2a) and (5a) above, clearly indicate verb movement. Furthermore, contexts like (14), where a deontic modal 'must' precedes an epistemic adverb 'probably' are also taken to involve verb movement of the modal across the adverb.

(14) Han Helge va veldig effektiv på jobb idag... (ReNN)
he Helge was very efficient on work today

... ettersom han **måtte** sannsynligvis dra hjem tidligere enn vanlig.
as he must probably go home earlier than usual
'Helge was very efficient at work today as he probably had to go home earlier than usual.'

Verb movement in non-V2 contexts has traditionally been analysed as head movement of the finite verb to some inflectional head, such as T or Agr (cf. Pollock 1989, Bobaljik 1995, Vikner 1995b, Bobaljik and Thráinsson 1998, Rohrbacher 1999, Koeneman 2000, Bobaljik 2002b). In most of these analyses, verb movement that occurs independently of V2 has been claimed to be closely connected to rich verbal morphology. However, there are several counter-examples to this assumed correlation. Neither ReNN nor NOb have any person or number agreement on finite verbs. Still as we have seen, these varieties allow verb movement independently of V2. Furthermore, Wiklund et al. (to appear) show that verb movement in such contexts also is optional, rather than obligatory, in certain varieties of Icelandic, although these varieties display rich verbal morphology. Thus, the correlation between rich verbal morphology and head movement from V to T/Agr appears to be weakened, at least within the Scandinavian languages.

In the last decade, several studies have also questioned the very operation of head movement. From a theory-internal perspective it has been pointed out that it violates the Extension Condition and is counter-cyclic. The Extension Condition (Chomsky 1993; 1995) requires that every movement operation targets the root of the clause, and thereby extends the projection. Head movement of course targets the head and not the specifier of the topmost projection. Consequently it does not extend the projection.[5] Along similar lines, head movement may be said to be counter-cyclic as it occurs within a projection that has already been built. For among others these reasons, several people have tried to eliminate head movement as an operation in syntax (cf. among others Müller 1998, Hinterhölzl 1997; 2000, Koopman and Szabolcsi

[5]However see Matushansky 2006 for a proposal attempting to make head movement compatible with the Extension Condition.

2000, Mahajan 2000; 2003).

In this paper I will explore how verb movement in non-V2 contexts such as those seen in (2) and (5) can be accounted for in an analysis without head movement. Rather than taking verb movement in these contexts to be head movement of the verb to inflectional heads like T, I will discuss two alternative analyses in terms of phrasal movement of vP to SpecTP. Before we go into the phrasal movement analyses, some potentially problematic issues with a head movement account of verb movement in ReNN and NOb are pointed out in section 2.2. Then in section 2.3 I outline some general assumptions about what might trigger vP movement. In sections 2.4 and 2.5 I discuss two versions of a phrasal movement account of the ReNN and NOb data; a remnant movement approach in section 2.4 and a pied-piping and partial deletion approach in section 2.5. Section 2.6 addresses some consequences of the phrasal movement accounts. Both accounts rely on the assumption that every finite verb heads a phase. In subsection 2.6.1 independent support for this assumption will be presented. In subsection 2.6.2, however, it is demonstrated that the remnant movement account faces certain look-ahead problems that seem to be avoided in the copying and partial deletion account. Section 2.7 is a summary with some concluding remarks.

2.2 Problems with a head movement account

I here use adverbs as a diagnostic for the position of verbs. According to Cinque (1999), adverbs are ordered in a strict universal hierarchy, and they are positioned in the specifiers of functional projections. Nilsen (1998; 2003) and Østbø (2003) have shown that the internal order of adverbs in Norwegian in general corresponds well to the hierarchy Cinque proposes for Italian adverbs. For the position of verbs with respect to these adverbs, Cinque argues that verbs may move to the intervening heads of the various adverb projections. A point of language variation concerns how high the verb may move. Applying this approach to the Scandinavian languages, Standard Norwegian and Standard Swedish would not allow any verb movement out of the VP, resulting in all verbs following all adverbs. ReNN and NOb, in contrast, will allow verbs to move to various head positions in between the adverbs in the structure, thus yielding orders where the verb precedes a given adverb:

(15) Faren var fornøyd... (ReNN)
father.the was pleased

... ettersom sønnen [**vaske**$_i$ [$_{AspFrequentativeP}$ ofte [t$_i$ bilen hannes]]]
as son.the cleans often car.the his
'The father was pleased as his son often cleans his car.'

(16) Ja föstaar int... (NOb)
I understand not

... fövaa Anna [**har**$_i$ [$_{AspAnteriorP}$ rej [t$_i$ gaji heim]]]
for-what Anna has already gone home
'I don't understand why Anna has already gone home.'

A challenge for a head movement approach is how to deal with the cases where more than one verb precedes a given adverb in ReNN and NOb. This type of problem has been pointed out for a head movement account several times, and is known as Bobaljik's Paradox (cf. Bobaljik 1999, Svenonius 2002). As we saw from (2d) and (5d) ReNN and NOb allow more than one auxiliary preceding an adverb in certain cases. Let us take a look at how to derive this in the ReNN case, where both *ville* 'would' and *kunne* 'could' may precede *allerede* 'already.' Assuming that both auxiliaries are merged below the adverb would force both of them to move past it, resulting in a violation of the Head Movement Constraint:

(17) [... **ville**$_i$ **kunne**$_j$ [$_{AspAnteriorP}$ allerede [t$_i$ t$_j$ vite resultatet]]] (ReNN)
would could already know result.the

Similar patterns are found in Italian, and Cinque (2004) argues that this problem can be accounted for by assuming that certain adverbs may be merged in more than one position. For cases like (17) one would then assume that the adverb *already* can be merged either above or below the finite auxiliary. In case both auxiliaries precede the adverb, the lower position for the adverb could be employed. Thus, only the non-finite auxiliary has moved across the adverb. At first glance, this seems to solve the problem with the HMC violations. However, on closer inspection, this argument is not so straightforward.

First of all, Cinque (2004) suggests that the different positions of adverbs are related to different interpretations of the adverbs. However, in ReNN it is not clear that this is the case. Sentences such as (2d) do not necessarily get different readings depending on the internal order of the verbs and the adverb. Furthermore, practically any of the adverbs in the mid to low range of the Cinque hierarchy may occur in the position where *already* occurs in (17) in ReNN, for example *often, usually, again,* and *completely*. This would suggest

that the majority of adverbs in this dialect may be merged in more than one position. Clearly, this is not a welcome consequence for the adverb hierarchy, as the internal order of adverbs no longer can be explained by assuming a strict universal order. Additional assumptions would be needed to prevent the possibility that a lower adverb in the hierarchy is realized in its higher position, preceding the finite auxiliary, while a higher adverb is realized in its lower position below the finite auxiliary, yielding unattested orders such as *always* $\prec$ *usually*. The Norwegian data thus present several problematic issues for a head movement approach à la Cinque (1999; 2004).

Furthermore, Bentzen (2007b) shows that the type of verb movement found in ReNN non-V2 contexts affects the distribution of subjects in various ways. Among other things, the subject is forced to precede the verb when there is verb movement. As illustrated in (18)-(19), the subject may follow adverbs such as *sannsynligvis* 'probably,' whereas the verb may precede such adverbs. However, combining these two options, that is having the verb precede *probably* and the subject follow it, is impossible in non-V2 contexts, as shown in (20).

(18) ... ettersom sannsynligvis **nån studenta** misforstod oppgaven. (ReNN)
as probably some students misunderstood assign't.the
'As some students probably misunderstood the assignment.'

(19) ... ettersom nån studenta **misforstod** sannsynligvis oppgaven.
as some students misunderstood probably assign't.the
'As some students probably misunderstood the assignment.'

(20) *... ettersom **misforstod** sannsynligvis **nån studenta** oppgaven.
as misunderstood probably some students assign't.the

If the verb has moved to some inflectional head through head movement, the subject has to be forced to move higher by some other operation, and this operation has to always make sure that the subject moves at least as high as the finite verb. In Bentzen (2007b) verb movement in non-V2 contexts is analysed as vP movement where the whole vP, including the subject moves to the specifier of some inflectional head. From this it will follow that the subject always will precede the verb when there is verb movement. As the subject and the verb move together in the vP, their internal order will not be altered through verb movement.

2.3 A preliminary note on verb movement as phrasal movement

Bentzen (2007b) proposes that the Norwegian clause contains a functional head with an EPP feature [Pred], but that feature does not have a fixed position in the clause. Rather [Pred] may be associated with various heads in the structure, as illustrated in (21).

(21) Potential positions for [Pred] in Norwegian:

a. [$_{MoodP}$ Mood [*sannsynligvis* [$_{TP}$ T [*ofte* [$_{AspP}$ **Asp**$_{[Pred]}$ [*helt* [$_{vP}$...
b. [$_{MoodP}$ Mood [*sannsynligvis* [$_{TP}$ **T**$_{[Pred]}$ [*ofte* [$_{AspP}$ Asp [*helt* [$_{vP}$...
c. [$_{MoodP}$ **Mood**$_{[Pred]}$ [*sannsynligvis* [$_{TP}$ T [*ofte* [$_{AspP}$ Asp [*helt* [$_{vP}$...

The predicate is licensed by having the specifier of the head carrying [Pred] filled by an element with the feature [D]. The DP subject has this feature, and may thus be attracted to Spec$X_{[Pred]}$P to license the predicate. In Norwegian in general, predicate licensing is normally accomplished in this way, by moving the subject to the specifier of the head associated with the [Pred] feature, as shown in (22). In Bentzen (2007b) it is argued that this is what accounts for the various positions available to the subject in embedded clauses.[6]

(22) Predicate licensing by the subject:

a. **[Pred] in AspP:**
[$_{MoodP}$ Mood [*sannsynligvis* [$_{TP}$ T [*ofte* [$_{AspP}$ **Subj**$_i$ **Asp**$_{[Pred]}$ [*helt* [$_{vP}$ t$_i$ ...

b. **[Pred] in TP:**
[$_{MoodP}$ Mood [*sannsynligvis* [$_{TP}$ **Subj**$_i$ **T**$_{[Pred]}$ [*ofte* [$_{AspP}$ t$_i$ Asp [*helt* [$_{vP}$ t$_i$ ...

c. **[Pred] in MoodP:**
[$_{MoodP}$ **Subj**$_i$ **Mood**$_{[Pred]}$ [*sannsynligvis* [$_{TP}$ t$_i$ T [*ofte* [$_{AspP}$ t$_i$ Asp [*helt* [$_{vP}$ t$_i$ ...

Based on Biberauer and Richards (2006), Bentzen (2007b) furthermore suggests that in ReNN the subject may optionally pied-pipe the whole vP when it moves to license the predicate, as shown in (23).

(23) Predicate licensing by the vP:

a. **[Pred] in AspP:**
[$_{MoodP}$ Mood [*sannsynligvis* [$_{TP}$ T [*ofte* [$_{AspP}$ **[vP]**$_i$ **Asp**$_{[Pred]}$ [*helt* t$_i$ ...

[6]The position of subjects with respect to adverbs was not tested in the survey on verb movement in NOb.

b. **[Pred] in TP:**
[$_{MoodP}$ Mood [*sannsynligvis* [$_{TP}$ **[vP]**$_i$ **T**$_{[Pred]}$ [*ofte* [$_{AspP}$ t$_i$ Asp [*helt* t$_i$ ...

c. **[Pred] in MoodP:**
[$_{MoodP}$ **[vP]**$_i$ **Mood**$_{[Pred]}$ [*sannsynligvis* [$_{TP}$ t$_i$ T [*ofte* [$_{AspP}$ t$_i$ Asp [*helt* t$_i$ ...

This mode of predicate licensing is taken to account for the various positions available for finite verbs in ReNN. Furthermore, in this proposal, the flexible positions of the subjects and the flexible positions of the verbs in ReNN are given a unified account; both patterns are derived from predicate licensing driven by the feature [Pred] attracting the subject to its specifier. When the pied-piping option is employed, the finite verb is moved along with the subject (pied-piping the whole vP) to Spec$X_{[Pred]}$P. In the following, I will adopt this general approach to verb movement. I assume that the subject carrying the feature [D] may optionally pied-pipe the whole vP when licensing the predicate in both ReNN and NOb.

However, as we have seen from examples like (2a), (5a), and (14) it is clear that although the whole vP has moved to some higher specifier position preceding various adverbs, the complements of the verb, as well as the non-finite main verb in (14), do not surface in this position. Rather, they have to follow the adverbs. In the rest of the paper I will focus on where the complements of the finite verb are spelled out when verb movement is taken to be phrasal movement. In section 2.4 I explore a remnant movement analysis, and in section 2.5 I consider an approach involving copying and partial deletion. Section 2.6 addresses some consequences of the two approaches.

As the position of the subject will not be discussed in any detail here, let me just make some brief remarks on this before we move on. Bentzen (2007b) suggests that Nominative Case on the subject may be licensed from FinP either through Move or through Agree (see also Wurmbrand 2006). However, there are various locality restrictions on Agree (cf. Chomsky 2000; 2001). What is relevant here is that the subject has to be located at least at the edge of the phase it is contained in in order to have Nominative Case licensed through Agree from FinP. I assume here that all finite verbs induce phases, and as a consequence, the subject will obligatorily move to the specifier of the finite verb. Thus when the projection of the finite verb moves through phrasal movement to license the predicate, the subject will be in the specifier of the moving verb phrase.[7]

[7] I refer you to Bentzen 2007b for a discussion of the positions of subjects in ReNN embedded clauses with and without verb movement.

2.4 Verb movement as remnant movement

In recent years, several people have reanalyzed various traditional head movement operations as phrasal movement. Such phrasal movement is frequently taken to involve movement of a remnant category, that is movement of a phrase from which certain elements have already been extracted, as illustrated in (24) from Müller (1998:157) (see also Hinterhölzl 1999; 1997, Koopman and Szabolcsi 2000, and Mahajan 2000; 2003).

(24) ... $[_{\beta}$ ... t_1 ... $]_2$ ... α_1 ... t_2

In such an approach, verb movement in the ReNN and NOb examples in (2a) and (5a) would be analysed as movement of a remnant vP from which the verb's complements have been evacuated prior to vP fronting, roughly as illustrated in (25). In this section we will take a closer look at this analysis.

(25) ... $[_{vP}$ ... Verb t_1 $]_2$ ... Obj_1 ... t_2

Remnant movement analyses employ various mechanisms in order to make the moving category a *remnant*. In many cases, what has left the phrase that performs remnant movement is the complements of the head of this phrase. This is also the case with respect to the current data, and I will therefore focus on what drives the complements to leave the remnant moving phrase. Various types of triggers have been proposed for such complement evacuation, and I will here consider two possibilities; either complements move out of the phrase they are merged in because of some (licensing) need on the complements themselves, or they are thrown out because of some requirement on the phrase that later will undergo remnant movement.

Suppose the complements leave the phrase they are contained in, for example the vP, because they themselves have a feature that needs to be licensed. An obvious candidate for such a feature is Case. One would then assume that the complements of the verb move to a vP-external position in order to get Case licensed.[8] Massam (2000; 2001) adopts this approach in her analysis of the Oceanic VSO language Niuean (see also Otsuka 2005). She argues that verb movement in this language should be analysed as VP fronting to SpecIP. Such VP movement is taken to be triggered by the EPP, where a VP in SpecIP may satisfy the EPP feature of I. As illustrated in (26), only the verb appears in the position preceding the subject, whereas the object obligatorily has to follow the subject in such constructions (from Massam 2001:227, 230, where (26a) is attributed to Seiter 1980, my emphasis).

[8] See Roberts 1997 for an analysis in which the word order object $\prec$ verb in OV languages is derived from the underlying VO in this way.

(26) a. Ne **kai** he pusi ia e moa. (Niuean)
PST *eat* ERG *cat that* ABS *bird*
'That cat ate the chicken.'

b. *Ne **[inu e kofe kona]** a Mele.
PST *drink* ABS *coffee bitter* ABS *Mele*
('Mele drank the bitter coffee.')

To account for this, Massam (2000; 2001) suggests that there is a Case licensing position for the object right outside of the VP, and the DP object moves there in order to have its Absolutive Case licensed. This movement takes place before the VP is fronted to SpecIP, as illustrated in (27) (adapted from Massam 2000:108).[9]

(27) $[_{IP}$ **[**$_{VP}$ **V t**$_i$ **]**$_j$ $[_{I'}$ I $[_{vP}$ DP $[_{v'}$ v[+ERG] $[_{AbsP}$ **DP**$_i$ $[_{Abs'}$ [+ABS] t$_j$]]]]]]

A potential problem with the Case-based evacuation analysis is that not only must DP complements leave the vP, but also PP and CP complements. It seems harder to argue that PP and CP complements move for Case licensing reasons, as these constituents do not need case. Koopman and Szabolcsi (2000) point this out, and suggest that there are other types of licensing positions for such complements outside vP (cf. also Zwart 1997). Likewise, in ReNN examples like (14), presumably the whole vP has been evacuated from the projection of the deontic modal 'must,' again an evacuation that cannot be driven by Case licensing. An alternative to this Attract-based approach to evacuation is to assume that the complements evacuate through repulsion (cf. van Riemsdijk 1997, Bašić 2004). In such an approach the complements are pushed out of their base position by something in this position, rather than being attracted from the outside.

Another way of looking at evacuation is to assume some sort of a filter which puts constraints on the moving (remnant) category. Such an approach is pursued in for example Nilsen (2003) and Müller (2004). They both propose that V2 should be analysed as remnant movement of a constituent containing the verb and one specifier. In Müller's (2004) account, V-to-C movement is analysed as vP movement to SpecCP. v is attracted to C by the feature [*v*], and it pied-pipes the vP with it to the clause-initial position. Following Chomsky (2000; 2001), Müller assumes that both vP and CP constitute *phases*. This type of vP movement thus involves movement from one phase to another, and Müller points out that this is subject to the *Phase Impenetability Condition*, as stated in (28) (from Chomsky 2000:122).

[9]Case licensing is also assumed to be responsible for vP evacuation in for example the analysis of verb cluster formation in Hungarian in Koopman and Szabolcsi 2000, and on the derivation of VSO order in Quivaviní Zapotec in Lee 2000.

(28) **Phase Impenetrability Condition (PIC)**
In a phase α with head H, the domain of H is not accessible to operations outside α, but only H and its edge.

As a consequence of the PIC, only the *edge* of vP can move to SpecCP. Müller (2004) defines the edge as at least and at most one specifier and one head. This means that all non-edge material has to be evacuated prior to vP fronting. Müller introduces the *Edge Domain Pied Piping Condition* (EPC), which functions as a filter, making sure that a moving vP is reduced to its phase edge (from Müller 2004:186).

(29) **Edge Domain Pied Piping Condition** (EPC)
A moved vP contains only the edge domain of its head.

Thus, in a German subject-initial V2 clause like (30a), the complement of v, that is the VP *[den Fritz geküsst]* has been moved from within vP to a (iterative) SpecTP position, and then the edge of the vP, now containing only *Maria* and *hat* moves to SpecCP, as illustrated in (30b) (from Müller 2004:188).

(30) a. Die Maria$_1$ hat den Fritz$_2$ geküsst. (German)
the Maria$_{nom}$ has the Fritz$_{acc}$ kissed
b. [$_{CP}$ [$_{vP_4}$ Die Maria$_1$ [$_{v'}$ t$_3$ hat]] [$_{C'}$ C$_{*v*}$ [$_{TP}$ [$_{VP_3}$ den Fritz$_2$ geküsst] [$_{T'}$ T t$_4$]]]]

Now let us turn to the data from ReNN and NOb. As we have seen in the above, evacuation of the verb's complements has been analysed as either driven by a requirement on the complements themselves, such as Case licensing as in for example Massam (2000; 2001), or by some condition on the moving vP, such as the EPC suggested by Müller (2004). How would this work for the verb movement in ReNN and NOb? Consider again examples (2a) and (5a), here repeated as (31a) and (31b).

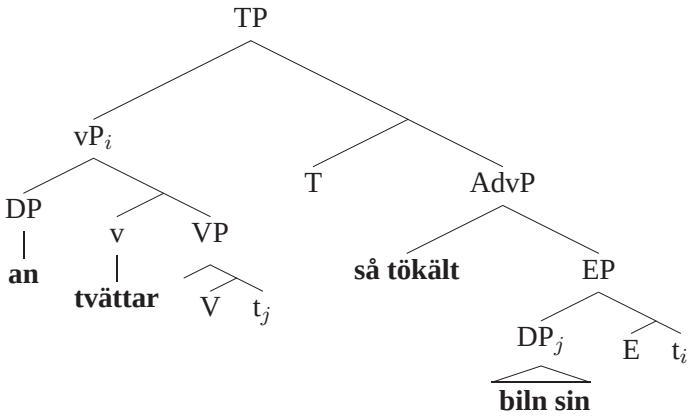
(31) a. Ho ruinerte sæ ettersom ho **kjøpte** så ofte nye klær. (ReNN)
she ruined REFL *as she bought so often new clothes*
'She drove herself to economic ruin as she so often bought new clothes.'
b. Ja föstoo int fövaa an **tvättar** så tökält biln sin. (NOb)
I understood not for-what he cleans so often car.the REFL
'I didn't understand why he cleans his car so often.'

As suggested in section 2.3, such examples are assumed to involve movement of the vP to the specifier of some higher projection in the clause. In both the above examples, the verb ends up preceding the adverb 'so often,' which is positioned at a mid-level in the Cinque (1999) hierarchy. In Bentzen (2007b) such adverbs are taken to be merged between AspP and TP. The word or-

der in (31a) and (31b) would therefore be derived through vP movement to SpecTP. However, in these cases it is clear that the complements of the finite verb are not pronounced in the target position of verb movement. Within a remnant movement account one would therefore assume that these elements have been evacuated prior to vP fronting. What would trigger such evacuation in ReNN and NOb? It seems potentially problematic to assume that the complements have moved out of the vP for reasons of Case licensing as in the analysis of Niuean outlined in Massam (2000; 2001). The reason for this is that the movement of complements does not appear to be obligatory in ReNN and NOb. Recall from section 2.1 that verb movement is only optional in ReNN and NOb non-V2 contexts. Whereas the object is evacuated from the vP when there is vP movement, when no vP movement takes place, it presumably remains inside vP since it appears in a postverbal position. Of course it is possible that an object that has remained inside the vP may get Case licensed through Agree, and thus may stay *in situ* (cf. among others Bobaljik and Wurmbrand 2005 and Wurmbrand 2006). However, if this kind of Accusative Case licensing is an option, why can the object not get its Case licensed inside the vP from a vP-external licensor, and then remain in vP when this projection moves to SpecTP? We would need some mechanism which excludes the option of Accusative Case licensing through Agree precisely when the vP is going to move. A Case-based approach thus appears to be an unattractive explanation for complement evacuation in ReNN and NOb.

An analysis along the lines of Müller (2004) seems more promising for the verb movement facts in ReNN and NOb. Recall that Müller argues that only the *edge* of the vP phase may move to SpecCP. This phase-based approach to vP movement could be adapted to the current data by assuming that vP movement to SpecTP in ReNN and NOb is also restricted to the edge of the vP. The complements would then be evacuated due to the EPC as above, to ensure that only the edge domain of the vP is left at the point when the vP moves. (Note that this leads to a look-ahead situation; we will return to this in section 2.6.) The derivation for (31b) within such an approach is illustrated in (32). The object *biln sin* 'his car' has been evacuated to a position immediately above vP, here labeled EP (for Evacuation Phrase). Then the vP, now containing only its edge, is moved to SpecTP. Thus the finite verb *tvättar* 'cleans' will precede the adverb *så tökält* 'so often,' whereas the object will follow this adverb.

(32)



Similarly, in (14), here repeated as (33), the complement of the finite modal auxiliary 'must,' that is the vP, has to be evacuated before the projection of the modal moves to a projection above the epistemic adverb 'probably.'

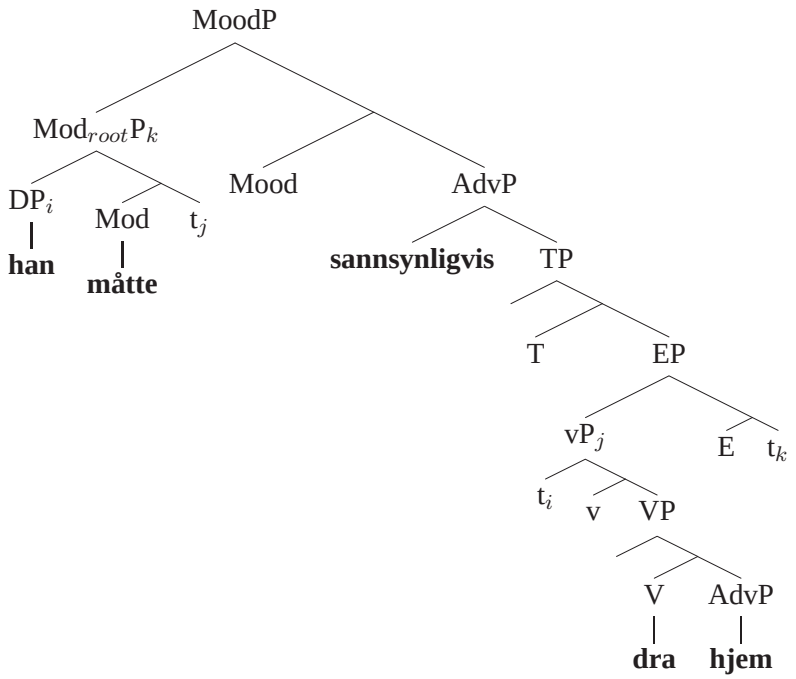
(33) Han Helge va veldig effektiv på jobb idag... (ReNN)
he Helge was very efficient on work today

... ettersom han **måtte** sannsynligvis dra hjem tidligere enn vanlig.
as he must probably go home earlier than usual
'Helge was very efficient at work today as he probably had to go home earlier than usual.'

In Bentzen (2007b) high adverbs like 'probably' are taken to be merged between MoodP and TP. I here combine this with Cinque's (1999) assumption that root modality is lower than tense, which also in his approach is lower than MoodP, yielding the order MoodP $\prec$ TP $\prec$ Mod$_{root}$P.[10] Consequently the deontic modal 'must' will originate lower than the adverb 'probably.' The derivation for (33) is illustrated in (34).

[10] See Eide 2006 for a detailed discussion of the positions of modals in Norwegian.

(34)



As in Müller (2004), the motivation for complement evacuation is here assumed to be the EPC. However, it is not clear what the nature of the landing sites for these complements are. For one thing, the EP must be a flexible projection that is available (immediately) above every phase. In cases where multiple elements have been evacuated, e.g. with ditransitive verbs the evacuation must proceed cyclically in order to preserve the internal order of the complements, as this cannot be altered. Thus, in all cases, whether complements move out of the vP for their own needs or are thrown out because of some condition like the EPC, one needs to do this in an ordered fashion, so something like Order Preservation (Williams 2003, Fox and Pesetsky 2005) is needed. In the absence of independent motivation, the evacuation projection EP in (32)-(34) remains a stipulation, despite (29). In the next section I will therefore discuss an alternative way of analysing verb movement as phrasal movement.

2.5 Verb movement as copying and partial deletion

In the account outlined above, vP movement involves movement of a verbal projection from which the complements have already been extracted, for example a remnant vP. An alternative is that the projection moving, say the

vP, has all its constituents intact, but that the word order where the complements follow the adverbs is the result of distributed spell-out of this vP. In this section I will consider an analysis along these lines, inspired by Hinterhölzl (2000; 2002), and Fanselow and Ćavar (2002).

In the minimalist program (Chomsky 1993; 1995) movement of a constituent is assumed to involve an initial step of creating a copy of the constituent in a higher position in the structure. In the next step, the lower copy of the constituent is deleted, and all its material will be pronounced in the higher copy, as shown in (35a). In such a chain one might also expect it to be possible to spell out the lower copy, rather than the higher one, as in (35b). This has been argued to be the case for some types of covert movement (cf. Pesetsky 1998, Sabel 1998, and Bobaljik 2002a).

(35) a. α ... ~~α~~ ...
b. ~~α~~ ... α ...

The novelty of the approach in Hinterhölzl (2000; 2002), and Fanselow and Ćavar (2002) is the suggestion that the subparts of a copy may be spelled out in separate instances of the copy. This is illustrated in (36), where the whole constituent C is copied, but its elements X and Y are spelled out in one copy each. In this example, X is subject to so-called *forward deletion* (FWD), that is, it is spelled out in the *higher* copy and deleted under identity in the lower one. Y on the other hand, is subject to *backward deletion* (BWD), that is, it is spelled out in the *lower* copy and deleted in the higher one. (From Hinterhölzl 2002:141).

(36) Partial deletion:
[$_C$ X ~~Y~~] ... [$_C$ ~~X~~ Y] FWD of X plus BWD of Y

Along similar lines, one could assume that the vP moving in ReNN and NOb is subject to such distributed deletion and spell-out, and that this can account for the patterns observed. Before going into the details of how this would work for the current data, let us take a closer look at the models of copying and partial deletion that Fanselow and Ćavar (2002) and Hinterhölzl (2000; 2002) propose.

Fanselow and Ćavar (2002) point out that many languages allow so-called *(XP-) split constructions* in which the material of for example a DP or a PP is distributed in the clause. This is illustrated with German and Croatian in (37), where the elements in the DPs *keine interessante Bücher aus Indien* 'no interesting books from India' and *zanimljive knijge* 'interesting books' are split apart and pronounced in separate parts of the clause (from Fanselow and Ćavar 2002:65-66).

(37) Interessante Bücher hat sie mir keine aus Indien empfohlen. (German)
interesting books has she me none from India recommended
'She has not recommended any interesting books from India to me.'

(38) Knijge mi je Marija zanimljive preporučila. (Croatian)
books me has Mary interesting recommended
'Mary has recommended interesting books to me.'

According to Fanselow and Ćavar (2002), these kinds of split constructions occur when a single phrase contains two operator features (e.g. [+focus] and [+link-topic]) that are attracted by two different heads, as is illustrated in (39a). The head H^1 attracts the whole XP because of the closest feature, *p* on a. *p* is then checked, and the next head, H^2, may now attract the feature *q* on the constituent [b c]. Thus, on this approach, split constructions will always involve (at least) two movement steps, one for each of the features to be licensed. No material of the split may ever be pronounced in the base position. (From Fanselow and Ćavar 2002:17-18).

(39) a. $[H^2 \ldots [H^1 \ldots [_{XP}\ a^p\ [b\ c]^q\ ]]]$
b. $[[_{XP}\ \sout{a^p}\ [b\ c]^q\ ]\ [H^2 \ldots [[_{XP}\ a^p\ \sout{[b\ c]^q}]\ [H^1 \ldots \sout{[_{XP}\ a^p\ [b\ c]^q]}]]]]$

Furthermore, Fanselow and Ćavar (2002) suggest that there are two kinds of split constructions; *Inverted splits*, where the internal order of the split elements is altered, and *Pull splits*, where the internal order of the split is preserved. Both (37) and (38) above are instances of inverted splits. On this approach, the Croatian construction in (38) is derived in the way outlined in (40). Here the whole DP *zanimljive knijge* is first copied into a higher position. Then, one part of the DP in the higher copy, *zanimljive*, is deleted, followed by complementary deletion of *knijge* in the lower copy. (From Fanselow and Ćavar 2002:2).

(40) mi je Marija **zanimljive knijge** preporučila → Complete copying
me has Mary interesting books recommended
zanimljive knijge mi je Marija **zanimljive knijge** preporučila
→ Partial deletion in upper copy
~~**zanimljive**~~ **knijge** mi je Marija **zanimljive knijge** preporučila
→ Complementary deletion in lower copy
~~**zanimljive**~~ **knijge** mi je Marija **zanimljive** ~~**knijge**~~ preporučila

The operation of pied-piping the whole phrase to a higher projection is assumed to be restrained by c-command relations. Fanselow and Ćavar (2002) propose that the feature which pied-pipes the whole phrase cannot do so if it is c-commanded by the head of that phrase. In for example the DP $[_{DP}$ keine [Briefe $[_{PP}$ an Maria]]] ('no letters to Mary') the PP [an Maria] cannot

pied-pipe the whole DP if it is attracted, as shown in (41). This is because this PP is c-commanded by the head *Briefe* 'letters' (from Fanselow and Ćavar 2002:21).

(41) *[$_{DP}$ ~~keine~~ ~~Briefe~~ an Maria] haben mir [keine Briefe ~~an~~ ~~Maria~~] gefallen.
no letters to Mary have me no letters to Mary pleased
'No letters to Mary have pleased me.' (German)

Only features in the prenominal domain are thus able to pied-pipe the whole DP. As we will see, this seems to be an important property of pied-piping in a copy and partial deletion account in general.

A similar approach is advocated in Hinterhölzl (2000; 2002). He argues that for example constructions where PPs appear to have been extracted out of the DP, as in (42) should be analysed as copying and partial deletion (from Hinterhölzl 2000:317).

(42) weil Hans ein Buch liest über Chomsky. (German)
since Hans a book reads about Chomsky

In (42) he argues that the DP *ein Buch* 'a book' moves to a VP-external position in order to get Accusative Case licensed. In doing so, it may pied-pipe the whole DP, including the PP complement. Presumably, the Case feature on DP is only checked in the higher copy, and the lower copy of *ein Buch* is therefore deleted. The pied-piped PP, on the other hand, is deleted in the higher copy and spelled out in the lower position, as is shown in (43) (from Hinterhölzl 2000:317).

(43) weil Hans [ein Buch **~~über Chomsky~~**] liest [**~~ein Buch~~** über Chomsky]

According to Hinterhölzl (2000; 2002), material that has moved to check a feature will be pronounced in the higher copy, whereas material that is pied-piped in such movement optionally is pronounced in either the higher or the lower copy. This is formulated as the condition in (44) (from Hinterhölzl 2000:317):

(44) Free Deletion of Pied-piped Material (FDPM)
a. Material that is moved to check a feature is subject to forward deletion.
b. Material that is pied-piped by such movement is subject to optional backward deletion.

Recall that Fanselow and Ćavar (2002) suggest that a feature can only pied-pipe the whole phrase if it is not c-commanded by the head of that phrase. What Hinterhölzl (2000; 2002) proposes has the same effect although it is not stated in terms of c-command relations. He argues that only the head and

constituents that agree with the head, that is, the specifier, can pied-pipe the whole phrase they are part of when they move. The elements that are pied-piped are usually the complements of the head.

I suggest here that the data from ReNN and NOb can be analysed along similar lines. Recall from section 2.3 that the subject may optionally pied-pipe the whole vP when it moves to license the predicate. This is what gives the effect of short vP movement. According to Hinterhölzl's (2000) FDPM, backward deletion of pied-piped material is optional. Adapting this to ReNN and NOb, only the subject should be spelled out in the higher copy, as the rest of the vP is pied-piped.[11] However, as we have seen, the verb is spelled out here as well, whereas the complements of the verb are always subject to backward deletion and will be spelled out in the lower copy.[12] (Note that contrary to Fanselow and Ćavar 2002 I assume that some material of the split phrase may be spelled out in the base position).

The spell-out of the various material is here connected to the *Phase Impenetrability Condition* (PIC). Recall from (28) that according to the PIC only elements at the edge of the phase are visible to syntactic operations outside this phase. The implementation of this is to assume that the complement of the phase head is what spells out; a spelled-out constituent is opaque, but the head and the specifier remain visible to higher operations. As mentioned above, I assume all finite verbs to induce a phase. Thus, as soon as the phase containing the finite verb is completed, the non-edge material, such as the verb's complements, is sent off to spell-out. Accordingly, in any projection of a finite verb, only the edge, that is the finite verb itself and the subject in its specifier will be visible to outside operations. Likewise, when such a phase is copied in a higher specifier position, its non-edge material has already been spelled out in the lower copy, leaving only the edge available for pronunciation in the higher copy.

Let us now take a look at this analysis of ReNN and NOb examples like (2a) and (5a), here repeated as (45a) and (45b).

(45) a. Ho ruinerte sæ ettersom ho **kjøpte** så ofte nye klær. (ReNN)
she ruined REFL *as* *she bought so often new clothes*
'She drove herself to economic ruin as she so often bought new clothes.'

b. Ja föstoo int fövaa an **tvättar** så tökält biln sin. (NOb)
I understood not for-what he cleans so often car.the REFL
'I didn't understand why he cleans his car so often.'

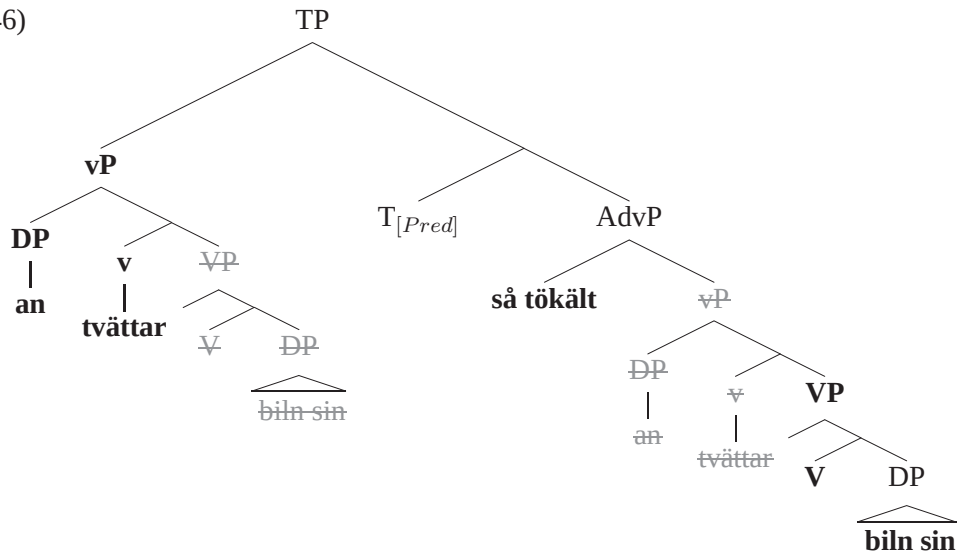
In these examples, the subject has been attracted by the [Pred] feature in T,

[11] If *all* movement for predicate licensing in ReNN and NOb involves vP pied-piping, this could be what happens in those cases where the subject appears to have moved on its own.

[12] Modulo cases with object shift, which I will not go into here.

and pied-pipes the whole vP to SpecTP. However, the complements of the verb are not spelled out in this position. In (45b), the object *biln sin* 'his car,' which is non-edge material in the vP, is sent off to spell-out when the vP itself is completed. Thus, it will be pronounced in the base position. The subject and the finite verb, on the other hand, constitute the edge of the vP, and they may therefore be pronounced in the higher copy. The derivation is illustrated in (46).

(46)

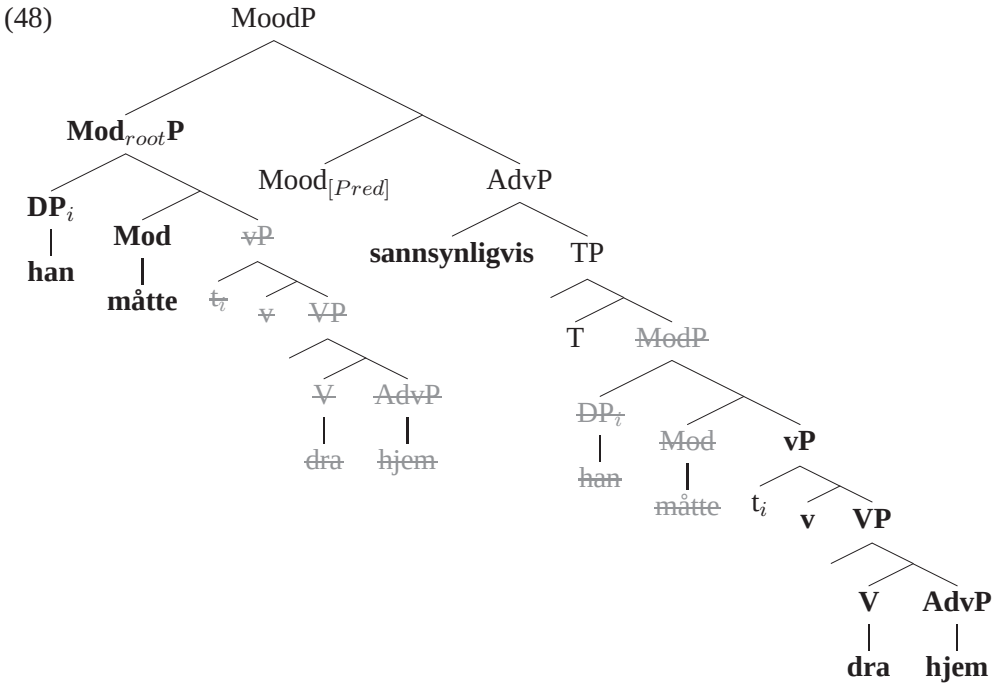


The case where a finite modal auxiliary has moved across an adverb would be analysed in the same way. On the assumption that finite verbs always induce phases, the complement of the modal 'must' in clauses like (14), here repeated as (47), belongs to the non-edge material of the phase. In this example, the complement of the finite verb is the vP, and this projection will therefore be spelled out in the lower copy. The finite modal auxiliary itself as well as the subject constitute the edge of the phase, and are thus available for spell-out in the higher copy. The derivation is illustrated in (48).

(47) Han Helge va veldig effektiv på jobb idag... (ReNN)
he Helge was very efficient on work today

... ettersom han **måtte** sannsynligvis dra hjem tidligere enn vanlig.
as he must probably go home earlier than usual
'Helge was very efficient at work today as he probably had to go home earlier than usual.'

(48)



As we have seen, the copying and partial deletion approach can also account for the short verb movement found in ReNN and NOb. In this approach, short verb movement of finite main verbs and finite auxiliaries are dealt with in exactly the same way. Only the phase edge of the copied constituent is available for pronunciation in the higher copy. Thus, on the assumption that a finite verb induces a new phase, only the edge of a finite verbal projection will be spelled out in the higher copy.

2.6 Consequences

In the preceding two sections we have seen how two types of phrasal movement approaches can account for the short verb movement found in non-V2 contexts in ReNN and NOb. In this section we will look at two consequences of these two approaches. First of all, both the accounts rely on the assumption that every finite verb induce a phase. In subsection 2.6.1 I provide independent support for this assumption from reconstruction facts in Norwegian. However, in subsection 2.6.2 we will see that the remnant movement account is also dependent on a look-ahead mechanism. This is not the case for the copying and partial deletion account, and thus makes this approach the more promising of the two.

2.6.1 Reconstruction

A consequence for both the remnant movement approach and the partial deletion approach is that every finite verb heads a phase. Chomsky (2000; 2001) suggests that CPs and transitive and unergative vPs are phases, and Legate (2003) presents arguments that passive and unaccusative vPs are as well. In this paper it has been assumed that *all* finite verbal projections induce phases, regardless of the type of verb and regardless of whether they are projections of main verbs or of auxiliaries. An empirical observation that supports this comes from scope reconstruction facts in Norwegian.

It is well known that for example quantifiers may be ambiguous with respect to scope relations. In (49) (due to Fox 2000:145), the moved quantified DP *someone from NY* may either establish scope relations in its surface position, thus scoping over the adverb *likely*, or it may be reconstructed in some lower position, marked by *t* in (49), in which case the adverb will take scope over the DP. In the former case, we get the interpretation that there is one specific person from NY that is such that he or she is very likely to win the lottery, as in (49a). In the latter case, (49) means that it is very likely that some person or other from NY will win the lottery, as in (49b).

(49) Someone from NY is very likely t to win the lottery.
  a. someone from NY $>$ likely
  b. likely $>$ someone from NY

Based on pairs of examples like those in (50) (from Lebeaux 1990), Fox (2000) argues that reconstruction is also possible in intermediate landing sites. In (50), the variable *he* has to reconstruct somewhere in the scope of its binder *every student*. In neither (50a) nor (50b) is the base position an available reconstruction site for this variable because the pronoun *she* c-commands this position. However, in (50a) the variable may reconstruct in the intermediate landing site *t′*, a position that is outside of the c-command domain of *she*. Thus (50a) is grammatical. In (50b), on the other hand, also this intermediate landing site is c-commanded by *she* and this yields an ungrammatical construction as the variable fails to be bound. (From Fox 2000:162.)

(50) a. [Which (of the) paper(s) that he_1 gave to Ms. Brown_2]
  did every student_1 hope t′ that she_2 would read t?
  b. *[Which (of the) paper(s) that he_1 gave to Ms. Brown_2]
  did she_2 hope t′ that every student_1 would revise t?

Both Abels (2003) and Svenonius (2004) connect reconstruction data like those in (50) to the notion of phases. According to the PIC, elements that move out of a phase have to do so via the edge of the phase. Looking at

the examples in (50) we see that it is precisely in such phase edges that the variable is able to reconstruct, namely in SpecCP or SpecvP (provided that there are no binding violations). Thus, the suggestion is that phase edges in general should provide potential positions for scope reconstruction. Abels (2003) further argues that for the PIC to be a crucial factor for reconstruction sites, it has to be shown that reconstruction is *not* available in non-phase edge positions. He provides the following examples as support for this (adapted from Abels 2003:30).

(51) [Which pictures of himself]$_1$ did it seem to John [$_{CP}$ **t′**$_1$ that Mary liked **t**$_1$]?

(52) *[Which pictures of himself]$_1$ did Mary$_2$ seem to John [$_{TP}$ t$_2$ to **t′**$_1$ like **t**$_1$]?

In (51), the *wh*-phrase containing the anaphor *himself* has moved through SpecCP. This intermediate landing site, *t′*, is outside of the scope of *Mary* but still a position which is bound by *John*. As the example is grammatical, this indicates that SpecCP is a possible reconstruction site for the *wh*-phrase. In (52), on the other hand, the *wh*-phrase with the anaphor has moved from within SpecTP. The intermediate landing site, *t′*, is here c-commanded by *Mary*, and thus the anaphor cannot be bound by *John*. Thus, in (52), where there is no intermediate CP, there is also no intermediate landing site available between *t′* and *John* where the *wh*-phrase can reconstruct.

In Norwegian, there are indications that reconstruction sites are connected to the position of the finite verb. Consider the examples in (53)-(54).

(53) [Noen gutter] vil **t″** sannsynligvis **t** besøke Roma iår. (Norwegian)
some boys will probably visit Rome this.year
'Some boys will probably visit Rome this year.'

(53) is ambiguous, and the quantified DP *noen gutter* 'some boys' may either take scope above or below the adverb *sannsynligvis* 'probably,' yielding either the reading that some specific boys are such that they are likely to visit Rome this year, or that it is likely that Rome will be visited by some boys or other this year. Thus, there must be a possible reconstruction site for the DP below 'probably,' as indicated by *t*. Now consider (54).

(54) [Noen gutter]$_i$ vil **t″** sannsynligvis ***t′*** i løpet av livet sitt$_i$ ***t*** besøke
some boys will probably i course of life.the REFL *visit*
Roma. (Norwegian)
Rome
'Some (specific) boys will probably visit Rome at some point in their life.'

In this example, the only available reading is that there are some specific boys who are likely to visit Rome. In (53), presumably the subject is able to

reconstruct in its thematic position. In (54), this is of course not an option, as that would leave the anaphor unbound. However, there do not seem to be any reconstruction sites available between the PP *i løpet av livet sitt* 'during their life' and 'probably' either; the subject can only reconstruct at the position of the finite verb *vil* 'will.' If reconstruction only is possible at phase edges (and potentially in thematic positions), then there must be a phase edge at the finite verb.[13]

It should be pointed out here that I take finite main verbs to head their phase. As can be seen from the derivations in (32) and (46) the finite main verb is assumed to be spelled out in v (cf. Larson 1988, where the VP projects as many VP-shells as are necessary for the verbal elements). In an analysis employing a vP/VP distinction, main verbs are generally assumed to be base-generated in V, rather than v, so this deserves some justification. Within a head movement approach this could of course easily be explained by assuming head movement of the verb from V to v. However, in an account that tries to eliminate head movement, this option is unavailable.

Müller (2004:184) avoids this issue by proposing a less strict definition of the phase edge, (55). According to (55a), V filled by a finite main verb would qualify as part of the edge domain of vP, given that no other verbal material will be present higher in the vP in such contexts.

(55) *Edge domain:*
A category α is in the edge domain of a head X iff (a) or (b) holds:
a. α is the higher overt head reflexively c-commanded by X.
b. α is a specifier that is not c-commanded by any other specifier in XP, and that precedes the head of the edge domain of X.

An alternative would be to assume a Mirror Theory analysis to word formation like the one advocated in Brody (2000). Then V and v together would form the morphological word that constitutes the actual verb, and this may be spelt out in any of the positions that are members of this morphological word. For ReNN and NOb the verb can then be taken to be spelled out in v rather than V, without having to assume head movement. This of course potentially opens up the possibility that multiple heads may be members of the

[13]Note that it is not binding as such that is problematic here. As can be seen from (i), it is possible to bind into a PP complement. Thanks to Klaus Abels (personal communication) for drawing my attention to this point.

(i) Noen gutter$_i$ vil i sommer dra på hytta si$_i$. (Norwegian)
some boys will in summer go on cottage.the REFL
'Some boys will go to their cottage this summer.'

morphological word, and potentially *all* the projections made use of here, allowing a morphological word such as V-v-Asp-T-Mood-Fin. The verb could then potentially be spelled out in a whole range of the higher positions in the clause, and this is of course not the case in the non-V2 contexts discussed here. However, suppose that the word must spell out in the highest position that its morphology realizes. Norwegian does not have agreement morphology on the verb, only a tense marker. Adapting Adger's (2003) analysis of English tense marking to Norwegian, we may assume that the v can get its tense marked by Agree from T. Main verbs in Norwegian may therefore remain as low as in v, but given that tense is spelled out in v, these verbs will always spell out V-v.

Up to now, I have remained more or less agnostic as to which of the two phrasal movement accounts seems the more promising. I will end this paper by discussing a final piece of data from ReNN which might make it possible to evaluate between the two approaches.

2.6.2 Look-ahead

As briefly mentioned in section 2.4, there is a look-ahead problem with the remnant movement account. The EPC is responsible for evacuating all non-edge material from a vP that is going to perform short verb movement later on. In ReNN and NOb this evacuation has to take place as soon as the vP phase is completed, as the complements have to be evacuated to a position below other elements in the clause, such as adverbs. This means that the evacuation is done at a point when the feature which eventually attracts the vP has not yet entered the derivation. Thus, it is not clear what motivates evacuation at the point when it takes place. Note that vPs that will *not* move later on are not evacuated in this way. In this final subsection we will see that this look-ahead issue not only makes the remnant movement approach conceptually unattractive, but that it is also problematic empirically.

The current paper has focussed on how to derive non-V2 word orders where a verb has moved across an adverb that takes scope over it, giving the order $V_2 \prec Adv_1$ (where the subscript number indicate the hierarchical order). In Nilsen (2003), Bentzen (2005; 2007a), and Svenonius (2007), the opposite pattern, $Adv_2 \prec V_1$, is discussed. Here, a verb *follows* an adverb that *it* takes scope over. This latter pattern is obligatory in Standard Norwegian and Standard Swedish non-V2 contexts, but as mentioned in section 2.1, only optional in ReNN and NOb, where also $V_1 \prec Adv_2$ (that is, order of merge) is possible.

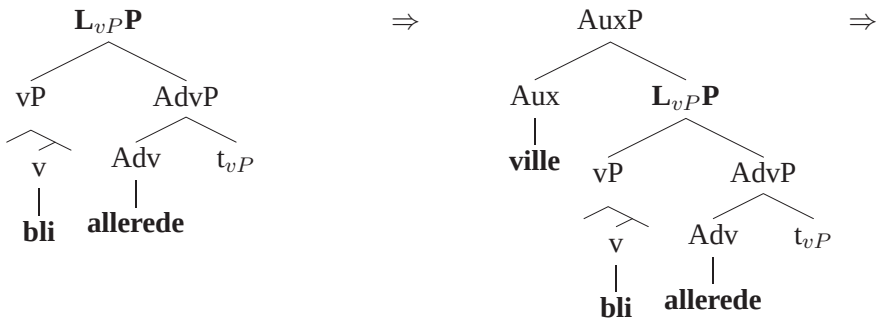
In Nilsen (2003), Bentzen (2005; 2007a), and Svenonius (2007), the order $Adv_2 \prec V_1$ is analysed as an operation of 'verb sinking.' Bentzen (2005)

introduces the concept of so-called *lifters*, which are functional projections associated with auxiliaries. These lifters come in pairs of a VP-lifter, which attracts the verbal complement of the auxiliary, and an AdvP-lifter, which attracts the adverbial projection in the immediate scope of the auxiliary. In Standard Norwegian, all auxiliaries are assumed to have this pair of lifters; a VP-lifter below the auxiliary, and an AdvP-lifter above it. This constellation derives the order where an auxiliary ends up following an adverb that it is merged above, as in the clause in (56).

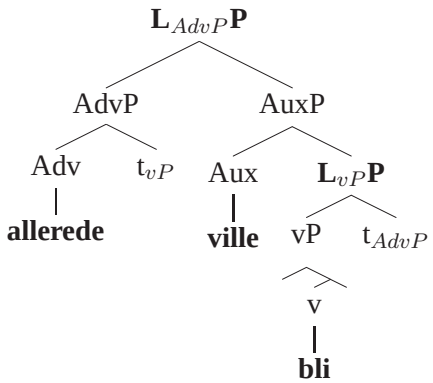
(56) Vi sprang hjem ettersom det **allerede**$_2$ **ville**$_1$ **bli**$_3$ mørkt om en time.
we ran home as it already would become dark in an hour
'We ran home as it would already be dark in an hour.' (Norw.)

In (56), the auxiliary *ville* 'would' has the pair of a VP-lifter below it and an AdvP-lifter above it. As illustrated in (57), the vP is lifted to a position immediately below this auxiliary, as in (i). Then the auxiliary is merged, (ii), and finally the adverbial projection is lifted above the auxiliary, (iii). This in effect 'sinks' the relative position of the auxiliary with respect to the adverb.

(57) (i) Lift vP (ii) Merge Aux



(iii) Lift AdvP



Bentzen (2005; 2007a) suggests that such lifters are obligatory for all auxiliaries in Standard Norwegian. Hence, all verbs will follow all adverbs in Standard Norwegian non-V2 contexts, regardless of the order of merge, as illustrated in (58a). In ReNN, on the other hand, the lifters may be optional for one or more of the auxiliaries, yielding either of the orders in (58b)-(58d). In (58b) the finite auxiliary lacks the lifters but the non-finite auxiliary has them, thus the finite auxiliary precedes the adverb it is merged above, whereas the non-finite auxiliary follows the adverb that it is merged above. In (58c), the opposite is the case. The non-finite auxiliary lacks the lifters but the finite auxiliary has them, thus the non-finite auxiliary precedes the adverb it is merged above, whereas the finite auxiliary follows the adverb that it is merged above. Finally, in (58d) both auxiliaries lack the lifters and they will both therefore precede the adverb each of them are merged above.

(58) a. $A_2\ A_4\ V_1\ V_3\ V_5$ (both Aux have lifters)
b. $V_1\ A_2\ A_4\ V_3\ V_5$ (non-finite Aux has lifters, finite Aux does not)
c. $A_2\ V_1\ V_3\ A_4\ V_5$ (finite Aux has lifters, non-finite Aux does not)
d. $V_1\ A_2\ V_3\ A_4\ V_5$ (neither Aux has lifters)

In (58b)-(58d) the auxiliaries precede adverbs, but crucially only those adverbs that they are merged above to begin with. However, as we have seen in this paper, ReNN and NOb also allow finite verbs preceding adverbs that they are merged *below*. A question now is how these various operations interact. Consider (59), where the auxiliaries and adverbs appear in the order of merge.[14]

(59) Ungan holdt sæ som regel frisk,... (ReNN)
children.the kept REFL *as rule healthy*

... ettersom dem **sannsynligvis**$_1$ **måtte**$_2$ **vanligvis**$_3$ **ta**$_4$ tran på vinteren
as they probably must usually take cod.liver.oil on winter.the

'The children mostly stayed healthy as they probably usually had to take cod liver oil in the winter.'

In clauses like (59), ReNN and NOb have three options. (i) The finite auxiliary *måtte* 'must' lacks the lifters above and below it, we get the order of merge, as in (59). (ii) The finite auxiliary has the pair of lifters, and will end up following both *sannsynligvis* 'probably' and *vanligvis* 'usually,' as in (60a). (iii) The finite auxiliary undergoes short verb movement, and precedes both

[14]The order of merge is determined based on the scope relations between the adverbs and the verbs. The epistemic adverb 'probably' scopes over the deontic modal auxiliary 'must,' which in turn scopes over the habitual adverb 'usually.'

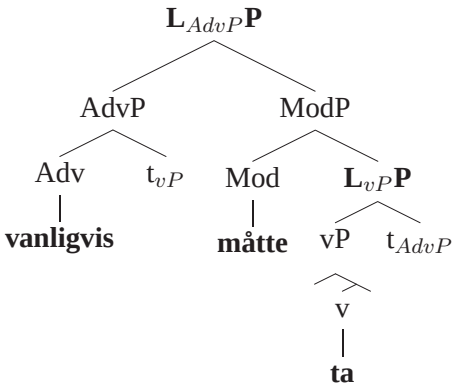
adverbs, as in (60b).

(60) a. ... ettersom dem **sannsynligvis**$_1$ **vanligvis**$_3$ **måtte**$_2$ **ta**$_4$ tran
as they probably usually must take cod.liver.oil
b. ... ettersom dem **måtte**$_2$ **sannsynligvis**$_1$ **vanligvis**$_3$ **ta**$_4$ tran
as they must probably usually take cod.liver.oil

The crucial example is (60b). In this clause, the verb will be pied-piped along with the vP when the subject moves for predicate licensing as discussed above. However, this attraction occurs later in the derivation than the sinking operation accomplished by the lifters. Thus, at the point when the auxiliary in ReNN and NOb has the option of including or leaving out the pair of lifters, it does still not yet 'know' whether it will later perform short verb movement or not. Now, does this make any difference for the two phrasal movement accounts evaluated here? For the remnant movement account the answer is yes. It turns out that it is difficult to apply remnant movement in the way outlined above to an auxiliary that has already gone through verb sinking, and again a look-ahead mechanism seems to be necessary. For the partial deletion analysis, however this combination is not problematic. Let us see how this follows.

If the auxiliary has employed the option of not including the lifters, applying short verb movement is unproblematic for either of the analyses. The derivations will run just like the ones in (34) and (48) above. However, if the auxiliary has the lifters, the remnant movement analysis runs into problems. The initial steps of the derivation, that is, the verb sinking, will be the same in either analysis. This part is illustrated in (61).

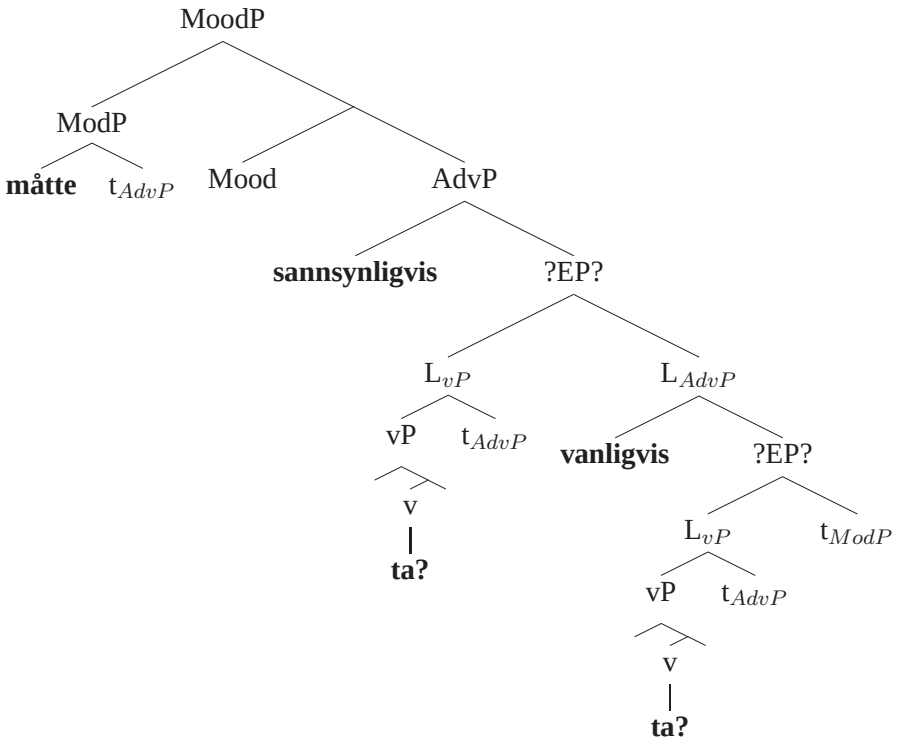
(61)



What if we now try to apply short verb movement using remnant movement? The EPC forces the moving verbal projection to be reduced to its edge. Thus, the ModP must evacuate its complement, which is now L$_{vP}$P. However, where does it evacuate the complement to? If we evacuate L$_{vP}$P to an EP on top of

L_{AdvP}P, we get the wrong word order, *ta*$_4 \prec$ *vanligvis*$_3$. Rather, it seems that the EP should be in a position below L_{AdvP}P. However, this means breaking up the pair of lifters, and we will have to add a stipulation that auxiliaries that will undergo short verb movement need an evacuation position between their lifters. The dilemma is illustrated in (62).

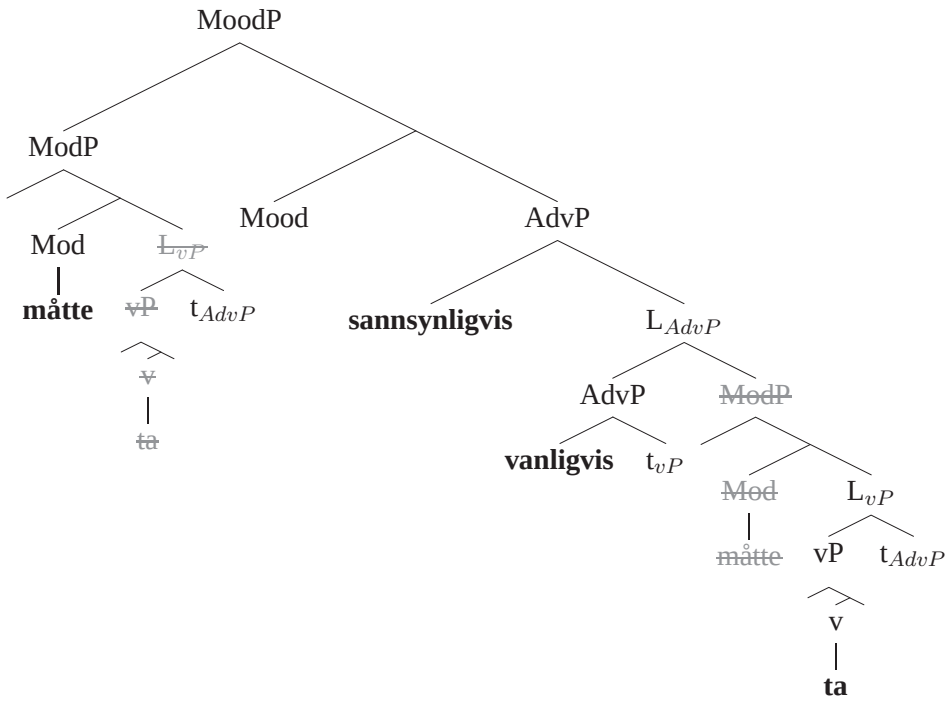
(62)



This is therefore another instance where the remnant movement approach seems to have a look-ahead problem. Already at an early stage, the derivation must know about the short verb movement which will take place later on, either to prevent lifters from applying, or to make sure that there is an EP in between the pair of lifters.

In a copying and partial deletion account this problem does not arise. Assume the sinking operation in (61) has already taken place, and now we again are at the stage where the finite verb performs short verb movement. As in the partial deletion derivations above, the whole ModP is now copied into SpecMoodP. However, this is a phase, so its complement has been spelled out already, and only the phase edge will be available for spell-out in the higher copy.

(63)



As (63) illustrates, within a copy and partial deletion account, the example in (60b) is derived in exactly the same way as all the other instances of short verb movement. The remnant movement account, on the other hand, had to make some separate stipulations, relying on look-ahead, to explain this word order.

2.7 Summary and conclusion

In this paper I have discussed how to derive the verb movement patterns found in the Norwegian and Swedish varieties Regional Northern Norwegian (ReNN) and Northern Ostrobothnian (NOb). It was demonstrated that this verb movement, labeled short verb movement, differs from V2 verb movement. Furthermore, as a head movement account of short verb movement faces various problems, two types of phrasal movement approaches were explored as an alternative. In both approaches, short verb movement across adverbs is analysed as movement of the whole vP to the specifier of some higher projection. However, as the verb's complements are spelled out in a position below the adverb(s) that the verb has crossed, this is something any phrasal movement approach needs to account for.

In section 2.4 I discussed a remnant movement approach inspired by among others Müller (2004). Within a remnant movement analysis, the complements

of the verb have been evacuated from the vP prior to vP fronting. This is taken care of by a filter, the *Edge Domain Pied Piping Condition* (EPC), which requires that a moving vP is reduced to its phase edge. As all finite verbs are assumed to head phases, complements of such verbs are evacuated to a position immediately outside the vP before the vP moves to a higher specifier position. According to Müller (2004) such movement is freely available, but it is restricted by economy principles.

In section 2.5 I turned to a copying and partial deletion approach inspired by Hinterhölzl (2000; 2002) and Fanselow and Ćavar (2002). In this approach, the whole vP is assumed to be copied into a higher specifier position with all its complements intact. However, the constituents of the vP are spelled out in separate positions, and this is regulated by phases; non-phase edge material is spelled out in the lower copy, whereas phase edge material is spelled out in the higher copy. As finite verbs head phases, their complement is non-phase edge material. Thus, such material is sent off to spell-out as soon as the phase is completed, and will therefore not be available when the phase is copied in a higher position. The finite verb, on the other hand, is part of the phase edge, and will consequently be spelled out in the higher copy.

As we have seen, both accounts rely on the assumption that finite verbs head phases. In subsection 2.6.1 independent support for this was provided from reconstruction facts in Norwegian. I demonstrated that reconstruction is only possible at finite verbs, and as reconstruction has been connected to phase edges, this suggests that finite verbs indeed do induce phases.

Finally, in subsection 2.6.2, I discussed the compatibility between the two phrasal movement approaches and the operation of verb 'sinking' proposed in Nilsen (2003), Bentzen (2005; 2007a), and Svenonius (2007). Here we saw that the remnant movement account had to rely on look-ahead, and extra stipulations concerning the position of the evacuated elements had to be introduced. In contrast, the partial deletion account could be combined with the verb sinking operation without any additional assumptions. I therefore conclude that the copying and partial deletion account is the more promising candidate for a phrasal movement approach to short verb movement.

Chapter 3

Subject positions and their interaction with verb movement[1]

Kristine Bentzen

3.1 Introduction

It is well-known that many languages allow subjects to occur in several positions, and these positions are often correlated with different interpretations (cf. among others Diesing 1992, Kiss 1996; 1998, Cinque 1999, Cardinaletti 2004, Mohr 2005). In for example the Scandinavian languages, it has been observed that subjects receive different interpretations depending on their position with respect to adverbs (cf. Holmberg 1993, Bobaljik and Jonas 1996, Nilsen 1998, Svenonius 2002). In non-subject-initial V2 clauses, the postverbal subject may either precede or follow sentential adverbs. Nilsen (1997:23) points out that subjects preceding sentential adverbs get a strong reading, whereas subjects following such adverbs get a weak reading ('strong' and 'weak' in the sense of Milsark 1977). This is illustrated in (1) with an example from Nilsen (1997). In (1a), the subject precedes the adverb *sannsynligvis* 'probably' and gets a strong reading, that is, it is interpreted as *a specific student*. In (1b), on the other hand, the subject follows this adverb and gets a

[1]Thanks to my informants Christine Bjerkan Østbø, Madeleine Halmøy, Mai Tungseth, and Merete Anderssen for their judgments on the Norwegian examples. Also thanks to Sjef Barbiers and Hubert Haider, and especially Peter Svenonius for discussions of previous versions of this paper. Finally thanks to the audiences at the *NORMS workshop on Subjects and microcomparative variation in Trondheim*, August 2006, at the *NORMS workshop on Northern Norwegian dialects* in Tromsø, October 2006, and at *CGSW 22* in Stuttgart, June 2007 for comments and feedback on parts of this material.

weak reading, that is, it is interpreted as *one non-specific student or other*.[2]

(1) a. Røykeforbudet brøt **en student** sannsynligvis allerede igår. (Nor.)
smoking.ban.the broke a student probably already yesterday
'***A (specific) student*** probably violated the smoking ban as early as yesterday.'

b. Røykeforbudet brøt sannsynligvis **en student** allerede igår.
smoking.ban.the broke probably a student already yesterday
'***A student*** probably violated the smoking ban as early as yesterday.'

A similar pattern of subject positions is found in embedded clauses. Norwegian in general does not have verb movement in embedded non-V2 contexts, which means that the verb follows all adverbs in such clauses. However, the subject precedes the verb and the distribution of preverbal subjects in embedded contexts corresponds to the pattern for subjects following the finite verb in non-subject-initial main clauses like those illustrated in (1). As illustrated in (2)-(3), subjects may either precede or follow adverbs, and in parallel with the pattern in main clauses, subjects preceding adverbs such as *sannsynligvis* 'probably' get a strong reading, (2), whereas subjects following such adverbs get a weak reading, (3).

(2) ... ettersom **en student** sannsynligvis allerede brøt røykeforbudet igår. (Nor.)
as a student probably already broke smoking.ban.the yesterday
'... as ***a (specific) student*** probably violated the smoking ban as early as yesterday.'

(3) ... ettersom sannsynligvis **en student** allerede brøt røykeforbudet igår.
as probably a student already broke smoking.ban.the yesterday
'... as ***one student or other*** probably violated the smoking ban as early as yesterday.'

However, certain dialects of Norwegian optionally allow verb movement across adverbs in embedded non-V2 contexts (cf. Bentzen 2005; 2007a;c). This type of verb movement influences the distribution of subjects both concerning the positions available, and the interpretation the subject can get. Whereas subjects may intervene between practically any pairs of adverbs in Norwegian embedded clauses without verb movement, in Regional Northern Norwegian (henceforth ReNN) embedded non-V2 clauses with verb movement, the subject has to precede all adverbs. Furthermore, the subject obliga-

[2] According to Nilsen 1997, (1b) is ambiguous between a strong and a weak subject reading, but four of my five informants (including myself) in general find it very hard to get a strong reading of the subject when it follows adverbs.

torily receives a strong reading. This is illustrated in (4)-(5).[3]

(4) ... ettersom **en student** sannsynligvis **brøyt** allerede røykeforbudet igår. (ReNN)
as a student probably broke already smoking.ban.the yesterday

'... as ***a specific student*** probably violated the smoking ban as early as yesterday.'

(5) *... ettersom sannsynligvis **en student brøyt** allerede røykeforbudet igår.
as probably a student broke already smoking.ban.the yesterday

ReNN refers to several dialects spoken in Northern Norway, from the Salten region in the South to Alta in the North. These dialects behave similarly in the relevant respects, and are thus for the current purposes treated as one dialect. As ReNN allows both the patterns found in Norwegian in general, and the specific Northern Norwegian patterns, all Norwegian examples in the following are from this dialect, unless otherwise indicated.[4]

The aim of this paper is threefold. In section 3.2 I outline a cartography of available subject positions in Norwegian embedded clauses. I then illustrate how verb movement in ReNN non-V2 contexts constrains the distribution of subjects. Section 3.3 provides a unified account of the flexible subject placement in Norwegian in general and the flexible verb placement in ReNN. I will argue that both phenomena follow from predicate licensing. In section 3.4 I discuss Nominative Case licensing, and I propose an analysis of this which can account for the ways in which verb movement constrains the distribution of subjects in ReNN embedded clauses. Finally, section 3.5 contains a summary and concluding remarks.

3.2 Subject positions in Northern Norwegian embedded clauses

As I use adverbs as a diagnostic for the positions of both subjects and verbs, a preliminary note on the position of these elements is in place here. Cinque (1999) studies the internal order of adverbs in a cross-linguistic perspective. His surveys reveal very similar patterns across languages, and he thus suggests that adverbs are strictly ordered in a universal hierarchy, as in (6) (from Cinque 1999:106).

[3]Here and in the following, the ReNN examples are rendered in an approximation of a dialectal form.

[4]Note that the dialect spoken in the city of Tromsø is not included in ReNN. As is shown in Bentzen 2007a, Tromsø Northern Norwegian (TrNN) behaves slightly differently from ReNN with respect to verb movement in non-V2 contexts.

(6) [*frankly* Mood $_{speech\ act}$ [*fortunately* Mood$_{evaluative}$ [*allegedly* Mood$_{evidential}$ [*probably* Mod$_{epistemic}$ [*once* T(Past) [*then* T(Future) [*perhaps* Mood$_{irrealis}$ [*necessarily* Mod$_{necessity}$ [*possibly* Mod$_{possibility}$ [*usually* Asp$_{habitual}$ [*again* Asp$_{repetitive(I)}$ [*often* Asp$_{freq(I)}$ [*intentionally* Mod$_{volitional}$ [*quickly* Asp$_{celerative(I)}$ [*already* T(Anterior) [*no longer* Asp$_{terminative}$ [*still* Asp$_{continuative}$ [*always* Asp$_{perfect(?)}$ [*just* Asp$_{retrospective}$ [*soon* Asp$_{proximative}$ [*briefly* Asp$_{durative}$ [*characteristically(?)* Asp$_{generic/progressive}$ [*almost* Asp$_{prospective}$ [*completely* Asp$_{SgCompletive(I)}$ [*tutto* Asp$_{PlCompletive}$ [*well* Voice [*fast/early* Asp$_{celerative(II)}$ [*again* Asp$_{repetitive(II)}$ [*often* Asp$_{freq(II)}$ [*completely* Asp$_{completive(II)}$

This hierarchical order of adverbs is attested for several languages in Cinque (1999), both when adverbs are independent elements, as in Italian and English, and when adverbial modification is expressed through affixes, as in Korean and Turkish. Nilsen (1997) discusses Cinque's hierarchy with respect to Norwegian adverbs, and his study shows that this hierarchy also is present in Norwegian. Note however, that Østbø (2003) claims that the hierarchy is less strict in Norwegian that what Cinque proposes. She illustrates that although the internal order of the four highest adverbs in (6), as well as their relative order with respect to "lower" adverbs is fairly strict, the internal order of the other adverbs is in general more flexible than predicted by Cinque's hierarchy. See also Nilsen (2003) for some discussion of transitivity effects in Norwegian with respect to the adverb hierarchy.

An alternative to Cinque's hierarchy of adverbs is to assume that adverbs may be adjoined to various verbal projections, for example VP and TP, as suggested by Ernst (2002) and Svenonius (2002). Ernst (2002) proposes a hierarchy of Fact-Event objects (FEO) in which different types of adverbs may modify different types of objects (Events, Propositions, or Facts). According to this proposal adverbs may basically adjoin to any projection as long as they obey the FEO hierarchy. Thus, in such an approach the internal order of adverbs is determined by semantic selection (s-selection), rather than c-selection as in Cinque (1999).

The approach to adverbs that I will assume here is compatible with both the above approaches. As the internal order of adverbs is not the main issue in the current paper, I here choose to use three types of adverbs that clearly are strictly ordered with respect to each other: high adverbs like *fortunately* and *probably*, mid-range adverbs like *usually*, *often*, *already*, and *still*, and low adverbs like *completely* and *again*. The relative order of these three adverb types is shown in (7).[5]

[5]See Bentzen 2005 for a more detailed discussion of the position of adverbs.

(7) a. Han misforstod **sannsynligvis ofte helt** oppgaven.
he misunderstood probably often completely assignment.the
b. *Han misforstod **sannsynligvis helt ofte** oppgaven.
he misunderstood probably completely often assignment.the
c. *Han misforstod **ofte sannsynligvis helt** oppgaven.
he misunderstood often probably completely assignment.the
d. *Han misforstod **ofte helt sannsynligvis** oppgaven.
he misunderstood often completely probably assignment.the
e. *Han misforstod **helt sannsynligvis ofte** oppgaven.
he misunderstood completely probably often assignment.the
f. *Han misforstod **helt ofte sannsynligvis** oppgaven.
he misunderstood completely often probably assignment.the

Concerning the structural positions of adverbs I will exploit insights both from Cinque (1999) and from Ernst (2002) and Svenonius (2002). Along with Cinque (1999) I take adverbs to be specifiers of their own functional projections, but in parallel with Ernst (2002) and Svenonius (2002) I will employ certain "domains" for adverb projections. Based on Cinque's hierarchy of functional projections I assume the following three major categories: MoodP (epistemic), TP, and AspP. [6] Adverbs that are taken to be low in the Cinque hierarchy (e.g. *completely*) are merged between vP and AspP, mid-range adverbs (e.g. *often*) are merged between AspP and TP, and high adverbs (e.g. *probably*) are merged between TP and MoodP. This is illlustrated in (8).

(8) The structural positions of adverbs:

$[_{FinP}\ [_{MoodP}\ [_{AdvP}\ \underset{probably}{\mathbf{Adv}_{High}}\ [_{TP}\ [_{AdvP}\ \underset{often}{\mathbf{Adv}_{Mid}}\ [_{AspP}\ [_{AdvP}\ \underset{completely}{\mathbf{Adv}_{Low}}\ [\ _{vP}$...

Of course this is a fairly coarse outline but it is sufficient to serve the current purposes, namely help us identify the various positions available for subjects and verbs in embedded clauses.

3.2.1 The distribution of subjects in clauses without verb movement

As mentioned in the introduction, subjects may either precede or follow sentential adverbs such as *sannsynligvis* 'probably' in ReNN (and Norwegian) embedded clauses without verb movement, see (9). Such adverbs are as-

[6] Both Åfarli 1995 and Eide 2006 argue that MoodP and AspP are present in Norwegian and that they are realized by modal and aspectual auxiliaries. See also Eide 2006 for a detailed discussion of the relative ordering of these categories in Norwegian.

sumed to be positioned high in the clause structure. In addition, subjects may also either precede or follow the mid-range adverbs of the Cinque hierarchy in embedded contexts. This is illustrated with the continuative adverb *fremdeles* 'still' in (10). However, subjects obligatorily have to precede low adverbs such as *helt* 'completely,' (11).

(9) ... ettersom **{en student}** sannsynligvis **{en student}** brøyt røykeforbudet.
as {a student} probably {a student} broke smoking.ban.the
'... as a student probably violated the smoking ban.'

(10) ... ettersom **{nån gjesta}** fremdeles **{nån gjesta}** spiste dessert.
as {some guests} still {some guests} ate dessert
'... as some guests were still eating dessert.'

(11) ... ettersom **{enkelte bila}** helt **{*enkelte bila}** bryt sammen på vinteren.
as {some cars} compl {some cars} break together on winter.the
'... as some cars completely break down during the winter.'

Holmberg (1993) argues that there are two subject positions in Mainland Scandinavian, SpecTP below adverbs and SpecAgrP above adverbs. However, both Nilsen (1997) and Svenonius (2002) have shown that there appear to be more than just two positions for subjects in these languages. In ReNN (and Norwegian) clauses with multiple adverbs, the number of available subject positions increases with the number of adverbs. This is illustrated below with an embedded clause containing three adverbs. As the examples show, the subject can precede or follow each of these adverbs, except *helt* 'completely,' which it obligatorily precedes.

(12) ... ettersom **nån studenta** sannsynligvis ofte helt misforstod oppgaven.
as some students probably often compl misunderst'd assign't.the
i. '... as some (specific) students probably often completely misunderstood the assignment.'
ii. '... as some students or other probably often completely misunderstood the assignment.'

(13) ... ettersom sannsynligvis **nån studenta** ofte helt misforstod oppgaven.
as probably some students often compl misunderst'd assign't.the

(14) ... ettersom sannsynligvis ofte **nån studenta** helt misforstod oppgaven.
as probably often some students compl misunderst'd assign't.the
'... as some students or other probably often completely misunderstood the assignment.'

(15) *... ettersom sannsynligvis ofte helt **nån studenta** misforstod oppgaven.
as probably often compl some students misunderst'd assign't.the

The position of the subject interacts with its interpretation. When the subject is in a position preceding all the adverbs in a clause, as in (12), it is ambiguous between a strong and a weak reading, that is, the sentence can either mean that there were *some specific students* who probably often completely misunderstood the assignment, or that there were *some students or other* who probably often completely misunderstood the assignment. This holds regardless of which type of adverbs are present in the clause. However, when the subject intervenes between the adverbs, or when it follows one or more of them, as in (13)-(14), only a weak reading, *some students or other*, is possible. This can be further illustrated by placing the examples in context. When an indefinite subject occurs in an embedded clause where it can be interpreted as either specific or non-specific, the subject may either precede or follow the adverb, as in (16). However, when the subject occurs in a context where it is most naturally interpreted with specific reference, only the position preceding the adverb is available, see (17).

(16) Skolebussen tok ofte lang tid på mandaga ettersom **{en av elevan}**
school.bus.the took often long time on Mondays as {one of pupils.the}
typisk **{en av elevan}** forsov sæ den dagen.
typically {one of students.the} overslept REFL that day.the
'The school bus often took a long time on Mondays, as one pupil or other typically overslept that day.'

(17) Læreren måtte snakke med et foreldrepar ettersom **{en av elevan}**
teacher.the must talk with a parent.pair as {one of pupils.the}
typisk **{*en av elevan}** forsov sæ på mandaga.
typically {one of students.the} overslept REFL on Mondays
'The teacher had to talk to some parents as one (specific) pupil typically overslept on Mondays.'

Thus, there are several subject positions in ReNN (and Norwegian) embedded clauses, and the various positions and their associated subject interpretations can be summarized as follows:

(18) Subject positions in ReNN embedded clauses without verb movement:

✓**Subj**$_{Ambig}$ sannsynligvis ✓**Subj**$_{Weak}$ ofte ✓**Subj**$_{Weak}$ helt *__Subj__
probably *often* *completely*

The combination of the structural positions of adverbs in (8) and the placement of subjects relative to adverbs in (18) now provides a cartography of

the available structural subject positions in Norwegian. Subjects that occur in a low position, preceding *helt* 'completely' but following *ofte* 'often,' are in SpecAspP. Subjects in a mid-range position, preceding *ofte* but following *sannsynligvis* 'probably' are in SpecTP. In both SpecAspP and SpecTP the subject is associated with a weak reading. Now recall from (12) that subjects preceding *all* the adverbs in a clause are ambiguous between a strong and a weak reading. I will assume that weak subjects preceding all adverbs occur in SpecMoodP. Strong subjects, on the other hand, I take to have moved to an even higher projection. In Adger (1993), strong subjects are located in AgrP, whereas Kiss (1996) argues that they raise to a projection that she locates between the IP and the CP domain, ReferentialP (RefP) (cf. also Mohr 2005). Cardinaletti (2004) also assumes a fairly high position for strong subjects. She employs the projection SubjP, which on her cartography is the highest projection in the inflectional domain. In the current approach I take the relevant projection for strong subjects to be FinP (cf. Rizzi's 1997 split-CP analysis in which FinP is the lowest projection in his CP-domain).[7] The structural positions of subjects are illustrated in (19).

(19) The structural positions of subjects:

$[_{FinP}$ **Subj**$_{Strong}$ $[_{MoodP}$ **Subj**$_{Weak}$ $[_{TP}$ **Subj**$_{Weak}$ $[_{AspP}$ **Subj**$_{Weak}$ $[_{vP}$***Subj**

3.2.2 The distribution of subjects in clauses with verb movement

As mentioned in the introduction, ReNN optionally allows verb movement in non-V2 contexts such as embedded clauses (cf. Bentzen 2005; 2007a;c). In clauses like those in (20)-(22), the finite verb may precede or follow any given adverb, and it may also intervene between various adverbs.

(20) ... ettersom nån studenta sannsynligvis ofte **misforstod** helt oppgaven.
as some students probably often misunderst'd compl assign't.the

(21) ... ettersom nån studenta sannsynligvis **misforstod** ofte helt oppgaven.
as some students probably misunderst'd often compl assign't.the

(22) ... ettersom nån studenta **misforstod** sannsynligvis ofte helt oppgaven.
as some students misunderst'd probably often compl assign't.the

'... as ***some specific students*** probably often completely misunderstood the assignment.'

[7] Whether one assumes AgrP, RefP, SubjP, FinP, or some other projection, the important point is that this is a projection high in the clausal structure.

This gives us the following potential positions for verbs with respect to adverbs in embedded clauses:[8]

(23) The possible positions for finite verbs in ReNN embedded clauses:

✓**Verb**$_{Fin}$ sannsynligvis ✓**Verb**$_{Fin}$ ofte ✓**Verb**$_{Fin}$ helt ✓**Verb**$_{Fin}$
probably *often* *completely*

This type of verb movement affects the distribution of subjects in embedded clauses in three ways. First of all, the order S V is strict and cannot be reversed in ReNN embedded clauses with verb movement. This perhaps sounds obvious, given that ReNN (like Norwegian) is an SVO language, and that the relevant embedded clauses are non-V2 contexts (i.e. contexts in which topicalization of a non-subject followed by subsequent subject-verb inversion is impossible). However, when taking a closer look at the potential subject positions outlined in (18) in the above section, and the potential verb positions given in (23), the strict S V order turns out to be somewhat surprising. (18) is repeated here as (24) for convenience.

(24) Subject positions in ReNN embedded clauses without verb movement:

✓**Subj**$_{Ambig}$ sannsynligvis ✓**Subj**$_{Weak}$ ofte ✓**Subj**$_{Weak}$ helt *__Subj__
probably *often* *completely*

As we have seen from (13) and (14), the subject may follow adverbs like *probably* or *often*, whereas in sentences like (21) and (22) the verb may precede these adverbs. Thus, one might expect to be able to find constructions in which these two possibilities cooccur, that is where the subject follows for example *sannsynligvis* 'probably,' whereas the verb precedes this adverb, as in (25). This is of course possible in non-subject-initial V2 clauses, as in (1b). However, as illustrated in the ReNN examples in (26)-(28), in non-V2 contexts all instances of such combinations are impossible.

(25) ... **Verb**$_{Fin}$ sannsynligvis **Subject**$_{Weak}$ ofte helt ...
probably *often completely*

(26) *... ettersom sannsynligvis **misforstod** ofte **nån studenta** helt oppgaven.
as *probably* *misunderst'd* *often some students* *compl assign't.the*

(27) *... ettersom **misforstod** sannsynligvis ofte **nån studenta** helt oppgaven.
as *misunderst'd probably* *often some students* *compl assign't.the*

[8] See Cinque 1999 for similar patterns of verbs and adverbs in Italian.

(28) *... ettersom **misforstod** sannsynligvis **nån** **studenta** ofte helt oppgaven.
as misunderst'd probably some students often compl assign't.the

The order of the subject and the verb may not be reversed by this type of verb movement (cf. also Svenonius 2005). This is actually unexpected, given that both the subject and the verb in the examples in (26)-(28) occur in positions where they are allowed in similar embedded contexts. This strict linear ordering of the subject and the verb thus has to be accounted for.

A second observation is that verb movement forces the subject to a very high position in the clause. Not only must the subject always precede the verb, but it turns out that the only available position for subjects in embedded clauses with verb movement is a very high position, preceding all adverbs. It is important to note that this holds regardless of how high the verb has moved; even if the verb only moves past a low or a mid adverb, the subject still has to precede *all* adverbs in the clause. This is illustrated in (29)-(31) below. In (29) and (30), the verb has moved past the low adverb *helt* 'completely,' and in (31) past both the mid adverb *ofte* 'often' and the low adverb *helt*. In all these examples, the subject always has to precede all adverbs, even those preceding the moved verb. Subjects occurring in any other positions yield ungrammatical results, and the only possible word orders in embedded clauses with verb movement that contain three adverbs are those shown in (20)-(22).

(29) *... ettersom sannsynligvis ofte **nån** **studenta** **misforstod** helt oppgaven.
as probably often some students misunderst'd compl assign't.the

(30) *... ettersom sannsynligvis **nån** **studenta** ofte **misforstod** helt oppgaven.
as probably some students often misunderst'd compl assign't.the

(31) *... ettersom sannsynligvis **nån** **studenta** **misforstod** ofte helt oppgaven.
as probably some students misunderst'd often compl assign't.the

Finally, subjects in ReNN embedded non-V2 contexts with verb movement obligatorily receive a strong interpretation. This can been seen when applying verb movement to the examples in (16)-(17). The contexts in which the subject is most naturally interpreted with a weak reading resist verb movement. In (16), the subject had a non-specific reading, and as the parallel in (32) shows, verb movement is not possible with this reading of the subject. On the other hand, in (17) the subject received a strong reading. In such contexts, verb movement is allowed, as illustrated in (33).

(32) *Skolebussen tok ofte lang tid på mandaga ettersom **en av elevan**
school.bus.the took often long time on Mondays as one of pupils.the
forsov sæ typisk den dagen.
overslept REFL typically that day.the
'The school bus often took a long time on Mondays, as one pupil or other typically overslept that day.'

(33) Læreren måtte snakke med et foreldrepar ettersom **en av elevan**
teacher.the must talk with a parent.pair as one of pupils.the
forsov sæ typisk på mandaga.
overslept REFL typically on Mondays
'The teacher had to talk to some parents as one (specific) pupil typically overslept on Mondays.'

This yields the following positions available for subjects in ReNN embedded clauses with verb movement:

(34) Subject positions in ReNN embedded clauses with verb movement:

✓**Subj**$_{Ambig}$ sannsynligvis ***Subj** ofte ***Subj** helt ***Subj**
probably *often* *completely*

In the next two sections I will propose an analysis of the various subject and verb positions in ReNN embedded clauses (section 3.3), and of why verb movement restricts the distribution of subjects (section 3.4).

3.3 EPP satisfaction and predication

There are strong indications that Norwegian has an EPP feature which requires an overt subject or expletive somewhere in the clause. In non-presentational constructions the subject meets this requirement, as in (35a). However, when the thematic subject has remained in a low (postverbal) position, an overt expletive is needed, as shown in (35b)-(35c).

(35) a. **Noen katter** har vært på kjøkkenet. (Nor.)
some cats have been on kitchen.the
'Some cats have been in the kitchen.'

b. ***(Det)** har vært noen katter på kjøkkenet.
there have been some cats on kitchen.the
'There have been some cats in the kitchen.'

c. Idag har ***(det)** vært noen katter på kjøkkenet.
today have there been some cats on kitchen.the
'Today there have been some cats in the kitchen.'

Several people have tried to eliminate the EPP altogether. For example Boeckx (2000), Grohmann et al. (2000), and Bošković (2002) all argue that the effects generally attributed to the EPP can be explained through operations that take place in the syntax independently. In particular, they all suggest that the EPP is reducible to Nominative Case licensing and that it should thus be excluded as a separate principle. In clauses like (35b)-(35c), the expletive would then be required in order to "transfer" Nominative Case to the thematic subject. However, in Norwegian the requirement of an overt subject or expletive appears to be independent of Nominative Case licensing. In for example impersonal passive constructions there is no thematic subject. Still, an expletive is always required in such clauses, as illustrated in (36).

(36) a. ***(Det)** danses på festen. (Nor.)
it dance.PASS on party.the
'There is dancing at the party.'
b. På festen danses ***(det)**.
on party.the dance.PASS it
'At the party there is dancing.'

Furthermore, expletives are necessary in small clauses like (37a), where there is no Nominative Case to be licensed, and there is also no implied agent. Case-based approaches to the EPP treat such examples by suggesting that the verb *høre* 'hear' has Accusative Case that it needs to assign somewhere, and that this is why the expletive is needed in (37a). However, as we see in (37b), the complement of 'hear' may be a PP, in which case the verb does not license Accusative Case anywhere. Thus, attributing the presence of the expletive in (37a) to Case licensing (Nominative or Accusative) does not seem correct.[9]

[9]Fretheim 1977 points out that referential pronoun *det* but not expletive *det* may be right-dislocated, as in (ia). If an extraposed pronoun is added in (37a), as in (ib), we would have to be referring to whatever it is that is coming down from the roof. Note that in (ib) what is referred to has to be a neuter noun, like *tårnet* 'the tower.' However, (37a) could also be uttered when for example talking about snow coming down from the roof. Then it is clear that *det* is used as an expletive. This is so because the Norwegian word for snow, *snø*, is a masculine noun, and then the appropriate referential pronoun would be *den*, not *det*, which is the neuter form of the pronoun. ((ia) is based on Fretheim 1977:126)

(i) a. Det er ei katt som vil inn, *det$_{Expl}$.
it is a cat who wants in it
b. Det raste fra taket, det.
that fell from roof.the that
'That (e.g. the tower) fell from the roof.'

(37) a. Jeg hørte ***(det)** rase fra taket. (Nor.)
I heard it fall from roof.the
'I heard something coming down from the roof.'
b. Jeg hørte på han.
I heard on him
'I listened to him.'

From the above examples it is clear that Norwegian has an EPP requirement independently of Nominative Case licensing. However, it is not obvious that this EPP feature is associated with a specific projection like for example TP. Recall from subsection 3.2.1 that subjects may appear in a fairly low position in the clause in Norwegian. In particular, they may follow adverbs that are merged below TP, such as *ofte* 'often,' as was illustrated in (14), here repeated as (39). Haeberli (1999) argues that in languages like German, Yiddish, Dutch, and Frisian there is an empty expletive present when the subject occurs in a low position. Support for this comes from the fact that these languages in general license null expletives, as in (38) (from Haeberli 1999:11).

(38) ... dass *pro* überall getanzt wurde. (Germ.)
that everywhere danced was
'... that people danced everywhere.'

However, as we saw in examples like (35c) and (36b), Norwegian does not license null expletives, so Haeberli's (1999) analysis of languages like German does not seem to be compatible with Norwegian, as he also points out. Thus SpecTP remains empty in clauses like (39).

(39) ... ettersom sannsynligvis ofte **nån studenta** helt misforstod oppgaven.
as probably often some students compl misunderst'd assign't.the
'... as some students or other probably often completely misunderstood the assignment.'

In this section I will argue that the EPP is linked to predicate licensing. The predicate is licensed by having its specifier position filled, and the ways in which this may be accomplished in ReNN will provide an account for the flexible positions of subjects and of verbs in embedded clauses.

3.3.1 The EPP as predicate licensing

Several people have linked the EPP to various types of licensing requirements. Heycock (1994) argues that certain projections need a subject or an expletive in their specifier for predicate licensing. In her approach there may be several layers of predication in the clause. At each layer, the predicate must predicate

over something in order to be licensed, and this is accomplished by providing the predicate with a subject. In particular, Heycock suggests that all [+V] maximal projections may be predicates. Thus both VP and IP are taken to be predicates, and consequently both these projections need a subject in this approach.[10]

Along similar lines, both Åfarli and Eide (2000) and Kiss (2002) connect the EPP and predication. Åfarli and Eide (2000) introduce a predication operator that turns syntactic elements into predicates. The specifier of this operator, SpecPredP, must be provided with a subject in order for the predicate to be saturated, or licensed. According to Kiss (2002), statements express predication and such statements must contain a subject or topic of predication. Kiss (2002) argues that the traditional EPP in fact corresponds to two requirements. In addition to the 'topic of predication' requirement, there is also a (separate) requirement for a grammatical subject. These two requirements are often subsumed under one requirement. In subject-prominent languages like English, the topic of predication is normally represented by the subject, thus the subject will satisfy both requirements. However, Kiss (2002) shows that for a topic-prominent language like Hungarian, the two do not necessarily coincide. In Hungarian, the topic of predication can be either the most prominent argument in the clause, which is not necessarily the subject, or a phonologically unexpressed event variable. Thus, the subject may satisfy the requirement for a grammatical subject, while another argument satisfies the 'topic of predication' requirement.

I here adopt the view that the EPP involves predicate licensing. Let us assume that a predicate is headed by a head X carrying the feature [Pred]. This predicate needs to predicate over something, and predication is licensed by providing a 'topic of predication' in the specifier of $X_{[Pred]}$. Furthermore, I suggest that the position of this [Pred] feature is flexible, and it may be associated with various projections in Norwegian, as illustrated in (40).

(40) Potential positions for [Pred] in Norwegian:

[$_{MoodP}$ **Mood**$_{\{[Pred]\}}$ [*sannsynligvis* [$_{TP}$ **T**$_{\{[Pred]\}}$ [*ofte* [$_{AspP}$ **Asp**$_{\{[Pred]\}}$ [*helt* [$_{vP}$...

The specifier of the head carrying [Pred] will be filled in order to license the predicate. However, there are various ways of accomplishing this. Alexiadou and Anagnostopoulou (1998) proposed that the EPP may either be satisfied by an XP moving to SpecTP, or by an X^o moving to T. Expanding on this proposal, Biberauer and Richards (2006) suggest a four-way typology of EPP

[10]Potentially also CP is a predicate, which is relevant for V2 contexts involving V-to-C movement. The issue of CPs as predicates will not be discussed further in the current paper.

satisfaction. Focussing on the Germanic languages, they argue that the constituent that values T's EPP feature may vary from language to language in terms of both its *source* and its *size*. With respect to the source, they follow Alexiadou and Anagnostopoulou (1998) in assuming that T may probe either the [D] feature on the subject in SpecvP, or the [D] feature expressed on the verb in languages with rich agreement morphology. In addition, they suggest the element being probed in some languages may pied-pipe the whole vP to SpecTP. This gives them a four-way typology of EPP-satisfaction (from Biberauer and Richards 2006:42). I will adopt parts of this typology in accounting for the differences between Norwegian and ReNN verb placement.

(41) Typology of EPP(T)-satisfaction:

	Probe [D]-on-Vf	**Probe [D] in outer SpecvP**
−pied-pipe vP	Head-raising (*Greek*)	Spec-raising (*English, MSc*)
+pied-pipe vP	Head-pied-piping (*German, Icelandic*)	Spec-pied-piping (*Afrikaans, Faroese*)

3.3.2 A unified account of flexible subjects and flexible verbs

Based on Biberauer and Richards (2006) I suggest that predication is licensed by $X_{[Pred]}$ attracting an element carrying the feature [D]. In Norwegian, this feature is present on the subject, and ReNN shows optionality with respect to whether the subject moves alone to the specifier of $X_{[Pred]}$, or whether it pied-pipes the whole vP to this position. Optionality with respect to pied-piping is not uncommon. In for example Norwegian *wh*-questions, the *wh*-element is attracted by a [Q] feature in a projection high in the clause. In cases of complex *wh*-constituents, the *wh*-element may either move on its own, as in (42a), or pied-pipe the whole projection it is part of, as in (42b).

(42) a. Hva$_i$ liker du [$_{DP}$ t$_i$ slags bøker]? (Nor.)
what like you kind books

b. [$_{DP}$ Hva slags bøker]$_i$ liker du t$_i$?
what kind books like you
'What kind of books do you like'

As we will see in this section, assuming that the subject optionally pied-pipes the vP when it moves to license predication can account for both the flexible positions of subjects in clauses without verb movement and the flexible positions of verbs in clauses with verb movement. I argue here that the ways both subjects and verbs may intervene between various adverbs thus follow from the same basic operation of predicate licensing.

Let us first look at the cases without verb movement. Recall from section 3.2.1 that subjects may precede or follow almost any adverbs except the very low ones like *completely*, which they obligatorily precede. This was illustrated in (12)-(15), here repeated as (43)-(46).

(43) ... ettersom **noen studenter** sannsynligvis ofte helt misforstod oppgaven.
as some students probably often compl misunderst'd assign't.the

i. '... as some (specific) students probably often completely misunderstood the assignment.'
ii. '... as some students or other probably often completely misunderstood the assignment.'

(44) ... ettersom sannsynligvis **noen studenter** ofte helt misforstod oppgaven.
as probably some students often compl misunderst'd assign't.the

(45) ... ettersom sannsynligvis ofte **noen studenter** helt misforstod oppgaven.
as probably often some students compl misunderst'd assign't.the

'... as some students or other probably often completely misunderstood the assignment.'

(46) *... ettersom sannsynligvis ofte helt **noen studenter** misforstod oppgaven.
as probably often compl some students misunderst'd assign't.the

In these clauses, predication is licensed through the *spec-raising* mode introduced in Biberauer and Richards (2006). The head carrying the [Pred] feature probes the categorial [D] feature on the subject in SpecvP. The subject then raises alone to the specifier of the relevant head. The various possibilities are illustrated in (47)-(49). In (47), predication is associated with a low projection, AspP. The subject then moves to SpecAspP to license the predicate. In this position it will precede adverbs like *helt* 'completely,' but follow *sannsynligvis* 'probably' and *ofte* 'often,' as in (45). In (48), predication is associated with TP, and the subject then moves to SpecTP to license the predicate. Here it will precede both *ofte* and *helt*, but follow *sannsynligvis*, as in (44). Finally, in (49) predication is associated with MoodP, and when the subject moves to SpecMoodP, it ends up in a position preceding all adverbs in the clause, as in (43).

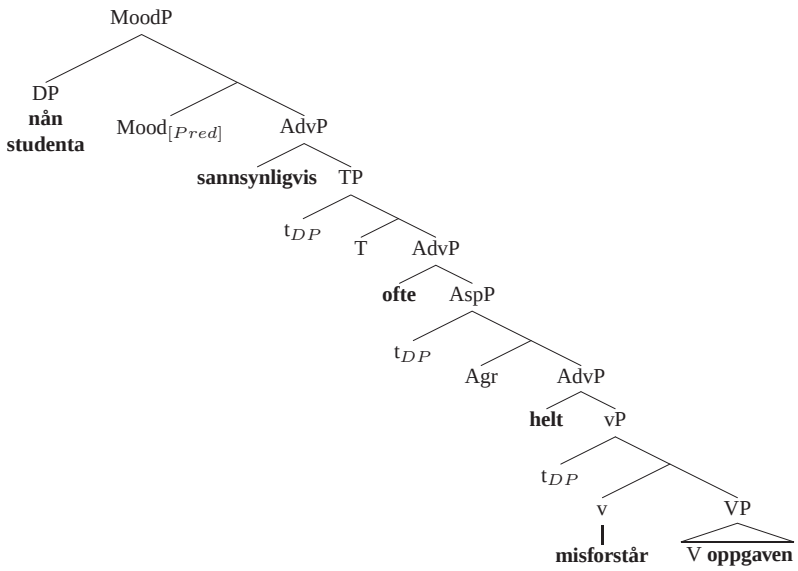
(47) **[Pred] in AspP:**
[$_{MoodP}$ Mood [*sannsynligvis* [$_{TP}$ T [*ofte* [$_{AspP}$ **Subj**$_i$ **Asp**$_{[Pred]}$ [*helt* [$_{vP}$ t$_i$ ...

(48) **[Pred] in TP:**
[$_{MoodP}$ Mood [*sannsynligvis* [$_{TP}$ **Subj**$_i$ **T**$_{[Pred]}$ [*ofte* [$_{AspP}$ t$_i$ Asp [*helt* [$_{vP}$ t$_i$ ...

(49) **[Pred] in MoodP:**
[$_{MoodP}$ **Subj**$_i$ **Mood**$_{[Pred]}$ [*sannsynligvis* [$_{TP}$ t$_i$ T [*ofte* [$_{AspP}$ t$_i$ Asp [*helt* [$_{vP}$ t$_i$ ...

The tree in (50) illustrates the full derivation of predicate licensing through spec-raising when the [Pred] feature is associated with Mood, yielding the word order in (43).

(50)



Recall that (43) was ambiguous between a strong and a weak reading. In section 3.3.1 I suggested that the weak reading occurs when the subject sits in SpecMoodP whereas the strong reading is licensed on the subject in a higher projection, FinP. Thus, specific subjects obligatorily move to SpecFinP to get their strong reading licensed. In clauses without verb movement it is therefore not entirely clear where the [Pred] feature in the IP domain is located; in any case predication will be licensed by the subject as this element moves through the various intermediate specifier positions on its way to SpecFinP. (51) illustrates the derivation of (43) on the strong subject reading.

(51) **Strong subjects always move to FinP:**

[$_{FinP}$ **Subj**$_i$ **Fin** [$_{MoodP}$ t$_i$ Mood [*sannsynligvis* [$_{TP}$ t$_i$ T [*ofte* [$_{AspP}$ t$_i$ Asp [*helt* [$_{vP}$ t$_i$ ...

Now let us turn to clauses with verb movement. In section 3.2.2 we saw that the finite verb may precede or follow any adverb in ReNN embedded non-V2 contexts. This was illustrated in (20)-(22), here repeated as (52)-(54).

(52) ... ettersom nån studenta sannsynligvis ofte **misforstod** helt oppgaven.
as some students probably often misunderst'd compl assign't.the

(53) ... ettersom nån studenta sannsynligvis **misforstod** ofte helt oppgaven.
as some students probably misunderst'd often compl assign't.the

(54) ... ettersom nån studenta **misforstod** sannsynligvis ofte helt oppgaven.
as some students misunderst'd probably often compl assign't.the

'... as ***some specific students*** probably often completely misunderstood the assignment.'

I suggest here that these verb placement patterns are the result of the same operation as the subject placement patterns just discussed, namely predicate licensing. However, in these cases, predicate licensing is accomplished in an alternative way. In the spec-raising mode, the subject moves alone to the relevant specifier position to license the predicate. Optionally, predicate licensing in ReNN can occur through the *spec-pied-piping* mode introduced in Biberauer and Richards (2006). Then, the subject in SpecvP pied-pipes the whole vP when it moves to license [Pred], as illustrated in (55)-(57).

(55) **[Pred] in AspP:**
[$_{MoodP}$ Mood [*sannsynligvis* [$_{TP}$ T [*ofte* [$_{AspP}$ **[vP]**$_i$ **Asp**$_{[Pred]}$ [*helt* t$_i$ ...

(56) **[Pred] in TP:**
[$_{MoodP}$ Mood [*sannsynligvis* [$_{TP}$ **[vP]**$_i$ **T**$_{[Pred]}$ [*ofte* [$_{AspP}$ t$_i$ Asp [*helt* t$_i$ ...

(57) **[Pred] in MoodP:**
[$_{MoodP}$ **[vP]**$_i$ **Mood**$_{[Pred]}$ [*sannsynligvis* [$_{TP}$ t$_i$ T [*ofte* [$_{AspP}$ t$_i$ Asp [*helt* t$_i$ ...

When the whole vP is pied-piped along to SpecAspP to license [Pred] in AspP, as in (55), the verb will end up in a position preceding low adverbs like *helt* 'completely,' but following higher adverbs like *sannsynligvis* 'probably' and *ofte* 'often.' This yields the word order in (52). In (56) the whole vP has been pied-piped to SpecTP to license predication there. Now the verb will precede both *ofte* and *helt* but follow *sannsynligvis*, as in (53). Finally, when the [Pred] feature is associated with MoodP and the whole vP is pied-piped along to SpecMoodP, the verb will precede all adverbs in the clause, as in (54).

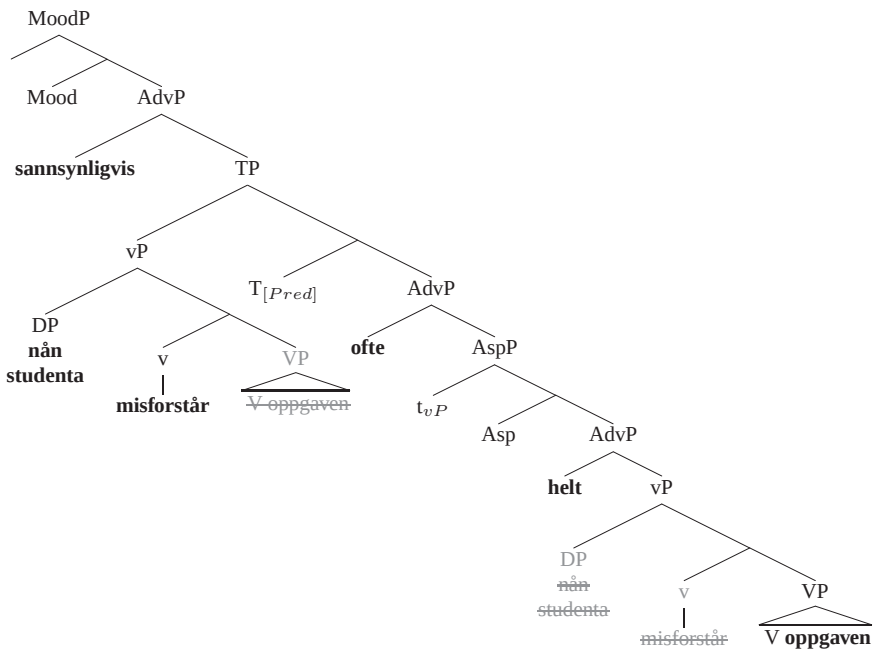
Note that although the whole vP is pied-piped to a higher specifier only the subject and the verb are visible in this higher position. For this type of phrasal movement I propose an operation of copying and partial deletion inspired by Fanselow and Ćavar (2002) and Hinterhölzl (2002). In this approach, the vP is copied in the specifier of a higher projection. Following Chomsky (2000; 2001) I take vP to constitute a phase, but following Legate (2003) I assume that all main verbs project a phase. In phase-based approaches only the *edge* of a phase is available to operations outside of this phase. This is stated in the

Phase Impenetrability Condition (PIC) where the highest specifier and head constitute the edge of the phase (from Chomsky 2000:122):

(58) **Phase Impenetrability Condition (PIC)**
'In a phase α with head H, the domain of H is not accessible to operations outside α, but only H and its edge.'

The effects of the PIC are derived if as soon as the vP phase is completed, its non-edge material is sent off to spell-out. This material will therefore be pronounced in the base position, and at the point when vP is copied to the higher specifier position, only its edge is visible. In the above examples, this means that the object *oppgaven* 'the assignment' will be pronounced in the lower copy, whereas the subject and the verb are available for pronunciation in the higher copy (as we will see in the next section, the subject is actually forced to move to an even higher projection for Case licensing reasons; we will return to this shortly). This is illustrated in (59), where the [Pred] feature is associated with TP and the subject pied-pipes the whole vP to SpecTP.

(59)



In this derivation the verb is thus pied-piped to SpecTP along with the subject, and will consequently precede adverbs like *often*, as in example (53) above. Thus verb movement effects in ReNN are explained as the result of the subject pied-piping the whole vP when moving to license the predicate. (See Bentzen

2007c for a more detailed discussion of this approach to phrasal movement.)[11]

As we have seen in this section, the flexibility with respect to subject placement in Norwegian embedded clauses in general as well as the flexibility of verb placement in ReNN embedded clauses can be accounted for by the same operation, namely predicate licensing. I have proposed that predication may be associated with various projections, and that predicate licensing can be accomplished in two ways in ReNN. The spec-raising option, where the subject moves alone to the specifier of the projection carrying [Pred], is responsible for the various positions of subjects found in Norwegian embedded clauses without verb movement. In the spec-pied-piping option the whole vP is pied-piped to the relevant specifier position, and this yields the various positions of the verb in ReNN clauses with verb movement.

Furthermore, this approach to predicate licensing provides an account for one of the three observations made in section 3.2.2, namely the fact that the subject always has to precede the verb when there is verb movement, even though independently it may occur in a position lower than the target position of this verb movement. This is now expected, as vP movement and DP movement never will take place as two separate operations. Rather vP movement is a variant of DP movement in which the DP pied-pipes the whole vP. Thus, when there is verb movement, the subject and the verb move together and consequently, their internal order will not be altered.

The two other observations made in section 3.2.2, namely that the subject obligatorily precedes all adverbs and that it is obligatorily strong when there is verb movement still need to be accounted for. This is the topic of the next section.

3.4 Nominative Case licensing

In this section I discuss how Nominative Case is licensed on subjects in Norwegian. I will argue that this can be accomplished in two ways, either through *Move* or through *Agree*, and that the latter operation is sensitive to certain locality conditions.

[11] Note that the spelled-out material is not always left in situ. For example, it is possible to topicalize a DP containing a CP, bringing the CP along, as in (i). Thus, the partial deletion effect seen above might be a special property of movement from phase edges.

(i) [$_{DP}$ Det [$_{CP}$ at datamaskinen kræsjet]] hadde han ikke hørt. (Nor.)
that that computer.the crashed had he not heard
'He hadn't heard about the fact that the computer crashed.'

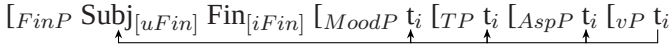
In Pesetsky and Torrego (2001), Nominative Case is taken to be an uninterpretable tense feature (*u*T) on the subject (from Pesetsky and Torrego 2001:361):

(60) *The nature of nominative case*
Nominative case is *u*T on D.

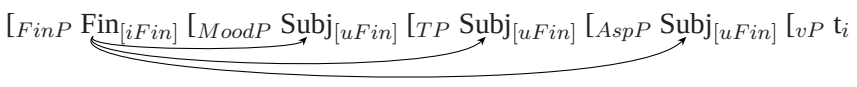
They furthermore suggest that in English the nominative DP is attracted to SpecTP by T's uninterpretable ϕ-features. In SpecTP the DP's *u*T may be deleted. However, C also has a *u*T feature, which needs to be deleted. This is accomplished either by moving T to C (head movement) or by moving the nominative DP to SpecCP. Pesetsky and Torrego (2001) argue that deleted features do not disappear until the end of a *cycle* (cf. a phase), and therefore a nominative DP that has already had its *u*T feature deleted in SpecTP is able to delete *u*T on C in SpecCP as well. Here, I will also relate nominative Case to an uninterpretable "verbal" feature on the DP subject, but I will follow Holmberg and Platzack (1995) in assuming that the relevant feature is finiteness. Holmberg and Platzack (1995) argue that finiteness (their [+F] operator) is associated with C rather than with I in V2 languages. Adapting this view to the split CP approach assumed here, I propose that the relevant projection for finiteness is FinP. I thus take subjects to have an uninterpretable finiteness feature, which is licensed by the matching *i*Fin in FinP, thereby providing the subject with Nominative Case.

As we saw in section 3.2.1, the subject may remain in a very low position in Norwegian. How is Nominative Case then licensed from FinP to the subject? I assume Chomsky's *Agree* Model (Chomsky 2000) and propose an approach to Case licensing based on Wurmbrand (2006). In this approach, Nominative Case licensing can be accomplished in two ways. One option is that the subject moves to SpecFinP, and thus Nominative Case is licensed directly through a spec-head relation in FinP, as illustrated in (61). Alternatively, the subject may enter into an Agree relation with Fin$_{[iFin]}$, and thus receives Nominative Case without moving to SpecFinP, as in (62).

(61) **Move** of Subj$_{[uFin]}$ to SpecFin$_{[iFin]}$P:



(62) **Agree** between Fin$_{[iFin]}$ and Subj$_{[uFin]}$:



Agree is subject to certain locality conditions (Chomsky 2000, Chomsky

2001). First of all, the subject needs to be in an appropriate locality domain in order to receive Nominative Case from FinP. In Holmberg and Platzack (1995), the subject has to be in a position in which it is governed by C. In the more recent approaches, the locality domain is often defined in terms of phases (cf. Chomsky 2001). According to the PIC (cf. (58)), a probe cannot see across a phase boundary when searching for an appropriate goal; it can only probe a goal that is located within its own phase, or at the edge of the next phase down.[12] On the assumption that (at least) vP and CP are phases, the subject consequently has to be (at least) at the edge of the vP-phase to be able to enter into an Agree relation with $\text{Fin}_{[iFin]}$.

Another locality condition for Agree concerns the effect of intervening elements (cf. Rizzi 1990). For an Agree relation to be established between $\text{Fin}_{[iFin]}$ and the subject, nothing else that potentially could enter into an Agree relation with $\text{Fin}_{[iFin]}$ may intervene between this projection and the subject. In cases of such intervention, Agree is blocked and then Nominative Case licensing through Move is the only option (cf. also Bobaljik and Wurmbrand 2005 and Lidz and Williams 2002; 2005).

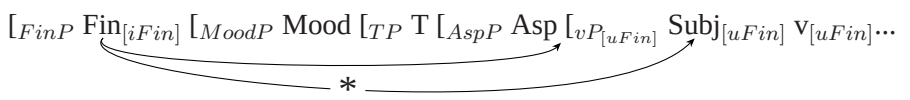
According to Holmberg and Platzack (1995) [+F], *u*Fin here, is both an abstract marker for Nominative Case and for finiteness. As suggested above, *u*Fin on subjects expresses Nominative Case. However, I also assume *u*Fin to be present on v. In Norwegian non-V2 contexts, where the verb does not move all the way to FinP, the *u*Fin feature on v thus has to be licensed through Agree. Adger (2003) proposes an analysis of English tense marking along these lines. In his approach T has an interpretable tense feature *i*T, whereas v has an uninterpretable tense feature *u*T. In English, main verbs do not move, and Adger (2003) argues that *u*T on v is valued through agreement and feature-sharing with *i*T in TP. In Norwegian, verbs are not marked for agreement, but they are marked for finiteness, with either a present or a past tense morpheme.[13] In clauses without verb movement, the verb remains in a low position but enters into an agreement relation with *i*Fin in FinP and thus has its features valued *in situ* in the same way that Adger (2003) outlines for English. The feature *u*Fin on v is shared by v's projection, that is the vP (cf. among others Pesetsky and Torrego 2001). We then have *u*Fin on both vP and on the subject in SpecvP. Thus, if the subject were to remain inside the vP, Agree between $\text{Fin}_{[iFin]}$ and the subject is arguably blocked. This is so because when $\text{Fin}_{[iFin]}$ probes down the structure for a potential goal, it will see [uFin] on vP first, and then $\text{Fin}_{[iFin]}$ and $\text{vP}_{[uFin]}$ will enter into Agree,

[12] See however Bošković to appear for an argument that Agree is not constrained by the PIC.

[13] Present tense is *-er* in Standard Norwegian and *-e* or *-∅* in ReNN; past tense for the major verb classes is *-et* and *-te/-de* in Standard Norwegian and *-a* and *-te/-de* in ReNN.

leaving the subject without Case, as illustrated in (63).

(63) **Agree** between $\text{Fin}_{[iFin]}$ and $\text{Subj}_{[uFin]}$ blocked by *u*Fin on vP:

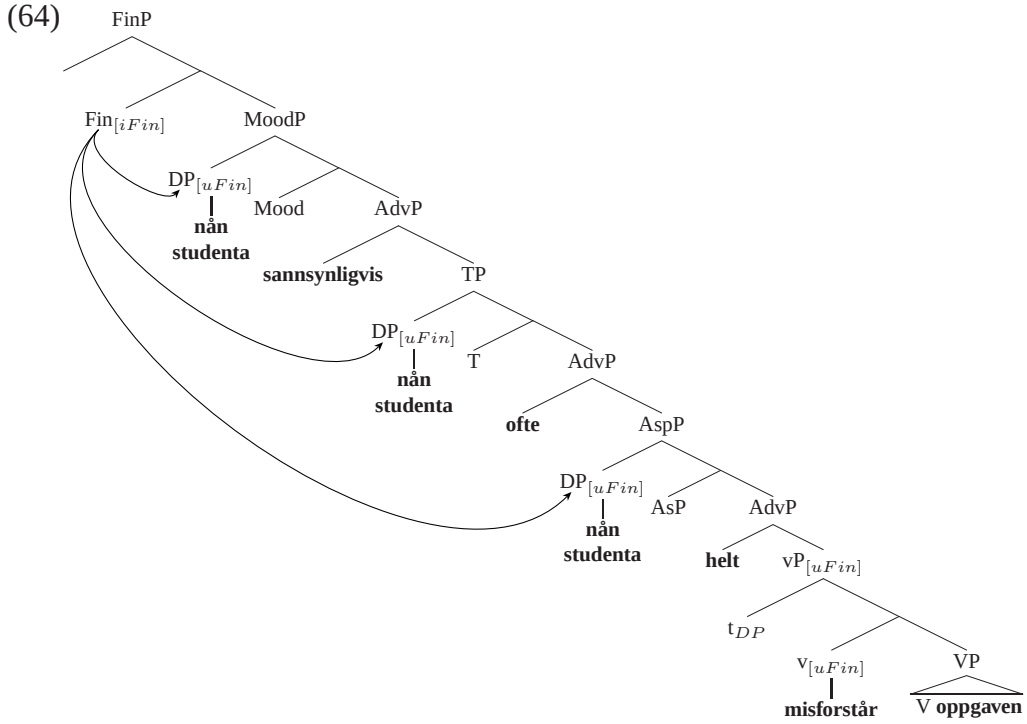


The subject in SpecvP and v are of course in a spec-head relation, so one might think that once $\text{vP}_{[uFin]}$, and thus $\text{v}_{[uFin]}$, has entered into an Agree relation with $\text{Fin}_{[iFin]}$ to have finiteness licensed, the subject would have its *u*Fin feature licensed through a spec-head relation with v. However, I here take spec-head relations to be relevant when the specifier is merged in the structure. At the point in the derivation when the subject and v form a spec-head relation, $\text{Fin}_{[iFin]}$ has not been merged yet, and when $\text{Fin}_{[iFin]}$ is merged and establishes Agree with $\text{vP}_{[uFin]}$, the subject and v presumably cannot create a new spec-head relation to have *u*Fin on the subject licensed from $\text{Fin}_{[iFin]}$ via $\text{v}_{[uFin]}$. Thus, I propose that all nominative subjects have to move out of the vP in order to get their case licensed. With these background assumptions on Nominative Case licensing laid out, let us return to the Norwegian examples, starting with clauses without verb movement.

3.4.1 Spec-raising and Case licensing

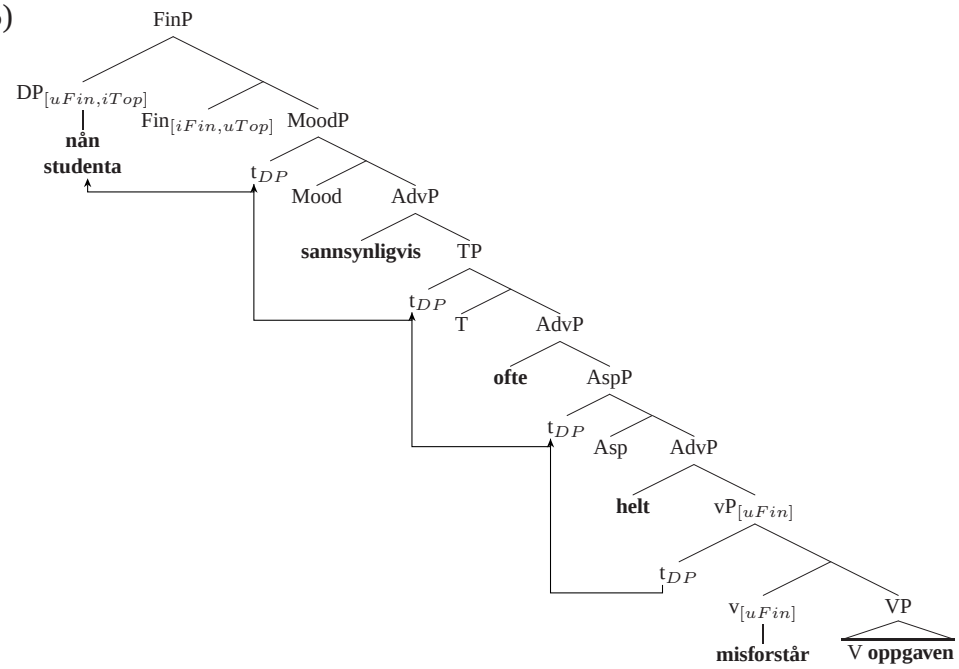
As we saw in the previous section, the subject in such clauses goes through spec-raising to either SpecAspP, SpecTP, or SpecMoodP in order to license predication. In either of these specifier positions, the subject is able to enter into an Agree relation with $\text{Fin}_{[iFin]}$, and may thus receive Nominative Case without moving to SpecFinP, as illustrated in (64).

(64)



As discussed above, Nominative Case licensing through Move takes place (i) if the subject has independent reasons to move to SpecFinP, and/or (ii) if Agree fails. In clauses without verb movement, Case licensing through Agree is always available for weak subjects given that the subject has moved out of the vP for predicate licensing. Strong subjects, however, have an independent reason to move to SpecFinP. As mentioned above, I take the strong interpretation of subjects to be licensed by FinP, cf. (51). Let us assume that a strong reading is expressed by the feature *i*Top on the subject being licensed by the matching *u*Top on Fin. In clauses with strong subjects, Case licensing will therefore be accomplished through Move as a consequence of the subject moving to SpecFinP anyway, as shown in (65).

(65)

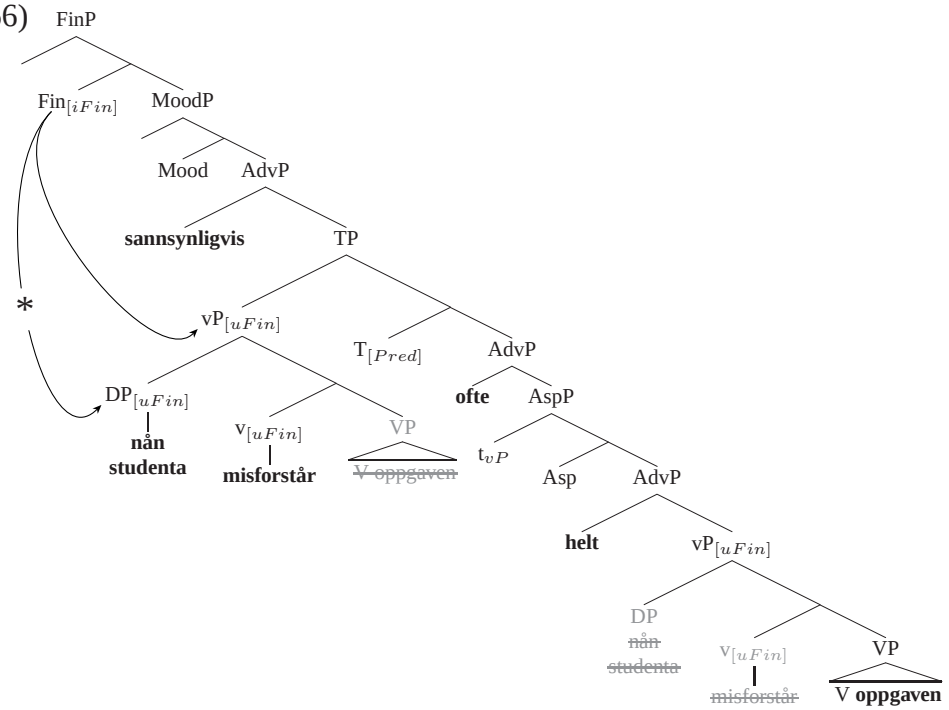


So, in clauses without verb movement, Nominative Case licensing through Agree is the default, and Move is only employed if the subject has independent reasons to move, such as interpretable features like *i*Top.

3.4.2 Spec-pied-piping blocks Case licensing through Agree

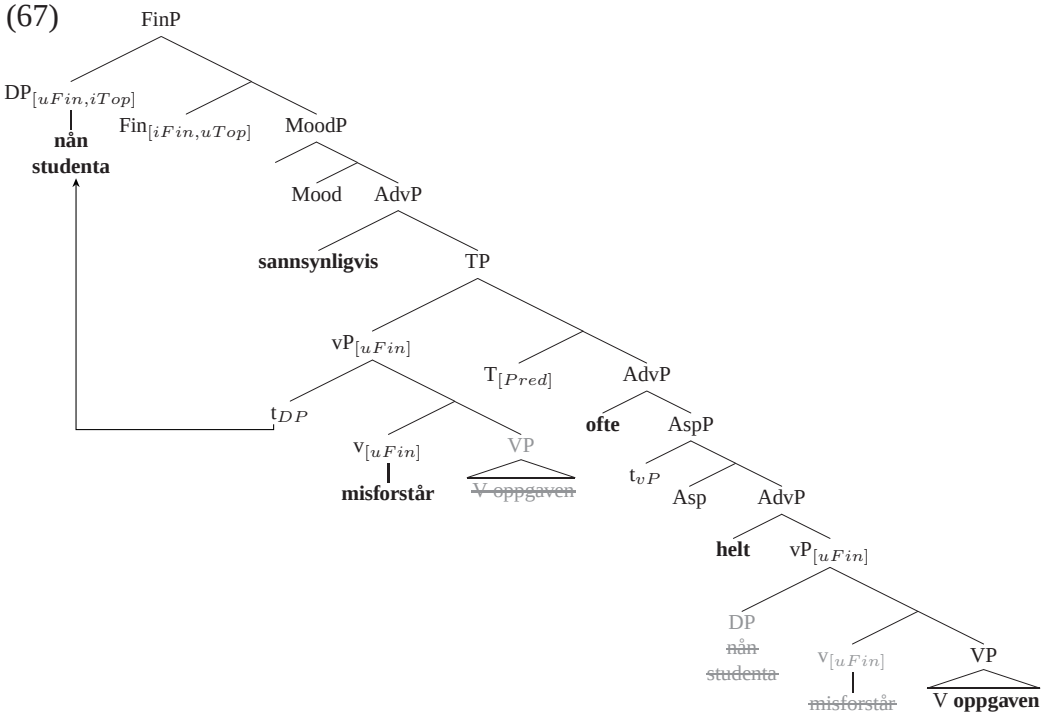
In clauses with verb movement, on the other hand, Nominative Case licensing through Agree is arguably not available. As mentioned, I assume that the *u*Fin feature on the v head projects onto the phrasal level, vP. As was illustrated in (63), a subject that has remained inside vP cannot enter into Agree with $\text{Fin}_{[iFin]}$ because of this; the *u*Fin feature on vP will act as an intervener between $\text{Fin}_{[iFin]}$ and the subject in SpecvP. In subsection 3.3.2 I outlined an analysis of verb movement in terms of phrasal movement where the whole vP is copied into a higher specifier projection. In such cases, the subject is in the specifier of the moved vP, and again Agree between $\text{Fin}_{[iFin]}$ and the subject will be blocked by *u*Fin on vP, as indicated by the starred arrow in (66) below.

(66)



Thus, Nominative Case licensing through Agree is not an option in embedded clauses with verb movement, and a subject inside a moved vP will not be able to get Case. Above I argued that Case licensing through Move only occurs when the subject has independent reasons to move to SpecFinP. When the subject pied-pipes the whole vP to license the predicate it will be trapped inside this vP unless it has independent reasons to move on to some higher projection. In the position inside vP the subject will not get Case, and consquently, the derivation will crash, as in (66) above. However, if the subject has a feature like for example *i*Top, it will move to SpecFinP independently of Case licensing, as shown in (67).

(67)



Here again the subject has pied-piped the whole vP when it moves to SpecTP to license the predicate. As we saw in (66), when the subject remains inside the vP, the derivation crashes as the subject does not get Case. In (67), however, the subject has the feature *i*Top and therefore moves to SpecFinP anyway to license the strong interpretation. Thus Nominative Case is licensed for free, so to speak, because of the topic movement of the subject.

Assuming this analysis of Nominative Case licensing, we now have a way of accounting for the second and third observations concerning how verb movement constrains the distribution of subjects. The second observation was the fact that subjects have to precede *all* adverbs in the clause when there is verb movement, even if the verb only has moved across some of the adverbs in the clause. This now follows as Case licensing through Agree is blocked when the subject remains inside the moved vP. Instead, the subject has to move all the way to SpecFinP to get Nominative Case. In this position it will naturally precede all adverbs in the clause. The third observation concerned the interpretation of the subject. When there is verb movement in the clause, only the strong reading of a subject is available. This also follows from the Case licensing analysis outlined in this section. Given that only Case licensing through Move is available in clauses with verb movement, and that only subjects with independent reasons to move can perform this operation, only strong subject will be able to get Case in such clauses.

3.5 Concluding remarks

In this paper I have discussed the positions of subjects in non-V2 contexts in Norwegian. Using adverbs as a diagnostic, it was illustrated that subjects may occur in several different positions in such clauses, and that the various positions are linked to the interpretation of the subject. Weak subjects may precede or follow any adverb, whereas strong subjects have to precede all the adverbs in the clause. Regional Northern Norwegian (ReNN) allows verb movement in these non-V2 contexts, and this kind of verb movement was shown to affect the distribution of subjects in three different ways: (i) the subject has to precede the verb, although lower positions are available in the absence of verb movement, (ii) the subject is forced to precede any adverb in the clause, and (iii) the subject obligatorily receives a strong interpretation.

The flexible positioning of both subjects and of verbs in ReNN was given a unified account in terms of predicate licensing. I have proposed that Norwegian has an EPP feature, [Pred], which may be associated with various heads in the structure. A predicate with the feature [Pred] is licensed by having its specifier filled by an element carrying the feature [D]. The subject carries this feature, and may thus be attracted through *Spec-raising* to the specifier position of $X_{[Pred]}$P. This is what happens in clauses without verb movement. Based on Biberauer and Richards (2006), I furthermore suggested that predicate licensing in ReNN optionally could be accomplished through *Spec-pied-piping*, where the subject would pied-pipe the whole vP to the specifier of $X_{[Pred]}$P. This yields the effect of verb movement. The fact that verb movement cannot cross the subject now follows because verb movement is analysed as pied-piping, where the subject pied-pipes the vP, containing the verb, when it moves for predicate licensing.

The other two ways in which verb movement influences subjects, forcing them to a high position, and forcing them to be strong, are also consequences of verb movement being analysed as vP pied-piping. I suggested that subjects in general cannot get Nominative Case from $\text{Fin}_{[iFin]}$ through Agree if they have remained inside the vP. The reason for this is that both the subject and the verb carry the feature [uFin]. As the features of the v head are shared by its projection, [uFin] on vP will block Agree between $\text{Fin}_{[iFin]}$ and a subject inside vP. When the subject has moved to some higher specifier position through Spec-raising, it may enter into Agree with $\text{Fin}_{[iFin]}$, and thus receive Nominative Case without moving all the way to SpecFinP. However, when the subject has pied-piped the whole vP to some higher specifier position, Agree between $\text{Fin}_{[iFin]}$ and the subject is again blocked by [uFin] on vP. Thus, the subject is forced to move out of the vP in order to get its Case licensed. This explains why the subject occurs in a very high position, preceding all ad-

verbs, when there is verb movement: it has to move to get Case. However, only subjects that have some independent feature that needs to get licensed can perform this movement. Here it was shown that subjects with the feature [iTop] needed to move to SpecFinP to get a strong reading licensed. Consequently, these are the only types of subjects that are able to get Case in clauses with verb movement. Weak subjects will be stuck in the vP that has moved to some specifier position, and inside the vP they cannot get Nominative Case. Hence, the derivation will crash.

Thus, we have seen that predicate licensing provides a unified account for the flexibility of the position of subjects in Norwegian in general, and of the position of verbs in ReNN. Furthermore, the restrictions verb movement imposes on the distribution of subjects follow from the combination of verb movement analysed as vP pied-piping and the approach to Nominative Case licensing outlined here.

Part II

Extensions to other Scandinavian varieties and language acquisition

Chapter 4

Rethinking Scandinavian verb movement[1]

Anna-Lena Wiklund, Gunnar Hrafn Hrafnbjargarson, Kristine Bentzen, and Þorbjörg Hróarsdóttir

4.1 Introduction

The standard assumption in studies of Scandinavian syntax has long been that Icelandic exhibits obligatory verb movement to the inflectional domain (V-to-I movement) independently of verb second (V2), whereas Norwegian and the other Mainland Scandinavian languages do not allow such verb movement (see e.g. Roberts 1985, Kosmeijer 1986, Vikner 1995b, Bobaljik and Thráinsson 1998, Rohrbacher 1999, Bobaljik 2002b, and references cited therein):

(1) a. Jeg vet [hvorfor Hedda {*kjøper} **ofte** {kjøper} sko]. (No.)
I know why Hedda buys often buys shoes

b. Ég veit [af hverju Hedda {kaupir} **oft** {*kaupir} skó]. (Ic.)
I know why Hedda buys often buys shoes
'I know why Hedda often buys shoes.'

[1]For comments and discussion, we would like to thank Klaus Abels, Ásgrímur Angantýsson, Øystein Nilsen, Máire Noonan, Christer Platzack, Peter Svenonius, Øystein Alexander Vangsnes, Susi Wurmbrand, three reviewers for JCGL, and audiences at the CASTL colloquium (University of Tromsø, May 2006), the ScanDiaSyn Grand Meeting (Solf, June 2006), and Grammatikseminariet (Lunds Universitet, October 2006).

New data, however, challenge the traditional view. Bentzen (2005; 2007a) demonstrates that verb movement in non-V2 contexts, such as (1), is *possible* rather than impossible in Regional Northern Norwegian dialects (henceforth ReNN), see (2a), and Angantýsson (2001) shows that verb movement is *optional* rather than obligatory in the same contexts in varieties of Icelandic, cf. (2b).[2]

(2) a. *Æ vet [koffer ho Hedda {kjøpe} **ofte** {kjøpe} sko]. (ReNN)*
I know why she Hedda buys often buys shoes

b. *Ég veit [af hverju Hedda {kaupir} **oft** {kaupir} skó]. (Ic.$_{var}$)*
I know why Hedda buys often buys shoes
'I know why Hedda often buys shoes.'

Taking these data into consideration, one could propose that ReNN and (varieties of) Icelandic both display optional independent V-to-I movement. In this paper, however, we present facts suggesting that the two verb movements are not of the same type. Whereas there is ample evidence that ReNN displays optional verb movement to the inflectional domain, the evidence for such movement in Icelandic turns out to be weaker than previously assumed. We are led to claim that Icelandic has no independent verb movement to the inflectional domain. Rather, all verb movement targets the CP domain of the clause.

(3) *Hypothesis 1:*
Regional Northern Norwegian displays optional independent V-to-I movement.

(4) *Hypothesis 2:*
Icelandic does not display independent V-to-I movement; all verb movement is to the CP domain.

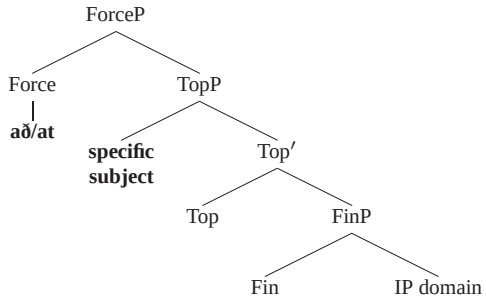
[2]Regional Northern Norwegian (ReNN) refers to various Northern Norwegian dialects, from the Salten region in the South to Alta in the North. These dialects behave in a similar way with respect to the phenomena discussed here. Note, however, that ReNN does not include the dialect spoken in the city of Tromsø, which differs slightly from the other Northern dialects with respect to verb placement in embedded non-V2 contexts, see Bentzen 2007a. The ReNN data, based on a survey, are rendered in an approximate dialectal orthography throughout the paper. One of the authors (KB) is a native speaker of this dialect. Ic.$_{var}$ refers to a variety spoken by the two Icelandic authors of this paper (GHH and ÞH). Note that all of the Icelandic data presented here (except the data concerning the correlation between verb movement and *að* 'that/to' in section 2.2) are in accordance with data previously discussed in the literature (see e.g. Hrafnbjargarson 2004) and data collected by Þorbjörg Hróarsdóttir and Halldór Ármann Sigurðsson in 1992.

We will explore a remnant movement approach to verb movement. Whenever the verb appears displaced from its base position, this is the result of phrasal movement rather than head movement, see among others Koopman and Szabolcsi (2000), Mahajan (2003), Nilsen (2003), and Müller (2004). We argue that movement corresponding to V-to-I and V-to-C in traditional frameworks differ not only regarding the target domain of movement but also regarding the amount of material pied-piped. Verb movement to the IP domain of the clause involves movement of a remnant vP containing only the verb. Verb movement to the CP domain, in contrast, involves movement of a remnant XP containing the verb and exactly one specifier (see Nilsen 2003, Müller 2004). It will become clear that the specifier is always the subject in non-V2 clauses and that our analysis correctly predicts differences between the two verb movements. Below, we present the basic structure we assume for the Scandinavian clause.

4.2 The basic structure of the Scandinavian clause

We adopt the split-CP domain in (5), based on Rizzi (1997), cf. Holmberg and Platzack (2005) and Hrafnbjargarson (2004; 2006).

(5) **The Scandinavian CP domain:**[3]



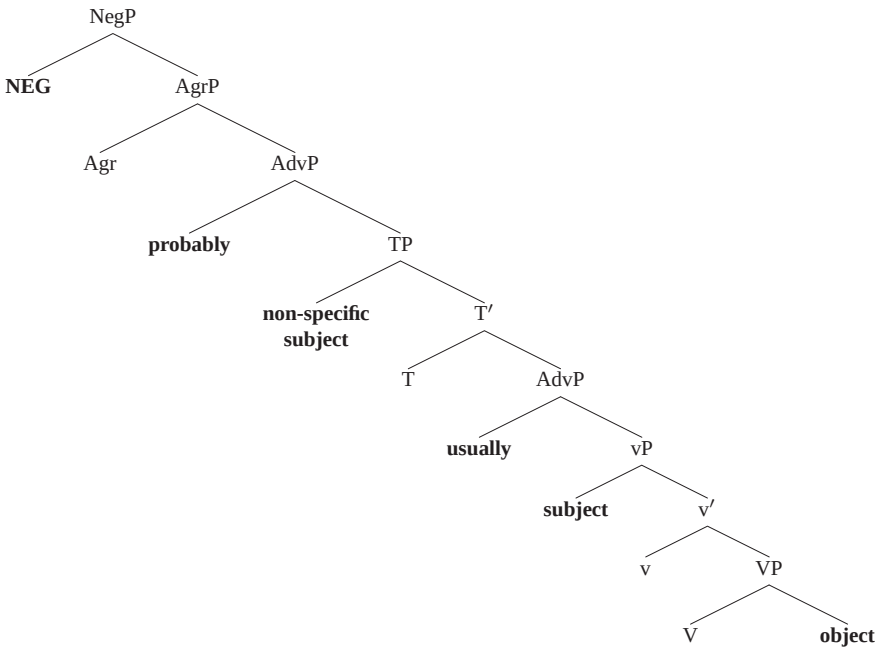
In addition to ForceP, the projection which we assume hosts the complementizer (*að* in Icelandic and *at* in Norwegian), the CP domain contains (at least) two other projections: A Topic Phrase and a Finiteness Phrase. The former, we assume, is responsible for a specific reading of the subject, whereas a non-specific reading of the subject is assigned in Spec,TP (cf. the strong and weak readings of Milsark 1977).[4]

[3]Throughout the paper, non-overt specifier positions are not included in the tree structures for reasons of space.

[4]See Nilsen 1997 and Svenonius 2002 on the distribution of strong and weak subjects with respect to adverbs.

In order for the subject to receive an interpretation, it has to move to (or through) one of these two positions: Spec,TP (non-specific) or Spec,TopP (specific). A non-specific subject may move further to Spec,AgrP and Spec,FinP. In these positions, it retains the non-specific reading. Following standard assumptions, higher adverbs are located above TP, whereas lower adverbs are located between TP and vP (cf. Cinque 1999).

(6) **The Scandinavian IP domain:**



In certain varieties of Scandinavian (including ReNN), verbs may precede higher adverbs but not negation in non-V2 contexts. The data suggest that negation acts as a blocker for verb movement within the IP domain of the clause. Although not crucial for the main claims made here, we therefore propose that negation is merged above AgrP, leaving the possibility open that its location may not be as fixed as we assume, cf. Cinque (1999), Nilsen (2003), and Svenonius (2007):

(7) NegP > AgrP > High Adv(s) > TP > Low Adv(s)

We will elaborate on the predictions that we make by assuming the above clause structure as we proceed. Before introducing the relevant data, we present the contexts which allow us to identify verb movement independently of V2, namely non-V2 contexts.

4.3 Verb placement in non-V2 contexts

In the introduction, we put forward the rather controversial proposal that ReNN displays optional independent verb movement to the IP domain, whereas Icelandic does not. Our claim is that all verb movement in Icelandic is to the CP domain. Note first that the order where the verb precedes adverbs and negation cannot as such be taken as an indication of independent verb movement to the IP domain. This is so because all Scandinavian languages are V2 languages, meaning that the finite verb always sits in the second position in main clauses, preceding all adverbs and negation. Moreover, it will not suffice to look at embedded clauses in general to identify independent V-to-I movement, since V2 is allowed in some of these (see e.g. Vikner 1995b). This is typically the case for *that*-clauses embedded under so-called bridge verbs (*say, believe, see, know,* etc.), see (8a).[5] Such clauses also allow topicalization of a non-subject, accompanied by subject-verb inversion, as in (8b). This means that verb movement to the CP domain is possible in these clauses, and therefore that they cannot be used as diagostics for independent verb movement to the IP domain.

(8) a. Jeg vet [at Per **har** ikke sagt det til noen]. (No.)
I know that Per has not said it to anyone
'I know that Per hasn't told anyone.'
b. Han sa [at slike bøker **ville** barna hans neppe lese].
he said that such books would children his hardly read
'He said that such books would his children hardly read.'

In order to identify independent V-to-I movement, we therefore need to look at non-V2 contexts, i.e. contexts in which topicalization of a non-subject is impossible. Such environments include embedded *wh*-questions, (9a), relative clauses, (9b), and certain embedded adverbial clauses (e.g. conditionals, concessions, and clauses of purpose and reason), (9c).[6]

(9) a. *Jeg vet [hvorfor **sko** kjøper Hedda ofte]. (No.)
I know why shoes buys Hedda often
b. *De [som **på kino** går regelmessig] trenger ikke TV.
those that on cinema go regularly need not TV

[5] See Julien 2006 and Bentzen et al. 2007b on the distribution of embedded V2 in Scandinavian.

[6] Other contexts that resist V2 are e.g. complements to nouns and *that*-clauses in initial position.

c. *... [ettersom **oppgaven** leverte noen studenter sannsynligvis].
as assignment.the handed.in some students probably

As the above examples show, topicalization of a non-subject yields an ungrammatical result, excluding an analysis of such clauses in terms of traditional V2. This means that if we still find the word order in which the verb precedes adverbs and negation in such clauses, we have identified an instance of verb movement that is independent of V2. Below, we will take a closer look at the availability of verb movement in non-V2 contexts in ReNN and Icelandic.

4.3.1 Regional Northern Norwegian

Norwegian, along with the other Mainland Scandinavian languages, is generally assumed not to allow verb movement across adverbs and negation in non-V2 contexts. This is indeed the case for many Norwegian dialects. However, Bentzen (2005; 2007a) has shown that in ReNN, finite main verbs and auxiliaries may either precede or follow adverbs in non-V2 contexts, regardless of whether the adverb is high or low in the structure (in terms of the Cinque 1999 hierarchy):

(10) a. *Æ* vet koffer ho Hedda {kjøpe} **ofte** {kjøpe} sko. (ReNN)
I know why she Hedda buys often buys shoes
'I know why Hedda often buys shoes.'

b. Dem som {går} **regelmessig** {går} på kino treng ikke TV.
those that go regularly go on cinema need not TV
'Those who regularly go to the cinema, don't need a TV.'

c. ... ettersom nån studenta {levere} **sannsynligvis** {levere}
as some students hand.in probably hand.in
oppgaven.
assignment.the
'... as some students probably hand in the assignment.'

What is crucial in the above examples is that the verb may precede the adverbs. However, verbs may not occur in front of negation:

(11) ... ettersom nån studenta {*leverte} **ikke** {leverte} oppgaven. (ReNN)
as some students handed.in not handed.in assignment.the
'... as some students didn't hand in the assignment.'

The verb movement pattern found in the finite non-V2 contexts above is also observed in non-finite clauses. In control infinitives, the verb may either pre-

cede or follow adverbs, (12a), but has to follow negation, (12b).

(12) a. Ho prøvde å {komme} **oftere** {komme} tidsnok på skolen.
she tried to come often.er come in.time on school.the
'She tried to be in time for school more often.' (ReNN)

b. Ho prøvde å {*komme} **ikke** {komme} førr seint på skolen.
she tried to come not come too late on school.the
'She tried to not be to late for school.'

Similarly, the verb may either precede or follow adverbs in ECM infinitives but again it obligatorily follows negation:[7]

(13) a. Æ mistenkte han førr å {ha} **allerede** {ha} sett den filmen.
I suspected him for to have already have seen that film.the
'I suspected him of already having seen that film.' (ReNN)

b. Æ mistenkte han førr å {*ha} **ikke** {ha} sett den filmen.
I suspected him for to have not have seen that film.the
'I suspected him of not having seen that film.'

On the standard assumption that adverbs such as *ofte* 'often', *allerede* 'already', *regelmessig* 'regularly', and *sannsynligvis* 'probably' are merged outside of vP, the order where the verb precedes these adverbs identifies verb movement out of the vP domain. The ban on verb movement across negation in ReNN non-V2 contexts indicates that the relevant verb movement is not to the CP domain of the clause. Further evidence comes from the fact that the verb may intervene between higher and lower adverbs, see (14). In this position, the verb is undoubtedly within the IP domain.

(14) ... ettersom dem {levere} **sannsynligvis** {levere} **ofte** {levere}
as they hand.in probably hand.in often hand.in
oppgava. (ReNN)
assignments
'... as they probably often hand in assignments.'

Thus, our hypothesis 1, repeated below, is supported by the empirical findings:

[7]The fact that the subject of an infinitive embedded under *mistenke* 'suspect' can be an expletive shows that we are dealing with an ECM infinitive:

(i) Æ mistenke det førr å regne **ofte** her. (ReNN)
I suspect EXPL for to rain often here
'I suspect that it often rains here.'

(15) *Hypothesis 1 supported*
Regional Northern Norwegian displays optional independent V-to-I movement.

4.3.2 Icelandic

We now turn to Icelandic, which on standard assumptions is assumed to have obligatory verb movement in non-V2 contexts. This is indeed true for some embedded clauses, as exemplified by the embedded *wh*-question in (16), where the verb obligatorily precedes the adverb *alltaf* 'always'. The verb is therefore assumed to have moved out of vP. Since it may not precede the subject and since topicalization of a non-subject is impossible in this environment, verb movement has been claimed to target the IP domain, rather than the CP domain of the clause.

(16) Hann spurði hvort að hún {hefði} **alltaf** {*hefði} sungið falskt.
he asked whether that she had always had sung out.of.tune
'He asked whether she had always sung out of tune.' (Ic.)

Recently however, the standard view has been challenged. Angantýsson (2001) has shown that varieties of Icelandic have *optional* verb movement in non-V2 contexts similar to those illustrated for ReNN in the previous section (see also Hrafnbjargarson 2004). Some relevant examples involving negation are shown in (17).[8]

(17) a. Ég veit hvaða mynd Jón {hefur} **ekki** {hefur} séð. (Ic.$_{var}$)
I know which film Jón has not has seen
'I know which film Jón has not seen.'
b. Ég veit um eina bók sem Jón {hefur} **ekki** {hefur} lesið.
I know of one book that Jón has not has read
'I know of one book that Jón has not read.'
c. ... fyrst einhverjir stúdentar {skiluðu} **ekki** {skiluðu} verkefnum.
as some students handed.in not handed.in assignments
'... as some students did not hand in the assignments.'

[8]The examples in (17a-b) are based on Angantýsson 2001. Note that the verb type (main or auxiliary) does not influence grammaticality judgments in the Icelandic data discussed here. However, for certain speakers of Icelandic the length and the type of subject affect the verb movement pattern. These speakers allow the absence of verb movement when the subject is a pronoun or more than disyllabic. We will not discuss this further, but see Angantýsson 2001.

As illustrated in (17), verb movement is optional in embedded questions, relative clauses, and adverbial clauses in varieties of Icelandic. The word order where the verb follows sentential adverbs and negation was already noticed in Smári (1920).

Taking the above data into consideration one could propose that Icelandic displays optional rather than obligatory independent V-to-I movement just like ReNN. As we will show there are reasons to believe that this is not the case. We will be led to propose that all verb movement in Icelandic is to the CP domain. We present two main pieces of evidence for this claim. The first concerns the relative order of verbs and adverbs/negation. The second concerns the position of the verb in non-finite clauses.

If verb movement is all the way to the CP domain, we predict that the verb must precede all adverbs and negation. When the verb does not move, on the other hand, it must follow all adverbs and negation. This prediction is borne out:[9]

(18) a. Hann spurði hvort hún **hefði** sennilega ekki oft sungið
he asked whether she had probably not often sung
falskt. (Ic.$_{var}$)
out.of.tune

b. *Hann spurði hvort hún sennilega **hefði** ekki oft sungið
he asked whether she probably had not often sung
falskt.
out.of.tune

c. *Hann spurði hvort hún sennilega ekki **hefði** oft sungið
he asked whether she probably not had often sung
falskt.
out.of.tune

d. Hann spurði hvort hún sennilega ekki oft **hefði** sungið
he asked whether she probably not often had sung
falskt.
out.of.tune
'He asked whether she hadn't probably often sung out of tune.'

The verb may move to the left of all adverbs and negation, (18a), or it may stay in situ and thereby follow all adverbs and negation, (18d). These are the only two options for the verb in Icelandic, cf. (18b, c). In this sense Icelandic differs from ReNN, where, as noted above, the verb can intervene between

[9]Note that the word order in (18a) is the only option in standard Icelandic.

higher and lower adverbs.

The second piece of evidence concerns non-finite clauses. Starting with ECM infinitives, we assume that these lack a CP domain, as has been proposed for other languages (see e.g. Hiroyuki 2001, Adger 2003, and references included there). As shown in (19), topicalization is not possible in these clauses, nor is the complementizer *að* 'that/to', see (20).

(19) a. Hann taldi hana syngja í sturtunni **með hárri raust**. (Ic.)
he believed her sing in shower.the with high voice

b. *Hann taldi **með hárri raust** syngja hana í sturtunni.
he believed with high voice sing her in shower.the
'He believed her to be singing in the shower in a loud voice.'

(20) Hann taldi {***að**} hana {***að**} syngja í sturtunni. (Ic.)
he believed to her to sing in shower.the

Note that adverbs and negation are possible in Icelandic ECM infinitives, see Hrafnbjargarson (2004) and Christensen (2005). Hence, the IP domain is present in these (for the same conclusion about Swedish, cf. Wiklund 2007). Crucially, however, the verb has to follow adverbs and negation in ECM infinitives, see (21) and (22).[10]

(21) Ég taldi hann {*hafa} **ekki** {hafa} sungið í sturtunni. (Ic.)
I believed him have not have sung in shower.the
'I believed him not to have sung in the shower.'

(22) Hann taldi hana {*syngja} **alltaf** {syngja} í sturtunni. (Ic.)
he believed her sing always sing in shower.the
'He believed her to always sing in the shower.'

[10]That the negation is within the embedded clause is evident from the relative order of indefinite objects and the negation. As can be seen in (ia), indefinite objects do not undergo Object Shift. Thus, the order where negation follows the object in (ib) cannot be the result of Object Shift in the main clause. Therefore, the negation belongs to the embedded clause.

(i) a. Við sjáum {*þingmenn} **ekki** {þingmenn} hjóla í vinnuna á hverjum degi.
we see MPs not MPs bike to work on each day
(Ic.)
'We don't see MPs bike to work every day.'

b. Við teljum þingmenn **ekki** lesa bækur á hverjum degi.
we consider MPs not read books on each day
'We consider MPs to not read books every day.'

Note that the verb has to follow even very low adverbs (lower than *alltaf* 'always'). While this lack of verb movement is predicted on our proposal, it is unexpected on the standard V-to-I analysis of Icelandic.

Turning to control infinitives, these include a CP domain, which can be seen from the obligatory presence of *að* 'that/to' in (23). As seen in (24), verb movement is required past all sentential adverbs and negation.

(23) Hún reyndi *(**að**) koma ekki alltaf á réttum tíma í skólann.
she tried to come not always on right time in school.the
'She tried to not always be on time in school.' (Ic.)

(24) Hún reyndi að {koma} **ekki** {*koma} **alltaf** {*koma} á réttum tíma í skólann. (Ic.)
she tried to come not come always come on right time in school.the
'She tried to not always be on time in school.'

Again, note that the Icelandic verb movement differs from that found in ReNN in that it does not occur in ECM infinitives. Furthermore, Icelandic but not ReNN verb movement crosses negation in control infinitives. These data constitute strong support in favor of taking verb movement in Icelandic to always involve movement to the CP domain rather than to the inflectional domain of the clause. Let us make the logic of the argument explicit. ECM infinitives contain an inflectional domain, as is evident from the possibility of including adverbs and negation in such clauses. Still, verb movement is not available. This indicates that Icelandic does not have independent V-to-I movement. When the CP domain is missing, the verb must stay in situ, arguably because verb movement, when it occurs, always targets this domain of the clause. Thus, the Icelandic verb movement in traditional non-V2 contexts is not the same as the verb movement we find in similar contexts in ReNN.

An additional piece of evidence is related to *að* 'that/to'. A closer look at some varieties of Icelandic shows that the overt realization of *að* is contingent on verb movement. When there is verb movement, *að* is optional; when there is no verb movement, *að* is impossible.[11]

(25) a. Hann spurði hvort (að) hún hefði **alltaf** sungið falskt.
he asked whether that she had always sung out.of.tune

[11]This turns out to be the opposite of the pattern found in German where verb movement into the CP domain and the presence of the complementizer *dass* 'that' are in complementary distribution.

b. Hann spurði hvort (*að) hún **alltaf** hefði sungið falskt.
he asked whether that she always had sung out.of.tune
'He asked whether she always had sung out of tune.' (Ic.)

(26) a. Það var í sturtunni sem (að) hún hafði **alltaf** sungið falskt.
it was in shower.the that that she had always sung out.of.tune

b. Það var í sturtunni sem (*að) hún **alltaf** hafði sungið falskt.
it was in shower.the that that she always had sung out.of.tune
'It was in the shower that she had always sung out of tune.'

Examples (25a) and (26a) show that *að* is optional when there is verb movement in embedded questions and relative clauses, respectively. When there is no verb movement, *að* is obligatorily absent, see (25b) and (26b).

This fact again undermines the standard analysis of verb movement in Icelandic as targeting the IP domain of the clause but favors the present proposal. Given that verb movement is to the CP domain, it is an expected possibility that it interacts with the spell-out of the complementizer. On the basis of the above facts, we consider hypothesis 2 supported:

(27) *Hypothesis 2 supported*
Icelandic does not display independent V-to-I movement; all verb movement is to the CP domain.

Before we present more detailed analyses of verb movement in ReNN and Icelandic that capture the facts presented above, we briefly discuss the consequences of these facts for the Rich Agreement Hypothesis.

4.3.3 The Rich Agreement Hypothesis

The new data presented here weaken the Rich Agreement Hypothesis (RAH), which proposes a correlation between the absense/presence of rich verbal morphology and independent V-to-I movement (cf. Vikner 1995b, Bobaljik and Thráinsson 1998, Rohrbacher 1999, Koeneman 2000, Bobaljik 2002b). There are two versions of the RAH. According to the strong (bi-directional) version of this hypothesis, a language has independent verb movement to the inflectional domain if and only if there is sufficiently 'rich' verbal morphology (Vikner 1995b and Rohrbacher 1999). This version correctly accounts for the standard languages as well as the Swedish dialect of Älvdalen (Levander 1909) and the Norwegian dialect of Hallingdalen (Venås 1977 and Trosterud

1989).[12] Norwegian does not have sufficiently rich morphology and therefore not independent V-to-I movement. Icelandic has sufficiently rich morphology and therefore independent V-to-I movement (in traditional analyses of this verb movement):

(28) a. Jeg vet [hvorfor Hedda {*kjøper} **ofte** {kjøper} sko]. (No.)
I know why Hedda buys often buys shoes

b. Ég veit [af hverju Hedda {kaupir} **oft** {*kaupir} skó]. (Ic.)
I know why Hedda buys often buys shoes
'I know why Hedda often buys shoes.'

The strong version, however, does not account for the ReNN data. This is so because ReNN, like standard Norwegian, displays 'poor' verbal morphology, but still allows independent verb movement to the inflectional domain, (29a). Faroese, the Norwegian dialect of Tromsø, and the Swedish dialect of Kronoby have also often been referred to in this connection, see Lockwood (1977), Jonas (1996), Petersen (2000), Heycock et al. (2003), and Thráinsson et al. (2004) on Faroese, Iversen (1918) on the Tromsø dialect, and Bobaljik (2002b), Platzack and Holmberg (1989), Vikner (1995b), and Alexiadou and Fanselow (2002) on the Kronoby dialect.[13] In fact, our data are also prob-

[12]The dialect of Hallingdalen has distinctive number agreement, but not person agreement. The dialect does not have verb movement. Älvdalsmålet, in contrast, has distinctive number/person agreement and has been claimed to display obligatory verb movement. Recent investigations, however, show that verb movement is not obligatory in present day Älvdalsmålet, see (i) exemplifying a relative clause (from Wiklund 2007). The dialect therefore seems to pose a problem for the RAH. On verb movement and negation in Älvdalsmålet, see Garbacz 2006.

(i) An sagd nodh so an (add) **older** (add) sagd för. (Älvdalsmålet-Sw.)
he said something that he had never had said before
'He said something that he had never said before.'

[13]Note that the Kronoby example which is used in the literature (Platzack and Holmberg 1989) involves a *that*-clause with verb movement across negation:

(i) He va bra et han tsöfft **int** bootsen. (Kronoby-Sw.)
it was good that he bought not book.the
'It was good that he didn't buy the book'

The example does not show unambiguous V-to-I movement. In many Scandinavian dialects, topicalization as well as verb movement across negation is possible in exactly this context, suggesting that it may involve embedded V2. Support for this comes from recent fieldwork, where Kristine Bentzen has established that the Kronoby dialect does not have verb movement across negation in unambiguous non-V2 contexts, such as embedded questions, see (iia). Nevertheless, verb movement across adverbs is possible in such contexts, in parallel

lematic for the weak (uni-directional) version of the correlation proposed by Bobaljik and Thráinsson (1998) and Bobaljik (2002b). On this version, rich inflectional morphology implies verb movement to the inflectional domain, but not necessarily the other way around. This includes the ReNN data, but it does not capture the optionality of verb movement found in varieties of Icelandic, (29b).

(29) a. Æ vet [koffer ho Hedda {kjøpe} **ofte** {kjøpe} sko]. (ReNN.)
I know why she Hedda buys often buys shoes

b. Ég veit [af hverju Hedda {kaupir} **oft** {kaupir} skó]. (Ic.$_{\text{var}}$)
I know why Hedda buys often buys shoes
'I know why Hedda often buys shoes.'

Although we have shown that the original formulations of the correlation between rich inflection and verb movement cannot be maintained, our data do not exclude the possibility that there is such a correlation. Crucially, however, it seems to involve the CP domain, instead of the IP domain of the clause. We will not elaborate on this in the current paper.

4.4 Verb movement as remnant movement

Traditionally, verb movement out of vP has been analysed as head movement of the verb to I (in case of V-to-I movement) or C (in case of V2), see e.g. Pollock (1989), Holmberg and Platzack (1995), and Vikner (1995b). Recently, however, *remnant movement* has been explored as an alternative to head movement, see e.g. Hinterhölzl (1997; 2006), Hróarsdóttir (2001), Koopman and Szabolcsi (2000), and Mahajan (2003). Remnant movement refers to phrasal movement of a constituent from which material has been extracted prior to movement. Below, we propose that the two types of verb

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with ReNN, see (iib). We are indebted to Jan-Ola Östman for the orthographic rendering of the Kronoby-Swedish examples.

(ii) a. On föstoo int fövaa an (*vila) **int** (vila) tjööp nyy biil. (Kronoby-Sw.)
she understood not why he wanted not wanted buy new car

b. On föstoo int fövaa an (vila) **så tökält** (vila) tjööp nyy biil.
she understood not why he wanted so often wanted buy new car
'She did not understand why he wanted to by a new car so often.'

These data do not change the problematic status of the Kronoby dialect with regard to the strong version of the RAH.

movement encountered in ReNN and Icelandic translate into two types of XP movement which differ in amount of material pied-piped. In brief, we propose that the verb movement targeting the CP domain of the clause always pied-pipes a specifier, whereas verb movement targeting the IP domain involves only one overt element, namely the verb.

Although an in-depth discussion of the potential advantages of remnant movement over head movement approaches to verb movement cannot be provided here, we want to mention two issues. First, head movement, which in standard minimalism is viewed as a head-head adjunction operation, is countercyclic and therefore does not respect the Extension Condition (operations must apply to the root of the tree), see Chomsky (1995; 2000). Various proposals have been made to solve this problem, e.g. the proposal that head movement takes place in the PF component (Chomsky 2000) and therefore is not subject to conditions on cyclicity. Attempts have also been made to keep head movement in "narrow syntax" by defining the operation in such a way that it does extend the tree, see e.g. Matushansky (2006). Here, we explore remnant movement to derive the effects of verb movement. Because remnant movement is phrasal, it always applies at the root of the tree.

Second, and more relevant for the current discussion, head movement approaches to verb movement have been shown to run into problems accounting for cases where more than one verb have moved past sentential adverbs, see Bobaljik (1999), Svenonius (2002), Nilsen (2003), and Cinque (2004) for discussion. The problem arises also for ReNN data, see Bentzen (2005):

(30) a. ... ettersom han **ofte** har spilt piano. (ReNN)
as he often has played piano

b. ... ettersom han har **ofte** spilt piano.
as he has often played piano

c. ... ettersom han har spilt **ofte** piano.
as he has played often piano

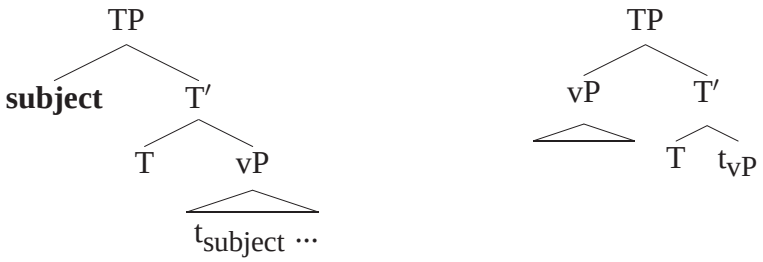
'... as he has often played the piano.'

On the assumption that the adverb is merged above the perfective auxiliary, examples such as (30c) suggest that both verbs have crossed the adverb. Applying head movement to both verbs would involve two steps. First, the main verb would have to cross the auxiliary and the adverb. Then the auxiliary would have to move across the adverb and the main verb. Both of these steps are violations of the Head Movement Constraint (see Travis 1984) as they involve movement of one head across another. One alternative is to assume that the adverb is merged below the perfective auxiliary. Then only the participle has to move to derive (30c), but (30a) would have to involve movement of

the adverb. In a tentative solution to this problem, Cinque (2004) employs multiple merging sites for adverbs depending on their interpretation. Such a solution is problematic for the ReNN data since we would be forced to assume at least two merging positions for each adverb. Furthermore, it is not immediately clear that different surface positions of adverbs in ReNN contribute to different interpretations. We therefore propose that word orders like the one in (30c) are derived via movement of a constituent containing both verbs. For proposals along these lines, see Nilsen (2003) and Bentzen (2005).[14] We will not return to cases of multiple verb movement. Although we cannot exclude that some version of head movement can account for the data presented here, we explore remnant movement as an alternative to head movement.

Before presenting our analyses, we provide some background assumptions. Starting with verb movement to the IP domain, our proposal is partly inspired by Mahajan (2003) and Biberauer and Richards (2006). We suggest that there are two ways of satisfying the EPP-feature of T. Besides the option of having the subject moving on its own to Spec,TP, we assume that some languages allow EPP-satisfaction by a vP in Spec,TP. One or more of the arguments may have left vP prior to the relevant movement to Spec,TP.[15] Both ways of satisfying the EPP, we propose, are available in ReNN and Icelandic, as well as in the other Scandinavian languages:

(31) **Satisfying EPP**:



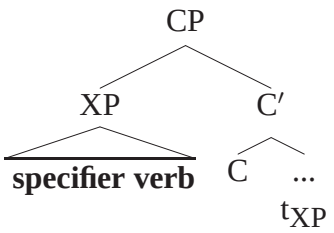
Turning to verb movement to the CP domain, we follow Nilsen (2003) and Müller (2004) in assuming that V2 is derived by fronting a projection (labelled ΣP in Nilsen 2003) containing the finite verb and exactly one specifier to the

[14] On our proposal, the derivation of (30b) does not involve a locality violation for the following reason. Prior to movement of the vP containing the finite auxiliary, the VP containing the participle and the object has evacuated vP. We assume that evacuated constituents do not induce locality effects because evacuation is not triggered by features (cf. Müller 2004).

[15] We acknowledge that evacuation of the kind applied in remnant movement approaches raises questions concerning triggers, targets, and order preservation. These are left unanswered here, see Koopman and Szabolcsi 2000, Nilsen 2003, and Kayne 2005 for some discussion.

CP domain of the clause:

(32) **Verb movement to the CP domain**:

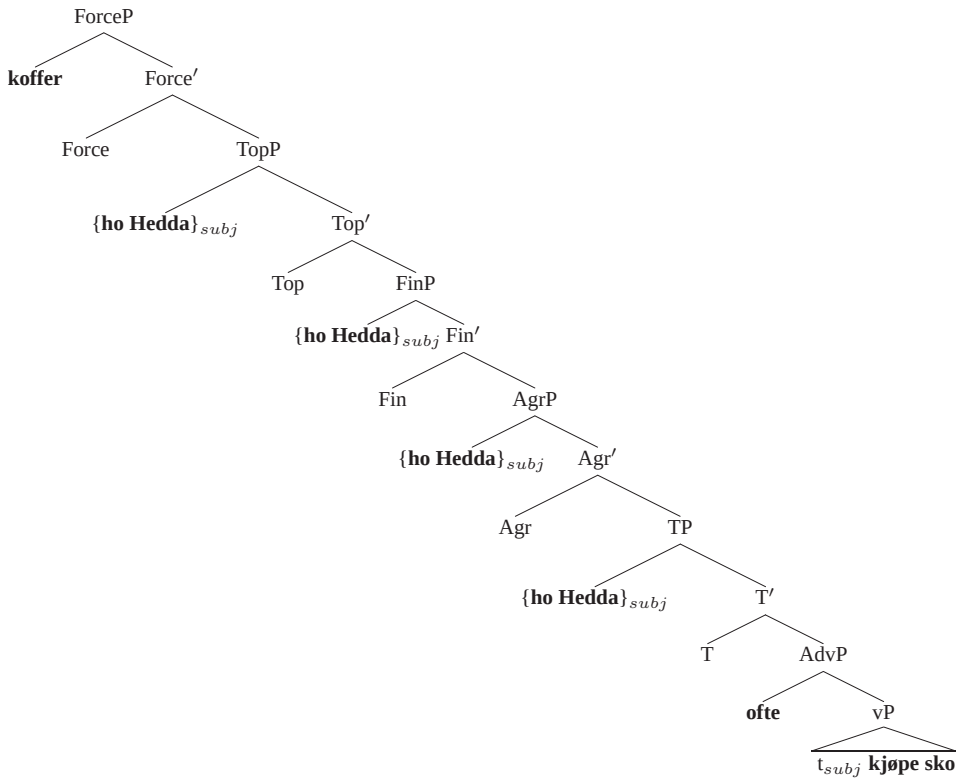


Our analysis differs from that proposed by Nilsen (2003) in three ways: (i) Nilsen assumes that ΣP attracts the topic (the element carrying a topic feature) to its specifier position prior to movement in all V2 clauses. On our analysis, the precence of ΣP is restricted to cases involving fronting of non-subjects. In subject initial V2, a vP containing the subject and the verb is fronted to the initial position. (ii) Rather than assuming ΣP to always be merged immediately above vP, we propose that ΣP is merged right above the element carrying [+Topic], attracting the [+Topic] element to its specifier position. This assumption immediately takes care of a problem for such analyses, noted in Biberauer and Roberts (2004). The problem concerns topicalization of adverbs merged in positions above the XP that is fronted in these approaches, where XP originates in a fixed position. (iii) Nilsen assumes that the finite verb is attracted to Σ. This head movement is not necessary in our analysis. Instead, we propose that the verb stays within vP and that verb movement involves phrasal movement at all stages of the derivation.

4.4.1 An analysis of ReNN verb movement

On our proposal, the EPP-feature of T may be checked off either by moving the subject to Spec,TP or by moving a (remnant) vP to this position. In clauses with no verb movement, the subject will move to Spec,TP checking the EPP-feature. It may either remain in this position, or move on to Spec,AgrP, Spec,FinP, or Spec,TopP, see (33). As we will see in the next section, Icelandic clauses without verb movement are analysed in the same way.

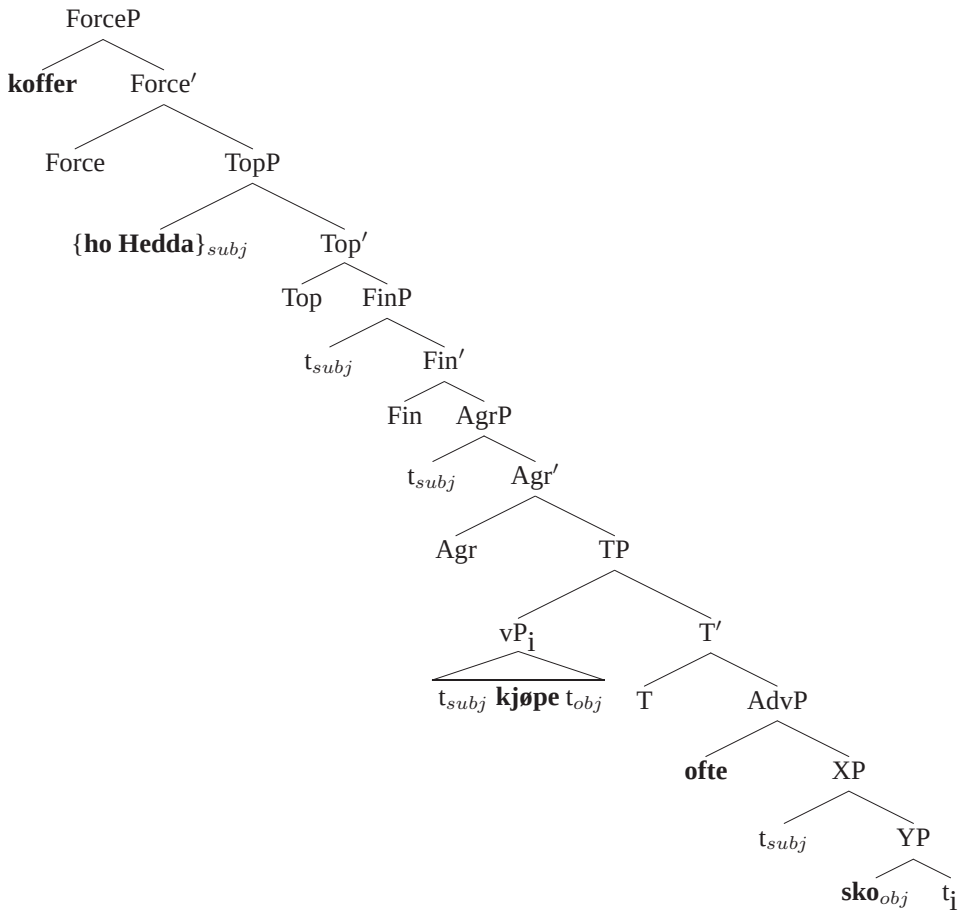
(33) **Embedded *wh*-question without verb movement:**



In clauses with independent verb movement to the inflectional domain, it is the vP that moves to Spec,TP, checking the EPP-feature. We will adopt a proposal made by Bentzen (2007a;c) that this involves movement of a remnant vP containing *only* the verb in ReNN. All other material apart from the verb must have been evacuated from the vP before it moves:[16]

[16]In case of multiple verb movement, see (30c) above, we assume that participles may pied-pipe along with the vP. Likewise, Object Shift is assumed to be a result of pied-piping, see section 4.4.3. Crucially, specifiers cannot be pied-piped when XP movement targets the IP domain of the clause.

(34) **ReNN embedded *wh*-question with verb movement:**



Assuming that the relevant movement is relatively free within the boundaries of IP, the analysis correctly predicts at least three possible positions for the verb in ReNN non-V2 contexts:

(35) [$_{\text{AgrP}}$ [$_{\text{vP}}$ ...**V**...] Agr [$_{\text{AdvP}}$ sannsynligvis [$_{\text{TP}}$ [$_{\text{vP}}$ ...**V**...] T [$_{\text{AdvP}}$ ofte [$_{\text{vP}}$ ...**V**...]]]]]

If the vP does not move, the verb will occur in its base position, i.e. following lower adverbs (*vanligvis* 'usually', *ofte* 'often', etc.). If the vP moves into the IP domain of the clause, it targets Spec,TP. In this position, the verb will precede lower adverbs but follow higher adverbs (*sannsynligvis* 'probably'). From Spec,TP, the vP may successively move on to Spec,AgrP, where the verb will precede higher adverbs:

(36) ... ettersom dem {levere} **sannsynligvis** {levere} **ofte** {levere}
as they hand.in probably hand.in often hand.in
oppgava. (ReNN)
assignments
'... as they probably often hand in assignments.'

Crucially, the remnant vP may not move all the way up to the CP domain in ReNN non-V2 contexts, as such movement would entail verb movement across negation:

(37) ... ettersom dem {*levere} **ikke** {levere} **ofte** {levere} oppgava.
as they hand.in not hand.in often hand.in assignments
'... as they do not often hand in assignments.' (ReNN)

This analysis makes the prediction that verb movement should interact with subject interpretation, see Bentzen (2007c). Recall from section 4.2 that we assume two positions for subject interpretation: Spec,TP for a non-specific reading, and Spec,TopP for a specific reading. The subject has to move to or through one of these positions in order to get an interpretation. In embedded clauses where there is no verb movement, both positions are available to the subject, see (33). The subject first moves to Spec,TP, where it checks the EPP-feature and is assigned a non-specific reading. From there, it may move on to the higher projections Spec,AgrP and Spec,FinP. In these positions, the subject retains its non-specific reading. If it moves all the way to Spec,TopP, however, it will receive a specific reading. In other words, given that both Spec,TP and Spec,TopP are available to the subject, we expect such clauses to be ambiguous with respect to subject interpretation. As illustrated by the two possible readings of (38), this expectation is met.

(38) ... ettersom **nån studenta sannsynligvis** levere oppgaven. (ReNN)
as some students probably hand.in assignment.the
i. '... as some specific students probably hand in the assignment.'
ii. '... as some students or other probably hand in the assignment.'

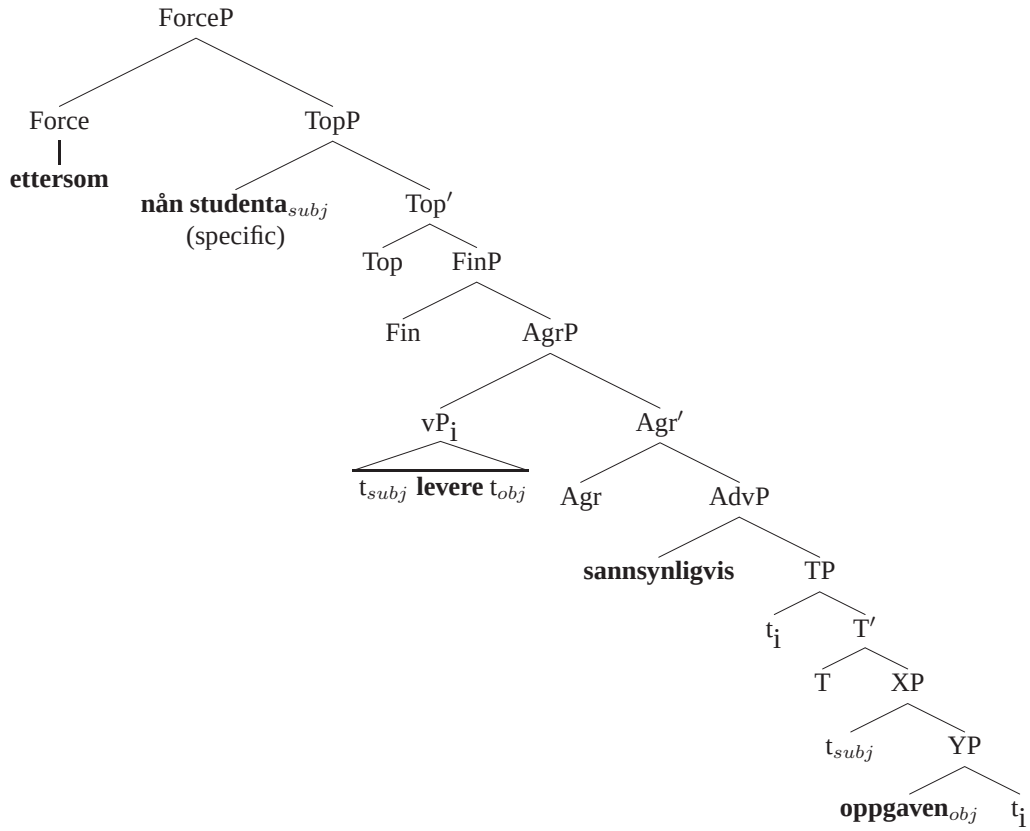
In contrast, when there is verb movement, it is the remnant vP (containing only the verb) that moves to Spec,TP, checking the EPP-feature of T, see (34). In this case, the subject is prohibited from moving to Spec,TP.[17] Consequently, a non-specific reading is unavailable, and the subject is forced to move to Spec,TopP for assignment of interpretation. In this position, the subject receives a specific reading. Our prediction is thus that in ReNN non-V2

[17]We crucially assume that multiple specifiers are not available.

contexts with verb movement, the subject should be unambiguously specific. As shown in (39), this is borne out. The structure is given in (40).[18]

(39) ... ettersom **nån studenta** levere **sannsynligvis** oppgaven. (ReNN)
as some students hand.in probably assignment.the
i. '... as some specific students probably hand in the assignment.'
ii. *'... as some students or other probably hand in the assignment.'

(40) **ReNN vP movement to IP and subject interpretation:**



Next, we turn to our analysis of Icelandic verb movement in non-V2 contexts.

4.4.2 An analysis of Icelandic verb movement

We have argued that verb movement to the IP domain is movement of a remnant vP containing only the verb; an analysis that captures the ReNN data. In contrast, we suggest that verb movement to the CP domain is movement

[18]Note that elements which generally refrain from being topics, such as negative quantifiers and existential subjects, cannot co-occur with verb movement. This again indicates that verb movement requires strong subjects.

of a remnant vP containing the verb and at least and at most one specifier. This analysis is based on the account of verb movement in V2 main clauses proposed by Nilsen (2003) and Müller (2004). In other words, remnant vP movement to the CP domain always pied-pipes a specifier. Given that topicalization is impossible in non-V2 contexts, as shown in section 4.3, the pied-piped element is always the subject in these contexts. Hence, on our proposal, there are two types of remnant vP movement, differing in target position and in the amount of material pied-piped along with the verb:

(41) **Two types of remnant vP movement**:
Remnant vP movement to the *IP domain*: [$_{vP}$ t$_{Subj}$ Verb]
Remnant vP movement to the *CP domain*: [$_{vP}$ Specifier Verb]

The first one corresponds to the verb movement identified in ReNN. The second one corresponds to the verb movement identified in Icelandic and as we will see extends to subject initial V2 clauses in general.

Before proceeding with the details of Icelandic verb movement, note that this proposal derives one more difference between ReNN and Icelandic. In case of verb movement, adjacency between the subject and the verb is obligatory in Icelandic but not required in ReNN, see e.g. (18) and (36). The relevant parts of the former are repeated below:

(42) ... hvort hún {**hefði**} sennilega {***hefði**} ekki {***hefði**} oft {**hefði**}
whether she had probably had not had often had
sungið ... (Ic.$_{var}$)
sung
'... whether she had not probably often had sung ...'

Since there is no independent verb movement to the IP domain in Icelandic on our proposal, the vP (containing the verb and the subject in subject initial clauses) has to move all the way to the CP domain. On its way, the remnant vP moves through Spec,TP, checking the EPP-feature of T. The available target positions for the remnant vP in the CP domain are Spec,FinP and Spec,TopP. Therefore, Icelandic should differ from ReNN in not allowing the verb to intervene between adverbs, nor between adverbs and negation. As we have seen, this is correct.

Our analysis also makes the crucial prediction that Icelandic should differ from ReNN regarding available subject readings. Given that remnant vP movement to the CP domain always pied-pipes the subject in non-V2 contexts, verb movement in Icelandic embedded clauses should not force a specific subject reading. That is, since the vP containing both the subject and the verb moves through Spec,TP to check the EPP-feature, the subject may

receive a non-specific reading. Moving into the CP domain, the vP may move either to Spec,FinP, or to Spec,TopP. In the former case, the subject will retain its non-specific reading. In the latter case, it will receive a specific interpretation. Thus, non-V2 clauses with verb movement are predicted to be ambiguous with respect to subject interpretation in Icelandic, contrary to similar clauses in ReNN, which only allow the specific subject interpretation. This is borne out:

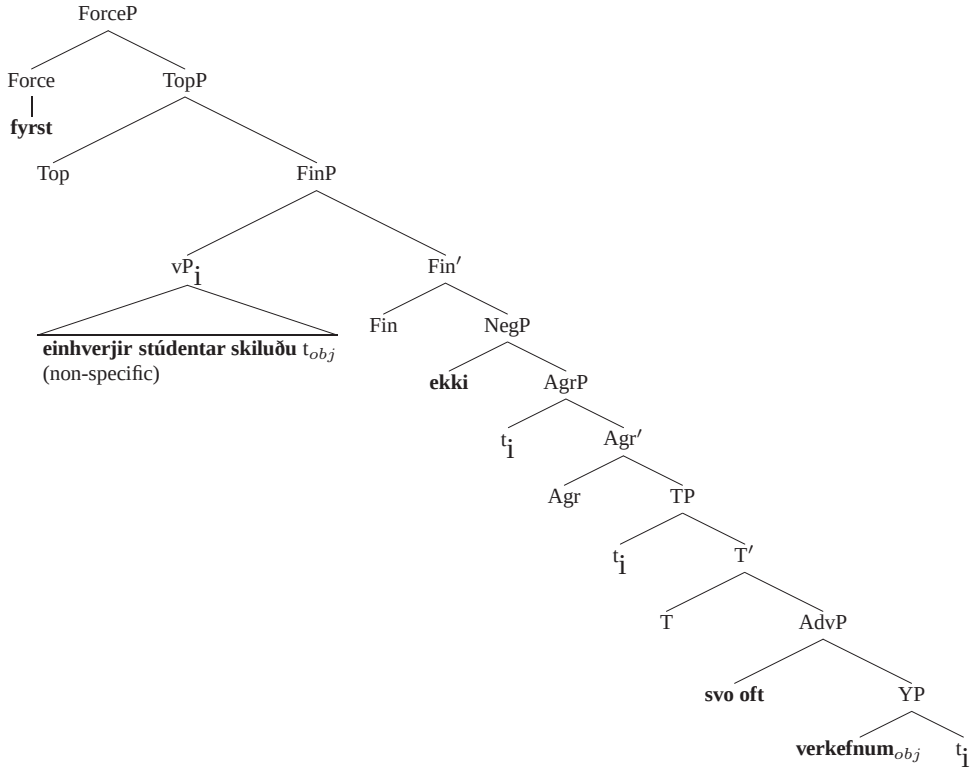
(43) ... fyrst **einhverjir stúdentar** skiluðu **ekki svo oft** verkefnum. (Ic.$_{var}$)
as some students handed.in not so often assignments

i. '... as some students or other probably usually handed in assignments.'

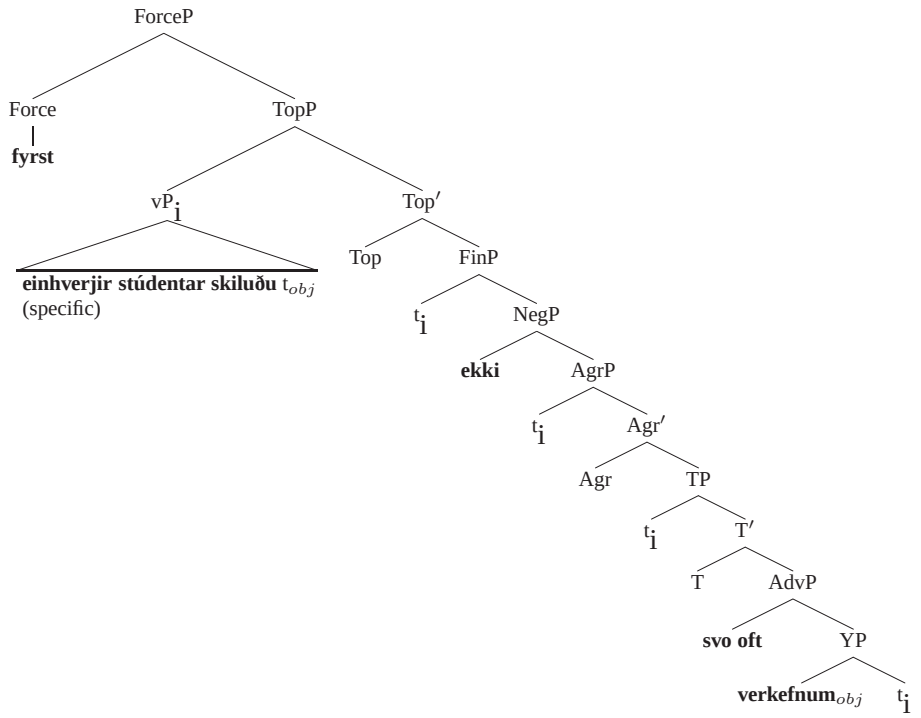
ii. '... as some specific students probably usually handed in assignments.'

The derivations for the different interpretations of (43) are illustrated in (44) and (45), respectively.

(44) **Icelandic vP movement to CP and non-specific subjects:**



(45) **Icelandic vP movement to CP and specific subjects:**



To sum up, in ReNN, verb movement of the remnant vP to Spec,TP makes a non-specific reading unavailable to the subject, since the subject is not contained within the remnant vP. In order to receive an interpretation, the subject is required to move to Spec,TopP, where a specific reading is assigned. In Icelandic, there is no such requirement on the subject since it is pied-piped along with the verb through Spec,TP. Therefore, a non-specific reading is available in Icelandic, also in non-V2 clauses with verb movement.

4.4.3 Two types of movement

We have provided an analysis of two types of verb movement without any reference to head movement. Problems associated with head movement therefore do not arise. In this sense, our analysis differs from approaches such as the ones suggested in e.g. Nilsen (2003) and Biberauer and Richards (2006), which make use of both remnant movement and head movement to account for verb placement.

If our proposal is correct, verb movement to the CP domain always involves pied-piping of a specifier in contrast to verb movement to the IP domain which never does. Although we will have to leave this interesting consequence for future research and leave the many questions that arise unanswered

here, we believe that this difference between the two movements may have to do with the discourse related function of the CP domain, cf. Nilsen (2003).

Our proposal that verb movement is remnant movement opens up the possibility that other elements may be part of the same movement, e.g. weak pronouns. See Hróarsdóttir (2001) and Nilsen (2003) for analyses of Object Shift along these lines. This means that weak pronoun shift does not exist. The relevant elements cannot cross the verb because what is moving is vP or a larger constituent, deriving Holmberg's Generalization (see Holmberg 1986):[19]

(46) a. [Han leste t_{obj}]$_i$ ikke boka$_{obj}$ t_i (No.)
he read not book.the
'He did not read the book.'
b. [Han leste den]$_i$ ikke t_i
he read it not
'He did not read it.'

4.5 Verb second

The modified picture presented here calls for a rethinking of alleged differences between V2 and non-V2 contexts. Under our analysis, every embedded clause in Icelandic is a potential V2 clause in accordance with what has previously been claimed for Icelandic (see e.g. Rögnvaldsson and Thráinsson 1990, Johnson and Vikner 1994, and Vikner 1995b). In fact, the present proposal takes one further step in assuming that every embedded clause involving verb movement *is* a V2 clause in Icelandic (which has also been proposed by Hrafnbjargarson 2004). This is so because the verb movement that we find in traditional non-V2 clauses in Icelandic is of the same type as the one found in V2 clauses, namely fronting of a remnant XP containing the verb and exactly one specifier to the CP domain of the clause.

At this point, an obvious question is how our analysis captures the difference between V2 and traditional non-V2 clauses. We will focus on Icelandic in what follows but we believe that our analysis extends to V2 clauses in Scandinavian in general (and possibly to all cases of V2). Recall that whereas topicalization of objects and adjuncts is possible in V2 contexts, (47a) and (47b), this is impossible in traditional non-V2 contexts, cf. (47c).

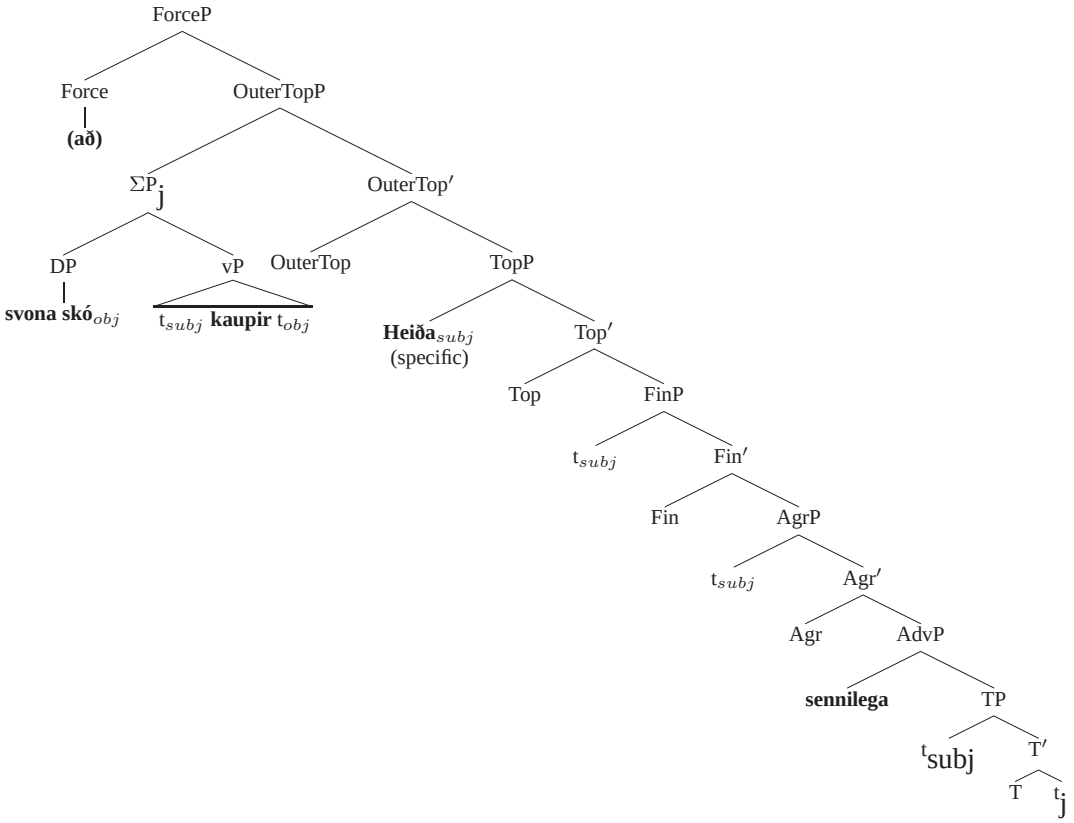
[19]Object Shift is impossible across any phonologically visible non-adjunct category c-commanding the object position in the verb phrase, see Holmberg 1999.

(47) a. **Svona skó** kaupir Heiða sennilega. (Ic.)
such shoes buys Heiða probably
'Such shoes, Heiða probably buys.'
b. Ég veit [að **svona skó** kaupir Heiða sennilega].
I know that such shoes buys Heiða probably
'I know that Heiða probably buys such shoes.'
c. *Ég spurði [af hverju **svona skó** kaupir Heiða sennilega].
I asked why such shoes buys Heiða probably

We propose that V2 clauses differ from traditional non-V2 clauses in containing an additional TopP, i.e. OuterTopP, making topicalization of constituents other than the subject possible.[20] The crucial difference between OuterTopP, on the one hand, and TopP and FinP, on the other hand, concerns the type of remnant constituent licensed in these projections. TopP and FinP license a remnant vP containing the verb along with the subject, cf. (45) and (44), whereas OuterTopP licenses a remnant ΣP containing the verb and one non-subject specifier:

[20] A similar analysis has been argued for independently by Angantýsson 2006.

(48) **Non-subject initial V2 clauses:**



Importantly, our analysis predicts that both subject readings should be available in the presence of a topicalized object. This is borne out in both Norwegian and Icelandic:

(49) a. **Þennan draug** sáu víst **einhver börn** oft. (Ic.)
this ghost saw apparently some children often
'Some [non-specific] children apparently saw this ghost often.'

b. **Þennan draug** sáu **einhver börn** víst oft.
this ghost saw some children apparently often
i. 'Some [non-specific] children apparently saw this ghost often.'
ii. 'Some [specific] children apparently saw this ghost often.'

As the translations indicate, the examples in (49) may have different interpretations, depending on the position of the subject. In (49a), where the subject follows the adverb *víst* 'apparently', it must be situated in Spec,TP. In this position, it receives a non-specific reading. In (49b), where the subject precedes this adverb, it is either in Spec,FinP (retaining its non-specific reading) or in

Spec,TopP where it receives a specific reading.

4.6 Summary

In this paper, we have put forth two hypotheses about verb movement in Regional Northern Norwegian (ReNN) and Icelandic:

(50) *Hypothesis 1*:
Regional Northern Norwegian displays optional independent V-to-I movement.

(51) *Hypothesis 2*:
Icelandic does not display independent V-to-I movement; all verb movement is to the CP domain.

We have provided the following evidence in favor of these. In ReNN non-V2 clauses (finite as well as non-finite), verbs may not cross negation, but they may cross both higher and lower adverbs, as well as intervene between these. In Icelandic non-V2 clauses, the verb must precede negation and all adverbs if it moves. This movement is obligatory in control infinitives (which involve the CP domain) but impossible in ECM infinitives (which lack the CP domain). Moreover, verb movement interacts with the complementizer in some varieties.

Table 4.1: *Verb movement*

	ReNN	**Icelandic$_{\textbf{var}}$**
Non-V2$_{finite}$	(*V) Neg (V) Adv$_H$ (V) Adv$_L$ (V)	(V) Neg (*V) Adv$_H$ (*V) Adv$_L$ (V)
ECM	(*V) Neg (V) Adv$_H$ (V) Adv$_L$ (V)	(*V) Neg (*V) Adv$_H$ (*V) Adv$_L$ (V)
Control	(*V) Neg (V) Adv$_H$ (V) Adv$_L$ (V)	(V) Neg (*V) Adv$_H$ (*V) Adv$_L$ (*V)
C-Interaction	No	Yes

We have presented an analysis of these data in terms of remnant XP movement. On our proposal, verb movement to the IP domain differs from verb movement to the CP domain in amount of material pied-piped: (i) Verb movement to the IP domain involves movement of a remnant vP that only contains the verb. This is an option in ReNN but not in Icelandic. (ii) Verb movement to the CP domain always pied-pipes a specifier. This is an option both in Icelandic and ReNN:

(52) **Two types of remnant vP movement**:
Remnant vP movement to the *IP domain*: [$_{vP}$ t$_{Subj}$ Verb]
Remnant vP movement to the *CP domain*: [$_{XP}$ Specifier Verb]

The proposal correctly predicts an adjacency requirement between the subject and the verb in the latter type of verb movement. Moreover, a difference between the two movements regarding interaction with subject interpretation becomes an expected possibility. Given that the subject has to evacuate from a vP that targets the IP domain of the clause, it may compete with the verb for the same position(s).

Table 4.2: *Verb movement and subjects in non-V2*

	ReNN	**Icelandic$_{var}$**
Subject interpretation	interaction	no interaction
Adjacency Subject - Verb	not required	required

The difference between traditional non-V2 and V2 contexts amounts to the presence of OuterTopP in the latter, making pied-piping of non-subjects available.

The observation that Scandinavian non-V2 verb movement comes in (at least) two types raises the question of how other languages displaying verb movement behave in this respect. The current trend of studying microvariation will hopefully lead to answers to this question.

Chapter 5

On the Force behind V2[1]

Kristine Bentzen, Gunnar Hrafn Hrafnbjargarson, Þorbjörg Hróarsdóttir, and Anna-Lena Wiklund

5.1 Introduction

The common view of the Scandinavian languages has long been that the Mainland Scandinavian languages and Faroese have limited embedded verb second (henceforth V2), while Icelandic has generalized embedded V2, in the sense that the V>Neg word order and non-subject topicalization is possible under all kinds of predicates, see e.g. Vikner (1995b). On this view thus, Icelandic constitutes an exception to the pattern observed in the other Scandinavian languages, where the applicability of V2 seems to correlate with illocutionary force. We will demonstrate that Icelandic conforms to the general pattern. Clauses that are generally not compatible with root phenomena display restrictions on V2 also in Icelandic; topicalization is either impossible or marked in these environments.

(1) None of the Scandinavian languages display generalized embedded V2.

[1] Authors are in alphabetical order. We are indebted to Victoria Absalonsen, Kirsti Hansen, and Zakaris Hansen for providing us with data from Faroese and to Ásgrímur Angantýsson, Halldór Ármann Sigurðsson, and Theódóra Anna Torfadóttir for judgments of Icelandic data. For comments and discussion we would like to thank Caroline Heycock, Marit Julien, Björn Lundquist, Christer Platzack, Ur Shlonsky, participants in the Left Periphery Seminar (Tromsø), audiences at the NORMS workshop on verb movement (Reykjavík, January 2007), and the CASTL colloquium (Tromsø, March 2007).

Since Hooper and Thompson (1973), it has been known that there is a connection between the application of root phenomena in embedded clauses and *assertion*. This has been discussed extensively for V2 in the Germanic languages, see e.g. Andersson (1975), Green (1976), den Besten (1977/1983), Wechsler (1991), Holmberg and Platzack (1995), Heycock (2006), and Julien (2006). The relevant hypothesis may be loosely formulated as in (2).[2]

(2) *The Assertion Hypothesis:*
The more asserted (the less presupposed) the complement is, the more compatible it is with V2 (and other root phenomena).

The notion of *assertion* has been left vague in much of the relevant literature but may roughly be described as that illocutionary force which has the effect of making the addressee accept the content of an utterance and take it as part of the "common ground". In this connection, two notions have been referred to in attempts to define contexts that support root phenomena: (i) *proposition* (content of the assertion that may be questioned or denied) and (ii) *main assertion* (the proposition whose truth is at stake in the discourse), see e.g. Hooper and Thompson (1973). We will show that only (a variant of) the latter appears to correlate with the option of applying V2 in Faroese, Icelandic, Norwegian, and Swedish; clauses that may serve as the main point of utterance (Simons 2007) are clauses where V2 is unrestricted in all four of the languages investigated.

(3) Possibility of being main point of utterance ↔ Possibility of displaying unrestricted V2

However, V2 may occur independently of such a reading of the clause and vice versa. One important contribution of the present paper is thus the conclusion that there is no clear definition of *assertion* that discerns V2.

5.2 Embedded verb second

We apply two tests to identify embedded V2: Availability of the word order $verb_{finite}$ > *negation* in subject-initial clauses, as in (4a), and availability of non-subject topicalization, as in (4b). A corpus based application of the first

[2]The availability of embedded verb second has also been linked to *bridge verbs*, originally referring to verbs that allow extraction from their complement. At least for Scandinavian, this description is incorrect on the original definition, cf. Vikner 1995b:fn.7 and Julien 2006; many verbs that allow extraction do not allow V2. "Bridgeness" and its relation to V2 will therefore not be discussed here.

test has been carried out for Norwegian and Swedish *that*-clauses, see Julien (2006). The two options are illustrated by Swedish in (5) under the verb *säga* 'say'.

(4) a. He said that [Subject **V_{Fin} Neg**] (Subject initial V2)
b. He said that [**Non-Subject** V_{Fin} Subject (Neg) _] (Non-subject initial V2)

(5) a. Han sa att Lisa **hade inte** läst boken. (Sw.)
he said that Lisa had not read book-the
b. Han sa att **den här boken** hade Lisa läst.
he said that this here book-the had Lisa read

Example (6) shows the corresponding (standard) non-V2 word order in Swedish, where the finite verb follows sentential negation in embedded clauses.

(6) Han sa att Lisa **inte hade** läst boken. (non-V2)
he said that Lisa not had read book-the

In Icelandic, the word order V>Neg is found also in contexts where the same word order is impossible in the Mainland Scandinavian languages, e.g. in embedded *wh*-questions, see (7). Faroese has been noted to display variation in this respect (Jonas 1996, Petersen 2000, Thráinsson 2001, and Thráinsson et al. 2004).

(7) a. Ég veit [af hverju Hedda {les} **ekki** {*les} bækur]. (Ic.)
I know why Hedda reads not reads books
b. Jeg vet [hvorfor Hedda {*leser} **ikke** {leser} bøker]. (No.)
I know why Hedda reads not reads books

Since topicalization is impossible in these clauses (therefore called non-V2 clauses) across Scandinavian, Icelandic and varieties of Faroese have been claimed to display independent verb movement to the IP domain of the clause (see e.g. Holmberg and Platzack 1995 and Vikner 1995b). This conclusion rests on the assumption that verb movement targets the CP domain of the clause only in clauses where non-subject topicalization is a possibility. Thus, on this view, the V>Neg word order is not necessarily a diagnostic for verb movement to the CP domain of the clause in Icelandic and Faroese (since this word order is found also in non-V2 clauses), consequently not necessarily a candidate for embedded root phenomena.

Recently, this background assumption has been questioned and arguments have been provided against the traditional analysis of Icelandic non-V2 verb movement as being to the IP domain of the clause, see Wiklund et al. (to

appear). A strong argument against the verb-to-IP analysis concerns ECM-clauses. In these, verb movement is impossible in Icelandic, even though an inflectional domain is present (evidenced by the possibility of inserting adverbs):

(8) Verb$_{matrix}$ [$_{\text{ECM-infinitival}}$ (*verb) NEG (*verb) ADV **verb**] (Ic.)

In this sense, ECM infinitives contrast with control infinitives where verb movement is obligatory. If control but not ECM infinitives contain the CP domain of the clause, we capture the data by assuming that Icelandic verb movement always targets the CP domain of the clause:

(9) Verb$_{matrix}$ [$_{\text{Control infinitival}}$ **verb** NEG (*verb) ADV (*verb)] (Ic.)

Likewise in finite non-V2 clauses, the verb can never intervene between negation and sentential adverbs. Thus, there is an adjacency requirement between the subject and the verb in non-V2 clauses with verb movement:[3]

(10) Verb$_{matrix}$ [$_{\text{non-V2 clause}}$ subject (*XP) verb] (Ic.)

These are therefore suspiciously similar to subject-initial V2 clauses. The latter have convincingly been argued to involve verb displacement to the CP domain rather than the IP domain of the clause, see van Craenenbroeck and Haegeman (2007):

(11) Verb$_{matrix}$ [$_{\text{V2 clause}}$ subject (*XP) verb]

Summing up, whenever there is verb movement in Icelandic, the verb must move to a position above all elements in the IP domain. Evidence for verb movement targeting the IP domain of the clause is therefore missing. On the basis of the above facts, we take the V>Neg word order to be a diagnostic for displacement of the verb to the CP domain of the clause, thus for embedded V2, also in Icelandic.[4]

[3]On the possibility of leaving the verb low/in situ in Icelandic non-V2 environments, see Wiklund et al. to appear.

[4]In the spirit of Wiklund et al. to appear, *non-V2* clause is a misnomer for e.g. embedded *wh*-questions in Icelandic. These are clauses that do not support topicalization across Scandinavian, however, they are compatible with subject-initial V2 in Icelandic and varieties of Faroese.

5.3 The distribution of embedded V2

Following many of our predecessors (Andersson 1975, Meinunger 2004; 2006, Julien 2006), we will make use of the verb classification put forth in Hooper and Thompson (1973) for the purpose of studying the distribution of embedded V2 (see also Hooper 1975). The predicate classes are five and will be introduced in turn below: Class A (strongly assertive – *say*), Class B (weakly assertive – *believe*), Class C (non-assertive – *deny*), Class D (factive – *regret*), and Class E (semi-factive – *discover*). The relevant classes are defined mainly in terms of the semantic notions of *assertion* and *presupposition*, which we will discuss in some detail as we proceed. We have tested at least two predicates from each class for each language with regard to compatibility with embedded V2. For reasons of space, only one of these is used in the examples:

(12) *Predicate classes*

Class A	Class B	Class C	Class D	Class E
say	*believe*	*doubt*	*regret*	*discover*
claim	*think*	*deny*	*be sad about*	*understand*

5.3.1 Class A: Strongly assertive predicates

Class A predicates embed complements that are cited or reported assertions in the discourse (*indirect assertions* in Hooper and Thompson 1973). These have been noted to allow root phenomena, including V2. The class includes *say*, *claim*, *report*, and *assert*. The (a)-examples below show compatibility with V>Neg word order, the (b)-examples compatibility with non-subject topicalization:

(13) a. Hann segði at hann **fekk ikki** sungið hetta lagið.
he said that he could not sung in this song-the (Fa.)
b. Hann segði at **hetta lagið** fekk hann ikki sungið.
he said that this song-the could he not sung

(14) a. Hann sagði að hann **gæti ekki** sungið í brúðkaupinu. (Ic.)
he said that he could not sung in wedding-the
b. Hann sagði að **þetta lag** gæti hann ekki sungið í brúðkaupinu.
he said that this song could he not sung in wedding-the

(15) a. Han sa at han **kunne ikke** synge i bryllupet. (No.)
he said that he could not sing in wedding-the

b. Han sa at **denne sangen** kunne han synge i bryllupet.
he said that this song-the could he sing in wedding-the

(16) a. Han sa att han **kunde inte** sjunga på bröllopet. (Sw.)
he said that he could not sing on wedding-the
b. Han sa att **den här sången** kunde han sjunga på bröllopet.
he said that this here song-the could he sing on wedding-the

As can be seen from the examples, there are no restrictions on V2 under Class A predicates. The relevant varieties of Faroese, Icelandic, Norwegian, and Swedish all allow both the V>Neg word order and topicalization of non-subjects under these verbs. Note that in German, Dutch, Frisian, and Afrikaans, embedded V2 and overt complementizers tend to be in complementary distribution (see e.g. de Haan 2001 and Biberauer 2002). In contrast, the Scandinavian languages allow V2 to cooccur with a lexical complementizer (cf. the study of Teleman 1967, summarized in Andersson 1975). In fact, the complementizer is obligatory in non-subject-initial V2 clauses and preferred in subject-initial V2 clauses (disregarding cited assertions).

5.3.2 Class B: Weakly assertive predicates

Class B verbs include *believe*, *think*, and *mean*. Like Class A predicates, these embed assertions and have been noted to be compatible with root phenomena in the embedded clause. They can be said to differ from Class A predicates in that they indicate a weaker commitment to the truth of the embedded statement on the part of the speaker:[5]

(17) a. Hann heldur at hann **syngur ekki** væl. (Fa.)
he believes that he sings not well
b. Hann heldur at **hetta lagið** syngur hann væl.
he believes that this song-the sings he well

(18) a. Hann hélt að við **hefðum ekki** séð þessa mynd. (Ic.)
he believed that we had not seen this film
b. Hann hélt að **þessa mynd** hefðum við ekki séð.
he believed that this film had we not seen

[5] As noted by Simons 2007, it is not clear that an embedded clause is ever asserted. With a few exceptions, the function of the matrix verb is to indicate the weakness of the speaker's commitment to the truth of the complement. Also Class A predicates may be used to qualify assertions in this sense. For our purpose, Class A and B could just as well be collapsed into one class of assertive predicates, but see Hooper and Thompson 1973 and Hooper 1975 for further differences between the two.

(19) a. Han trodde at vi **hadde ikke** sett denne filmen. (No.)
he believed that we had not seen this film-the
b. Han trodde at **denne filmen** hadde vi ikke sett.
he believed that this film-the had we not seen

(20) a. Han trodde att vi **hade inte** sett den här filmen. (Sw.)
he believed that we had not seen the here film-the
b. Han trodde att **den där filmen** hade vi inte sett.
he believed that that there film-the had we not seen

We may conclude that Class B behaves like Class A with regard to V2; V2 is unrestricted in all four languages under predicates of this class.

5.3.3 Class C: Non-assertive predicates

Class C predicates embed complements that are neither asserted nor presupposed. Some of these predicates serve to deny the truth of the complement. Root phenomena are normally not possible in complements of these verbs:

(21) a. Hann ivast um at hon **syngur altíð** væl. (Fa.)
he doubts about that she sings always well
b. *Hann ivast um at **hetta lagið** syngur hon altíð væl.
he doubts about that this song-the sings she always well

(22) a. Hann efast um að hún **hafi ekki** hitt þennan mann. (Ic.)
he doubts about that she has not met this man
b. *Hann efast um að **þennan mann** hafi hún ekki hitt.
he doubts about that this man has she not met

(23) a. *Han tvilte på at hun **hadde ikke** møtt denne mannen. (No.)
he doubted on that she had not met this man-the
b. *Han tvilte på at **denne mannen** hadde hun ikke møtt.
he doubted on that this man-the had she not met

(24) a. *Han tvivlar på att hon **har inte** träffat den här mannen. (Sw.)
he doubts on that she has not met this here man-the
b. *Han tvivlar på att **den här mannen** har hon inte träffat.
he doubts on that this here man-the has she not met

As can be seen from the above examples, Swedish and Norwegian disallow both the V>Neg word order and topicalization of non-subjects under Class C predicates. Icelandic and Faroese allow V>Neg, as expected. What is surprising is that topicalization of non-subjects under predicates of this class is either disallowed or marked in Icelandic, as well as in Faroese. As we will

see below, this is true also for the next class.

5.3.4 Class D: Factives

Class D predicates embed facts. They express some emotion or subjective attitude about an event, the existence of which is presupposed. The class includes *be proud of*, *be ashamed*, *be annoyed*, and *regret*. Root phenomena are normally not possible in complements of these verbs:[6]

(25) a. Hann angraði at hann **hevði ikki** sungið. (Fa.)
he regretted that he had not sung
b. *Hann angraði at **henda sangin** hevði hann ikki sungið.
he regretted that this song-the had he not sung

(26) a. Hann sá eftir að hann **hafði ekki** sungið. (Ic.)
he regretted that he had not sung
b. *Hann sá eftir að **þetta lag** hafði hann ekki sungið.
he regretted that this song had he not sung

(27) a. *Han angret på at han **hadde ikke** sunget bursdagssangen
he regretted on that he had not sung birthday.song-the
til henne. (No.)
to her
b. *Han angret på at **denne sangen** hadde han ikke sunget til
he regretted on that this song-the had he not sung to
henne.
her

(28) a. *Han ångrade att han **hade inte** sjungit. (Sw.)
he regretted that he had not sung
b. *Han ångrade att **den här sången** hade han inte sjungit.
he regretted that this here song-the had he not sung

By and large, Class D patterns with Class C. In all four languages, Class C and D contrast with A and B in displaying restrictions on V2; in Norwegian and Swedish on both V2 word orders; in Faroese and Icelandic on non-subject topicalization.

[6]Not all speakers of Icelandic allow *sjá eftir* 'regret' to embed finite clauses. For those who allow this, non-subject topicalization is not possible. On the problematic aspects of Icelandic *harma* 'regret', see §5.4 below.

5.3.5 Class E: Semi-factives

Class E predicates are verbs of perception and knowledge and include *discover*, *understand*, *realize*, and *know*. These pattern with the D predicates just described in embedding complements that are facts. However, they differ from truly factive predicates in that they may lose their factivity in questions, if embedded in the antecedent of a conditional, and under certain modals (Karttunen 1971). This class has been noted to pattern with Class A and B in more than one respect. We will return to this shortly. Noteworthy here is the fact that root phenomena, including V2, have been observed to be possible under these predicates:

(29) a. Eg varnaðist at eg **hevði ikki** lisið hana. (Fa.)
I discovered that I had not read it
b. Eg varnaðist at **hesa bókina** hevði eg ikki lisið.
I discovered that this book-the had I not read

(30) a. Ég uppgötvaði að ég **hafði ekki** lesið hana. (Ic.)
I discovered that I had not read it
b. Ég uppgötvaði að **þessa bók** hafði ég ekki lesið.
I discovered that this book had I not read

(31) a. Jeg oppdaget at jeg **hadde ikke** lest den. (No.)
I discovered that I had not read it
b. Jeg oppdaget at **denne boka** hadde jeg ikke lest.
I discovered that this book-the had I not read

(32) a. Jag upptäckte att jag **hade inte** läst den. (Sw.)
I discovered that I had not read it
b. Jag upptäckte att **den här boken** hade jag inte läst.
I discovered that this here book-the had I not read

As can be seen from the above examples, this is also true for the languages investigated here. All four languages allow both V>Neg and topicalization of non-subjects under Class E predicates. Class E thus patterns with Class A and B.

5.3.6 Summary

Summing up, all four languages conform to the well-known pattern: V2 is unrestricted under assertive predicates and semi-factives (Class A, B, and E) but restricted under non-assertive and truly factive predicates (Class C and D). Nevertheless, our data yield two classes of languages, dividing with regard to

restrictions on V2 word orders under Class C and D predicates. Norwegian and Swedish, on the one hand, disallow both V>Neg and non-subject topicalization under these predicates. Faroese and Icelandic, on the other hand, allow the V>Neg word order under these predicates but crucially disprefer non-subject topicalization, just like Norwegian and Swedish.

(33) *The distribution of embedded V2:*

		Swedish	Norwegian	Faroese	Icelandic
Class A	V>Neg	✓	✓	✓	✓
	Top	✓	✓	✓	✓
Class B	V>Neg	✓	✓	✓	✓
	Top	✓	✓	✓	✓
Class C	V>Neg	*	*	✓	✓
	Top	*	*	*	*
Class D	V>Neg	*	*	✓	✓
	Top	*	*	*	*
Class E	V>Neg	✓	✓	✓	✓
	Top	✓	✓	✓	✓

5.4 No generalized embedded V2

Our investigation reveals that Icelandic is subject to restrictions on V2 word order of the kind seen in the other Scandinavian languages. None of the Scandinavian languages can therefore be said to display generalized embedded V2 in the sense that V>Neg word order and non-subject topicalization are possible across the relevant environments in any of the varieties examined. Our observations, therefore, expose a pattern quite different from that reported in Rögnvaldsson and Thráinsson (1990), Vikner (1995b), and subsequent works on Icelandic, where it is claimed that topicalization is possible under both Class C and Class D predicates. The examples below are from Rögnvaldsson and Thráinsson (1990:23), their example (32):

(34) a. Jón efast um að á morgun fari María snemma á fætur. (Ic.)
John doubts that tomorrow get Mary early up
b. Jón harmar að þessa bók skuli ég hafa lesið.
John regrets that this book shall I have read

There are two options. Either there is variation among speakers of Icelandic in this respect or independent factors are involved in the judgments of the relevant examples. Starting with the latter possibility, it is worth noting that the factive verb *harma* ‘regret’, often cited as evidence that Icelandic has general-

ized V2, does not appear to be a true factive (Class D) predicate, thus differing from the corresponding Swedish and Norwegian versions of *regret* (*ångra* and *angre*, respectively). For the Icelandic informants that we have consulted, the embedded clause in (34b) above need not be presupposed in the strict sense, even though factive; the content may be new information to the addressee, indicating a weaker kind of presupposition. In this sense, *harma* shares at least this property with semi-factive verbs (Class E), which we have just confirmed support V2 in the embedded clause. Our observation of *harma* appears to be in line with that of Thráinsson (forthcoming), who notes that this verb is about to lose its factivity.[7]

Turning to the possibility of language variation, we decided to consult additional Icelandic informants and add a couple of predicates from Class D. The facts still hold. For all speakers consulted, non-subject topicalization is marked or disallowed under most verbs from Class C and D:[8]

(35) *Topicalization of non-subjects in Icelandic*

		1	2	3	4
Class A	*segja* 'say'	✓	✓	✓	✓
Class B	*halda* 'believe'	✓	✓	✓	✓
Class C	*efast um* 'doubt'	*	??	?	??
	neita 'deny'	?	??	✓	✓
Class D	*sjá eftir* 'regret'	*	??	*	??
	pirra sig 'be irritated'	*	??	?/✓	✓
	furða sig 'be surprised'	*	??	?/✓	✓
	vera stoltur yfir 'be proud of'	??	✓	✓	✓
	skammast sín 'be ashamed'	??	?	?	?
	vera ánægður með 'be content with'	??	✓	?	?
	vera leiður yfir 'be sad about'	*	?	?	?
Class E	*uppgötva* 'discover'	✓	✓	✓	✓

[7] Thráinsson forthcoming:299, fn. 2 provides the following example:

(i) Forsætisráðherrann harmaði að fólkið skyldi hafa farist. (Ic.)
prime.minister-the expressed.regret that people-the should.subj have perished
'The prime minister expressed regret that the people had perished.'

The factive implication is not absent. The crucial factor is that the embedded clause need not be presupposed in the sense of being known to or taken for granted by both speaker and hearer.

[8] For one of the informants consulted, topicalization is generally marked or ungrammatical in clauses embedded under all five predicate types. We therefore do not include the judgments of this informant in the table.

If we disregard the evident language variation that we find with some of the verbs, there is a rather clear contrast between Class A, B, E, predicates on the one hand, and Class C and D predicates, on the other, also in Icelandic. The latter display restrictions on non-subject topicalization. The correct description of Icelandic verb movement thus seems to be that Icelandic has generalized subject-initial V2, rather than generalized V2. Subject-initial V2 is possible or obligatory across embedded clauses that contain a CP domain, non-subject topicalization is not. Thus, while the V>Neg word order is a root phenomenon in Norwegian and Swedish, it is not necessarily so in Faroese and Icelandic.

5.5 Assertion and V2

Consider the Assertion Hypothesis again, repeated below:

(36) *The Assertion Hypothesis:*
The more asserted (the less presupposed) the complement is, the more compatible it is with V2 (and other root phenomena).

Looking at the first four classes of predicates, the hypothesis seems to be supported by our data. Complements under Class A and B predicates are asserted and allow both the V>Neg word order and topicalization of non-subjects in the four varieties of Scandinavian investigated here. Complements under Class C and D predicates are not asserted and although V>Neg is allowed in Faroese and Icelandic, topicalization of non-subjects is impossible or marked in all four varieties.

Complements under semi-factives (Class E), however, appear problematic. These are well-known for sharing properties both with asserted complements (Class A and B) and with complements of factive predicates (Class D), which are presupposed (e.g. Hooper and Thompson 1973, Hooper 1975). If the existence of the event referred to by the complement is presupposed, it should not be possible that it is also asserted. We have seen that – despite this – V2 is unrestricted under semi-factive verbs, a fact noted also by our predecessors. In all four languages, the V>Neg word order and topicalization of non-subjects is unproblematic under predicates of Class E, in line with Class A and Class B complements.

Recall that one characteristic of semi-factives is that they may lose their factivity in certain contexts. In questions, under certain modals, and if embedded in the antecedent of a conditional, semi-factives are ambiguous between a factive and non-factive reading. One important thing to investigate is thus whether or not these predicates are indeed used factively in the contexts

where V2 is a possibility. For this purpose, we adopt the *entailment preservation under negation* test from Kiparsky and Kiparsky (1970). Consider the Swedish sentences in (37). (37a) exemplifies a clause with non-V2 word order embedded under semi-factive *discover*, (37b) a V2 clause (non-subject topicalization) under the same verb. Both sentences entail (37c).

(37) a. Vi upptäckte att han inte läste den boken varje dag.
we discovered that he not read that book-the every day
b. Vi upptäckte att den boken läste han inte varje dag.
we discovered that that book-the read he not every day
c. Han läste inte den boken varje dag.
he read not that book-the every day

If the matrix predicate presupposes the existence of the event in the embedded clause, the entailment relations above should not be altered by the presence of sentential negation in the matrix clause. And they are not. (38a) and (38b) below both entail (37c), repeated in (38c).

(38) a. Vi upptäckte faktiskt **inte** att han inte läste den boken
we discovered actually not that he not read that book-the
varje dag.
every day
b. Vi upptäckte faktiskt **inte** att den boken läste han inte
we discovered actually not that that book-the read he not
varje dag.
every day
c. Han läste inte den boken varje dag.
he read not that book-the every day

In this sense, *upptäcka* ‘discover’ (Class E) behaves like *ångra* ‘regret’ (Class D) for which the same pattern can be replicated. Both presuppose the existence of the event referred to by the embedded clause. The difference between them is that the latter predicates do so under all conditions, whereas the former are ambiguous under certain conditions (Karttunen 1971). What is relevant to us is the fact that Class E predicates may select V2 clauses when they are used factively, as shown above. Thus, factivity is irrelevant to V2. For this reason, the assertion hypothesis seems to need some qualification.

Note that an old observation is that matrix negation blocks V2 in the embedded clause (Blümel 1914, see also Meinunger 2006). Although this is true for many contexts also in Scandinavian, it is not true for semi-factives, as can be seen in (38b) above. We disregard the possibility of interpreting the matrix negation in (38) and similar examples as presupposition cancelling negation.

This is a use of negation that we take to involve rejection of an utterance on any grounds, even style or phonetic realization, see Horn (2001) for discussion.

Since the selected clause is a fact under the relevant predicates, we expect it to be impossible to deny the truth of the embedded clause alone. This expectation is met. Adding the tag corresponding to English *but he did not* to sentences of the kind *They discovered that he read that book every day* yields a rather odd result:[9]

(39) a. De upptäckte att han läste den boken varje dag, #men
they discovered that he read that book-the every day but
det gjorde han inte.
that did he not

b. De upptäckte att den boken läste han varje dag, #men
they discovered that that book-the read he every day but
det gjorde han inte.
that did he not

In other words, something which is presupposed cannot also be asserted. Note the clear contrast between (semi-)factives and assertives such as e.g. *say* from Class A. The latter embed statements, which can be denied without producing the oddity seen above:

(40) a. De sa att han läste den boken varje dag, men det gjorde
they said that he read that book-the every day but that did
han inte.
he not

b. De sa att den boken läste han varje dag, men det gjorde
they said that that book read he every day but that did
han inte.
he not

Recall from the introduction that two senses of assertion have been referred to in attempts to define contexts that support root phenomena. Hooper and Thompson (1973:473) define the *assertion* of a sentence roughly as:

(41) a. That part which can be questioned and denied.
b. The core meaning or *main assertion* of a sentence.

[9]Hooper and Thompson 1973 note that there is some variation concerning the possibility to negate or question the complement of semi-factive verbs in English. The informants consulted here all agree that this is not possible in their respective varieties of Scandinavian with verbs like *discover*.

We take (41a) to mean that an assertion must be a proposition. (41b) is usually taken to mean that proposition whose truth is at stake in the discourse. We take the strict sense of assertion to make reference to both properties. From (39), we may conclude that semi-factives do not embed assertions in the former sense and from (39b) that this sense is not relevant to V2:

(42) V2 clause $\nrightarrow$ Proposition

Turning to the latter sense of assertion, consider a complex sentence involving a Class A predicate:

(43) Han sa att hon hade kommit hem.
he said that she had come home

The sentence has two readings. Either the whole sentence *He said X* is the main assertion, or the complement *She had come home* is the main assertion. The latter reading of *say* has been called a *parenthetical* reading (Urmson 1952).[10] Hooper and Thompson (1973) observed that semi-factives (Class E) behave like assertive predicates (Class A and B) in that they have parenthetical uses; their complement may be the main assertion of the sentence. Anticipating conclusions to be drawn shortly, it is the availability of a parenthetical reading of this kind that appears to correlate with V2.

5.6 Main point of utterance and V2

The notion of *main assertion* in Hooper and Thompson (1973) seems to correspond closely to what Simons (2007) labels the *main point of utterance* (henceforth MPU). We adopt this label rather than *main assertion* for two reasons. First, complements of semi-factives may be "main assertions" but are still not assertions in the strict sense, as we have shown in the above section. For this reason, *main assertion* is a misnomer. Second, Simons (2007) offers a diagnostic for MPU that we find useful: "[T]he main point of an utterance U given in answer to a question is that part of the content of U which constitutes the proffered answer to the question." (Simons 2007:2, fn.2). Question-answer exchanges may thus be used to identify MPU. For our purpose this means that whenever the content of an embedded clause alone can constitute the answer to a question, the embedded clause has the possibility of being the MPU.

[10]Note that the possibility of interpreting a verb parenthetically does not always correlate with the possibility of using the verb in a syntactic parenthetical of the kind *She had come home,* ***he said***. We refer the reader to Simons 2007 for examples showing this.

Applying this diagnostic to the five classes of predicates we have been using, we find that those classes of predicates which may embed a potential MPU in the above sense are exactly those that are compatible with V2 in the embedded clause (Class A, B, and E). Those classes of predicates which may not embed an MPU are exactly those that impose restrictions on V2 in the embedded clause (Class C and D). In other words, MPU-compatible environments correspond to environments where V2 is unrestricted in all four varieties of Scandinavian investigated here:

(44) Possibility of being Main Point of Utterance ↔ Possibility of displaying unrestricted V2

Starting with semi-factives (Class E), the problems of which we left unsolved in the preceding section, it is possible to formulate a question such that the clause embedded under a semi-factive constitutes the answer to that question. The exchange below is exemplified by Norwegian:

(45) Q: Hvorfor kom han ikke på møtet igår? (Class E)
why came he not on meeting-the yesterday
A_1: Vi oppdaget at **han ikke hadde fått på vinterdekkene**
we discovered that he not had got on winter.tires-the
ennå. (non-V2)
yet
A_2: Vi oppdaget at **ennå hadde han ikke fått på vinterdekkene**.
we discovered that yet had he not got on winter.tires-the
(V2)
A_3: **Han hadde ikke fått på vinterdekkene ennå**.
he had not got on winter.tires-the yet

A_1, A_2, and A_3 are all possible responses to the question in (45). In A_1 and A_2, the answer is contained in the embedded clause; that is where the main information of the whole clause is (MPU). The reason he did not come to the meeting yesterday was not the fact that we discovered something, but that he had not changed to winter tires on his car yet. In this respect, Class E predicates pattern with Class A and B predicates. These may also embed complements that constitute the MPU:

(46) Q: Hvorfor kom han ikke på festen? (Class A)
why came he not on party-the
A_1: Hun sa at **han ikke hadde tid**.
she said that he not had time

A_2: **Han hadde ikke tid**.
he had not time

(47) Q: Hvorfor avbestilte hun flybilletten? (Class B)
why cancelled she flight.ticket-the
A_1: Han trodde at **hun ikke hadde tid til å dra likevel**.
he believed that she not had time to to go after.all
A_2: **Hun hadde ikke tid til å dra likevel**.
she had not time to to go after.all

In (46), the reason he did not come to the party was either that she said that he did not have time or that he did not have time. Likewise in (47), the reason she cancelled her flight ticket was either because of his belief that she did not have time to go or because she did not have time to go. The availability of the second readings shows that both Class A and B complements can constitute the MPU.

In contrast, complements of Class C and D predicates may not on their own constitute MPUs. The A_1 answers below are thus not appropriate ways of responding to the relevant questions:

(48) Q: Hvorfor måtte han i fengsel? (Class C)
why must he in jail
A_1:#Han benektet at **han ikke hadde betalt skatt**.
he denied that he not had paid tax
A_2: **Han hadde ikke betalt skatt**.
he had not paid tax

(49) Q: Hvorfor kjøpte du ikke noe på salget? (Class D)
why bought you not anything on sale-the
A_1:#Jeg angret på at **jeg hadde brukt opp alle pengene mine**
I regretted on that I had used up all money-the my
før jul.
before Christmas
A_2: **Jeg hadde brukt opp alle pengene mine før jul**.
I had used up all money-the my before Christmas

In (48), the reason he had to go to jail is that he did not pay taxes, not that he denied this. In (49) the reason I did not buy anything on the sale is that I had spent all my money before Christmas, not that I regretted this. The expected answers to the relevant questions are not accessible when constituting the content of a clause embedded under Class C and D predicates.

Before drawing conclusions, it is worth noting that both V2 and MPU

seem independent of mood selection in Icelandic. This is unlike e.g. Romance where there is a correlation between selection of the subjunctive mood and non-root environments, see Meinunger (2004) for discussion. In the exchange below, we see that non-subject topicalization is possible in both indicative (A_1) and subjunctive (A_2) environments. Moreover, it is the embedded clause that constitutes the MPU in both answers. The reason noone was at work yesterday was that all Norwegians go skiing in such weather:

(50) Q: Af hverju var enginn í vinnunni í gær?
why was noone in work yesterday
A_1: Ég frétti að **í svona veðri fara allir Norðmenn á skíði**.
I heard that in such weather go.ind all Norwegians on skis
A_2: Ég frétti að **í svona veðri fari allir Norðmenn á skíði**.
I heard that in such weather go.subj all Norwegians on skis

Having said this, we may confidently conclude that the possibility of being MPU goes hand in hand with unrestricted V2 in the environments investigated. Clauses selected by Class A, B, and E predicates may constitute the MPU and display both V2 word orders. Clauses selected by Class C and D predicates may not constitute the MPU and are incompatible with one of the two V2 word orders in Faroese and Icelandic (non-subject topicalization) and both V2 word orders in Norwegian and Swedish.

A natural question to ask at this point is whether V2 is a prerequisite for an MPU-reading of the clause, given its purported relation to the illocutionary force of assertion. The answer is no. The embedded clause of A_1 in the exchange given in (45) constitutes the MPU but does not display V2.

The next question is whether the property of being a MPU is a prerequisite for V2. That is, do all V2 clauses yield an unambiguous MPU-reading? Again, the answer is no. Consider the following exchange from Norwegian, the answer involving embedded V>Neg word order:

(51) Q: Hvorfor kom han ikke på festen?
why came he not on party-the
A: Kristine sa at han fikk ikke lov.
Kristine said that he got not permission

In the above answer, either the whole sentence or the embedded clause alone may constitute the MPU. That is, the reason why he did not come to the party

is either because Kristine said something (that he did not have permission to go there) or because he did not have permission to go there (a piece of information that we got from Kristine). Given that the embedded clause in the answer above displays V2 and given that a non-MPU reading is available for that clause, MPU is not a necessary condition for V2. In other words, V2 does not yield an unambiguous MPU reading of the embedded clause. Somewhat surprisingly, the same seems to be true of clauses involving non-subject topicalization:

(52) Q: Hvorfor kjøpte ikke Jon Store norske leksikon?
why bought not Jon big Norwegian encyclopedia
A: Faren hans mente at slike bøker hadde ikke Jon råd
father-the his thought that such books had not Jon means
til å kjøpe.
to to buy

On one reading of the above answer, the reason why Jon did not buy the encyclopedia was because his father thought he could not afford it. Thus, the embedded clause does not necessarily constitute the MPU, despite involving topicalization. At this point we know the following:

(53) MPU $\nrightarrow$ V2

(54) V2 $\nrightarrow$ MPU

MPUs do not necessarily display V2. The crucial finding is that such clauses have the possibility of displaying any of the two V2 word orders. V2, in turn, does not yield an unambiguous MPU reading. The crucial finding is that a clause where both V2 word orders are possible is a clause that may constitute the MPU. Although neither of the two root phenomena imply the presence of the other, they are selected by the same set of predicates.

(55) Possibility of being Main Point of Utterance $\leftrightarrow$ Possibility of displaying unrestricted V2

Returning to the illocutionary force of assertion, we may ask what is left of the Assertion Hypothesis in (36) given our findings. We have seen that V2 clauses are not necessarily assertions in the strict sense of the term. We have also seen that even if we would restrict the term *assertion* to *main point of utterance* (or *main assertion*), V2 may occur independently of assertion and vice versa. The only thing unrestricted V2 and assertion *qua* MPU have in common is that both are root phenomena and therefore confined to the same environment. Semantically speaking, the environment seems to correspond to

something that can constitute new information to the listener (and therefore can constitute the MPU), a conclusion that bears similarities to the conclusion drawn in Meinunger (2006).[11] Even though we have not settled issues concerning the Force behind V2 in this paper, we have shown that there is no clear definition of assertion that identifies V2. Rather, the availability of MPU correlates with unrestricted V2.

5.7 Analysis

In the preceding sections we have identified the distribution of embedded V2 in Faroese, Icelandic, Swedish, and Norwegian. We have shown that complements of Class A (strongly assertive) predicates, Class B (weakly assertive) predicates, and Class E (semi-factive) predicates pattern together in that they allow both the word order V>Neg and topicalization of non-subjects. Complements of Class C (non-assertive) predicates and Class D (factive) predicates, on the other hand, display restrictions with respect to these root phenomena. In all the languages investigated here, topicalization of a non-subject is not available (or very marked) in complements of Class C and D predicates. Furthermore, the word order V>Neg is also banned in these contexts in Norwegian and Swedish. Our investigations of the Scandinavian languages thus replicates the findings concerning the distribution of embedded root phenomena reported in e.g. Hooper and Thompson (1973) and Julien (2006).

In this section, we will take a look at how Class A, B, and E differ from Class C and D with respect to the structural makeup of their complements.

5.7.1 More vs. less structure

Following (among many others) Hooper and Thompson (1973) and Haegeman (2006), we assume that the difference between embedded clauses allowing V2 and those that do not lies in the size of the structure. Haegeman (2006) discusses the differences between two types of adverbial clauses in English, *central* adverbial clauses and *peripheral* adverbial clauses. Peripheral adverbial clauses display several phenomena associated with root clauses, whereas such phenomena are not found in central adverbial clauses.

[11] That new information may be found under Class E predicates may seem paradoxical at first. Note however that complements of semi-factives are not presupposed in the sense of being common ground/known to both speaker and addressee. Only the speaker is commited to the truth of the embedded clause, cf. the observation of Simons 2007 that factivity and presuppositionality comes apart in semi-factives.

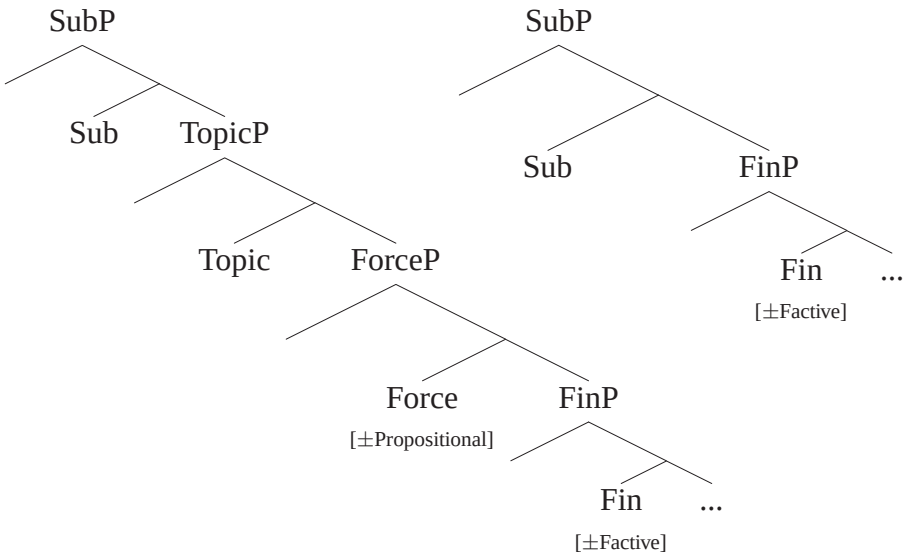
Haegeman (2006) accounts for this by assuming that peripheral adverbial clauses (as well as root clauses) contain a functional projection in the CP domain which anchors the proposition to the speaker. This projection is labeled ForceP, and it is argued to be responsible for the licensing of illocutionary force and non-subject topicalization. In central adverbial clauses, ForceP is crucially absent.

We adopt the analysis in Haegeman (2006) and apply it to the predicate classes discussed in this paper. It is clear that complements of Class A, B, and E pattern with peripheral adverbial clauses in allowing root phenomena: They allow non-subject topicalization and MPU-readings. Therefore, these must contain ForceP.

Complements of Class C and D predicates, on the other hand, pattern with the central embedded clauses in not allowing these root phenomena. Therefore these complements must lack the ForceP projection.

Following Haegeman (2006), we propose the structures below for complements of Class A, B, and E predicates and of Class C and D predicates, respectively:

(56) Class A, B, and E:



Class C and D:

ForceP encodes the illocutionary force of a clause and we assume that this is a prerequisite for the possibility of being MPU. ForceP furthermore licenses the presence of TopicP, which is the target projection for topicalized non-subjects. Finally, recall that both propositional clauses (selected by A, B) and non-propositional clauses (selected by E) may constitute a MPU. In order to account for this, we postulate a feature [Propositional] in ForceP. A conse-

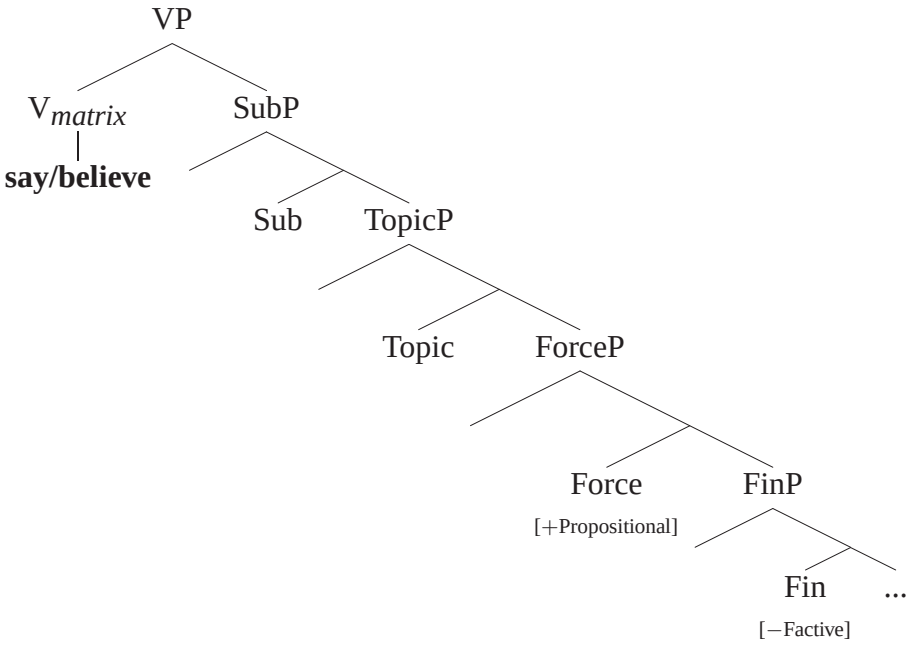
quence of our analysis is thus that only clauses specified for [Propositional] may have their own illocutionary force, and thereby the possibility of being MPU. FinP, which is present in all finite embedded clauses, is specified for the feature [Factive].

These features yield six logical combinations. The combination [+Propositional] [+Factive] is impossible for semantic reasons, as a clause cannot be both presupposed and asserted (in the strict sense). Furthermore, we assume that a clause cannot be specified as [−Propositional] and [−Factive]. This leaves the following combinations:

(57) (i) Class A and B complements: [+Propositional], [−Factive]
(ii) Class E complements: [−Propositional], [+Factive]
(iii) Class C complements: [−Factive]
(iv) Class D complements: [+Factive]

We assume that Class A and B complements are [+Propositional] and [−Factive]. This analysis correctly predicts these complements to be asserted in the strict sense of this term. The presence of ForceP makes an MPU-reading available. Since they are [+Propositional], the content of the clause may be questioned and denied and is therefore not presupposed. The structure for complements of Class A and B predicates is illustrated below:

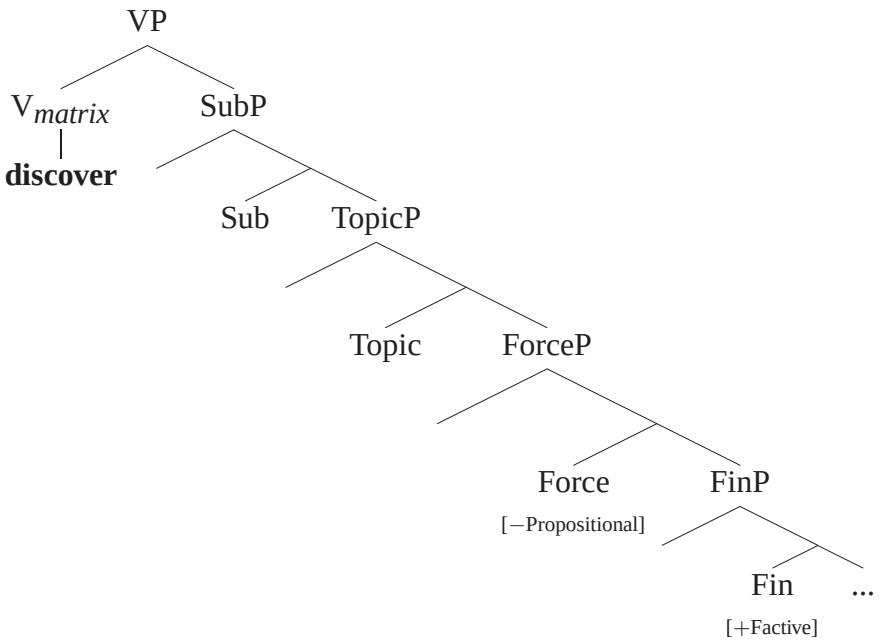
(58) Class A and Class B:



On the assumption that complements of Class E predicates are [−Propositional]

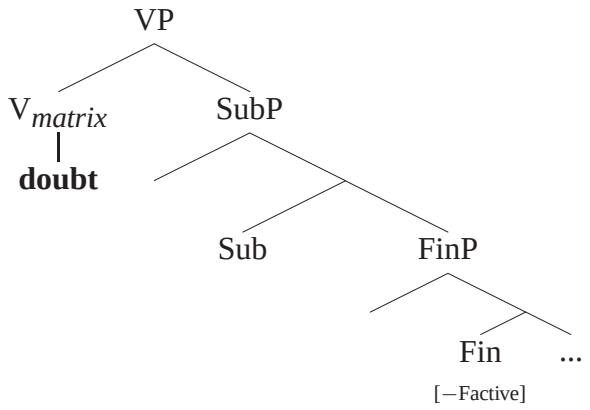
and [+Factive], we capture the fact that these clauses are facts but still capable of supporting root phenomena. They share with Class A and B complements the presence of ForceP, yielding the possibility of MPU and non-subject topicalization. However, they differ from Class A and B complements in being [+Factive], i.e. presupposed. Being [+Factive] forces a negative specification for propositionality which means that the content of the clause cannot be questioned and denied:

(59) Class E:

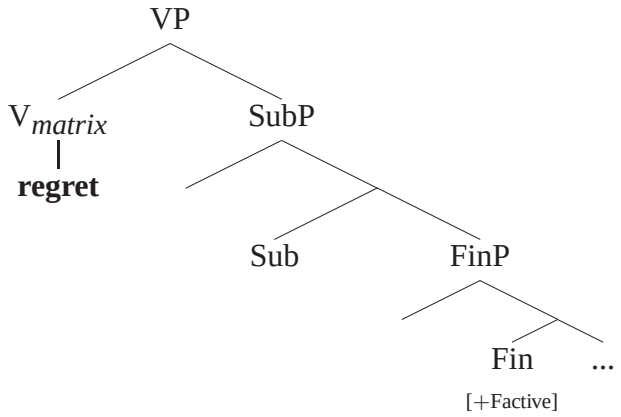


Complements of Class C and D predicates differ from Class A, B, and E predicates in not containing ForceP, correctly predicting the impossibility of MPU-readings and non-subject topicalization. Class C complements differ from Class D complements in not being factive. This is encoded by a negative specification for the feature [Factive]. The structures for Class C and Class D complements are shown below:

(60) Class C:



(61) Class D:



5.7.2 Further support

In her discussion of peripheral and central adverbial clauses, Haegeman (2006) observes an additional difference between the two. The former but not the latter are compatible with epistemic modality. She argues that epistemic modality is licensed by ForceP and shows that this is available in peripheral adverbial clauses, but not in central adverbial clauses. Her analysis predicts this difference since peripheral adverbial clauses contain ForceP, whereas central adverbial clauses do not. If the presence or absence of ForceP is crucial for the availability of expressions of epistemic modality, we would expect this to be reflected in the embedded complements discussed in this paper as well. Below, we investigate the availability of epistemic expressions: epistemic modal auxiliaries and epistemic adverbs.

The following examples show that epistemic modal auxiliaries are restricted to Class A, B, and E complements. Note that modal auxiliaries are

possible in the complements of Class C and D predicates as well, but only on the deontic reading.

Class A: Strongly assertive predicates

(62) Han sa at de måtte være der. (epistemic / deontic)
he said that they must be there

(63) a. Hann sagði að þau hlytu að vera þar. (epistemic)
he said that they must to be there

b. Hann sagði að þau mættu vera þar. (deontic)
he said that they must be there

Class B: Weakly assertive predicates

(64) Han trodde at de måtte være der. (epistemic / deontic)
he believed that they must be there

(65) a. Hann hélt að þau hlytu að vera þar. (epistemic)
he thought that they must to be there

b. Hann hélt að þau mættu vera þar. (deontic)
he thought that they must be there.

Class E: Semi-factives

(66) Han oppdaget at de måtte være der. (epistemic / deontic)
he discovered that they must be there

(67) a. Hann uppgötvaði að þau hlytu að vera þar. (epistemic)
he discovered that they must to be there

b. Hann uppgötvaði að þau mættu vera þar. (deontic)
he discovered that they must be there

Class C: Non-assertive predicates

(68) Han benektet at de måtte være der. (*epistemic / deontic)
he denied that they must be there

(69) a. *Hann neitaði að þau hlytu að vera þar. (*epistemic)
he denied that they must to be there

b. Hann neitaði að þau mættu vera þar. (deontic)
he denied that they must be there

Class D: Factives

(70) Han skjemtes over at de måtte være der. (*epistemic / deontic)
he was.ashamed over that they must be there

(71) a. *Hann var ánægður með að þau hlytu að vera þar. (*epistemic)
he was pleased with that they must to be there

b. Hann var ánægður með að þau mættu vera þar. (deontic)
he was pleased with that they must be there

Turning to epistemic adverbs, these are also restricted to Class A, B, and E complements. In complements of Class C and D predicates, such adverbs are impossible, or at least degraded:

Class A: Strongly assertive predicates

(72) a. Han sier at de sannsynligvis har kjøpt en Toyota.
he says that they probably has bought a Toyota
b. Hann segir að þau hafi sennilega keypt Toyotu.
he says that they have probably buy Toyota

Class B: Weakly assertive predicates:

(73) a. Han tror at de sannsynligvis har kjøpt en Toyota
he believes that they probably have bought a Toyota
b. Hann heldur að þau hafi sennilega keypt Toyotu.
he believes that they have probably bought Toyota

Class E: Semi-factive complements

(74) a. Han oppdaget at de sannsynligvis hadde kjøpt en Toyota.
he discovered that they probably had bought a Toyota
b. Hann uppgötvaði að þau höfðu sennilega keypt Toyotu.
he discovered that they had probably bought Toyota

Class C: Non-assertive predicates

(75) a. *Han tviler på at de sannsynligvis har kjøpt en Toyota.
he doubts on that they probably have bought a Toyota
b. *Hann efast um að þau hafi sennilega keypt Toyotu.
he doubts on that they have probably bought Toyota

Class D: Factives

(76) a. ??Han skjemmes over at de sannsynligvis har kjøpt en Toyota.
he is.ashamed over that they probably have bought a Toyota
b. Hann skammast sín fyrir að þau hafi sennilega keypt Toyotu.
he is.ashamed REFL over that they have probably bought Toyota

5.8 Two types of V2

We have proposed that Class A, B, and E predicates differ from Class C and D predicates with respect to the size of their complements and provided some independent support in favor of this proposal. The former predicate classes differ from the latter in selecting clauses that contain a ForceP projection. This is why we find root phenomena such as non-subject topicalization and MPU-readings in these on our proposal.

We have seen that clauses selected by Class C and D predicates in Faroese and Icelandic behave differently from those in Norwegian and Swedish. The V>Neg word order is allowed in these clauses in Faroese and Icelandic, not in Norwegian and Swedish. Thus, while the V>Neg word order is a root phenomenon in Norwegian and Swedish, it is not necessarily so in Faroese and Icelandic. This word order must therefore be analyzed differently in the two language groups, cf. previous analyses of this movement as being to the inflectional domain of the clause.

In Norwegian and Swedish, the relevant movement must target ForceP, if we are correct in assuming that ForceP licenses root phenomena. Turning to Faroese and Icelandic, recall that we have reasons to believe that all verb movement in Icelandic is to the CP domain of the clause. Since Class C and D complements lack ForceP, Faroese and Icelandic V2 movement must be capable of targeting the projection lower than one associated with root phe-

nomena, i.e. below ForceP but still within the CP domain of the clause.[12] We propose that this projection is FinP since this is the only part of CP present in Class C and D complements. Thus, Faroese and Icelandic V2 movement may target FinP, Norwegian and Swedish V2 movement may not. Our analysis captures the fact that there is no correlation between the possibility of displaying the V>Neg word order and the possibility of constituting MPU in Faroese and Icelandic. As we have seen, such a correlation exists in Norwegian and Swedish.

We have presented arguments in favor of two types of V2. One is a root phenomenon, targeting ForceP and beyond. This movement yields non-subject-initial V2 in all four languages and subject-initial V2 in Norwegian and Swedish. The other is not a root phenomenon and targets a domain lower than ForceP but still within the CP domain of the clause, FinP on our analysis. This movement is only available in Faroese and Icelandic and yields subject-initial V2 in these languages. This is also the V2 movement that we find in embedded questions and relative clauses in the same languages (i.e. the contexts traditionally called *non-V2* contexts).

(77) *Target domains for V2 movement in Scandinavian*

	Subject-initial V2	Non-subject-initial V2
Faroese & Icelandic	FinP	TopicP
Norwegian & Swedish	ForceP (or beyond)	TopicP

We will now take a look at extraction data. As we will see, these provide further support for our division between the two types of V2 movement. Movement to ForceP and beyond yields an island for extraction, whereas movement to FinP does not.

5.9 On the islandhood of V2

Consider the example in (78) illustrating extraction from an embedded clause displaying the V>Neg word order. The embedded clause may either be analyzed as a subject-initial V2 clause, or as involving verb movement to the inflectional domain of the clause, i.e. a non-V2 clause.

(78) **Hverjum** heldur þú að María gefi ekki svona bækur? (Ic.)
who think you that María gives not such books

[12] Although not directly relevant for the purpose of this paper, the term *V2 movement* refers to XP movement of a verb and one specifier to the CP domain of the clause, see Wiklund et al. to appear.

Vikner (1995b:108-119) claims that extraction from V2 clauses is impossible. Therefore, he argues, the non-V2 analysis is the only one available for the embedded clause in (78).

We have argued that all instances of V>Neg word order in Scandinavian must be analyzed as displacement of the verb to the CP domain of the clause. On this view, the embedded clause in (78) is indeed a subject-initial V2 clause and, thus, extraction cannot be excluded from V2 clauses.

In what follows, we apply the tests in (79) to identify the possibility of argument extraction from clauses involving V>Neg word order and non-subject topicalization, respectively, and adjunct extraction from clauses involving V>Neg word order.

(79) *Extraction tests*

(i) Subject extraction from clauses involving topicalization.
(ii) Object extraction from clauses involving topicalization.
(iii) Subject extraction from clauses involving V>Neg order.
(iv) Object extraction from clauses involving V>Neg order.
(v) Adjunct extraction from clauses involving V>Neg order.

The tests have been applied to each of the five predicate classes, Class A, B, C, D, and E. Since the results look the same across all classes, we will only illustrate the results for Class A. Note that in Norwegian and Swedish, the tests are not applicable to clauses embedded under Class C and D predicates for the simple reason that these are not compatible with V2.

We will see that although extraction is always excluded from V2 clauses displaying non-subject topicalization, it is not always excluded from subject-initial V2 clauses, cf. (78) above. The four languages under investigation will divide into three classes with respect to the islandhood of V2. V2 clauses are strong islands in Swedish, weak islands in Norwegian, and no islands in Faroese and Icelandic.

A couple of issues that are crucial to the interpretation of the data must be mentioned before we turn to the empirical facts. Faroese, Swedish, and some variants of Norwegian display the *that*-trace effect (see e.g. Taraldsen 1980 and Thráinsson et al. 2004), whereas Icelandic and other variants of Norwegian, including Northern Norwegian, do not. In brief, the *that*-trace effect means that it is impossible to extract a subject across the complementizer. For this reason, the Faroese and Swedish examples in (80) do not tell us anything about the possibility of extraction from V2 clauses. They would be ungrammatical in any case:

(80) a. *Hvør$_i$ segði hann at t_i dugdi ikki at syngja henda sangin?
who said he that could not to sing this.here song-the (Fa.)
b. *Vem$_i$ sa han att t_i kunde inte sjunga den här sången? (Sw.)
who said he that could not sing this here song-the

The ungrammatical status of the sentences in (80) vanishes if the complementizer is deleted but with different results in the two languages:

(81) a. Hvør$_i$ segði hann t_i dugdi ikki at syngja henda sangin? (Fa.)
who said he could not to sing this.here song-the
b. Vem, sa han, kunde inte sjunga den här sången? (Sw.)
who said he could not sing this here song-the

As we will see below, object extraction is always possible from clauses displaying the V>Neg word order in Faroese. From this fact we infer that (81a) illustrates true subject extraction.[13] In the relevant Swedish variety, on the other hand, object extraction is never possible from these clauses. The only available reading for (81b) is a parenthetical reading. Thus, the sentence cannot involve extraction at all. Bearing these facts in mind, we now turn to the data.

5.9.1 Topicalization and argument extraction

These are the tests that identify the possibility of argument extraction from clauses involving non-subject topicalization:

(82) (i) **wh-subject** said he that [non-subject V_{fin} _ neg].
(ii) **wh-object** said he that [non-subject V_{fin} subject neg _].

All four languages disallow extraction from clauses involving non-subject topicalization:[14]

(83) a. *Hvør$_i$ segði hann at hesar bøkur hevði t_i ikki givið børnunum? (Fa.)
who said he that these books had not given children-the
b. *Hvørjum$_i$ segði hann at hesar bøkur hevði hann ikki givið t_i?
who said he that these books had he not given

[13] Note that some of the Class D predicates in Faroese, including *vera stoltur av* 'be proud of', require the overt realization of the complementizer *at* 'that'. For these predicates, the subject extraction test is not applicable because of the *that*-trace effect.

[14] The judgments of the examples do not change if the negation is left out.

(84) a. *Hver$_i$ sagði hann að þessar bækur hefði t_i ekki gefið börnunum?
who said he that these books had not given children-the
(Ic.)

b. *Hverjum$_i$ sagði hann að þessar bækur hefði hann ekki gefið t_i?
who said he that these books had he not given

(85) a. *Hvem$_i$ sa han at denne boka hadde t_i ikke gitt til Kari? (No.)
who said he that this book-the had not given to Kari

b. *[Til hvem]$_i$ sa han at denne boka hadde hun ikke gitt t_i?
to whom said he that this book-the had she not given

(86) a. *Vem$_i$ sa han att den här boken hade t_i inte gett till Karin?
who said he that this here book-the had not given to Karin
(Sw.)

b. *[Till vem]$_i$ sa han att den här boken hade hon inte gett t_i?
to whom said he that this here book-the had he not given

Vikner (1995b) was thus partially correct in his claim that extraction is impossible from V2 clauses. However, looking at extraction from clauses involving the V>Neg word order, we will see a different picture.

5.9.2 V>Neg and argument extraction

These are the tests that identify the possibility of argument extraction from clauses involving the V>Neg word order:

(87) (iii) **wh-subject** said he that [_ V_{fin} neg].
(iv) **wh-object** said he that [subject V_{fin} neg _].

All the languages under investigation, except Swedish, allow argument extraction from clauses displaying the V>Neg word order.[15]

(88) a. Hvør$_i$ segði hann (*at) t_i dugdi ikki at syngja henda sangin? (Fa.)
who said he that could not to sing this.here song-the

b. [Henda sangin]$_i$ segði hann at hann dugdi ikki at syngja t_i.
this.here song-the said he that he could not to sing

(89) a. Hver$_i$ sagði hann að t_i gæti ekki sungið þetta lag? (Ic.)
who said he that could not sing this song

[15]Recall that Swedish refers to the variety spoken by the Swedish author of this paper (A-LW).

b. [Þetta lag]$_i$ sagði hann að hann gæti ekki sungið t_i.
this song said he that he could not sing

(90) a. Hvem$_i$ sa han at t_i kunne ikke synge denne sangen? (No.)
who said he that could not sing this song-the

b. [Denne sangen]$_i$ sa han at han kunne ikke synge t_i i bryllupet.
this song-the said he that he can not sing in wedding-the

(91) a. *Vem$_i$ sa han (att) t_i kunde inte sjunga den här sången? (Sw.)
who said he (that) could not sing this here song-the

b. *[Den här sången]$_i$ sa han att han kunde inte sjunga t_i på bröllopet.
this here song-the said he that he can not sing on wedding-the

Up to this point, Swedish and Norwegian have patterned together regarding V2, but with respect to extraction out of V2 clauses they clearly divide. Swedish never allows argument extraction from clauses involving the V>Neg word order, whereas Norwegian does. Hence, in this sense, Norwegian patterns with Faroese and Icelandic:[16]

(92) *Argument extraction from clauses involving the V>Neg word order*

	Faroese	Icelandic	Norwegian	Swedish
Class A	✓	✓	✓	*
Class B	✓	✓	✓	*
Class C	✓	✓	–	–
Class D	✓	✓	–	–
Class E	✓	✓	✓	*

As we will see in the next section, the similarities between Faroese, Icelandic, and Norwegian do not hold with respect to adjunct extraction.

5.9.3 Adjunct extraction

This is the test to identify the possibility of adjunct extraction from clauses involving the V>Neg word order:

(93) (v) **wh-adjunct** said he [that Subj V_{fin} Neg Obj _]

We incorporate the test into question-answer pairs to make the available readings clearer:

[16]The sign '–' in the table indicates inapplicability of extraction tests for reasons described above.

(94) Q: Hví segði tú, at tú hevði ikki hitt drotningina t_i? (Fa.)
why said you that you had not met queen.the

A_1 Eg segði tað, tí eg helt, tú átti at vita tað. (WH > Matrix)
I said it because I thought you should to know it

A_2 Hon hevði ikki tíð at hitta meg. (WH > Embedded)
She had not time to meet me

(95) Q: Af hverju$_i$ sagðirðu t_i að þú hefðir ekki hitt drottninguna t_i? (Ic.)
why said.you that you had not met queen-the

A_1 Ég sagði það af því að mér fannst þú ættir að vita það. (WH > matrix)
I said it because I found you should to know it

A_2 Hún hafði ekki tíma til að hitta mig. (WH > embedded)
she had not time to to meet me

(96) Q: Hvorfor$_i$ sa du t_i at du hadde ikke møtt dronninga *t_i? (No.)
why said you that you had not met queen-the

A_1 Jeg sa det fordi jeg syntes du burde vite om det. (WH > matrix)
I said it because I thought you should know about it

A_2 #Hun hadde ikke tid til å møte meg. (WH > embedded)
she had not time to to meet me

(97) Q: Varför$_i$ sa du t_i att du hade inte träffat drottningen *t_i? (Sw.)
why said you that you had not met queen-the

A_1 Jag sa det för att jag tyckte att du borde veta om det. (WH > matrix)
I said it because I thought that you should know about it

A_2 #Hon hade inte tid att träffa mig. (WH > embedded)
she had not time to meet me

In Faroese and Icelandic, the adjunct may originate from within the embedded clause, showing that adjunct extraction from clauses involving the V>Neg word order is unproblematic in these languages. This does not hold for Norwegian and Swedish. In the presence of V2 in the embedded clause, the adjunct may only be read as originating from within the matrix clause.

5.10 Two types of V2 revisited

In all four languages, argument extraction is impossible from clauses involving non-subject topicalization. Turning to embedded V2 clauses involving the V>Neg word order, the languages divide in three. These clauses are not islands for extraction in Faroese and Icelandic since both argument and adjunct extraction is possible. They are weak islands in Norwegian because argument but not adjunct extraction is possible. They are strong islands in Swedish because neither argument nor adjunct extraction is allowed:

(98) *The islandhood of V>Neg*

	Argument extraction	Adjunct extraction	Islandhood
Faroese	✓	✓	none
Icelandic	✓	✓	none
Norwegian	✓	*	weak
Swedish	*	*	strong

Placing the extraction data just presented in connection with the two types of V2 that we identified above, the following picture emerges. Non-subject-initial V2, which on our analysis is movement to TopicP, yields island effects in all four languages. Subject-initial V2 only yields island effects in Norwegian and Swedish. On our analysis, this word order is derived by movement to ForceP (or beyond) in these languages, and by movement to FinP in Faroese and Icelandic. In other words, it is the V2 movement that qualifies as a root phenomenon which induces island effects, the one that targets ForceP (or beyond) in our analysis. To account for the difference between Norwegian and Swedish subject-initial V2, we propose that the relevant movement targets TopicP in Swedish and ForceP in Norwegian and that for whatever reason, movement to ForceP yields an island for adjunct but not argument extraction.

(99) *V2 movements and islandhood*

a. V2 movement to FinP induces no island effects.
b. V2 movement to ForceP induces a weak island effect.
c. V2 movement to TopicP induces a strong island effect.

If we are correct, we can further specify the content of table (77) in §5.8:

(100) *Target domains for V2 movement in Scandinavian revised*

	Subject-initial V2	Non-subject-initial V2
Faroese	FinP	TopicP
Icelandic	FinP	TopicP
Norwegian	ForceP	TopicP
Swedish	TopicP	TopicP

5.11 Conclusion

We have investigated the distribution of embedded V2 in Faroese, Icelandic, Norwegian, and Swedish. Our findings conform to those of earlier studies of V2 and other root phenomena. There is a clear division between clauses selected by so-called assertive and semi-factive predicates on the one hand (Class A, B, and E) and clauses selected by non-assertive and factive predicates on the other (Class C and D). V2 is unrestricted in the former and restricted in the latter clauses and this holds across all four Scandinavian languages. Contrary to standard assumptions therefore, Icelandic does not display generalized embedded V2. Under most Class C and D predicates non-subject topicalization is disallowed or marked in Icelandic, in line with the other Scandinavian languages.

The fact that the V>Neg word order is possible under all predicates in Icelandic and varieties of Faroese, but impossible under Class C and D predicates in Norwegian and Swedish, simply means that this word order is a root phenomenon in Norwegian and Swedish alone. If we are correct, there are two domains in the left periphery for verb second displacement, only one of which licenses root phenomena.

In our discussion of the assertion hypothesis and its relevance for V2, we have shown that there is no clear definition of *assertion* that also discerns V2. Our conclusion is that even though one sense of *assertion* – namely *main point of utterance* – seems to be capable of picking out the set of contexts where V2 is unrestricted, V2 may occur independently of an MPU-reading and vice versa.

Chapter 6

The (non-) effect of input frequency on the acquisition of word order in Norwegian embedded clauses

Marit Westergaard and Kristine Bentzen

6.1 Introduction

In this paper we investigate the acquisition of word order in Norwegian embedded clauses. More specifically, we look at how Norwegian children acquire verb placement in embedded *wh*-questions and all types of embedded clauses containing negation or an adverb. We also consider some child-directed speech data, as we believe that it is important for studies in first language acquisition to take into account the role of input in language development. Whether or not one assumes that children are innately endowed with something like Universal Grammar (UG), it is obvious that certain parts of language, such as vocabulary and phonetic inventory, have to be learned from the primary linguistic data (PLD). Lately, the effect of input on the acquisition process has received considerable attention. In much recent work on language acquisition within the constructivist framework (e.g. Tomasello 2003, Theakston et al. 2004), it is argued that input frequency is vital to understanding both the order of acquisition of particular constructions and children's non-target-consistent production. In fact, it is often argued that children's early multi-word utterances are not the result of rule-governed behavior at all, but that they simply follow from a functionally-based distributional analysis of the input. Thus, in children's early production, there is little or no syntactic

structure underlying their utterances. This stands in stark contrast to the generative approach to language acquisition where it is commonly assumed that UG provides the child with the necessary functional structure and constraints, and that all the child needs to do is to learn lexical items and the setting of certain language-specific parameters.

Here we argue that input frequency plays a role in the acquisition of word order, but only in combination with other factors. Thus, our approach is in line with several of the contributions to the present volume, e.g. Roeper, Kupisch, and Bohnacker. The children in our study are acquiring a Northern dialect of Norwegian spoken in the city of Tromsø. Two constructions with similar input frequencies are investigated: embedded questions on the one hand and (all) embedded clauses containing negation or an adverb on the other. Both constructions are very infrequent in the input. We show that children make mistakes in embedded clauses with negation or an adverb, overgeneralizing the word order from main clauses (producing structures with verb movement across negation or an adverb). In contrast, they do not overgeneralize main question word order into embedded questions (producing structures with verb movement across the subject). This is accounted for within a Split-CP model of clause structure and a structure-building approach to language acquisition, where input and economy principles interact in the development of word order. Thus we argue that the lack of input cues for the target word order in itself is not the reason for children's non-target-consistent production. However, low input frequency may be one of the contributing factors causing the target word order in embedded clauses with negation or an adverb to be acquired relatively late. While children have to rely on input to acquire the word order in lower domains of the clause, UG provides them with the information that embedded questions are different from main clause questions with respect to illocutionary force. Consequently children do not project the same functional architecture for the two constructions, and overgeneralization of features from main to embedded questions should therefore be impossible.

The paper is organized as follows. In the next section we outline the relevant word order facts of Norwegian. In section 6.3 we present the acquisition data from the children in this study, while section 6.4 contains an investigation of some of the adult data in the acquisition corpus. Then, in section 6.5 we analyse the child data within an economy-based account of language acquisition. Here we also discuss the role of input frequency in the acquisition process. Section 6.6 is a summary with concluding remarks.

6.2 The word order of Norwegian

Norwegian is a VO language with a rule of verb second (V2), which means that the finite verb has to appear in second position in all main clauses. This is standardly analysed as verb movement to the topmost head position of the clause, C (see e.g. Vikner 1995b). This can be seen in both subject-initial and non-subject-initial clauses, as illustrated in (1) and (2), respectively. Norwegian also shows V2 effects in main *wh*-questions, as in (3).

(1) John liker ikke tog.
John likes not trains
'John does not like trains.'

(2) Ifjor dro John til Peru to ganger.
last-year went John to Peru two times
'Last year John went to Peru twice.'

(3) Hvorfor liker John tog?
why likes John trains
'Why does John like trains?'

In embedded clauses, the finite verb remains within the VP. This is illustrated in (4), where the verb has to follow negation. As we see in example (5), most embedded clauses (such as embedded *wh*-questions) do not allow V2, as the verb must also follow the subject.

(4) Jeg kjenner en mann [som {*liker} ikke {liker} tog].
I know a man who likes not likes trains
'I know a man who doesn't like trains.'

(5) Har du hørt [hvorfor {*liker} John {liker} tog]?
have you heard why likes John likes trains
'Have you heard why John likes trains?'

There are some exceptions to the generalization that the verb does not move in embedded contexts. First of all, Norwegian in general optionally allows verb movement in *that*-clauses that are complements of assertive and semi-factive predicates (*say*, *believe*, *discover*, etc.). In the subject-initial embedded clause in (6) verb movement past negation is optional (cf. the subject-initial main clause in (1)). In the non-subject-initial embedded clause in (7) V2 is obligatory (cf. the non-subject-initial main clause in (2)). Although verb movement past negation is accepted in sentence (6), the preferred option in Norwegian is generally to leave the verb in the VP, according to Garbacz

(2004).[1] However, as shown in (7), these constructions allow embedded topicalization, and then subject-verb inversion is obligatory. Thus, certain *that*-clauses like those in (6) and (7) are arguably contexts where embedded V2 is available.

(6) Hun sier [at John {liker} ikke {liker} tog lenger].
she says that John likes not likes trains longer
'She says that John doesn't like trains any longer.'

(7) John sa at [ifjor dro han til Peru to ganger].
John said that last-year went he to Peru two times
'John said that he was in Peru twice last year.'

Secondly, Bentzen (2003; 2005; 2007a) has shown that several Northern Norwegian dialects also allow verb movement past certain adverbs in non-V2 contexts, such as embedded *wh*-questions, relative clauses, and adverbial embedded clauses. The Tromsø dialect, which is the target dialect of the children in the current study, allows finite auxiliaries preceding certain adverbs such as *ofte* 'often' and *allerede* 'already,' as illustrated in (8) below. Again, verb movement is not the preferred option, and we may thus assume that the word order in (8) is relatively infrequent in the input. Crucially, verb movement is never possible past negation and certain other adverbs such as *heldigvis* 'fortunately' and *også* 'also', as we see in (9).

(8) Vi begynte å bli spente nå...
we began to become excited now

... ettersom vi ville allerede kunne vite resultatet på fredag.
... as we would already could know result.the on Friday
'We started to get excited now as we would be able to know the result already on Friday.'

[1]Garbacz 2004 searched the Big Brother corpus of spoken Norwegian (*Big Brother-korpuset*), and according to his findings, the order S-Neg-V$_{fin}$ is by far the most frequent word order in *that*-clauses, constituting 64% of embedded clauses with negation. The second most common word order is S-V$_{fin}$-Neg, occurring 29% of the time, whereas Neg-S-V$_{fin}$ is the most infrequent pattern (7% of the time). He also ran a similar search in the Oslo corpus of Standard (written) Norwegian, Bokmål (*Oslo-korpuset av taggede norske tekster*). In this corpus, the preference for the S-Neg-V$_{fin}$ order was even more significant. As much as 96% of the sentences had this word order, whereas the other two orders were each used only about 2% of the time. The Big Brother corpus is available at http://www.tekstlab.uio.no/talespraak/bigbrother; the Oslo corpus is available at http://www.tekstlab.uio.no/norsk/bokmaal/.

(9) *... ettersom vi ville ikke kunne vite resultatet før på fredag.
... as we would not could know result.the before on Friday
'... as we would not be able to know the result until Friday.'

There are also some exceptions to the V2 requirement in main clauses. In several Norwegian dialects verb movement is optional in main *wh*-questions (cf. Westergaard 2003, Westergaard and Vangsnes 2005, Vangsnes 2005). The Tromsø dialect has optional V2 in main *wh*-questions with the monosyllabic *wh*-words *kem* 'who,' *ka* 'what,' and *kor* 'where,' as we see in (10)-(12). The example in (13) shows that in the non-V2 cases the verb also has to follow negation, in line with the restriction on moving the verb past negation in non-V2 contexts (cf. example (9) above):

(10) Kem {like} han John {like} best?
who likes he John likes best
'Who does John like the best?'

(11) Ka {er} favorittlandet ditt {er}?
what is favourite-country.the yours is
'What is your favourite country?'

(12) Kor {parkerte} han {parkerte} bilen henne?
where parked he parked car.the LOC
'Where did he park the car?'

(13) Kem han {*lånte} ikke {lånte} penga til?
who he lent not lent money to
'Who didn't he lend money to?'

In *wh*-questions with long *wh*-phrases and the disyllabic question words *koffer* 'why,' *korsn* 'how,' and *katti* 'when,' V2 is obligatory in main *wh*-questions in this dialect, as illustrated in (14)-(16):

(14) Koffer {gikk} han {*gikk} hjem så tidlig?
why went he went home so early
'Why did he go home so early?'

(15) Korsn {visste} du {*visste} kem det var?
how knew you knew who it was
'How did you know who it was?'

(16) Katti {lande} flyet ditt {*lande} i Lima?
when lands plane.the yours lands in Lima
'When does your plane arrive in Lima?'

Summing up, Norwegian in general has obligatory verb movement to the second position in all kinds of main clauses, but no verb movement in embedded clauses. However, embedded V2 is possible in *that*-clauses embedded under certain predicates. Furthermore, the Tromsø dialect optionally allows verb movement past certain adverbs, but not past negation in non-V2 contexts, such as embedded *wh*-questions, relative clauses, and embedded adverbial clauses. In addition, this dialect has optional V2 in a subgroup of *wh*-questions (those introduced by *kem* 'who,' *ka* 'what,' and *kor* 'where').

In this study we focus on how Norwegian children growing up in Tromsø acquire verb placement in embedded clauses. More specifically, we investigate how they acquire verb placement with respect to the subject in embedded *wh*-questions, as in (5), on the one hand, and how they acquire verb placement with respect to negation and adverbs in (all) embedded clauses and non-V2 main *wh*-questions, as in (4) and (13), on the other. We consider data from three very young Norwegian children below the age of 3, as well as data from two older children, up to the age of 8. In order to consider the potential effect of input frequency, we also investigate a sample of some adult data in an acquisition corpus.

6.3 Previous studies and Norwegian child data

Previous studies on the acquisition of word order in V2 languages suggest that verb placement in main clauses is in place from very early on. Westergaard (2005) shows that this is also the case for Norwegian children. As soon as multi-word utterances appear in the child data, verb movement generally applies in non-subject-initial clauses, questions, and subject-initial clauses with negation or adverbs. Such early acquisition of V2 in main clauses is also attested in Swedish (Santelmann 1995; Platzack 1996), Dutch (Jordens 1990), German (Poeppel and Wexler 1993; Müller 1996), and Lucernese Swiss German (Schönenberger 2001).

Findings concerning the acquisition of word order in embedded clauses are more varied. Clahsen and Smolka (1986) find that German-speaking children correctly place the verb clause-finally in their very first production of embedded clauses. Penner (1996) reports on data from a Bernese Swiss German child which indicate that there is correct verb placement in embedded contexts (clause-finally) until about the age of 3;2, but this stage is followed by a period of a few months when the child produces embedded clauses both with and without verb movement. Occasional non-target-consistent verb movement in German embedded clauses is also reported for monolingual German children by Gawlitzek-Maiwald et al. (1992), and for bilingual German-English chil-

dren by Döpke (1998). Furthermore, Schönenberger (2001) found that her two Lucernese Swiss German subjects consistently moved the finite verb in a non-target-like manner in embedded clauses. This pattern occurred until the age of 4;11, when the verb-final pattern gradually took over. Finally, Håkansson and Collberg (1994) have shown that Swedish-speaking children seem to move modal auxiliaries across negation and adverbs in Swedish embedded clauses. Again this is a pattern not found in the adult language.

Previous findings are thus inconclusive, some studies suggesting that verb placement in embedded clauses is unproblematic, whereas others report this to be an area where children make mistakes for an extended period of time.

In the following sections we present data from Norwegian-speaking children indicating that there is evidence of overgeneralization of verb movement past negation or an adverb into constructions that do not allow verb movement in the target language. However, non-target-like verb movement past subjects is not attested in the children's production.

6.3.1 Young children

In this section we provide some evidence from three very young Norwegian children. These data come from a relatively large corpus consisting of altogether 70 one-hour recordings of three children between the age of approximately 1;9 and 3;3[2]. Given the young age of these children, there are not many instances of embedded clauses in the data. However, there are a few relevant examples in the later files, altogether 108 embedded questions, 28 embedded clauses with negation or an adverb and one non-V2 main *wh*-question with negation.

Let us start with the 28 embedded clauses with negation or an adverb (all declaratives). As many as 15 of these had to be excluded from our discussion because they are unclear with respect to the question of verb movement. In three of these examples, although they display the target-consistent non-V2 word order, the verb involved seems to be non-finite, and judging from the context, there is a modal missing in the structure[3]. The remaining 12 of the excluded examples display the most common word order in the children's

[2] Apart from ten files that have been recorded and transcribed by the first author, the corpus has been collected by Merete Anderssen. See Anderssen (2006) and Westergaard (2005) for details about the corpus.

[3] In the dialect the children in this study are acquiring, the present tense ending *–er* of the standard language has been reduced to *–e*, which means that the infinitive and the present tense verb forms of many verbs are identical. This is the case for the two classes of regular verbs, which make up approximately 96% of all verbs in the language, according to Endresen and Simonsen 2001.

embedded clauses, viz. the order where negation *ikke/ikkje* 'not' occurs immediately following the complementizer (if present), i.e. above the verb as well as the subject, as illustrated in (17). This Neg-S-V_{fin} word order is also possible in the adult grammar, although as mentioned in section 6.2, it is much less frequent than S-Neg-V_{fin} (see footnote 1). It is also unclear exactly what position negation is attached to in such sentences[4]. Nevertheless, we must conclude that these sentences cannot reveal anything about possible verb movement.

(17) nei ho skal passe på mæ ikkje reven komme å ta mæ. (Ina.18, 2;8,12)
no she shall watch on me not fox.the comes to take me
'She is to watch out so the fox doesn't come and take me.'
Preferred: *Ho skal passe på mæ så reven ikkje kommer og tar mæ.*

The 13 remaining embedded clauses with negation were relevant to the current study. Four of these 13 sentences can be said to be true examples of target-consistent word order without verb movement in embedded contexts. Two of these are illustrated in (18) and (19), where negation appears between the subject and the verb, indicating that no verb movement has taken place.

(18) ikke da [//] at det da ikke blir stramt. (Ole.18, 2;9,15)
not then that it then not becomes tight
'... that it doesn't get (too) tight.'

(19) bare når dem ikke hold på da dette dem xxx. (Ina.27, 3;3,18)
only when they not hold on then fall they xxx
'Only when they are not holding on, then they fall.'
Target form: *Bare når dem ikke hold(er) (fast?), da dætt dem.*

But nine of the examples in the child data do in fact display verb movement in embedded contexts. Five of these are that-clauses in which the target grammar also allows (but disprefers) verb movement. One of these is illustrated in (20). The four remaining embedded clauses in the corpus exhibit verb movement in non-V2 contexts where it is clearly ungrammatical in the target language. An example is given in (21).

[4]A relatively standard assumption is that negation and adverbs may be adjoined to VP as well as to TP, but not AgrSP. It is, however, possible that certain light adverbs and negation may be adjoined even higher, as suggested in Holmberg 1993. In sentences such as (17) in child language, it could either be the case that negation is adjoined to this higher position, or alternatively, that the child has failed to move the subject (see Westergaard 2005).

(20) han sa han ville ikke spise <han> [?]. (Ann.17, 2;8,4)
he said he would not eat him
'He said that he wouldn't eat him.'
Preferred: *Han sa at han ikke ville spise han.*

(21) det er ho mamma som har også tegna. (Ina.26, 3;2,5)
it is she mommie who has also drawn
'It is mommie who has also been drawing.'
Target form: *Det er ho mamma som også har tegna.*

Another construction where the target language does not show verb movement is non-V2 main *wh*-questions, as we saw in example (13) above. In the data from the younger children there is one such question containing negation, and in this example the verb has indeed moved across negation. The word order in (22) indicates that there is overgeneralization of verb movement in these cases, not to a position in the clause structure above the subject, but presumably to a lower functional head.

(22) kem som vil ikkje være ilag med han? (Ina.25, 3;1,8)
who that will not be together with him
'Who doesn't want to be with him?'
Target form: *Kem som ikkje vil være i lag med han?*

Thus, 10 out of 14 relevant examples show that all three children seem to prefer verb movement over a word order without movement, both in cases where it is completely ungrammatical in the target grammar and cases where it is only dispreferred (in certain *that*-clauses). This is interesting, as it goes against a minimalist account, where movement is always considered to be a more costly operation than no movement. It could of course be the case that these examples are restarts - i.e. that they are biclausal structures with two main clauses. Such an explanation is also supported by the fact that none of these clauses are introduced by complementizers. However, within a minimalist account it is generally assumed that children start out with the least costly approach to word order, viz. a structure with no movement (cf. Platzack 1996, Roberts 1999), and that they only produce structures with movement if there are strong and consistent cues for this in the input. Given that the option not to move the verb should be available to the children (as they do produce some embedded clauses with target-consistent word order), it is surprising from the point of view of a minimalist account that they seem to prefer the least economical structure in these cases. This indicates that economy interacts with other factors in the acquisition of word order.

We next consider embedded questions, of which there are a total of 108 examples in the corpus. What is striking about these clauses is that virtually

all of them occur with target-consistent non-V2 word order; that is, with no verb movement across the subject. Examples of these embedded questions are provided in (23)-(25), both from relatively early and relatively late files in the corpus.

(23) se her ka Ina gjør. (Ina.04, 1;11,22)
look here what Ina does
'Look here what Ina is doing!'

(24) Ann vet ikke kor han er henne. (Ann.09, 2;2,19)
Ann know not where he is LOC
'Ann doesn't know where he is.'

(25) skal æ vise # korsen man trøkke på knappen? (Ole.20, 2;10,15)
shall I show . . . how one pushes on button.the
'Do you want me to show (you) how you push the button?'

There is only one potential exception to the lack of overgeneralization of V2 word order in embedded *wh*-questions, and this is illustrated in (26):

(26) du, ser du ka er det der sånn der der? (Ina.27, 3;3,18)
you see you what is that there such there there
'You, do you see what that is/do you see: what is that?'

A possible explanation for the word order in (26) is again that the child is producing a biclausal structure, i.e. that there should be a restart between the question word *ka* 'what' and the preceding part of the sentence, as illustrated by the alternative translation. This analysis is not completely implausible, especially given the linguistic context in the file. It is clear that the adult responding to the child's question has interpreted this as a *wh*-question and not as a *yes/no*-question, the reply to (26) being a specification of what "that" refers to[5]. In any case, 1 out of 108 examples does not constitute evidence that there is a rule of verb movement across the subject in embedded questions in the child's internalized grammar, and we therefore conclude that in general there is no evidence of overgeneralization of V2 from main into embedded questions.

Another possible type of verb movement in these embedded *wh*-questions

[5]The reply from the investigator is provided in (i). It should be noted, however, that pragmatically, also a yes/no-question could call for such an answer.

(i) det [/] det kalles for hyena. (INV, File Ina.27)
it it is-called for hyena
'It is called a hyena.'

would be movement across negation or an adverb, as we saw in the embedded declarative clauses above. Unfortunately, none of the 108 embedded questions in this corpus include negation or an adverb.

This section has investigated the occasional examples of embedded clauses in early child data. To summarize so far, virtually no cases of verb movement across the subject were attested in embedded questions, see (23)-(25). In embedded clauses with negation or an adverb, on the other hand, the majority of cases show overgeneralization of verb movement. This was the case in four clear examples, illustrated in (21), and five further examples of embedded *that*-clauses, as shown in (20). In comparison, only four examples of target-consistent word order without verb movement were found in the child data, see (18)-(19). Furthermore, the only relevant example of a non-V2 main *wh*-question also displayed verb movement across negation, as illustrated in (22). These findings are summarized in Table 6.1, and as we can see, the children moved the verb across negation in 10 of the (preferred) non-V2 contexts, whereas they left it in the target-like position following negation only 4 times.

Table 6.1: Overview of word order in embedded clauses with negation or an adverb in the corpus of three Norwegian children, age approximately 1;9 to 3;0.

	(S)-V_{fin}-Neg/Adv	(S)-Neg/Adv-V_{fin}
Embedded *that*-clauses	5	0
Other embedded declaratives	4	4
Non-V2 *wh*-questions	1	0
Total	10	4

6.3.2 Older children

The investigations of the older children are based on sporadic recordings and diary notes from two boys, Henning (2;4,4 - 8;0,17) and Iver (1;8,10 - 5;9,15), as well as the results from a small experimental study with the same two children at the age of 8;0,20 and 5;9,18. The patterns reported for the very young children in the above section are generally confirmed in the data from the older children.

In the recordings and diary notes several embedded clauses with negation are attested, especially from the age of around four. The data show that the children at this stage display both verb movement and V in-situ in a target-like manner in *that*-clauses, as illustrated in (27) and (28). Both of these examples are acceptable, but the word order in (27) is dispreferred in the adult language.

(27) æ vet at æ har ikke gjort det. (Henning 4;8,13)
I know that I have not done it
'I know that I haven't done it.'

(28) æ sa at han ikke sku ... (Henning 4;8,0)
I said that he not should
'I said that he shouldn't...'

In Bentzen (2003) it was shown that these children also move the verb past negation in many other types of embedded non-V2 contexts. Such movement was attested in relative clauses, as illustrated in (29)-(30), in adverbial subordinate clauses, (31), and in embedded *wh*-questions, as illustrated in (32)-(33). There is also one instance in the data of verb movement in a non-V2 main *wh*-question, given in (34). The following examples are all ungrammatical in the adult language:

(29) æ like alt som er ikke sterkt og alt som er sterkt.
I like everything that is not hot and everything that is hot
'I like everything that isn't hot, and everything that is hot.' (Henning 4;2,7)

(30) du må få dæ en biffkniv som er ikke sånn. (Iver 5;8,16)
you must get you a steak.knife that is not like-that
'You need to get a steak knife that isn't like that.'

(31) æ må ta på ullæsta for at æ skal ikke bli så kald. (Iver 4;11,29)
I must take on wool.socks for that I shall not get so cold
'I need to put on wool socks in order to not get too cold.'

(32) når han Iver er ikke her så kan æ ta med den store skjeia.
when he Iver is not here then can I take with the big spoon.the
'When Iver isn't here, I can use the big spoon.' (Henning 4;6,27)

(33) men æ lik' ikke det når det er ikke sånn. (Henning 4;7,16)
but I like-not it when it is not like-that
'But I don't like it when it isn't like that.'

(34) kem som var ikke helt i form? (Henning 4;5,0)
who that was not completely in shape
'Who wasn't feeling too well?'

Several embedded *wh*-questions were also attested in the recordings and diary notes of the older children. None of these exhibit verb movement past the subject, as illustrated by the following examples.

(35) vet du ka det her er, tante? (Henning 3;11,12)
know you what this here is auntie
'Do you know what this is, auntie?

(36) æ vet korsn dem lage et hus sånn her. (Iver 4;7,10)
I know how they make a house like-that here
'I know how to make a house in this way.'

Evidence from the sporadic recordings and diary notes shows that the overgeneralization of main clause word order into embedded declaratives found in the very young children is also attested for the two older children. Furthermore, the lack of such overgeneralization into embedded *wh*-questions in the corpus of the young children is confirmed in the data from the older children. However, the sporadic recordings and diary notes do not give any indications as to how frequently these two children display the non-target-like word order, nor for how long such patterns persist in the children's grammars. Therefore, a small experiment was conducted with the two children at the age of 5;9,18 and 8;0,20.

The small experimental study was designed to elicit embedded *wh*-questions with negation or an adverb. In the experiment, we introduced the children to the hippo Hårek. The children were told that Hårek was a very peculiar hippo who had three special features: (i) he claimed to have the best memory in the world, (ii) he did not talk to adults, and (iii) importantly, he would not respond to you unless you started your sentences with 'Do you remember...?'. The investigator (the second author) read a story with the children about a four-year-old boy, Karsten, who was ill and had to stay at home instead of going to kindergarten. The children were told that Hårek also knew the story, and that they were now going to test how much he remembered of it, asking questions starting with 'Do you remember...?'. We attempted to elicit altogether 16 embedded questions, 12 of which were supposed to contain negation or an adverb. The remaining four questions where included as fillers. The elicitation setup is illustrated in (37):

(37) INV: *So, Karsten didn't go to kindergarten today, and that was because he was ill. Therefore he didn't go to kindergarten. We remember that that was why, but ask Hårek whether he remembers why.*
CHILD:*Do you remember why Karsten didn't go to kindergarten today?*

The older child, Henning, included negation or an adverb in 11 of the 12 designated questions, and in all cases, negation or the adverb preceded the verb in a target-like manner, as shown in (38)-(40):

(38) huske du koffer han Karsten ikke var i barnehagen? (Henning 8;0,20)
remember you why he Karsten not was in kindergarten.the
'Do you remember why Karsten wasn't in the kindergarten?'

(39) huske du koffer ho ikke ville kjøpe den potta?
remember you why she not wanted buy that pot.the
'Do you remember why she didn't want to buy that pot?'

(40) huske du koffer en mann ikke fikk kjøpe Løveungen?
remember you why a man not got buy Lion.baby.the
'Do you remember why a man didn't get to buy the Lion baby?'

The younger child, Iver, included negation or an adverb in only 8 of the 12 designated questions, and in 7 of these 8, he produced the non-target-like word order with the verb preceding negation or the adverb, as illustrated in (41)-(43):

(41) huske du koffer han Karsten var ikke i barnehagen? (Iver 5;9,18)
remember you why he Karsten was not in kindergarten.the
'Do you remember why Karsten wasn't in the kindergarten?'

(42) huske du koffer dama ville ikke kjøpe en nattpotte?
remember you why lady.the wanted not buy a night.pot
'Do you remember why the lady didn't want to buy a chamber pot?'

(43) huske du koffer Løveungen var ikke til salgs?
remember you why Lion.baby.the was not to sale
'Do you remember why the Lion baby wasn't for sale?'

Neither of the children ever moved the verb past the subject in these embedded *wh*-questions. Thus, the sporadic recordings, the diary notes, and the small experiment with older children constitute evidence that children up to the age of (at least) around 6, optionally move the verb past negation and adverbs in non-V2 contexts. Furthermore, the small experiment shows that they do not move verbs past subjects in embedded questions.

One possible explanation for the children's word order patterns in embedded clauses could be that there is a word order change taking place in the language. This seems unlikely, however, given that most of the examples of verbs preceding negation or adverbs in the diary notes and sporadic recordings are from the older child Henning at the age of approximately 4-5. The fact that at the age of 8 he hardly uses this word order anymore suggests that this is a feature of a certain developmental stage in the acquisition process, rather than e.g. an indication of a syntactic change taking place in the dialect.

Summing up the investigation of both very young and somewhat older

Norwegian children, we found substantial evidence for overgeneralization of verb movement past negation and adverbs from main clauses into embedded clauses, at least up to the age of 6. Such verb movement is generally not accepted in the target language. In the few contexts where it is possible in the target language, viz. past certain adverbs in non-V2 contexts, and past both negation and adverbs in certain *that*-clauses, verb movement is the dispreferred option. Within a minimalist account of language acquisition it is at first sight unexpected that children should prefer verb movement where it is not allowed or dispreferred in the target language. Assuming that economy principles play an important role in language acquisition, one would expect children to avoid costly operations such as verb movement, unless there is strong and consistent evidence for such movement in the input.

Furthermore, it does not seem to be the case that the children in the study are simply applying main clause V2 word order in embedded clauses in general. This is evident from the fact that they do not move the verb past the subject in embedded *wh*-questions in analogy with main *wh*-questions. Thus, what needs to be explained is why children overgeneralize verb movement past negation and adverbs but not past subjects. In the following sections we discuss possible reasons for this asymmetry in the acquisition of verb placement. An important question is whether this is a result of asymmetries in the frequency of the relevant constructions in the input, or whether other factors may play a role.

6.4 Input Frequencies

As mentioned in the introduction, there has recently been an increased interest in the role of the input, within functional as well as formal approaches to language acquisition, and especially within the constructivist framework, where input is often argued to be the sole explanation for acquisition orders and children's error patterns.

An example of a constructivist approach relevant to the constructions at hand is Tomasello (2003), who argues that children's early production of embedded clauses provides no evidence for a hierarchical structure in children's linguistic systems. Investigating examples from German child language, he finds that early embedded clauses always appear with the same matrix verbs, normally only two or three different ones. Therefore these are better analyzed as linear constructions, he argues, where the matrix verb is simply stuck onto the beginning of the clause, which remains a main clause structure. Applying this line of reasoning to the Norwegian child data in the previous section, it could be argued that the embedded clauses with negation are not really

embedded constructions, but rather main clauses with an initial chunk which looks like a matrix clause. Thus, we find main clause word order in these constructions with the verb preceding negation or an adverb, as was illustrated in e.g. (20) and (21). Presumably the V-Neg/Adv combination in the main clause would on this approach not be the result of verb movement, but simply a linguistic chunk which is reproduced from main to embedded clauses (or rather, structures which look like embedded clauses).

If children learn syntactic structure from input only, we would then expect to find the following frequencies of the relevant constructions in the input that the children in this study are exposed to: embedded clauses with negation or an adverb should be infrequent in the input, since this is the clause type where children make word order mistakes for an extended period of time. On the other hand, main clauses with negation or an adverb should be relatively frequent, since this is where the V-Neg/Adv pattern that the children are overgeneralizing is found. Furthermore, embedded questions should also be quite frequent, as the children were found not to overgeneralize the V-Subject word order found in main *wh*-questions.

Obviously, it is possible to argue that children's early utterances have more syntactic structure than what is normally assumed within a constructivist approach and still argue for a frequency effect. On such an approach within a generative framework, the word order of main clauses would be the result of verb movement, and because of a high frequency of main clauses with V2, this type of movement would then be overgeneralized to embedded clauses. That means that frequency would override economy in this case, since, as discussed above, a common idea within the minimalist framework is that syntactic movement is always more costly than the lack of movement. For a frequency effect to play a role here, one would expect to find exactly the same input frequencies as was sketched above for the constructivist approach: embedded clauses with negation or an adverb should be considerably less frequent than the corresponding main clauses, while embedded questions are expected to be quite frequent.

In order to get an indication of what child-directed speech may consist of in terms of frequency of syntactic constructions, some samples of the adult material from the Tromsø corpus were investigated in detail. First of all, one file (corresponding to approximately one hour of spontaneous speech) was hand-searched and all complete sentences of the investigator (INV) were counted. In this file, the investigator produced a total of 793 utterances, out of which there were 668 complete clauses, 554 matrix and 114 embedded clauses. There are altogether 123 subject-initial main clause declaratives in the sample, 43 of which contain negation or an adverb, see Table 6.2. This

means that the evidence for verb movement across negation or adverbs in main clauses makes up 6.4% of the total input. Furthermore, there are as many as 337 examples of questions and non-subject-initial declaratives (50.4%), providing the child with evidence for verb movement across the subject. This means that there is ample evidence in the input that Norwegian is a V2 language in main clauses, see Westergaard (2006) for a more detailed analysis. Similar findings have been attested for much larger samples of Swedish input data in Josefsson (2004), altogether 14,033 adult utterances, where V2 constructions such as *yes/no*-questions are attested in 22-28% of all utterances, and non-subject-initial declaratives 12-27%.

Table 6.2: Overview of evidence for V2 and non-V2 in a sample of child-directed speech, the investigator in the file Ole.14 (age of child 2;6,21), with percentages calculated relative to the total number of complete (matrix and embedded) clauses (N=668).

Evidence for V2		Evidence for non-V2	
Subject-initial decl. with Neg/Adv	6.4% (43)	Embedded clauses with Neg/Adv	0.9% (6)
		Non-V2 *wh*-questions with Neg/Adv	0.1% (1)
Non-subject-initial decl. and questions	50.4% (337)	Embedded questions	1.6% (11)

The evidence that the verb does *not* move past negation or adverbs in non-V2 contexts should be expressed in all embedded clauses as well as in non-V2 main *wh*-questions with negation or adverbs. These constructions are indeed very infrequent in the input. As illustrated in the right-hand column of Table 6.2, the investigator produces only six embedded clauses with negation or an adverb in the file, corresponding to 0.9% of the input in the sample. One of these sentences is illustrated in (44) and could be compared to the non-target-consistent child utterances in (20)-(21) and (29)-(33) above. Furthermore, there is only one example of a non-V2 main *wh*-question with negation, which increases the evidence for the lack of verb movement across negation, but only by 0.1%. This example is given in (45) and should be compared with the non-target-consistent child utterances in (22) and (34) above.

(44) pass på at den ikkje faller over. (INV, file Ole.14)
watch on that it not falls over
'Watch out so it doesn't fall over.'

(45) kem som ikkje får kjøre? (INV, file Ole.14)
who that not gets drive
'Who doesn't get to drive?'

This means that the total evidence for the lack of verb movement across negation or an adverb in Norwegian embedded contexts and non-V2 main *wh*-questions is attested only 1.0% in the input sample. Moreover, there is also an example of an embedded that-clause with the word order V-Adv in this file, which is illustrated in (46). As discussed in section 6.2 above, these are also grammatical in the target language, further complicating the structures that have to be acquired by the child.

(46) æ trur han må bare sitte der. (INV, file Ole.14)
I think he must only sit there
'I think he just has to sit there.'

So far our predictions with respect to frequency seem to be borne out: the evidence for Neg/Adv-V word order in embedded contexts and non-V2 main *wh*-questions is extremely infrequent in the input (1.0%), and compared to the 6.4% evidence for the opposite word order in subject-initial main clauses, it could be argued that the more frequent word order is overgeneralized to the less frequent one. The 50.4% evidence for V2 in non-subject-initial declaratives and questions, i.e. a word order where the verb precedes the subject, could possibly be added to this, as these utterances provide the child with general evidence for verb movement in the language.

But what about the embedded questions, which were also predicted to be frequent in the input? As illustrated in Table 6.2, it turns out that the evidence that the verb does not move across the subject in embedded (non-subject) *wh*-questions is also very infrequent in the sample of adult data. The investigator produced only eleven such examples, making up as little as 1.6% of the input sample. One of these is provided in (47).

(47) vet du ka slags farge det er? (INV, file Ole.14)
know you what kind color that is
'Do you know what color that is?'

Since the input sample discussed here is quite small and also produced by only one person, a more focused search of larger samples of the corpus was made, in order to check whether more considerable differences in input frequencies could be attested between the two types of embedded constructions requiring non-V2 word order. More specifically, we searched for negation (no adverbs) and specific question words in the production of the investigator in files Ole.15-22, and in the production of one of the parents in files Ann.01-21

(MOT). As shown in Table 6.3, the investigator produced altogether 6,351 utterances. Out of these, there were 32 (0.5%) embedded clauses with negation, and no non-V2 main *wh*-question with negation. In addition, the investigator produced 66 (1.04%) embedded (non-subject) *wh*-questions. Ann's mother produced a total of 8,860 utterances, 39 (0.44%) of these were embedded clauses with negation, and 41 (0.46%) were non-V2 main *wh*-questions with negation. Furthermore, she produced 224 (2.5%) embedded (non-subject) *wh*-questions. Thus, the more focused search in the corpus also indicates that the evidence for not moving the verb in non-V2 contexts is relatively infrequent. For both adult speakers the number of embedded questions is somewhat higher than the total number of clauses providing evidence for the lack of verb movement across negation or an adverb, 32 (0.5%) vs. 66 (1.04%) for the investigator, and 80 (0.90%) vs. 224 (2.5%) for Ann's mother.[6]

Table 6.3: Overview of utterances providing evidence for non-V2 word order in samples of child-directed speech, the investigator (INV) in files Ole.15-22 (N=6351, all utterances) and the mother (MOT) in files Ann.01-21 (N=8860, all utterances).

	Evidence for non-V2			
	Emb. clauses w/Neg	Non-V2 *wh*-questions w/Neg	Total	Embedded *wh*-questions
INV	32 (0.5%)	0	32 (0.5%)	66 (1.04%)
MOT	39 (0.44%)	41 (0.46%)	80 (0.9%)	224 (2.5%)

Thus, in the small hand-searched adult sample as well as in the focused search of the larger corpus samples there is a slightly higher percentage of embedded questions than embedded contexts with negation or adverbs. However, we doubt that a difference between e.g. 0.5% and 1.04% could be the only explanation for children producing a considerable number of non-target-consistent constructions in the former case and displaying a virtually error-free production in the latter. Why would 1.04% be enough input to acquire a certain word order, while 0.5% – or the 0.9% produced by the mother - is not? And even if the children's production were the result of differences in input frequency, one would expect such a small difference to have an effect only for a short period of time. However, as shown in section 3 above, the

[6]It should be noted that the number of embedded questions may be somewhat inflated as an effect of the recordings, especially in the speech of the parents. In an attempt to make the children speak as much as possible, they frequently produce utterances such as the following:

(i) har du fortalt ho Merete ka du gjorde i går? (MOT, file Ann.03)
have you told DET *Merete what you did yesterday*

non-target-consistent word order produced by the children in embedded contexts is quite persistent, possibly lasting well into school age. We thus find it highly unlikely that frequency could be the sole explanation for this, and we therefore reject a purely constructivist approach to the child data. Moreover, we believe that such an approach would also have a problem explaining why the V-Subject word order of all main clauses with V2 does not overgeneralize to embedded questions. After all, in the small input sample investigated in Table 6.2, the difference in input frequency between main clauses with V2 (V-Subject) and embedded clauses (Subject-V) is as much as 50.4% vs 1.6%, which is much higher than the difference between main and embedded clauses with respect to the position of the verb in relation to negation or an adverb (6.4% vs. 1.0%). Thus, if input frequencies were responsible for overgeneralization from the relatively frequent V-Neg/Adv word order of main clauses to embedded contexts, we see no reason why the extremely frequent V-Subject word order should not overgeneralize in the same way.

We therefore want to argue that the results of our investigation of the input clearly reveal that other aspects of language acquisition such as complexity or economy must be invoked to explain the error patterns described in section 6.3. This will therefore be the focus of the next section.

6.5 An economy-based account

Having rejected an analysis which explains the children's performance solely by reference to input frequency, we will now turn to an account of the observed facts in terms of economy, complexity and to a certain extent, frequency. The framework we adopt is a Split-CP model of clause structure, and this will be outlined briefly in the next section. In section 6.5.2 we account for the appearance of the children's non-target-consistent word order in embedded contexts with negation by referring to an economy principle which causes them not to move elements higher up in a clausal structure than there is evidence for in the input. The reason why this does not apply in embedded questions will be related to the syntactic model we adopt, where main and embedded clauses have different clausal architecture, reflecting their different illocutionary force. Finally, in section 6.5.3 we will discuss some reasons why the children's errors in embedded clauses are so persistent, and here frequency will be argued to play a role.

6.5.1 Theoretical background

We adopt a Split-CP model of clause structure, which is inspired by Rizzi's (1997) original model and later work on Italian syntax, e.g. Rizzi (2001), Benincà and Poletto (2004), but which is in many ways different from these accounts. The model was originally developed in Westergaard and Vangsnes (2005) and somewhat revised in Westergaard (2005; 2006). The most important aspect of the model is that different clause types have different heads in the CP-domain, reflecting the illocutionary force of the clause type. For example, a *wh*-question is an Int(errogative)P(hrase), a *yes/no*-question a Pol(arity)P, and a declarative a Top(ic)P. The syntactic heads in the CP and IP domains of the clause that are relevant for the present discussion are provided in the bracketed structure in (48):

(48) $_{CP}$[(Int^{o} Top^{o} ...) ... (Wh^{o}) Fin^{o} $_{IP}$[InToP^{o} T^{o}

Another crucial aspect of this model for our present purposes is that embedded clauses have a restricted CP domain. That is, embedded declaratives are assumed to be bare Fin(iteness)Ps, while embedded questions are bare WhPs. This reflects the different illocutionary force of main and embedded clauses. For example, embedded questions are not 'real' questions and lack interrrogative force, and thus there is no Int^{o} head present in the clausal structure.

The model was developed mainly to account for different types of V2 grammars in English and Norwegian dialects, many of which have no strict V2 requirement in *wh*-questions, as mentioned in section 6.2. The main parametric tool of the model is the presence of a specific EPP *head* feature on individual functional heads in the CP domain, called [X$^{o}{}_{EPP}$][7]. This feature must be lexicalized, a requirement which may be met by verb movement. Grammars differ with respect to whether a particular head is endowed with this EPP feature, which means that there are several sources for V2 word order. According to this model, Norwegian dialects which have no V2 requirement in *wh*-questions, e.g. the Nordmøre dialect described by Åfarli (1986), will be argued to have no EPP feature on the Int^{o} head, but as they are strictly V2 in declaratives, this feature is present on the Top^{o} head. English, which has subject-auxiliary inversion in all questions but (generally) no inversion in declaratives, has the opposite requirements on these two heads. The Tromsø dialect, which the children in this study are acquiring, is argued

[7]This abbreviation refers to the Extended Projection Principle (EPP) of earlier versions of generative theory (originally from Chomsky 1982), which ensured that all clauses have a subject. Within the Minimalist model, e.g. Chomsky (1995), an EPP feature on a syntactic head will require that this head projects a specifier in order for the uninterpretable EPP feature to be deleted.

to have the EPP head feature on Int^o as well as the Top^o head. The former is necessary to account for V2 word order in *wh*-questions introduced by long *wh*-phrases (see examples (14)-(16) in section 6.2), while the EPP feature on the Top^o head accounts for verb movement in all declarative sentences, across the subject in non-subject-initial declaratives and across negation or an adverb in subject-initial declaratives[8]. Finally, the distinction between main and embedded clauses with respect to the presence of C-heads accounts for the differences between main vs. embedded clause word order: the heads Fin^o and Wh^o are not endowed with the EPP feature, and consequently, there is no verb movement to the CP domain in embedded clauses in Norwegian.

For our present analysis we also adopt a general view of language acquisition which could be described as a continuity approach which includes structure-building (see Westergaard 2005). The continuity aspect of this is taken care of by a universal "pool" of possible functional categories, where rules for their relative order (and a number of other rules and constraints) are provided by UG. In the process of language acquisition, children select categories from this universal set, based on principles of UG and cues in the input. Additionally, children need cues to know how the different functional projections are realized syntactically in their particular language, e.g. by verb movement triggered by the EPP feature.

We will also argue that in this process children are guided by economy principles. One of these is the principle of structural economy proposed in the Lexical Learning Hypothesis of Clahsen et al. (1996), originally from Safir (1993). Another economy principle, which is crucial for our analysis of the child data at hand, is a principle of economy of movement (see also Westergaard 2005). These principles will ensure that children do not build more structure or move elements higher in the structure than there is evidence for in the input. This means that movement operations should initially target positions that are as low as possible in the clause structure. This corresponds to what is often found in early child language: to the extent that children produce non-target forms, they normally seem to be due to children producing less movement than in the adult language, see e.g. Schaeffer (2000) on the lack of scrambling in Dutch, or Radford (1994) on the lack of inversion in some English-speaking children's *wh*-questions. Superficially, this is of course the opposite of what we see in the acquisition data presented in this paper, and in the next section we will therefore consider this economy principle in more detail in relation to the Norwegian child data.

[8]The optional word order in questions with the monosyllabic question words is accounted for by another C-head, the head of the Foc(us)P (see Westergaard and Vangsnes 2005; Westergaard 2005).

6.5.2 Economy of movement

As mentioned in section 6.2, V2 word order is in place more or less immediately in those clause types that require it, and Norwegian children must therefore realize very early that their language requires some filled C^{o} head. Still, the question could be asked whether early verb movement indeed targets the same head positions as in the adult grammar. In the syntactic model adopted here it is assumed that the verb in all Norwegian main clauses moves to the highest head, Int^{o} in *wh*-questions, Pol^{o} in *yes/no*-questions, and Top^{o} in all declaratives, subject-initial as well as non-subject-initial clauses. According to the approach to language acquisition we are assuming, UG provides children with the knowledge that all main clauses have a CP domain and specifies the head that is necessary to produce different clause types, e.g. Int^{o} for *wh*-questions or Pol^{o} for *yes/no*-questions. Thus, it is not unlikely that early verb movement in questions and non-subject-initial declaratives is in fact movement to the appropriate heads. In subject-initial main clauses, on the other hand, this is not immediately obvious.

Since subjects in the world's languages are not universally in the specifier position of the highest C-head (e.g. not in English), UG will not provide Norwegian children with the information that subjects are default topics in this language and move to SpecTopP. This must therefore be learned from input. Likewise, that the verb is attracted by the [X$^{o}{}_{EPP}$] head feature on Top^{o} and moves to the head of this functional projection must also be learned. Unfortunately, there is no clear evidence in subject-initial declarative main clauses that the verb (and accordingly also the subject) moves all the way to the TopP in Norwegian. Nevertheless, there should be ample evidence in the input that there is verb movement in these sentences, as illustrated by the relatively high frequency of main clauses with negation in the sample of child-directed speech investigated above, obviously displaying the target V-Neg word order (see Table 6.2). There were 43 examples in the speech sample, making up 6.4% of the total (43 out of 668 clauses). However, if we assume that children only focus on the relevant clause type when searching for cues, as the Split-CP model indicates (see Westergaard 2005; 2006), then the evidence for verb movement is much higher, in fact as much as 35%, as the relevant figure to relate this to is the total number of subject-initial declaratives in the sample, which is 123. In any case, children apparently realize very early that finite verbs move across negation and adverbs in subject-initial main clauses, and they produce target-consistent forms from the onset of the appearance of relevant constructions, as illustrated in (49).

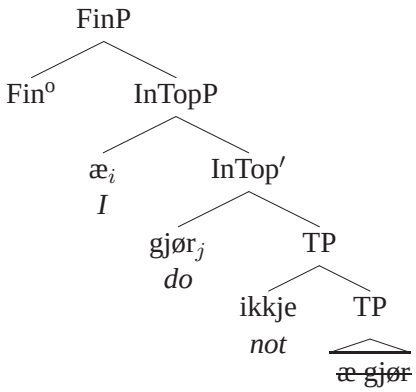
(49) æ gjør ikke. (Ina.09, 2;2,12)
I do not
'I'm not doing (it).'

However, there are many other head positions than Top^{o} that could serve as the landing site for verb movement in such sentences. Given that the economy principle discussed above ensures that children do not move constituents any farther than they have to, we argue that they will initially pick a lower head as the target for verb movement in these constructions.

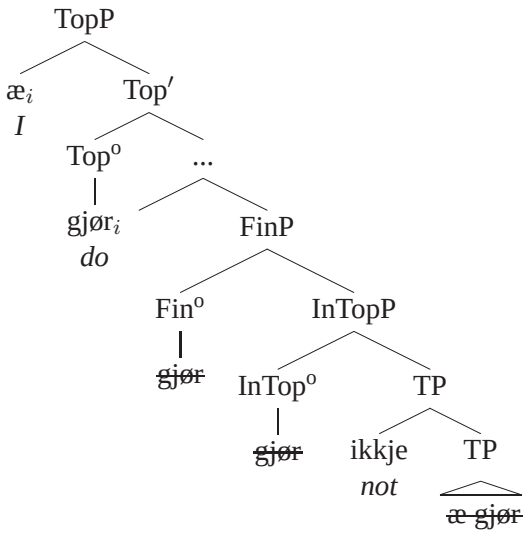
In this model, there are two functional projections in the IP-domain of the clause, the In(ner)Top(ic)P and T(ense)P, as was illustrated in (48) above. Sentence adverbs (including negation) normally occur adjoined to TP in the clause structure, i.e. in a position between the InTopP and TP. Thus, in order for the verb to appear in front of negation in sentence (49), it will minimally have to move to the head of the InTopP, the highest functional projection in the IP domain. Since the InTopP is the lowest possible projection in the clause structure that will ensure that the verb precedes negation, this is also in accordance with the children's shortest move approach. In other words, the children will initially assume that there is verb movement to the head InTop^{o} in Norwegian. Note that this corresponds to V^{o}-to-I^{o} movement in traditional terminology, i.e. the children are in fact mis-setting a parameter, assuming that there is general verb movement to the IP domain in Norwegian.

Verb movement to the InTop^{o} head will result in the surface word order V-Neg, which corresponds to what is found in the adult language. However, the syntactic representation of a sentence like (49) differs from that of the target grammar, in that the child version of the sentence is a bare FinP with verb movement to InTop^{o}, as illustrated in the partial structure in (50). The corresponding adult structure is a full TopP, as illustrated in (51), where the [X$^{o}{}_{EPP}$] feature attracts the verb to the head position of this projection.

(50) Child structure:



(51) Adult structure:



If this analysis of children's main clause declaratives is correct, we would expect to see verb movement to the InTopP also in embedded contexts. In fact, we expect to see the verb in front of negation and adverbs in all clauses where the verb does not move to the CP domain. This means that children should not only produce the non-target-consistent word order in all kinds of embedded clauses, but also in the non-V2 main *wh*-questions. This is of course exactly what we saw above in the child data presented in section 6.3, as illustrated in e.g. examples (27) and (34), repeated here for convenience. In all other clause types (questions and non-subject-initial declaratives), the verb moves to a head in the CP domain, and this will mask the V-to-I movement that the

children seem to be assuming for their language.

(27′) æ vet at æ har ikke gjort det. (Henning 4;8,13)
I know that I have not done it
'I know that I haven't done it.'
Preferred: *Æ vet at æ ikke har gjort det.*

(34′) kem som var ikke helt i form? (Henning 4;5,0)
who that was not completely in shape
'Who wasn't feeling too well?'
Target form: *Kem som ikke var helt i form?*

An additional example from the Tromsø corpus is illustrated in (52). This sentence is a non-subject-initial declarative, where the verb has failed to move across the subject to Top^{o}. Thus, this sentence displays non-target-consistent word order, as the adult grammar requires V2 (see Westergaard 2004). As the children produce V2 constructions from the onset of multi-word utterances, there are very few such cases attested in the child data, and only one which includes negation. Note that the verb in sentence (52) does occur to the left of negation, suggesting that verb movement has in fact taken place. However, note that the verb does not move to the position above the subject, which would be expected in the target grammar. The word order in this example indicates that the verb has moved, and in accordance with the argumentation presented here, it has moved to the head of the InTopP.

(52) <ogs+>[/] og så du kan ikke tegne mer sånn. (Ann.17, 2;8,4)
and s+... and so you can not draw more such
'And then you can't draw more like that.'
Target form: *Og så kan du ikke tegne mer sånn.*

Thus, the children's overgeneralization patterns in embedded clauses (and occasional examples from main clauses) provide some support for the analysis that initially in Norwegian child language there is verb movement to a lower head than Top^{o} in main clause declaratives. This means that the children's choice of an uneconomic word order pattern in embedded clauses (involving verb movement) is actually caused by an economy principle operative in main clauses, viz. the principle of economy of movement.

But why don't we find any overgeneralization of V2 word order in embedded questions? This was illustrated by sentences such as (24) above, repeated here, where the verb correctly appears following the subject, unlike the word order in main clause questions.

(24′) Ann vet ikke kor han er henne. (Ann.09, 2;2,19)
Ann know not where he is LOC
'Ann doesn't know where he is.'

The reason for this lack of word order overgeneralization is due to the functional architecture of the Split-CP model provided by UG. Recall that main clause questions are IntPs, while embedded questions are bare WhPs, lacking interrogative force. Being endowed with this knowledge, children know that embedded questions are not real questions and consequently do not project an IntP in these cases. Overgeneralizing the [X^o_{EPP}] head feature on the Int^o head to embedded clauses is therefore not possible, simply because that functional head is not present in this context.[9]

On the other hand, according to the account given for children's error patterns above, they will of course be expected to "transfer" verb movement to the InTop^o head also in embedded questions. The prediction is that although young children will not move the verb across the subject in an embedded question, they should in fact overgeneralize verb movement across negation. Thus, an ungrammatical sentence such as (53) should be unattested in child data, while non-target forms such as the hypothetical sentence illustrated in (54) are predicted to occur.

(53) *Æ vet ka vil han gjøre.
I know what will he do

(54) *Æ vet kan han vil ikkje gjøre.
I know what he will not do

The first part of this prediction is generally borne out in both the Tromsø corpus of younger children, as well as in the diary notes and recordings of the older children. As for the second part of this prediction, the results from the small experiment described in section 6.3 suggest that children at least up to the age of 6 overgeneralize verb movement to embedded *wh*-questions as well, moving the verb past negation and adverbs, as illustrated in e.g. (41), repeated here.

(41′) huske du koffer han Karsten var ikke i barnehagen? (Iver 5;9,18)
remember you why he Karsten was not in kindergarten.the
'Do you remember why Karsten wasn't in the kindergarten?'

[9]Languages which do display V2 word order in embedded contexts, e.g. Belfast English, must then be assumed to have verb movement also to the head Wh^o.

6.5.3 The way to the target grammar

But if children have mis-set a parameter, how can they reach the target grammar? We argue that in order for children to reset the V-to-I parameter and revise their initial hypothesis, they need to pay attention to the word order in sentences that do not display V2, i.e. all embedded contexts and non-V2 main *wh*-questions. Note that this is different from the degree-0 learnability of e.g. Lightfoot (1999), which argues that children can only detect cues in unembedded contexts. Within the Split-CP model that we are assuming, where main and embedded clauses have different functional architecture, children must pay attention to the word order of relevant clause types separately, in order to acquire the status of the EPP head feature with respect to the individual syntactic heads in the CP domain. We also believe that in order for children to be able to distinguish between Norwegian and V2 languages which do display V-to-I movement, e.g. Icelandic, they will have to be sensitive to embedded word order. Icelandic in fact displays exactly the word order in embedded clauses that the children in our study produce in Norwegian, and as far as we can tell, there is no difference between Norwegian and Icelandic *main* clauses that will indicate to children which type of language they are learning. Thus, we argue that the cue that a V2 language also has V-to-I must be found in non-V2 contexts, i.e. generally in embedded clauses.

Embedded clauses are naturally more complex structures than main clauses, and searching for cues in these contexts is arguably more difficult than finding cues in main clauses. This could be one reason why the non-target-consistent word order is so persistent in children's production, possibly lasting beyond the age of six, as indicated by the results of our small experiment. Compared to the extremely early acquisition of word order in general, in Norwegian as well as in other languages, the target-consistent word order in embedded clauses indeed falls into place very late.

Here frequency may also play a role. Recall that it is not sufficient for Norwegian children to pay attention to just any embedded clause; it must also contain negation or an adverb, otherwise the word order will be identical to that of main clauses. And as we saw in Tables 6.2 and 6.3 in section 6.4, these clause types are extremely infrequent in the input, attested only between 0.5% and 1% in the samples of child-directed speech that we investigated. Thus, we would argue that the lack of input frequency does have an effect in this case, viz. the effect that it takes a considerable time for children to revise their initial hypothesis that Norwegian has V-to-I movement. However, their initial hypothesis is not directly *caused* by the lack of frequency, but rather the principle of economy of movement, as we argued above.

One piece of evidence that may support the idea that there is a frequency

effect here is the fact that this type of overgeneralization is generally not found in German child language, as we saw in section 6.3.1. Being an SOV language with verb movement also across objects and adjuncts in main clauses, German will provide considerably more input evidence to children that embedded clauses are different from main clauses. That is, the difference will not only be visible in embedded clauses containing negation or sentence adverbs (which are generally infrequent in child-directed speech), but also in all embedded clauses containing an object or an adjunct. Without having performed a study on German child-directed speech to this end, we think we can safely assume that a German-speaking child will be exposed to the relevant contexts for non-V2 considerably more often than Norwegian-speaking children.

We may also compare this to another non-target-consistent word order pattern produced by young Norwegian children in so-called 'subject-shift' constructions, where the target language requires pronominal subjects to appear preceding negation in questions and non-subject-initial declaratives. In Westergaard (2005) it is shown that the three children in the study (age approximately 1;9 to 3;0) all initially produce pronominal subjects in a lower position, following negation. In Westergaard (to appear) this is argued to be due to the same economy principle that is discussed in the present article, as well as the general complexity of the construction. However, in this case the children's error pattern is relatively short-lived, as the target-consistent word order falls into place between age 2;6 and 3;0. The difference between the subject-shift constructions and the embedded contexts discussed here may partly be due to different input frequencies. In the same sample of child-directed speech which was investigated in Table 6.2, evidence for word order in the subject-shift constructions is attested in 4.2% of the total input (28 out of 668) and in 8.3% of all relevant contexts, i.e. questions and non-subject-initial declaratives. This is of course considerably more than the 1.0% evidence for word order in non-V2 contexts, and input frequency may therefore be argued to play a certain role here.

6.6 Summary and concluding remarks

In this paper we have considered two similar constructions in Norwegian child language, embedded questions and (all) embedded clauses containing negation or an adverb. In the former clause type the children's word order is error-free from the beginning, in that they do not overgeneralize verb movement across the subject from main clause questions. In the latter clause type, on the other hand, children produce non-target-consistent word order for a considerable period of time, possibly beyond the age of six. That is, they move the

verb across negation or an adverb, and this is a word order which also appears in other non-V2 constructions. An investigation of some samples of child-directed speech revealed that both constructions are extremely infrequent in the input, and that the difference between the two is too small to have such a considerable effect on the children's production. A possible account of the error pattern as a result of input frequencies only was therefore rejected.

Instead, within a weak continuity/structure-building account to language acquisition, we explored an analysis which assumes an economy principle of movement, which generally says that children will not move elements higher in the clause structure than there is evidence for in the input. More specifically, we argued that Norwegian children's early subject-initial main clauses display verb movement to a lower functional head than in the target grammar, i.e. to a head in the IP domain. This will ensure target-consistent word order in main clauses (V-Neg/Adv), but result in non-target-consistent word order in non-V2 contexts: embedded clauses and non-V2 main *wh*-questions. The reason why there is no overgeneralization of V2 from main to embedded questions is related to the Split-CP model of clause structure that we assume, where different clause types have different functional heads in the CP domain. While main *wh*-questions have an Int^{o} head, embedded questions are bare WhPs, reflecting the fact that they have no interrogative force. Thus, the different functional architecture for the two clause types accounts for the lack of overgeneralization, as a feature value on the Int^{o} head cannot be transferred to a clause type where this head is not present.

However, input frequency is also argued to play a role in this analysis. Together with the general complexity of the relevant constructions, the lack of input frequency may be a reason why the non-target-consistent word order produced by the Norwegian children is so persistent, compared to word order in other constructions.

Thus, we argue that there may certainly be effects of input frequencies in language acquisition, but we doubt that input frequency alone can account for acquisition orders and children's non-target-consistent production. Rather, we believe that explanations must be sought in a variety of areas. In the particular case discussed in the present paper, we have argued that economy as well as complexity interact with frequency to produce the particular error patterns found in the child data.

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