

**LEARNING AND UNLEARNING V2: ON THE ROBUSTNESS OF THE
TRIGGERING EXPERIENCE IN A HISTORICAL PERSPECTIVE**

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1. Introduction

In this paper I consider both the acquisition and loss of V2 (verb-second) word order, discussing some historical evidence from English and present-day data from Norwegian dialects. In both cases, there is a certain word order optionality, in that there are some clause types which require V2, while others require or allow non-V2. Furthermore, within the same clause type there are certain elements (adverbs or *wh*-words) which display an exceptional behavior with respect to word order. Within a cue-based approach to acquisition and change, I consider the following questions: How can the word order of mixed V2 systems be learnable? And what is the critical level of robustness of the cue? Based on frequencies in some adult and child data from Norwegian, I show that very little input seems to be needed for children to acquire mixed word orders, and that the critical level for acquisition must be considerably lower than what has previously been suggested.

2. V2 and a Theory of Cue-Based Acquisition and Change

In much of the work of Lightfoot (e.g. 1999, 2006), he argues for a theory of cue-based language acquisition and change. A cue is a piece of structure, i.e. an element of the I-language, which is expressed in certain sentence types in the primary linguistic data that children are exposed to. Lightfoot (2006: 86) formulates the cue for V2 syntax as in (1), which is a piece of structure “where a phrasal category occurs in the Specifier of a CP whose head is occupied by a verb.”

(1) $cp[XP_cV\dots]$ (from Lightfoot, 2006: 86)

For learnability reasons, Lightfoot (1999) argues that there must be a UG requirement that the verb is obligatorily in C in this syntactic configuration, as a child adopting (1) as an optional structure, and as a result producing V2 only sometimes, would need negative evidence to reach the target grammar. Furthermore, the cue must be robustly expressed in the input for the corresponding structure to be acquired; otherwise children will ignore it, and the construction will be lost from the language. Lightfoot (1999: 156) then suggests that the critical level of

input frequency for V2 may be somewhere between 17 and 30% (of all matrix clauses), and he bases this figure on frequency counts of conversational speech in present-day V2 languages, which show that non-subject-initial clauses (the ones which express the cue for V2) are attested around 30%. This is apparently enough for e.g. Dutch or German children to acquire a V2 grammar. He then analyzes some historical evidence from English, which is normally assumed to have lost V2 in declaratives, as illustrated by the sentences in (2) and (3) from early Old English (OE) and late Middle English (ME) respectively. More specifically, Lightfoot discusses one text from *Sawles Warde* (early 13th century), which shows a frequency of non-subject-initial declaratives (with V2) of only 17% (26 out of a total of 152 matrix clauses) (data attributed to Ans van Kemenade). He suggests that this was possibly not enough for children to pick up the cue, as V2 was lost in the middle of the following century, the change normally being dated to around 1350.¹

- (2) *Ʒa he onweg adrifen wæs, cwom he to Cent.* (Early OE, V2)
 when he away driven was came he to Kent
 ‘When he was driven away, he came to Kent.’
- (3) *Soo the kyng returned hym to the toure ageyne.* (Late ME, Non-V2)
 so the king returned him(self) to the tower again
 ‘So the king returned to the tower again.’ (from Bech 2001, pp. 53/56)

However, there was a time in the history of English when both V2 and non-V2 word orders were attested; in fact, it seems impossible to find a stage which is exclusively V2. This is shown by the sentences in (4) and (5), both from the OE period, which also illustrate the often noted fact that V2 tended to be used when the subject was a full DP, while non-V2 mainly occurred with pronominal subjects (see e.g. van Kemenade 1987, Pintzuk 1991, Kroch & Taylor 1997, Westergaard 2005a). However, with certain initial elements, e.g. the adverbs *þa/þonne* ‘then’, V2 was obligatory, also with pronominal subjects, as illustrated in (6).

- (4) *7 of his cynne eft com Sancta Maria* (OE, V2)
 and of his people likewise came Saint Mary
 ‘and Saint Mary likewise came of his people.’ (from Bech 2001, p. 102)
- (5) *Nu ge habbað gehered hu se hælend be him sylfum spræc* (OE, Non-V2)
 now you have heard how the saviour of himself spoke
 ‘Now you have heard how the Saviour spoke of himself.’ (from Bech 2001, p. 55)
- (6) *Ʒa siglde he þonan suðryhte be lande* (OE, V2)
 then sailed he from-there southwards along coast
 ‘Then he sailed southwards from there along the coast.’ (from Bech 2001, p. 3)

¹ According to Lightfoot (1999: 154), there is no reason to believe “that there is anything magical about the 30 percent figure”, nor that there is “a general, cross-cue definition of robustness.”

A common generative account of this (e.g. Lightfoot 1999, Kroch & Taylor 1997) is that this is grammar competition, more specifically a mixture of two dialects, a northern one with consistent V2 (due to Scandinavian influence) and a southern one lacking V2. Some speakers used both grammars, dependent on socio-linguistic and stylistic factors. Generally, certain external or language-internal factors may then cause statistical shifts in the input to children, which could result in the frequency of the cue falling below a critical level for language acquisition. This means that children ignore the cue and develop a grammar without V2, even though the previous generation had it, to a certain extent. Thus, the gradualism sometimes seen in historical development is simply due to E-language phenomena. True language change, on the other hand, should not be gradual, but abrupt and, in Lightfoot's terminology, 'catastrophic', these catastrophes reflecting I-language differences between generations of individual speakers.

But now it becomes an important question how the grammar of earlier versions of English could be learnable, given the obligatory nature of the cue for V2. It seems that children must have been exposed to conflicting input evidence, for V2 in *wh*-questions and certain declaratives, and for non-V2 in other declaratives. For the acquisition perspective of this, Lightfoot cites Kroch (1994: 185) who states that, in the case of competing forms,

speakers learn one or the other form in the course of basic language acquisition, but not both. Later in life, on exposure to a wider range of language, they may hear and come to recognize the competing form, which for them has the status of a foreign element.

This seems to correspond to what is often seen in children's acquisition of morphology, e.g. past tense. Children typically master the main rule first, e.g. *-ed* in English, and produce correct regular forms early, such as *walked* and *asked*. They also overgeneralize this to the irregular forms, and produce examples such as *comed* and *goed*, often for an extended period of time. Pinker (1999) has provided evidence that the order of acquisition of the individual irregular verbs is a function of their frequency in the input, and very infrequent irregulars are therefore vulnerable to change. If we extend this idea to the acquisition of syntax, we would expect children who are confronted with conflicting input evidence for word order to be influenced by the most frequent patterns first, then possibly overgeneralize them, and then finally discover that there are exceptions to the general rules.

In the next section, I argue that mixed V2 systems such as the one found in OE is not just a historical phenomenon, but are attested also in present-day V2 languages. Focusing on a dialect of Norwegian, I show that there are some clause types that require V2, while others either require or permit non-V2. Furthermore, there are some clause types that allow both word orders, depending on information structure or the presence of certain lexical elements (adverbs or *wh*-words).

3. The Word Order of Norwegian (Tromsø)

Norwegian is generally considered to be a typical V2 language with the finite verb appearing in second position in all main clauses. This is illustrated by the ‘classical’ examples of V2 in the subject-initial declarative in (7), where the finite verb is assumed to have moved across negation, and the non-subject-initial declarative in (8) where there is verb movement across the subject. The verb also moves across the subject in *yes/no*-questions, as illustrated in (9).

- (7) *Kristin liker ikke norsk vær* /**Kristin ikke liker norsk vær*.
 Kristin likes not Norwegian weather
 ‘Kristin doesn’t like Norwegian weather.’
- (8) *Italiensk mat spiser hun ofte*/**italiensk mat hun ofte spiser*.
 Italian food eats she often
 ‘Italian food she often eats.’
- (9) *Leser hun ofte bøker?*/**Hun Leser ofte bøker?*
 reads she often books
 ‘Does she often read books?’

However, as discussed in Westergaard (in press), there are some clause types which require non-V2 word order in Norwegian. Sentence (10) illustrates that there is generally no verb movement across an adverb or negation in embedded clauses,² and sentence (11) that there is no verb movement across the subject in embedded questions. Exclamatives also require non-V2, as illustrated in (12).

- (10) *Det er noen studenter [som aldri Leser bøker]*/**som Leser aldri bøker*].
 it are some students who never read books
 ‘There are some students who never read books.’
- (11) *Jeg lurer på [hva hun liker]*/**hva liker hun*].
 I wonder on what she likes
 ‘I wonder what she likes.’
- (12) *Kor fin du er!*/**Kor fin er du!*
 how nice you are
 ‘How nice you look!’

The word order of these clause types is something that varies from language to language within the V2 family: Icelandic generally has verb movement across negation and adverbs in embedded contexts, Belfast English displays verb movement across the subject in embedded questions, and Danish is V2 in exclamatives, see (13)-(15). Word order in these clause types must thus be learned from input.

² V2 word order is possible, but not preferred, in certain embedded clauses in Norwegian, most commonly in complements to so-called bridge verbs (see Vikner 1995 and Bentzen 2005).

- (13) *Ég velti því fyrir mér [hvort hún sé ekki lögð af stað].* (Icelandic)
 I wonder whether she is not gone away
 ‘I wonder if she hasn’t left.’
- (14) They asked me **was I** going to the party. (Belfast English, from Henry 1994: 275)
- (15) *Hvor er han sød!* (Danish)
 where/how is he sweet
 ‘How nice he is!’

Moreover, unlike the standard language, many dialects of Norwegian do not have a strict V2 requirement in *wh*-questions, and it has been argued that the dialect variation represents stages in a diachronic development from V2 to non-V2 (Vangsnes 2005, Westergaard 2005b). Certain dialects do not have obligatory V2 in any type of *wh*-question (e.g. Nordmøre, see Åfarli 1986), as illustrated in (16) and (17). In the Tromsø dialect, which is the variety of Norwegian spoken by the children and adults in the present study, there is a word order distinction based on the length of the *wh*-constituent. V2 is optional after the monosyllabic *wh*-words *ka*, *kem* and *kor* (‘what’, ‘who’ and ‘where’), as illustrated in (18) and (19), which are examples from a corpus of spontaneous speech. In Westergaard (2003), it was argued that the choice of word order is dependent on information structure, V2 being used with informationally light verbs and new/focused subjects (often full DPs) and non-V2 with given subjects (often personal pronouns). Syntactically, this is the result of verb or subject movement to a low TopP in the CP-domain, which attracts elements with low information value (Westergaard, in press). This is not unlike the situation in OE/ME declaratives, cp. examples (4) and (5) above (see also Westergaard 2005a). Questions introduced by long *wh*-constituents, on the other hand, always require the verb to appear in second position, no matter what the subject is, as shown in (20). The long *wh*-elements thus have a special status in *wh*-questions, somewhat similar to *þa/þonne* in declaratives in OE.

- (16) *Kåles bil kjøpte du?/Kåles bil du kjøpte?* (Nordmøre, V2/Non-V2)
 which car bought you
 ‘Which car did you buy?’
- (17) *Kåin lika du best?/Kåin du lika best?*
 who like you best
 ‘Who do you like best?’ (from Åfarli 1986:98, 100)
- (18) *kor er mitt fly?* (INV, file Ole.17) (Tromsø, V2)
 where is my plane
 ‘Where is my plane?’
- (19) *kor vi lande henne?* (INV, file Ole.17) (Tromsø, Non-V2)
 where we land LOC
 ‘Where should we land?’

- (20) *Korfor kom han ikkje?/*Korfor han ikkje kom?* (Tromsø, V2)
 why came he not
 ‘Why didn’t he come?’

In this paper I want to show that non-V2 is also occasionally possible in certain main clause declaratives. There are some adverbs that have an exceptional behavior – i.e. they produce word orders that one might consider ‘pockets of non-V2’. The perhaps most familiar example involves the adverb *kanskje* ‘maybe’ in initial position, which may occur with either word order, as illustrated in (21). The historical origin of this adverb is presumably a full sentence *det kan skje* ‘it may happen’, and this may be the cause of the unusual word order diachronically. It is highly unlikely, however, that present-day speakers have such an analysis of this adverb in their grammars. This adverb has the same exceptional status in Icelandic and Swedish, which suggests that it is something that has persisted throughout several centuries, but note that the corresponding adverb in German (which is historically unrelated to *kanskje*) does not, as we see in (22). Again, we may conclude that the exceptional word order must be learned from input.

- (21) *Kanskje kongen kommer./Kanskje kommer kongen.*
 maybe king.DEF come.PRES
 ‘Maybe the king will come.’
- (22) **Vielleicht der König kommt./Vielleicht kommt der König.* (German, V2)
 maybe the king come.PRES

Another type of exceptional adverbs in Norwegian is discussed in Nilsen (2003). These are so-called focus-sensitive adverbs, or focus particles, that may occur in front of the verb in subject-initial declaratives. This results in an exceptional non-V2 pattern with these adverbs (S-Adv-V), as illustrated in (23). Note that the usual V2 word order is also grammatical. The most common ones of these focus particles are presumably *bare* ‘just’ and *nesten* ‘almost’, but Nilsen also mentions *simpelthen* ‘simply’, *utelukkende* ‘exclusively’ and a few others. In (24), we again see that the corresponding adverb behaves differently in German.

- (23) *Han bare smilte./Han smilte bare.*
 he just smiled
- (24) **Er nur lächelte.* (German, V2)
 he just smiled

Summarizing, there are some clause types in the Tromsø dialect that require V2 and some that require or permit non-V2. Furthermore, there are certain elements (adverbs or *wh*-words) which are used with a different word order than other similar elements within the same clause type. In the next section we will look at some adult and child data on these constructions.

4. Adult and Child Data

A sample of approximately 2,600 utterances of the adult material from a corpus of child language has been investigated in detail.³ This is the production of three adults taken from four one-hour files, two from one of the mothers at an early stage (age of child 1;10.23-1;11.22), and one each of two investigators (age of children 2;6.21 and 3;1.8). Excluding one-word utterances and sentence fragments, all matrix and embedded clauses are classified according to clause type. The different clause types and corresponding frequencies are displayed in Table 1.

Table 1: Word order in a sample of child-directed speech (2627 utterances), with percentages relative to the total number of clauses (matrix and embedded, N=2097).⁴

Evidence for V2		Evidence for non-V2	
Subject-initial declaratives with adverbs/negation	6.2% (130)	Subject-initial declaratives with focus-sensitive adverbs (e.g. <i>bare</i> 'just')	n/a (0)
Non-subject-initial decl.	13.6% (286)	Non-subject-initial decl. w/ <i>kanskje</i> 'maybe'	1.9% (39)
<i>Yes/no</i> -questions	30.8% (645)	Exclamatives	0.4% (9)
Certain <i>wh</i> -questions	3.5% (73)	Certain <i>wh</i> -questions	5.2% (110)
Embedded clauses with adverbs/negation	0.1% (3)	Embedded clauses with adverbs/negation	0.5% (14)
		Embedded questions	1.6% (34)
Total	54.2% (1137)	Total	9.6% (206)

As we see, combining the various types of V2 constructions, there is as much as 54.2% evidence for V2 in the input sample, which is considerably more than the 30% Lightfoot (1999) estimated as a typical proportion in the input to children acquiring present-day V2 languages. In fact, if we only consider main clauses, which is what Lightfoot does in his calculations (as he does not consider embedded contexts ever to provide cues for children), the evidence for V2 is even more robustly attested. The total number of main clauses in the sample is 1713, and the 1134 examples with V2 (1137 minus the 3 examples of V2 in embedded clauses in Table 1) thus make up as much as 66.2%. The reason for the discrepancy is presumably that Lightfoot's calculations are based on conversations among adults and not child-directed speech, which contains an extremely high number of questions, especially *yes/no*-questions. In comparison, the evidence for non-V2 word order in the sample is much more sparse, altogether only 9.6%.

³ A somewhat smaller sample of the adult data is investigated in Westergaard (in press).

⁴ The percentages do not add up to 100% as there are several clause types which do not provide evidence for either word order, e.g. imperatives (2.3%) or subject-initial declaratives without negation or adverbs (24.0%).

For clause types with mixed word order we find the following: Main clause *wh*-questions appear with non-V2 5.2% and with V2 3.5%, the latter figure including a small number of questions introduced by disyllabic *wh*-elements (only 7 examples, corresponding to 0.3%). In declaratives, there are 39 examples of non-V2 following the adverb *kanskje* ‘maybe’, making up 1.9%, while there are only two examples of this adverb with V2. Note that there is not a single example of a focus-sensitive adverb in non-V2 constructions. Therefore, the whole corpus for the three adult speakers was checked with respect to these particular adverbs, and the result is displayed in Table 2. Only one of these adverbs is attested at all, viz. *bare* ‘just’, and as we see, the frequency of the non-V2 construction involving this adverb is extremely low across all files in the corpus, occurring only 0.07%.

Table 2: Non-V2 involving the adverb *bare* ‘just’ in some samples of adult speech.

Speaker/Files	No. of utterances	S <i>bare</i> V _{fin}	%
MOT Ina.01-27	5,471	4	0.07%
INV Ole.13-22	7,365	8	0.1%
INV Ina.01-27	18,140	11	0.06%
Total	30,976	23	0.07%

We will now turn to how children deal with word order in Norwegian, given these input frequencies. As reported in Westergaard (in press), both V2 and non-V2 word orders are attested in child data from the earliest occurrences of multi-word utterances, regardless of the different input frequencies, and there is no overgeneralization between clause types.⁵ This is illustrated by the non-subject-initial declarative in (25), and the embedded question in (26).

- (25) så **tegne** æ mamma. (Ina.02, age 1;10.4)
then draw.INF/PRES I mommie
 ‘Then I draw mommie.’
- (26) Ann vet ikke kor **han er** henne. (Ann.09, age 2;2.19)
Ann know not where he is LOC
 ‘Ann doesn’t know where he is.’

But what about those cases where the input provides evidence for different word orders within the same clause type? First and foremost, this concerns *wh*-questions, where I have argued that the two word orders are distinguished by information structure, something we might expect should be difficult for children. Nevertheless, as shown in Westergaard (2003), the children produce *wh*-questions with both V2 and non-V2 from a relatively early stage, and moreover, the same

⁵ The corpus of child data used for this study consists of 70 recorded sessions of three children in Tromsø (age 1:9-3;3), altogether 46,685 child utterances. Apart from 10 files that have been collected and transcribed by the author, the corpus has been collected by Merete Anderssen.

preference patterns are found for subject and verb types as in the adult grammar, as illustrated in (27) and (28), cp. examples (18) and (19) in section 3. Given the inconsistent and relatively sparse evidence for the word order in *wh*-questions in the overall input, this suggests that children are sensitive to patterns of information structure from a very early age. Questions with the disyllabic *wh*-words, on the other hand, are produced only with target-consistent V2 word order, as illustrated in (29), although they do appear somewhat later in the child data.

- (27) *kor e babyen?* (Ina.06, age 2;1.0)
 where be.PRES baby.DEF
 ‘Where is the baby?’
- (28) *ka du skal finne?* (Ina.05, age 2;0.5)
 what you shall find
 ‘What do you want to find?’
- (29) *koffer har han fått den?* (Ina.22, age 2;10.2)
 why have.PRES he got that
 ‘Why did he get that?’

We then move on to the exceptional non-V2 constructions in declaratives that occur with certain adverbs. Let us first consider non-subject-initial declaratives introduced by the adverb *kanskje* ‘maybe’, which was attested only 1.9% in the input data. Somewhat surprisingly, all three children’s first example of this adverb displays target-consistent non-V2, as illustrated in (30). If we compare the children’s word order preference with this adverb to that of the adults, who altogether produced 39 examples with non-V2 and only two with V2 (corresponding to a 94.9% preference for non-V2), the children are extremely similar, preferring non-V2 96.4% of the time (27 out of 28 examples).

- (30) *kanskje han sitt og spise kaffe.* (Ann.15, age 2;6.21)
 maybe he sit.PRES and eat.INF/PRES coffee
 ‘Maybe he is sitting there eating coffee.’

Finally, we will consider the non-V2 construction involving the adverb *bare* ‘just’, which is only marginally attested in the input sample (0.07%). Nevertheless, all three children are apparently sensitive to this unusual form in the input, as in addition to regular V2 examples with this adverb, they very early produce target-consistent non-V2 forms, as illustrated in (31). In fact, the children are also in this case (almost disturbingly) similar to the adults, in that they produce altogether 29 such examples in the corpus of 46,685 utterances, corresponding to 0.06%.

- (31) *de bare datt av.* (Ole.08, age 2;2.12)
 they just fall.PAST off
 ‘They just fell off.’

From the child data presented in this section, we may conclude that there is no evidence for grammar competition with respect to V2 in acquisition, as young children seem to be very sensitive not only to different word orders in different clause types, but also to word orders which are dependent on information structure, as well as exceptions to the general patterns. It should be noted that an analysis of this in terms of sheer imitation of patterns and frequencies in the input is not warranted, as the children in this study do produce non-target-consistent word order in other constructions, e.g. subject shift (Westergaard, forthcoming) and some embedded contexts (Westergaard & Bentzen, forthcoming).

5. Cue-Based Acquisition in a Split-CP Model

In order to account for the early target-consistent word order in the different clause types and the lack of overgeneralization between them, Westergaard (in press) developed an extension of Lightfoot's (2006) cue-based approach to acquisition and change within a split-CP model of clause structure, originally developed in Westergaard & Vangsnes (2005). What is crucial about this model is that the illocutionary force of a sentence is reflected in different heads in the CP domain, so that the ForceP of Rizzi (1997) is replaced by a number of different heads depending on clause type; e.g. a *wh*-question is an Int(errogative)P, a declarative is a Top(ic)P and an exclamative and ExclP, etc.

Recall that Lightfoot (2006: 86) formulated the cue for V2 in (1) as a piece of structure "where a phrasal category occurs in the Specifier of a CP whose head is occupied by a verb." Within the split-CP approach, there are several cues expressing V2 depending on clause type, some examples of which are provided in Table 3. For example, the cue for V2 in *wh*-questions is a structure with a *wh*-element followed by a verb filling the head position in the IntP, while the cue for V2 in declaratives must be a non-subject XP followed by a verb in the TopP. Children speaking standard English will encounter the former in the primary linguistic data, but not the latter, while children growing up in Nordmøre will have evidence for the latter and not the former. Danish children will be exposed to evidence that exclamatives are V2, while children acquiring Belfast English will have evidence that the head involved in embedded questions (Wh°) must be filled by the verb.

Table 3: Examples of cues for V2 in a split-CP model.

Language \ Cue	IntP[(<i>wh</i>) Int°V]	TopP[XP Top°V]	ExclP[XP Excl°V]	WhP[(XP) Wh°V]
St. Norwegian	+	+	-	-
Nordmøre	-	+	-	-
Danish	+	+	+	-
St. English	+	-	-	-
Belfast English	+	-	-	+

According to this model, there is no ‘global’ cue for V2 syntax, but separate cues for each clause type. This means that when children scan the primary linguistic data, this is a selective process where only a particular clause type is relevant. When searching the input for possible cues for verb movement to Int°, for example, children will only consider *wh*-questions and ignore other clause types such as declaratives or imperatives. This also means that the word order cues are much more robustly attested than the percentages in Table 1 indicate. In fact, for most clause types, the cue is expressed in 100% of all relevant utterances, e.g. in *yes/no*-questions as well as exclamatives, despite their very different frequencies in the overall input (approximately 30% vs. 0.4%). On this perspective, calculating overall input frequencies as in Table 1 in fact becomes irrelevant for acquisition.

The same thinking now applies to those cases where there is variation within a clause type, e.g. the exceptional adverbs causing a violation of V2 in declaratives. The adverb *kanskje* ‘maybe’ with non-V2 was attested as rarely as 1.9% in the total input, but according to the extended cue-based model, the relevant search domain for cues is not all utterances or all complete clauses, but the total number of non-subject-initial declaratives. There are 286 such examples in the sample (with V2) plus the 39 non-V2 examples with *kanskje* ‘maybe’. This means that the relevant total is 325, and the 39 examples thus make up as much as 12%. As the word order in these clauses is learned early, and has survived for centuries in several languages, it seems that we can conclude that 12% (of the relevant total) is ample evidence for acquisition around age 2;2-2;6.

With respect to the mixed word order in questions with mono-syllabic *wh*-words, Westergaard (2003) argued that the early acquisition of the same subject and verb patterns as in the adult data suggests that children are very sensitive to information structure. But questions with the disyllabic *wh*-words have target-consistent obligatory V2 as soon as they appear in the data, although they were attested only 0.3% in the input sample in Table 1. Again, it is necessary to compare the figure to the relevant clause type only, in this case all *wh*-questions, and then the percentage rises to 3.8% (7 out of 183). This is still quite low, which suggests that there is another relevant issue here, viz. that there must be a natural linguistic distinction between the long and short *wh*-words, and that children are somehow “expecting” to find differences between the two classes of this category.⁶ Thus they do not automatically extend their analysis of one to the other. This would be in line with what is argued in Roeper (forthcoming), that children pay attention to frequency only in relation to relevant *classes* of categories (e.g. certain classes of verbs) and only overgeneralize *within* such classes.

⁶ Some support for this is found in a recent paper by Bayer & Brandner (2006), who find that a similar distinction in the length of the *wh*-element is important for the doubly filled COMP phenomenon in certain German dialects.

Finally, let us consider the children's early target-consistent production of word order with focus-sensitive adverbs such as *bare* 'just'. There were no examples of these adverbs with non-V2 in the hand-counted sample, and they were attested in the total corpus as little as 0.07%. In this case, the relevant total to use for comparison would be all subject-initial declaratives with adverbs/negation in the sample of 30,976 utterances in Table 2. This is an unknown figure, but based on the numbers in Table 1 (130 out of 2,627, or 4.9%) it is possible to estimate it as 1,518 (4.9% of 30,976). This increases the relevant input frequency for *bare* to 1.9% (29 out of 1,518), which is of course considerably higher than 0.07%, but still quite low, especially compared to Lightfoot's suggestion for the critical level for acquisition of V2 (17-30%). Therefore it is possible that one must again consider relevant classes of categories only. Excluding sentences with negation from the total, for example, would increase the percentage of *bare* considerably. It is even possible that focus-sensitive adverbs alone are a relevant linguistic category for a child, in which case only sentences with those adverbs would constitute the total. However, within an economy approach, where movement is considered more costly than non-movement, one might also speculate whether a cue for movement (e.g. V2 with *þa/þonne* or the long *wh*-phrases) must be more robustly expressed than evidence for non-movement (as in the case of focus particles). This would indicate that there is indeed no cross-cue definition of robustness (see footnote 1).

6. Some Consequences for Language Change

Given the model of selective cue-searching sketched in the previous section, with separate word order cues for each clause type, a consequence is that historical word order changes should typically affect only one clause type at a time. This means that what we see in the history of English, where declaratives have lost V2 while *wh*-questions have not undergone this change, is actually as expected. The situation in present-day Norwegian dialects should also not be considered unusual. In both situations, only one of the CP heads is affected by the change, Top° in English and Int° in Norwegian. Another example of this is found in Henry (1994), who describes a change in progress in Belfast English, where V2 is lost in Imperatives, while it stays unaffected in other clause types, e.g. in embedded questions.

A further result of the split-CP extension of cue-based acquisition is that the frequency of exceptional cases such as declaratives introduced by *kanskje* 'maybe' must be considered in relation to the relevant input only (e.g. the specific clause type) and not in comparison to all utterances or all matrix clauses, as in the historical example from Lightfoot (1999) discussed above. This is also relevant for diachronic change regarding individual elements, e.g. *þa/þonne* in the history of English or the long *wh*-elements in Norwegian dialects, which strictly require V2 even though the relevant clause type typically appears with mixed word order.

The child data investigated in this paper indicate that there are no factors in language acquisition that make it necessary, or even natural, that word order changes should be extensive, ‘global’ changes. This means that when such major changes do occur in historical data, this is presumably due to external pressure such as language or dialect contact. Within the model of cue-based acquisition and change, I thus argue that language development should typically take place in small steps, indicating new settings of various microparameters, e.g. involving particular (linguistically relevant) elements such as the long *wh*-phrases. Extending Lightfoot’s terminology somewhat, some of the gradualism seen in historical data could be considered to represent many ‘small catastrophes’.

An example of such a small catastrophe could be the loss of the V2 requirement with *þa/þonne* in the history of English, which I have argued in Westergaard (2006) takes place between the early and late ME periods partly as a result of a major loss of the frequency of the cue. Another small catastrophe could be the spread of non-V2 from monosyllabic to disyllabic question words in Norwegian (i.e. from dialects of the Tromsø type to dialects of the Nordmøre type), discussed in Westergaard (2005b). We may now use some of the adult and child data presented in this paper to explain this development. First of all, from the sample of adult data investigated in section 3, it is clear that questions with disyllabic *wh*-elements are much less frequent than questions with short *wh*-words in typical child-directed speech, making up only 3.8% of the relevant input. Furthermore, as mentioned above, questions with the long *wh*-elements appear much later in children’s speech, not until around age 2;9-3;1, while questions with the short *wh*-words are frequent already from age 2;2. Thus, despite the fact that the short vs. long distinction is presumably a natural one for *wh*-elements, the low frequency of the long ones will make this distinction *vulnerable* to change historically.

7. Summary/Conclusion

Using a split-CP model and an extended version of a cue-based approach to acquisition and change, I have argued in this paper that V2 word order is the result of many microparameters (or ‘micro-cues’, Terje Lohndal p.c.), and that there are consequently many types of V2 grammars. Mixed V2 grammars are learnable because children make a selective search for word order cues, where the amount of triggering experience must be related to the relevant input only (e.g. clause type). Language change is consequently predicted to occur in small steps. The acquisition data investigated also show that the critical level of robustness of cues may vary and must in any case be much lower than previously suggested.

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References

- Åfarli, T. 1986 "Some syntactic structures in a dialect of Norwegian", *Working Papers in Linguistics* 3, University of Trondheim: 93-110.
- Bayer J., Brandner E. 2006 'Doubly filled COMP revisited.' Ms., University of Konstanz.
- Bech, K. 2001 *Word Order Patterns in Old and Middle English: A Syntactic and Pragmatic Study*, Doctoral dissertation, University of Bergen.
- Bentzen, K. 2005 "What's the better move? On verb placement in Standard and Northern Norwegian", *Nordic Journal of Linguistics* 28.2: 153-188.
- Henry, A. 1994 "Viewing change in progress: The loss of V2 in Hiberno-English imperatives", in Kemenade A. van, Vincent N. (eds.), *Parameters of Morphosyntactic Change*. Cambridge, Cambridge University Press: 273-296.
- Kemenade, A. van. 1987 *Syntactic Case and Morphological Case in the History of English*, Dordrecht, Foris Publications.
- Kroch, A. 1994 "Morphosyntactic variation", in Beals K. et al (eds.), *Papers from the 30th Regional Meeting of the Chicago Linguistics Society: parasession on variation and linguistic theory*, Chicago, Chicago Linguistics Society.
- Kroch A., Taylor A. 1997 "Verb Movement in Old and Middle English: Dialect variation and language contact", in Kemenade A. van, Vincent N. (eds.), *Parameters of Morphosyntactic Change*, Cambridge, Cambridge University Press: 297-325.
- Lightfoot, D. 1999 *The Development of Language: Acquisition, Change and Evolution*, Malden, MA and Oxford, Blackwell.
- Lightfoot, D. 2006 *How New Languages Emerge*. Cambridge, Cambridge University Press.
- Nilsen, Ø. 2003 *Eliminating Positions: Syntax and Semantics of Sentential Modification*, University of Utrecht, Doctoral dissertation, LOT 73, Netherlands Graduate School of Linguistics.
- Pinker, S. 1999 *Words and Rules: The Ingredients of Language*, London, Weidenfeld and Nicolson.
- Pintzuk, S. 1991. *Phrase Structures in Competition: Variation and Change in Old English Word Order*, Doctoral dissertation, University of Pennsylvania.

- Rizzi, L. 1997 "The fine structure of the left periphery", in Haegeman L. (ed.) *Elements of Grammar: Handbook of Generative Syntax*, Dordrecht, Kluwer: 281-337.
- Roeper, T. Forthcoming "What frequency can do and what it can't", in volume on input frequencies in acquisition, SOLA series, Mouton de Gruyter.
- Vangsnes, Ø. A. 2005 "Microparameters for Norwegian *wh*-grammars", *Linguistic Variation Yearbook* 5: 187-226.
- Vikner, S. 1995 *Verb Movement and Expletive Subjects in the Germanic Languages*, New York, Oxford University Press.
- Westergaard, M. R. 2003 "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, M. R. 2005a "Norwegian child language and the history of English: The interaction of syntax and information structure in the development of word order", in McCafferty K., Bull T., Killie K. (eds.), *Contexts - Historical, Social, Linguistic. Studies in Celebration of Toril Swan*, Bern, Peter Lang: 293-410.
- Westergaard, M. R. 2005b "Optional word order in *wh*-questions in two Norwegian dialects: a diachronic analysis of synchronic variation", *Nordic Journal of Linguistics* 28.2: 269-296.
- Westergaard, M. R. 2006 "Many small catastrophes: Gradualism in a microparametric perspective", paper given at the 9th Diachronic generative Syntax Conference, Trieste, June 8-10.
- Westergaard, M. R. In press "Triggering V2: The amount of input needed for parameter setting in a split-CP model of word order", in Belletti A., Bennati E., Chesi C., DiDomenico E., Ferrari I. (eds.), *Language Acquisition and Development: Proceedings of GALA 2005*, Cambridge: Cambridge Scholars Press: 658-671.
- Westergaard, Marit R. Forthcoming "Verb movement and subject placement in the acquisition of word order: Pragmatics or structural economy?", in Guijarro-Fuentes P., Larranaga P., Clibbens J. (eds.), *First Language Acquisition of Morphology and Syntax: Perspectives across languages and learners*. [Language Acquisition and Language Disorders], John Benjamins.
- Westergaard M. R., Bentzen K. Forthcoming "The (non-) effect of input frequency on the acquisition of word order in Norwegian embedded clauses", in volume on input frequencies in acquisition, SOLA series, Mouton de Gruyter.
- Westergaard M. R., Vangsnes, Ø. A. 2005 "*Wh*-questions, V2, and the left periphery of three Norwegian dialects", *Journal of Comparative Germanic Linguistics* 8: 117-158..