# The Interaction of Input and UG in the Acquisition of Verb Movement in a Dialect of Norwegian

Marit R. Westergaard

#### 1. Introduction

In this paper it will be argued that a principle of information structure provided by Universal Grammar (UG) may interact with input in the acquisition of word order. In a study which investigates three children from the age of approximately 1;9 to 3 acquiring a Northern dialect of Norwegian, it has previously been shown that word order patterns in certain types of wh-questions which are sensitive to subtle distinctions in the information value of the subject (given vs. new) are acquired extremely early (Westergaard 2003a). This paper presents a study of the same children's topicalization constructions, and it will be shown that, although these patterns of information structure do not appear in the input, the children nevertheless show traces of these patterns in the non-target forms that they occasionally produce. Thus, in their very early production of topicalization constructions the children seem to be guided by a word order principle based on information structure, which could be taken as support for this as a word order preferred by UG.

# 2. The Word Order of (Standard) Norwegian

Standard Norwegian is a verb second (V2) language which displays verb movement in all main clauses, as illustrated by the topicalization construction in (1), the *wh*-question in (2) as well as the subject-initial declarative sentence in (3), where the verb appears in front of an adverbial. The standard analysis of this is that this word order in the Germanic languages is a result of verb movement to the C position (see e.g. Vikner 1995).

- (1) Sannsynligvis liker hun jordbær. /\*Sannsynligvis hun liker jordbær. <sup>1</sup>

  probably likes she strawberries/probably she likes strawberries
  'Probably she likes strawberries.'
- (2) Hva liker hun? /\*Hva hun liker? what likes she / what she likes 'What does she like?'

<sup>1</sup> In example sentences from the adult language, the gloss will not specify verbal morphology, but this information will be provided in the examples from the child data.

Nordlyd 32.1:110-134, © the author 2004 Tromsø Working Papers in Language Acquisition Edited by Kristine Bentzen

(3) Hun spiser aldri jordbær. / \*Hun aldri spiser jordbær. she eats never strawberries /she never eats strawberries 'She never eats strawberries.' (Standard Norwegian:V2)

It has been shown in various studies that V2 word order is acquired relatively early (e.g. Poeppel and Wexler 1993 for German and Santelmann 1995 for Swedish). According to Platzack (1996, p. 376), V2 is attested in child Swedish from the onset of multiword production at around age 1;9, but it is not used completely consistently until about a year later. The occasional non-target forms children produce normally display SVO order, providing some support for SVO as the underlying word order given by UG, as argued by Kayne's (1995) antisymmetry theory. Platzack also takes this as evidence for his Initial Hypothesis of Syntax. Within a minimalist model (Chomsky 1995) where movement is always triggered by strong features, Platzack's hypothesis states that children should start out assuming that all features are weak, i.e. that there is no syntactic movement. What children acquiring a V2 language need to learn is that there is a strong feature in C which attracts the verb to this position, and this will be learned from exposure to positive evidence in the input, i.e. sentences such as (1)-(3). According to Platzack, the occasional mistakes that children make are due to the parameter of verb movement not being completely automatized in the brains of very young children.

Focusing on topicalization constructions, I will show in this paper that not only are these occasional non-target forms SVO; they also display a specific pattern with respect to information structure, i.e. they tend to occur only when the subject is informationally given. Thus, in the early stages of first language acquisition, verb movement is more likely to occur in sentences with a subject that conveys new information. This pattern, i.e. the target V2 word order (XVS) occurring with new subjects first and the nontarget XSV word order appearing with given subjects only, corresponds then to the pragmatic principle of end focus, a well-known tendency of information structure to put given information as early as possible in the sentence and push new information towards the end (see e.g. Firbas 1992 for ideas on 'Communicative Dynamism' within the Prague school). In this paper this tendency will be argued to reflect certain UG preferences. Furthermore, I will try to show that it is possible to account for this within a syntactic model of word order, more specifically a split-CP approach to clause structure.

# 3. Topicalization Constructions in Child Norwegian

## 3.1. Early Target Forms

The corpus used for the present study consists of a total of 66 one-hour recordings of the following three children growing up in Tromsø: Ina (23 recordings, age range 1;8.20-2;10.22), Ann (21 recordings, age range 1;8.20-3;0.1), and Ole (22 recordings, age range 1;9.10-2;11.23)<sup>2</sup>. The parents of these children all speak Northern dialects, and all three children have been in day-care from the age of one – thus, they have had extensive exposure to the Tromsø dialect. All three children were recorded in their homes in play situations with an investigator and sometimes the parents present. There is only spontaneous production in the corpus and no elicited data, and the corpus was not collected with any particular syntactic structure in mind.

Topicalization constructions are relatively frequent in V2 languages (see e.g. Lightfoot 1993, 1999). In this study, as in the previous studies mentioned in section 2 on the acquisition of other V2 languages, topicalizations with target V2 word order are attested in the children's data from the earliest files – that is, around the age of 1;9. See examples (4)-(6):

(4) der er mann.

there be.PRES man

'There is (a) man.'

(5) der er stor stor Ole Brumm.

there be.PRES big big Ole Brumm

'There is (a) big big Winnie the Pooh.'

(6) der var blomst.

there be.PAST flower

'There was (a) flower.'

(Ina.01, 1;8.20)

(Ann.01, 1;8.20)

(Ole.01, 1;9.10)

As illustrated by the above examples, the first topicalization constructions are of the same kind in the data of all three children, i.e. with the topicalized element *der* 'there,' the verb *være* 'be' and a full DP subject. The element *der* 'there' is locative in Norwegian, and does not correspond to the expletive 'there' in English. It should also be noted that in addition to these frequent topicalizations with *der* 'there,' the children also use constructions with *det* 'it/that' at this stage, as seen in (7)-(9). This element may be a referring pronoun, a demonstrative (normally with stress)

\_\_\_

<sup>&</sup>lt;sup>2</sup> With the exception of ten files (collected and transcribed by the present author), this Norwegian corpus has been collected by Merete Anderssen.

or an expletive, and its pronunciation is quite different from *der* (/de/ vs. /dær/).

(7) det er vovva. (Ina.01, 1;8.20)

it be.PRES doggie

'It/that is (a) doggie.'

(8) det er dama! (Ann.01, 1;8.20)

it be.PRES lady

'It/that is (a/the) lady.'

(9) det var mann. (Ole.01, 1;9.10)

it be.PAST man

'It/that was (a) man.'

Examples (10)-(12) illustrate that other adverbs than *der* 'there' also occur in these Norwegian children's early topicalization constructions, e.g.  $s\mathring{a}$  'so/then,' *her* 'here,' and  $n\mathring{a}/no$  'now.' There is also the occasional object topicalization in the corpus at the early stage, as shown in sentences (13)-(15).<sup>3</sup>

(10) så tegne æ mamma. (Ina.02, 1;10.4)

then draw.INF/PRES I mommie

'Then I draw mommie.'

(11) her er sekken. (Ann.03, 1;10.2)

here be.PRES backpack.DEF

'Here is the backpack.'

(12) no er det den. (Ole.01, 1;9.10)

now be.PRES it that

'Now it is that one.'

(13) det (s)kal Ina gjøre. (Ina.03, 1;10.23)

that shall Ina do

'That Ina should do.'

(14) den ødeikkelegge Ann. (Ann.04, 1;11.0)

that break.not.INF Ann

'That Ann (does) not break.'

<sup>3</sup> Example (14) is particularly interesting, as the child seems to have incorporated the negation *ikke* 'not' into the verb, which here occurs with the ending -e. This verb form is either the infinitive or, as argued in Westergaard (2004a), presumably an overgeneralized present tense form. The whole verb form then seems to have undergone verb movement to second position. The target form would be as in (i):

<sup>(</sup>i) Den ødelegg Ann ikke. that break.PRES Ann not

(15) det banke Ole ned. (Ole.06, 2;1.5) that knock.INF/PRES Ole down 'That one Ole knocks down.'

Table 1 gives an overview of the three children's topicalization constructions in the first ten files, i.e. from the start of data collection at the age of approximately 1;9 until the age of approximately 2;4. As we see, topicalization constructions are attested from the very beginning with the correct V2 word order for all three children. There are only occasional nontarget forms, and these are sentences without verb movement, displaying XSV word order (also called V3). There is also some difference between the three children with respect to the total number of topicalization constructions used, but in general it can be said that at this stage all three children seem to master verb movement – it occurs with all types of verbs (*være* 'be' as well as both present and past forms of other verbs), all types of subjects (pronouns as well as full DPs) and a variety of topicalized elements, as illustrated by the examples in (16)-(18).

Table 1: The number of topicalization constructions in the first ten files of the children, with V2 (target forms) and V3 (non-target forms), age approx. 1;9 to 2;4.

INA	V2	V3	ANN	V2	V3	OLE	V2	V3
	(XVS)	(XSV)		(XVS)	(XSV)		(XVS)	(XSV)
Ina.01	3	0	Ann.01	5	1	Ole.01	22	0
Ina.02	6	0	Ann.02	2	1	Ole.02	26	0
Ina.03	9	0	Ann.03	35	0	Ole.03	3	3
Ina.04	7	1	Ann.04	6	0	Ole.04	16	2
Ina.05	8	3	Ann.05	36	1	Ole.05	12	2
Ina.06	13	3	Ann.06	25	0	Ole.06	59	5
Ina.07	11	0	Ann.07	27	0	Ole.07	52	3
Ina.08	4	0	Ann.08	7	1	Ole.08	31	2
Ina.09	42	1	Ann.09	33	0	Ole.09	42	7
Ina.10	31	0	Ann.10	59	0	Ole.10	62	5
Total	134	8 (5.6%)	Total	235	4 (1.7%)	Total	325	29 (8.2%)

(16) no er det borte. (Ina.06, 2;1.0) now be.PRES it gone

'Now it is gone.'

(17) der har Ann føtter. (Ann.03, 1;10.02) there have.PRES Ann feet

'There Ann has feet.'

(18) nå hørte æ en bil. (Ole.02, 1;10.0) now hear.PAST I a car 'Now I heard a car '

# 3.2. Non-Target (XSV) Forms

As we saw in Table 1 above, there are relatively few non-target forms in the child data, from only 1.7% in the files of Ann to 8.2% in the files of Ole.<sup>4</sup> Note that the frequency of a construction does not necessarily correspond positively with its accuracy, as the child Ole, who produces more topicalizations than the two girls, also makes relatively more mistakes than they do. The average percentage of XSV patterns produced by the three children in the first ten files is 5.9%, which corresponds relatively closely to the 4.2% non-target forms found by Santelmann (1995) in the Swedish child data she investigated.

It should be noted that some of the non-target forms in Table 1 are somewhat difficult to analyse, because of the verb form involved. In some cases, e.g. sentence (19), the verb seems to occur in the infinitive form, which should not undergo verb movement anyway, as only finite verbs move to second position in the adult grammar.

(19) og der æ finne +. (Ina.05, 2;0.5) and there I find.INF 'And there I find/will find...'

Additionally, there is no agreement on the verb in Norwegian, and in the Tromsø dialect the present tense -er ending of standard Norwegian is reduced to -e, which is also the ending for the infinitive. For most verbs in the dialect these two verb forms will therefore be identical, and in sentence (20) for example, the verb form tegne 'draw' could be either an infinitive or a present tense form.

(20) og så dama tegne. (Ann.01, 1;8.20) and then lady draw.INF/PRES?

'And then the lady draws.'/'And then the lady should/must draw.'

Table 2 gives an overview of the type of verb forms occurring in sentences with non-target word order produced by the three children. As we see there are six forms that seem to be non-finite forms, 14 that are

\_

<sup>&</sup>lt;sup>4</sup> Only examples displaying XSV word order are discussed in this article. Other non-target forms produced by the three children in topicalization constructions are discussed in Westergaard (2004a). These include subjectless topicalizations and V1 structures.

clearly finite, and as many as 21 that have an unclear status, i.e. they are either infinitives or present tense forms.<sup>5</sup>

Table 2: The verb forms involved in topicalization constructions with non-target V3 (XSV) word order produced by the three children in the first ten files, age approximately 1;9 to 2;4.

FILES	PRES	PAST	PRES/INF?	INF	Total
Ina.1-10	2	1	3	2	8
Ann.1-10	1	0	3	0	4
Ole.1-10	5	5	15	4	29
Total	8	6	21	6	41

On the other hand, the children also seem to occasionally produce non-finite verbs in second position, as shown in the V2 construction in sentence (21). This finding goes against what has been attested for other V2 languages: In German L1 acquisition (see e.g. Clahsen and Penke 1992) as well as Swedish, movement of the verb seems to be closely linked to finiteness, and Platzack (1996) claims that "there is hardly any trace of verb raising in non-finite sentences in early Swedish." (p. 398).

As suggested in Westergaard (2004a), a possible explanation for the children's relatively frequent non-finite forms in V2 as well as V3 topicalizations could be that these are in fact not infinitives, but function as overgeneralized present tense forms. The two major (weak) verb classes in Norwegian (the so-called *-a* verbs and *-te* verbs, e.g. *kaste-kasta* 'throwthrew,' *leke-lekte* 'play-played') together make up approximately 96% of

(ii) Nå skal mamma gjøre det. now shall mommie do it

<sup>&</sup>lt;sup>5</sup> In addition to the infinitives, there is also one example of another non-finite form with V3 word order, a past participle, as illustrated in (i). Since here it seems reasonable simply to assume that the auxiliary *ha* 'have' is missing in second position, this example has not been included among the non-target forms in Table 1.

<sup>(</sup>i) togbane og skammel æ fått. (Ole.07, age 2;1.26) train set and stool I get.PP

'Train set and stool I (have) got.'

<sup>&</sup>lt;sup>6</sup> The target form here is either (i) or (ii):

<sup>(</sup>i) Nå gjør mamma det. now do.PRES mommie it

all verbs (see Endresen and Simonsen 2001), and most of these have identical forms for the infinitive and the present tense in the Tromsø dialect, i.e. the ending -e. This means that it is actually more of an exception that there are verbs where the two forms differ, and children may pick up on this generalization very early. Thus, the children may have a rule, based on these major verb classes, that the present tense ending is -e, and then overgeneralize this rule to those verbs which do not belong to these verb classes. If this is the case, then the seemingly infinitive forms found in the V2 topicalizations could actually be present tense forms for the children. This would explain why the Norwegian children in this study raise these verb forms, and their behavior with respect to verb movement would in fact not be so different from what Swedish and German children do. For the V3 topicalizations, this pattern of overgeneralization presents a greater likelihood that more of the verb forms in Table 2 are in fact finite. Therefore, all the 41 examples with V3 word order will be included in the following discussion of non-target forms produced by the three children.

When the occasional non-target forms the children make are considered more closely, a certain pattern emerges with respect to the choice of subject and verb types involved in those sentences. That is, the topicalization constructions with the non-target XSV order tend to be exactly the opposite of those first topicalization constructions that we saw in (4)-(6). While the verb was almost always *være* 'be' in those early topicalizations and the subject a full DP, the verb is hardly ever *være* 'be' in the non-target forms, and the subject tends to be a pronoun rather than a full DP; see examples (27)-(34). Strikingly, when the subject *is* a full DP in these non-target forms it is almost always the child's name or the name of a person present – that is, it is a DP which conveys given information with respect to the speech situation. We will see in the next section why this pattern is important.

(27) der Ina (k)nyt.	(Ina.04, 1;11.22)
there Ina tie.PRES	
'There Ina is tying it.'	
(28) og der æ finne +.	(Ina.05, 2;0.5)
and there I find.INF?	
'And there I find'	
(29) der Ina gjemte det.	(Ina.06, 2;1.0)
there Ina hide.PAST it	
'There Ina hid it.'	

(Ann.02, 1;9.18)

afterwards Ann touch.INF/PRES

'Afterwards Ann (can) touch (it).

(31) der Ann har et. (Ann.08, 2;1.28)

there Ann have.PRES one

'There Ann has one.'

(32) på øyan æ har solbrilla. (Ole.02, 1;10.22)

Ann røre.

(32) på øyan æ har solbrilla. (Ole.02, 1;10.22) on eyes.DEF I have.PRES sunglasses
'On my eyes I have sunglasses.'

(33) der Ole har pusla xx der<sup>7</sup>. (Ole.05, 2;0.10) there Ole have.PRES puzzle.PART xx there 'There Ole has puzzled xx.'

(34) nå æ skal (s)t(r)ikke litt til. (Ole.10, 2;4.6) now I shall knit little more 'Now I will knit a little more.'

# 4. The Word Order of Wh-Questions in the Tromsø Dialect

Most Northern dialects of Norwegian are similar to the standard language with respect to the word order in declarative sentences, i.e. topicalization constructions and subject-initial sentences with adverbials, such as (1) and (3) above. However, these dialects differ from the standard in that they allow two different word orders in *wh*-questions, and the situation for the Tromsø dialect is the following: If the *wh*-constituent is monosyllabic (*ka* 'what,' *kem* 'who,' and *kor* 'where'), the question is grammatical both with and without verb movement (V2 or V3)<sup>8</sup>, as illustrated in (35)-(37). With disyllabic question words or longer *wh*-constituents, on the other hand, V2 word order is obligatory, as shown in (38) and (39).

(35) Ka sir du? / Ka du sir? what say you / what you say 'What are you saying?'

(30) etterpå

<sup>&</sup>lt;sup>7</sup> The child is using the verb *pusle* 'do a puzzle' as a transitive verb, where the object is always a description of the part of the picture that he just put in its place. In this particular case the transcriber was unable to decipher what the object was.

<sup>&</sup>lt;sup>8</sup> The term V3, although it is frequently used in word order studies in Scandinavian languages to refer to sentences without verb movement, is in fact a bit of a misnomer. This is because in cases where there is e.g. an adverbial present in the clause, the verb will in fact be in fourth position (and could even occur further to the right).

<sup>(</sup>i) Ka du egentlig sir?what you really say'What are you really saying?'

- (36) Kem likte han best? / Kem han likte best? who liked he best / who he liked best 'Who did he like best?'
- (37) Kor er bamsen? / Kor bamsen er? where is teddy.DEF / where teddy.DEF is 'Where is the teddy?'
- (38) Katti kommer du? / \*Katti du kommer? when come you / when you come 'When are you coming?'
- (39) Ka slags farge like du best? / \*Ka slags farge du like best? what kind-of color like you best / what kind-of color you like best 'What kind of color do you like best?' (Tromsø dialect)

The two different word orders in (35)-(37) are judged by adult speakers of this dialect as equal in acceptability (see e.g. Fiva 1996), and they seem to be virtually identical in meaning when uttered in isolation. However, in Westergaard (2003a) it is argued that the difference between the two word orders in questions with monosyllabic *wh*-words is dependent on the information structure of the sentence, more specifically on the interpretation of the subject as either given or new information. In a study of some of the adult material in the present acquisition corpus, it is shown that there are clear preference patterns for the choice of subject and verb types used with the two constructions: when the subject is a full DP (or a demonstrative pronoun) and the verb *være* 'be,' V2 word order is preferred, while V3 tends to be chosen when the subject is a personal pronoun and the verb is any other verb than *være* 'be.' Examples illustrating this pattern are given in (40) and 41), and an especially revealing example is the sequence of questions from context given in (42).

(40) kor er pingvinen henne? (INV, File Ole.16) where is penguin.DEF LOC 'Where is the penguin?'

(41) kor du har fått det henne? (INV, File Ole.22) where you have got it LOC

'Where have you got that?'Where did you get that?'

(42) OLE: xx mjau mjau sir pusekattan.

meow meow say kitties.DEF

'xx meow, meow say the kitties.'

INV: ja. *yes* 

INV:  $\langle ka \ sir \rangle / ka \ sir \ hunden \ da?$  (V2)

what says what says dog.DEF then

'What does the dog say then?'

OLE: voff voff.

(Ole is imitating a dog.)

INV: og eselet da# ka det sir? (V3)

and donkey.DEF then # what that says

'And the donkey then – what does that say?'

A few lines later:

INV: hanen ja.

rooster.DEF yes

'The rooster, yes.'

OLE: hanen # og den +/.

rooster.DEF # and that

'The rooster – and that...'

INV: ka hanen sir? (V3)

what rooster.DEF says

'What does the rooster say?' (From file Ole.17)

The first sentence in bold face in (42) is an example where the adult is introducing something new in the conversation (the dog), and thus a V2 structure is used. In the second bold-face sentence the new element (the donkey) is introduced first, and then, once it is given information, it can be referred to by a pronoun and put into pre-verbal position. The third example is different, in that the given information (the rooster) has been mentioned in the previous discourse, but it is still referred to by a full DP. The pre-verbal position is nevertheless available for this element because of its informational status as given information.

It should be noted that any combination of subjects and verb types is strictly grammatical with either word order. Nevertheless, the choice of subject and verb patterns preferred in context were found to be highly significant statistically (see Westergaard 2003a, p. 91). The generalization drawn from this is that these patterns are not the result of a purely syntactic constraint, but should be linked to information structure: the V2 word order, i.e. verb before subject, is used when the subject is new information (often a full DP), while the V3 order, i.e. subject before verb, is chosen if the subject conveys given information (often a pronoun). This would explain the preference for pronominal subjects in V3 constructions, since pronouns are normally given information, as well as the preference for the verb *være* 'be' in the V2 constructions: although this verb is not syntactically any different from other verbs in Norwegian, it is

semantically so light that it will tend to always carry less information value than the subject.

Westergaard (2003a, 2003b) also reports on a longitudinal study of the three children from the present corpus with respect to the two word orders in wh-questions. Although it might have been assumed that children would start out with one word order and learn the other at a somewhat later stage, the study shows that both V2 and V3 word orders are attested from the earliest files of the children, with more or less the same frequency as in the adult corpus. And perhaps even more surprisingly, the preference patterns for subject and verb types used with the two word orders in the child data exactly match those found in the adult corpus: V2 is preferred with være 'be' + full DP subjects, while V3 word order mainly occurs with pronominal subjects + other verbs than være 'be,' as illustrated by the examples from Ina's files in (43) and (44).

# **5.** Sensitivity to Input

The data in the previous section indicate that children at a very young age are extremely sensitive to input, in that their early production matches the preference patterns of subject and verb types with different word orders found in the adult data. As a further example of that, consider the sentences in (45) and (46), which are so-called *wh*-less questions, i.e. questions with a missing *wh*-element.

These sentences illustrate that both word orders are in place before the age of two, with the typical preference patterns for subject and verb types, even in questions lacking the monosyllabic *wh*-word which supposedly triggers the special V3 word order in the dialect. Acquisition of these subtle

patterns at such a young age may make us wonder if children possibly do not rely only on input in these cases, but could in fact be guided by some universal word order preference? I will return to that question in the next section, but first look at some examples of topicalization constructions which also suggest that young children are very sensitive to input.

As we saw in Table 1, V2 word order in topicalization constructions is in place very early, with relatively few non-target forms. Perhaps even more impressive, though, is that the children are also sensitive to exceptions to the rule of verb movement: The adverb *kanskje* 'maybe' optionally allows V3 word order (XSV), both in standard Norwegian and in the Tromsø dialect. And all three children's first instance of this adverb in a topicalization construction displays this unusual, but target-like, V3 word order. The crucial examples are found in (47)-(49):

```
(47) kanskje det var en anna dag. (Ina.09, 2;2.12) maybe it be.PAST an other day 'Maybe it was another day.'
(48) kanskje han sitt og spise kaffe. (Ann.15, 2;6.21) maybe he sit.PRES and eat.INF/PRES coffee 'Maybe he is sitting there eating coffee.'
```

(49) kanskje dem krangla. (Ole.14, 2;6.21) maybe they fight.PAST 'Maybe they were fighting.'

In addition, there is one adverb that may occur in front of the verb in declarative subject-initial clauses, again in standard Norwegian as well as in Northern dialects, viz the adverb *bare* 'only, just.' This results in an exceptional, but grammatical, SXV order, which differs from the usual V2 (SVX) order found in examples like (3) above. And all three children are apparently sensitive to this unusual form in the input, as they very early produce target-like exceptional forms, as we see in examples (50)-(52).

(50) æ bare gjør sånn. (Ina.05, 2;0.5)

I just do.PRES such

'I am just doing like this.'

<sup>9</sup> Thorbjörg Hróarsdóttir (p. c.) informs me that these two adverbs also allow V3 word order in Icelandic, indicating that the Norwegian word order facts do not reflect a completely idiosyncratic behavior of these adverbs. However, as the corresponding

adverbs in German require strict V2 word order, this behavior cannot be universal.

(51) æ bare låne (Ann. 10, 2; 3.9) han.

I just borrow.PRES/INF him

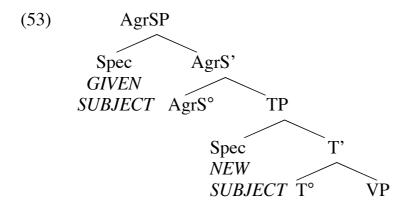
'I just borrow him/it.'

(52) de bare datt (Ole.08, 2;2.12)

they just fall.PAST off 'They just fell off.'

# **6. Syntactic Analysis**

In Westergaard and Vangsnes (forthcoming), henceforth W&V<sup>10</sup>, a comparative analysis of wh-questions in different types of Norwegian dialects is provided within a version of the Split-CP framework of Rizzi (1997). W&V argue that given and new subjects occupy distinct positions in the syntactic structure, a high one for given subjects and a lower one for new subjects, and this is taken to be a property of UG. Two different subject positions based on information structure have also been suggested by Holmberg (1993) and discussed by Nilsen (1997, 2003) and Svenonius (2001). More specifically, W&V argue that SpecTP is the locus of informationally new subjects, while SpecAgrSP is the position for given subjects. The relevant syntactic structure is thus as illustrated in (53):



The heads present in the CP domain in the W&V analysis are given in (54). Not all functional elements need to be present in all clauses, but clause typing depends on the combination of functional heads. If e.g. the head Int° is present, the sentence is a wh-question, if the head Top° is present, the sentence is either a subject-initial clause or a topicalization construction. Following Beninca' (1999), W&V assume that the head Wh<sup>o</sup> is involved in exclamatives as well as embedded questions (both of which do not have any interrogative force and do not require V2 in Norwegian).

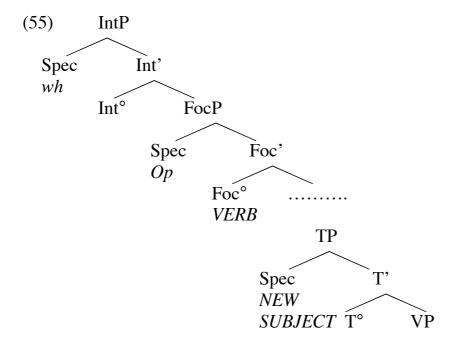
<sup>&</sup>lt;sup>10</sup> For a somewhat revised version of this syntactic model, see Westergaard (2004a).

# (54) INT(errogative) TOP(ic) FOC(us) WH FIN(iteness) [IP AgrS T

The main parametric tool of the analysis is that grammars differ with respect to whether a particular head position is endowed with an EPP head feature, which may be lexicalized by verb movement. In other words, there may be several sources for V2 word order. For example, English has the EPP feature on Int°, but no such requirement for a filled Top° head, and this accounts for V2 word order in questions and non-V2 in topicalizations. Standard Norwegian, on the other hand, has the requirement for both heads, and this accounts for the word order in all three constructions that require V2: questions, topicalizations and subject-initial declarative main clauses, illustrated in sentences (1)-(3) above. It should be noted that there are dialects of Norwegian where there is a V2 requirement in topicalizations and subject-initial clauses, but no such requirement in any type of whquestion, see e.g. Åfarli (1985, 1986), Nordgård (1985) and Nilsen (1996). These dialects are thus exactly the opposite of English, and are accounted for by W&V as a grammar with an EPP head feature on Top°, but no such requirement for a filled Int°, i.e. the reverse requirement of English.

For the Tromsø dialect, W&V argue that it is similar to standard Norwegian in that there is an EPP feature on both Top° and Int°. The latter is required to account for the strict V2 effect with all other wh-phrases than the monosyllabic question words, i.e. sentences like (38) and (39). In order to account for the V3 word order, W&V follow Taraldsen (1986) and argue that in Northern dialects of Norwegian, the monosyllabic wh-words are non-projecting X° elements in SpecIntP. These may therefore in themselves fulfil the EPP requirement on Int°, thus obviating verb movement.

However, the problem is then to account for the possibility of V2 word order in questions with monosyllabic wh-words. If the wh-element fulfils the requirement on Int°, where does the verb move to in these V2 questions? And how is this related to the fact that this word order seems to occur when the subject conveys new information? W&V argue that there is a relation between a new subject in SpecTP and a focus operator in the specifier of another left peripheral head, Foc°. This focus operator attracts the verb to the CP domain, more specifically the head Foc°, yielding V2 word order, as illustrated in (55). In other words, the V2 word order in questions with monosyllabic wh-words is the result of movement to the head Foc°, not to Int°. Thus, there is no verb movement in wh-questions with monosyllabic wh-words when the subject is given information, since the EPP requirement on Int° is fulfilled by the monosyllabic wh-element and there is no other C head that attracts the verb.



As evidence for the two different subject positions in *wh*-questions, W&V give the examples in (56) and (57). These show that in V2 constructions, a sentence adverb such as e.g. *egentlig* 'really' may occur preceding the subject, while in a V3 construction, where the subject is presumably higher in the structure because it is given information, the adverb may only follow the subject.<sup>11</sup>

(56) Ka mente (egentlig) han Ola med det der? (V2) what meant really DET Ola with that there 'What did Ola really mean by that?'

(57) Ka (\*egentlig) han Ola (egentlig) mente med det der? (V3) what really DET Ola really meant with that there 'What did Ola really mean by that?'

In the next section I will try to account for the acquisition data in topicalization constructions within the W&V framework. Given that V2 is in place from the children's earliest production of those clause types that require it, children must realize very early that their language requires some filled C head. However, as we saw in section 4, children also very early produce wh-questions without verb movement in a systematic way, i.e. only after those wh-words which allow it, and with the same preference

Westergaard (2004a).

<sup>&</sup>lt;sup>11</sup> In a V2 structure such as (56), the adverb may also appear following the subject, indicating that V2 word order is also compatible with given subjects. This issue will not be discussed further here, but see Westergaard and Vangsnes (forthcoming) and

patterns for subject and verb types as adults (pronominal subjects, other verbs than *være* 'be'). Furthermore, there is a very high frequency of sentences with V2 word order in the early files with the opposite pattern, i.e. the verb *være* 'be' and a DP subject. This is the case both for *wh*-questions such as (43) and topicalizations such as (4)-(6) above. These facts suggest that the requirement imposed by the focus operator in SpecFocP, i.e. that the head Foc° must be filled, is acquired before the children realize that there is an EPP head freature on Int°. Or, given the fact that there is no input for a distinction between informationally given and new subjects in the case of topicalizations - could this be part of the innate grammar? The next two sections contain further speculations on this question.

# 7. Input vs. UG in Topicalization Constructions

As mentioned in section 3, when children occasionally produce non-target word order in topicalizations, these clauses display the same subject and verb types as the V3 wh-questions. Table 3 displays the subject and verb type choice in the 41 non-target topicalization constructions with V3 word order from the early files of the three children. It seems clear that there is a preference for given subjects (pronouns or full DPs familiar from context, especially the child's own name) as well as verbs other than være 'be.'

Table 3: The choice of verb and subject types in the topicalization constructions with non-target V3 (XSV) word order in the ten first files of all three children, age approximately 1;9 to 2;4.

	DP+være 'be'	pro+være 'be'	DP+V	pro+V	Total
Ina.1-10	0	0	<b>5</b> (4=Ina)	3	8
Ann.1-10	0	0	<b>4</b> (3=Ann)	0	4
Ole.1-10	0	312	<b>9</b> (5=Ole, 3=mom/dad)	<b>17</b> (12=I)	29
Total	0	3	18	20	41
		(7.3%)	(43.9%)	(48.8%)	(100%)

<sup>&</sup>lt;sup>12</sup> In two of the instances where non-target word order occurs with the verb *være* 'be,' the child (Ole) seems to correct himself by repeating the subject in postverbal position, as illustrated in (i) and (ii). In the latter sentence, the repeated subject for some reason occurs really low in the structure.

<sup>(</sup>i) der han var han Ole Brumm. (Ole.10, 2;4.6) there he be.PAST DET Ole Brumm

<sup>&#</sup>x27;There he was Winnie the Pooh.'

<sup>(</sup>ii) nå den er [//] har blitt snart den ferdig. (Ole.10, 2;4.6) now it be.PRES have.PRES be.PART soon it done

<sup>&#</sup>x27;Now it is...it has soon been done.'

Target form: Nå er den ... har den snart blitt ferdig.

For comparison, the subject and verb types preferred in the three children's V2 topicalizations are included in Table 4. As we see, the pattern *være* 'be' + full DP subject is the first to appear in the data of all three children. The patterns that tend to appear with non-target word order in the early files, V+DP and especially V+pro (in the third and fourth columns of the table), increase relatively dramatically in frequency from the age of approximately 2;2-2;3 for all three children. Not surprisingly, as these occur more frequently with the target V2 word order, the number of word order mistakes decreases (cp. Table 1).

Table 4: The choice of subject and verb types in topicalization constructions with (target) V2 word order in the ten first files of the three children, age approximately 1;9 to 2;4.

FILES	være+DP	<i>være</i> +pro	V+DP	V+pro	Total
Ina.01 (1:8.20)	3	0	0	0	3
Ina.02 (1;10.4)	3	0	1	2	6
Ina.03 (1;10.23)	6	0	2	1	9
Ina.04 (1;11.22)	4	0	2	1	7
Ina.05 (2;0.5)	0	1	2 2 2 2 2 3	5	8
Ina.06 (2;1.0)	2	4	2	5	13
Ina.07 (2;1.23)	7	0		1	11
Ina.08 (2;1.29)	0	0	1	3	4
Ina.09 (2;2.12)	30	1	1 3 6	8	42
Ina.10 (2;3.12)	6	2		17	31
TOTAL	61	8	22	43	134
Ann.01 (1;8.20)	5	0	0	0	5
Ann.02 (1;9.18)	2	0	0	0	2
Ann.03 (1;10.02)	33	0	1 3	1	35
Ann.04 (1;11.0)	1	1	3	0	5
Ann.05 (1;11.26)	19	7	5	5	36
Ann.06 (2;0.17)	16	1	5	3	25
Ann.07 (2;1.7)	16	2	8	1	27
Ann.08 (2;1.28)	4	1	1	1	7
Ann.09 (2;2.19)	8	4	5	16	33
Ann.10 (2;3.9)	14	8	1	36	59
TOTAL	118	24	29	63	234
Ole.01 (1;9.10)	18	2	2	0	22
Ole.02 (1;10.0)	20	3	0	3	26
Ole.03 (1;10.22)	2 15	0	1	0	3
Ole.04 (1;11.13)		0	1	0	16
Ole.05 (2;0.10)	11	0	1	0	12
Ole.06 (2;1.5)	46	1	6	6	59
Ole.07 (2;1.26)	49	0	2	1	52
Ole.08 (2;2.12)	21	1	4	5	31
Ole.09 (2;3.15)	12	9	7	14	42
Ole.10 (2;4.6)	11	14	6	31	62
TOTAL	205	30	30	60	325

The remaining files of the three children have also been searched for non-target V3 word order in topicalizations. As Ole is still making a considerable number of mistakes in the ten first files before age 2;4 (8.2%, see Table 1), his later non-target forms have also been considered in relation to the total number of topicalizations produced. Table 5 displays the topicalizations with non-target word order in the later files of the three children, i.e. from the age of approximately 2;4 to 3;0. As we see, Ole first and foremost makes fewer mistakes in the later files compared to the early ones; down to 2.4% compared to the 8.2% in the first ten files, indicating that there is real development in this respect. But it also seems clear that these later non-target forms produced by all three children follow the same pattern as the early ones with respect to subject and verb types.

Table 5: The choice of verb and subject types in the topicalization constructions with non-target V3 (XSV) word order in the files Ina.11-23, Ann.11-21, and Ole.11-22, age approximately 2;4-3;0.

FILES	DP+være	pro+være	DP+V	pro+V	Total V3	V2
Ina.11-23	0	0	<b>3</b> (2=Ina)	15	18	-
Ann.11-21	0	0	0	2	2	-
Ole.11-21	0	0	2	<b>15</b> (10=I, 4=we)	17 (2.4%)	696
Total	0	0	5 (13.5%)	32 (86.5%)	37	-

From the data in Tables 4 and 5 it seems clear that the patterns attested in these topicalization constructions are exactly the same as the pattern found for the monosyllabic *wh*-questions in both the adult and child data in this corpus; V2 word order is frequent with the verb *være* 'be' and full DP subjects, while pronominal subjects and other verbs occur with V3 word order. With topicalizations, all patterns are of course found with V2, especially in the later files of the children, as that is the only word order allowed by the syntax of the adult grammar. Nevertheless, from the nontarget forms that they produce, it would seem that children make a distinction between given and new subjects also in topicalization constructions at an early stage.

As the adult grammar is consistently V2 in topicalizations, there is no input that should lead the children into producing sentences with V3 word

<sup>&</sup>lt;sup>13</sup> Given the high number of topicalizations in the later files of the children, an exact count has not been carried out for the other two children.

<sup>&</sup>lt;sup>14</sup> This pattern is also similar to the word order found in topicalization constructions in Old English (OE): V2 tended to occur with DP subjects, while V3 was preferred with pronominal subjects. In Westergaard (2004b) these OE word order patterns are discussed in the light of the findings from the present acquisition study.

order. Therefore it could be argued that the pattern seen in their non-target forms in topicalization constructions is due to a natural word order preference given by UG. This word order must be sensitive to information structure, which must be encoded in the syntax in some way. Recall that in the W&V model, there are two features that are used to explain the difference between V2 and V3 word order in wh-questions, and these both have to do with information structure: First, the argument is that there are two subject positions in the syntax, SpecAgrSP for given subjects and SpecTP for new subjects. If this is in fact an innate structure, then children will expect there to be a distinction between the two, and that in the unmarked case, given subjects should occur relatively high in the structure, and new subjects lower. Second, there is the existence of the functional projection FocP in the CP domain of the clause, which attracts the verb to its head position whenever it binds an element that is new information further down in the structure. This ensures that elements that convey new information stay in lower positions when other elements move up, corresponding to the well-known pragmatic principle of end focus. If this is also an innate structure, then the existence of the FocP could serve as part of a syntactic explanation of this frequently seen principle of information structure.

Additionally, if we assume that the existence of two subject positions and the focus projection are aspects of syntax that children do not have to *learn*, then that could explain the fact that verb movement in structures with new subjects is in place immediately in children's multi-word utterances. It could of course be the case that the V2 parameter is set even before multi-word utterances occur, but such an explanation would be unable to account for the fact that verb movement in structures with given subjects is apparently not learned at the same time (in topicalization constructions), as these are the ones that occur with non-target word order in the early stages of language acquisition. Thus, assuming that there is some UG principle of information structure involved would not only account for the early acquisition of subtle word order patterns in *wh*-questions; it would also explain the emergence of these patterns in the topicalization cases where there is no such distinction in the input.

The claim here would then be that verb movement to the heads Int° and Top° is not acquired immediately and that word order in the early V2 cases is in fact taken care of by the focus feature binding a new subject, which ensures verb movement to the head Foc°. Thus, the children's non-target forms in topicalization constructions only occur in the absence of the trigger for V-to-Foc°, i.e. only in cases with given subjects, at a stage before the syntactic requirement for a filled Top° head in Norwegian is

fully acquired. In other words, what Norwegian children need to *learn* is that the syntax sometimes overrides information structure, i.e. that the EPP feature on the Top° head in the adult grammar causes a generalized V2 requirement in declarative main clauses. As discussed in Westergaard (2004a), there is ample evidence for this in the children's primary linguistic data, as topicalization constructions are relatively frequent in the input.

# 8. Some Data from Swedish Child Language

It could of course be argued that the non-target word order pattern seen in these children's early production of topicalization structures is not due to UG, but simply that verb movement to the head Top° is acquired later than verb movement to Foc°. If V2 word order in the Tromsø dialect is the result of several types of verb movement to different head positions, then it may very well be the case that these are not all acquired at the same time. That is, the patterns of non-target forms that we see in topicalization constructions, where the existence of the FocP should really be irrelevant, could for example be due to overgeneralization from the input children are exposed to in wh-questions. In order to provide more conclusive evidence that this could really be a pattern provided by UG, one would need to investigate sentences with non-target word order produced by children acquiring other Germanic languages, e.g. German or Swedish, or standard Norwegian. In these languages, the input that children are exposed to should be consistently V2. Unfortunately, a complete investigation of that kind will have to be left to further research.

However, in this section I will briefly look at some Swedish child data that may point in the UG direction. These data are the examples of non-target word order in topicalizations produced by the children in the Söderbergh corpus investigated in Santelmann (1995). There are altogether 54 examples of V3 word order in the corpus, and these constitute the above-mentioned 4.2% of the total number of topicalizations (see section 3.2). Out of these 54 examples, as many as 28 have a non-finite verb only -21 infinitives and 7 past participle forms. Santelmann herself (p. c.) considers these examples to be sentences where there is a modal or other auxiliary missing, and they may as such not count as true V3 word order mistakes. Table 6 gives an overview of the subject and verb types involved in all 54 sentences, and sentences (58)-(60) provide typical examples.

(58) Nu jag åker. (Ask.09, 2;4)
now I go.PRES
(59) Den jag skal ha. (Freja.20, 2;7)
that I shall have

(60) Där Pippi ramlar. *there Pippi fall.pres* 

(Freja.24, 2;9)

Table 6: The choice of verb and subject types in the topicalization constructions with non-target V3 (XSV) word order in the Söderbergh corpus (Swedish).

Verb form	DP+vara 'be'	pro+vara 'be'	DP+V	pro+V	Total V3
FIN	0	0	5	21	26
INF	0	0	7	14	21
PART	0	0	1	6	7
Total	0	0	13	41	54

As we see from the data in Table 6, there are no instances of the patterns that occur early with V2 (the first two columns), and also here we find a dominance of the pattern in the fourth column, pronominal subject and verb other than *vara* 'be,' altogether 41 of the total of 54 sentences. In the 13 instances of the DP+V pattern, the typical subject is *mamma* 'mom,' *pappa* 'dad,' *Nalle* 'Teddy' or the child's own name, and occasionally a definite DP such as *bilen* 'the car' or *flickan* 'the girl.' This means that these subjects presumably also convey given information. This finding indicates that word order in topicalization constructions in early Swedish child language is also dependent on informations structure, V2 appearing with new subjects first and non-target V3 forms occurring with given subjects only. It thus seems like these examples from Swedish could support the hypothesis that the patterns of information structure found in early child language are governed by some universal word order preferences.

Naturally, some caution is in order here: We know that children tend to talk about familiar things in the 'here and now' all the time, and in this perspective, the subject types found in the V3 topicalizations may not be special at all. In order to claim that, one would need to investigate the subject and verb types in all topicalizations and compare the ones with target word order to the non-target ones, as was done for Norwegian above (see Tables 4 and 5). Nevertheless, these data from Swedish child language can at least give a certain indication that universal principles may be at play here.

#### 9. Conclusion

This paper has shown that young children acquiring Norwegian presumably pay close attention to input, as they aquire word order patterns, and even exceptions to these patterns, at a very early age. They are also sensitive to subtle distinctions in information structure in *wh*-questions from the onset of multi-word utterances, and this could be due to input – or

possibly some innate preferences provided by UG. The fact that these patterns emerge also in children's early production of topicalization constructions, where there is no evidence for them in the input, gives some support to the UG approach. Furthermore, occasional examples of non-target forms from Swedish child language also point in the same direction.

## Acknowledgements

First and foremost, I am grateful to Merete Anderssen for making the Norwegian corpus available to me. I would also like to thank Lynn Santelmann for providing me with a selection of the non-target examples from the Söderbergh corpus of Swedish child language. A previous version of this paper was held at the 'Workshop on Input Data and UG' at the LSA Linguistic Institute, University of Michigan in August 2003, and I am grateful to the audience there for useful feedback. Finally, I would like to thank Anne Dahl and Thorbjörg Hróarsdóttir for helpful comments. Needless to say, any remaining mistakes or inaccuracies are my own responsibility.

#### **Author address:**

Department of Language and Linguistics, CASTL, University of Tromsø, N-9037 Tromsø, Norway E-mail: marit.westergaard@hum.uit.no

#### **References:**

Åfarli, Tor. 1985. 'Absence of V2 effects in a dialect of Norwegian,' Working Papers in Scandinavian Syntax 22, 1-21.

Åfarli, Tor. 1986. 'Some syntactic structures in a dialect of Norwegian,' *Working Papers in Linguistics* 3, University of Trondheim, 93-111.

Battye, Adrian & Ian Roberts, (eds.). 1995. *Clause Structure and Language Change*, Oxford University Press, New York and Oxford.

Beninca', Paola. 1999. 'The Position of Topic and Focus in the Left Periphery,' in Guglielmo Cinque & Giampaolo Salvi (eds.) *Current Studies in Italian Syntax*, Elsevier, Amsterdam, 39-64.

Chomsky, Noam. 1995. *The Minimalist Program*, MIT Press, Cambridge, MA and London.

- Clahsen, Harald & Martina Penke. 1992. 'The Acquisition of Agreement Morphology and its Syntactic Consequences: New Evidence on German Child Language from the Simone-corpus,' in Jürgen Meisel (ed.) *The Acquisition of Verb Placement: Functional Categories and V2 Phenomena in Language Acquisition*, Kluwer, Dordrecht, 181-223.
- Endresen, Rolf Theil & Hanne Gram Simonsen. 2001. 'The Norwegian verb,' in Hanne Gram Simonsen & Rolf Theil Endresen (eds.) *A Cognitive Approach to the Verb:*Morphological and Constructional Perspectives, Mouton de Gruyter, Berlin and New York, 73-94.
- Firbas, Jan. 1992. Functional Sentnce Perspective in Written and Spoken Communication, Cambridge University Press, Cambridge and New York.
- Fiva, Toril. 1996. 'Spørresetninger i Tromsødialekten' [Interrogative clauses in the Tromsø Dialect], in *Nordica Bergensia* 9, 139-155.
- Holmberg, Anders. 1993. 'Two Subject Positions in Mainland Scandinavian,' Working Papers in Scandinavian Syntax 52, 29-41.
- Kayne, Richard. 1995. *The Antisymmetry of Syntax*, MIT Press, Cambridge, MA and Oxford.
- Lightfoot, David. 1993. 'Why UG needs a learning theory: triggering verb movement,' in Charles Jones (ed.) *Historical Lingustics: problems and perspectives*, Longman, London, 190-214. (Reprinted in Battye and Roberts, eds.)
- Lightfoot, David. 1999. *The Development of Language: Acquisition, Change and Evolution*, Blackwell, Malden, MA and Oxford.
- Nilsen, Hilde. 1996. *Koffør dem sir det? Spørresetninger i Nordreisadialekten* [Why do they say that? Interrogative Clauses in the Dialect of Nordreisa], Cand. Philol. thesis, University of Tromsø.
- Nilsen, Øystein. 1997. 'Adverbs and A-shift,' Working Papers in Scandinavian Syntax 59, 1-31.
- Nilsen, Øystein. 2003. *Eliminating Positions*, Ph. D. dissertation, University of Utrecht. Nordgård, Torbjørn. 1985. *Word Order, Binding and the Empty Category Principle*, Cand. Philol. thesis, University of Trondheim.
- Platzack, Christer. 1996. 'The Initial Hypothesis of Syntax: A Minimalist Perspective on Language Acquisition and Attrition,' in Harald Clahsen (ed.) *Generative Perspectives on Language Acquisition: Empirical Findings, Theoretical Considerations, Crosslinguistic Comparisons*, John Benjamins, Amsterdam and Philadelphia, 369-414.
- Poeppel, David and Kenneth Wexler. 1993. 'The Full Competence Hypothesis of Clause Structure in Early German,' *Language* 69, 1-33.
- Rizzi, Luigi. 1997. 'The Fine Structure of the Left Periphery,' in Liliane Haegeman (ed.) *Elements of Grammar: Handbook of Generative Syntax*, Kluwer, Dordrecht, 281-337.
- Santelmann, Lynn. 1995. The Acquisition of Verb Second Grammar in Child Swedish: Continuity of Universal Grammar in WH-questions, Topicalizations and Verb Raising, UMI Dissertation Services.

- Svenonius, Peter. 2001. 'Subject Positions and the Placement of Adverbials,' in Peter Svenonius (ed.) *Subjects, Expletives and the EPP*, Oxford University Press, New York, 201-242.
- Taraldsen, Knut Tarald. 1986. 'On Verb Second and the Functional Content of Syntactic Categories,' in Hubert Haider & Martin Prinzhorn (eds.) *Verb Second Phenomena in Germanic Languages*, Foris, Dordrecht, 7-25.
- Vikner, Sten. 1995. Verb Movement and Expletive Subjects in the Germanic Languages, Oxford University Press, Oxford and New York.
- Westergaard, Marit R. 2003a. 'Word Order in *Wh*-questions in a North Norwegian Dialect: Some Evidence from an Acquisition Study,' *Nordic Journal of Linguistics* 26.1, 81-109.
- Westergaard, Marit R. 2003b. 'On the Acquisition of Word Order in *Wh*-questions in the Tromsø Dialect,' in Peter Svenonius, Anne Dahl and Marit R. Westergaard (eds.) *Nordlyd* 31.3: *Proceedings from the 19<sup>th</sup> Scandinavian Conference of Linguistics*, published online at http://www.ub.uit.no/munin/nordlyd/viewissue.php?id=3.
- Westergaard, Marit R. & Øystein A. Vangsnes. Forthcoming. 'Wh-questions, V2, and the Left Periphery of Three Norwegian Dialect Types,' to appear in *Journal of Comparative Germanic Syntax*.
- Westergaard, Marit R. 2004a. 'The Acquisition of Word Order in Norwegian,' ms., University of Tromsø.
- Westergaard, Marit R. 2004b. 'What Norwegian child language can tell us about the history of English: The interaction of syntax and information structure in the development of word order,' paper given at the Workshop on the Syntax of English and the Nordic Languages, Ninth Nordic Conference for English Studies, Aarhus, May 27-29.