Word Order and Finiteness in Acquisition: A Study of English and Norwegian *Wh*-questions

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ABSTRACT

Children acquiring languages such as English, German or Dutch typically go through a phase where they produce non-finite root clauses, often referred to as the Optional Infinitive (OI) stage. But there is a difference between English on the one hand and the other Germanic languages on the other with respect to the occurrence of non-finite *wh*-questions: while there is a high number of OIs in English in this context, non-finite *wh*-questions are virtually non-existent in child data of e.g. German or Swedish. This is often argued to be due to the early setting of the V2 parameter. Comparing Norwegian and English child data on *wh*-questions, this paper argues that there is no such parameter and that children instead are sensitive to fine syntactic distinctions in the input called micro-cues. On this view, both English and Norwegian have restricted V2 in *wh*-questions. The paper also shows that there is no causal correlation between finiteness morphology and word order in this context. Children's non-finite root clauses are argued to generally be caused by a problem realizing auxiliaries, in both languages, and the difference between English and Norwegian is due to the type of verb required in *wh*-questions (auxiliaries vs. lexical verbs).

1. Introduction

This paper addresses the issue of syntax-morphology correlations, more specifically, the relationship between syntactic movement and finiteness morphology. It is often claimed that the two are closely connected - in syntactic structure, in diachronic development and in acquisition. This has led to a large body of work arguing that the connection between morphology and syntax is a causal relationship in the sense

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[1] A considerably shorter paper using some of the data and argumentation in the present article has been published as Westergaard and Bentzen (2010). I thank Kristine Bentzen for collaboration on the work in section 5 of this paper.

that overt morphological marking triggers syntactic movement. There is also a considerable literature arguing against such a causal relationship. In this paper I explore this issue by considering the acquisition of finiteness morphology and verb movement resulting in verb second (V2) word order in *wh*-questions in Norwegian, comparing it with subject-auxiliary inversion in English. Based on child language data from both languages, I argue against a causal syntax-morphology correlation in the case of verb movement and finiteness. This paper also takes the view that, when children produce non-finite root clauses, this is not a sign of a deficit in their grammar related to tense and agreement. Instead, it shows that child grammar is affected by economy principles in the acquisition process and that with respect to omissions, children have specific problems with functional elements, e.g. auxiliaries.

Young children's production of non-finite root clauses, often referred to as Optional Infinitives (OIs) or Root Infinitives (RIs), has been discussed extensively in the literature (see e.g. Wexler 1994, 1999 and Rizzi 1993/94, 2000). In much previous research on the acquisition of English and V2 languages such as Dutch and German, it has been argued that there is a difference between English on the one hand and V2 languages on the other with respect to the production of non-finite root clauses in *wh*-questions. This difference is typically linked to the V2 phenomenon, i.e. verb movement (to the C-position). In previous studies, it has been found that, while non-finite root clauses may frequently occur in English *wh*-questions, as in examples (1)-(2), illustrating an infinitive and a progressive participle respectively, they are virtually non-existent in this clause type in the other Germanic languages. Thus, while non-finite root clauses may appear in other clause types, *wh*-questions in V2 languages are generally finite, as illustrated by the Swedish examples in (3)-(4). The child data to be presented in this paper (section 4) show that this generalization also holds for Norwegian, illustrated in examples (5)-(6).

(1)   what the dolly have? (Eve 1;11)

(2)   what you doing? (Eve 2;0)

(3)   *Docka **rita**   här.*   (Sara 2;5, Josefsson 2004: 120)
       doll   draw.INF here
       '(The) doll (should/must) draw here.'

(4)   *Hur **gör**   apa   då?*   (Tor 2;5, Santelmann 2004: 272)
       how does.PRES monkey.DEF then
       'How does the monkey go then?'

(5)   *... han ikke **røre**   klossen.*   (Ina 2;4.1)
         he   not touch.INF brick.DEF
       'He (should/must) not touch the brick.'

(6)   *kor   skal den være henne?*   (Ole 2;7.20)
       where shall it   be   LOC
       'Where should this go?'

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According to Wexler's (1999) model of Optional Infinitives (OIs), the reason for this difference between English and the other Germanic languages is that the V2 parameter is set very early, and this movement operation only applies to finite verbs. Thus, children learning a V2 language such as German or Dutch will only provide finite structures in *wh*-questions. In the Truncation model of Rizzi (1993/94, 2000) this result is due to the fact that, when the CP is present (and filled by the *wh*-element), then no other projection below the CP may be missing. This means that the IP domain and consequently finiteness must necessarily be present in *wh*-questions. One problem for these analyses, in my view, is that English in fact does have verb movement in questions (in the form of subject-auxiliary inversion), and it is therefore difficult to relate the distinction between English and the other Germanic languages in this clause type to syntactic movement.

In Westergaard (2008, 2009a, b), it is argued that there is no V2 parameter, and that V2 effects should be explained as the result of a number of micro-cues, small pieces of syntactic structure present in speakers' I-language grammars. One important argument for this claim is the considerable variation that is found across languages and dialects with respect to the V2 phenomenon. That is, there may be different V2 requirements dependent on linguistic context - clause type, verb class, type of initial element as well as factors of information structure. Another argument is that children are sensitive to this micro-variation from early on, producing V2 and non-V2 in appropriate contexts. The micro-cues are formed in the child's I-language grammar as a result of an interaction between innate categories and principles and exposure to the relevant input. In this model, English is also a type of V2 language, in that it has V2 effects in *wh-* and *yes/no*-questions in the form of subject-auxiliary inversion, while Norwegian is another type of V2 language, where this word order is dependent on various factors (see e.g. Westergaard 2009b). On this view, English and Norwegian both have V2 word order in *wh*-questions, exactly the environment where they differ with respect to the expression of finiteness in early child language. The difference between the two languages in relation to the existence of non-finite root clauses therefore cannot be due to syntactic movement *per se.*

In this paper I provide several arguments against a causal correlation between syntax and morphology in this area of the grammar. Instead, I argue that the differences between English and Norwegian child language with respect to finiteness morphology in *wh*-questions is due to a difference in the subcategory that verb movement applies to in the two languages. While in Norwegian, all verbs move to second position, this movement operation only applies to auxiliaries in English, i.e. functional elements that are typically acquired relatively late, in all clause types. Furthermore, I argue that non-finite root clauses in child Norwegian, which predominantly have a modal meaning, are due to the same problem as that experienced by English children, viz. a difficulty in the realization of auxiliaries. The difference between the two languages with respect to finiteness in *wh*-questions is then shown to be due to a difference in the typical proportion of modals and other auxiliaries appearing in this clause type at an early stage. It should be noted here that I do not adopt the model of finiteness taken in Eide (2009, this volume), but

take a more traditional approach, where finiteness morphology is simply considered to be the expression of tense and/or agreement on the verb.

The paper is organized as follows: The next section gives a brief introduction to the alleged relationship between syntactic movement and finiteness morphology, with a focus on this correlation in previous acquisition work. It also gives a brief overview of the word order patterns and verbal morphology in the target languages for the children in this study, Standard English and a dialect of Norwegian (Tromsø). I then discuss some child data from English in section 3 and a corpus of three Norwegian children acquiring the Tromsø dialect in section 4. It is shown that the English-speaking children have a problem with auxiliaries (but not the copula *be*), which are often missing from *wh*-questions, and that occasional non-inverted examples in the child data appear only with finite verbs. Similarly, the Norwegian children are found to produce target-consistent V2 as well as non-V2 questions almost exclusively with finite verbs. Based on these findings from the child data I draw the conclusion that there cannot be a causal relationship between word order and finiteness morphology in early child language. Section 6 discusses the difference between English and Norwegian child data with respect to the expression of finiteness in *wh*-questions, and provides extensive new data from several children, showing that this difference is due to the proportion (and type) of auxiliaries present in early *wh*-questions in the two languages.

2. Background

2.1 The syntax-morphology interface

The relationship between verbal morphology and syntactic structure has been the topic of much debate, not only in the field of language acquisition, but also within general syntactic theory and models of diachronic language change. It has been commonly assumed in much of the literature that there is a clear correlation between syntactic verb movement and overt verbal morphology. This has led to what is known as the Rich Agreement Hypothesis (RAH), which in its strongest version claims that there is a causal and bi-directional relationship between overt morphological agreement and V-to-I movement, see e.g. Rohrbacher (1999). This has also been claimed by e.g. Pollock (1989) for the distinction between French and English and Vikner (1995) on the differences between Icelandic and the Mainland North Germanic languages.

Other accounts have questioned these claims and generally taken a more skeptical approach to the strong correlation between word order and verbal morphology, see e.g. the collection of papers in Lightfoot (2002). Bobaljik and Thrainsson (1998) propose a weaker (unidirectional) approach to the syntax-morphology correlation and argue that morphology is simply a reflection of syntactic structure, not necessarily its cause. That is, rich agreement causes verb movement, but verb movement may also be triggered by other factors. Bobaljik (2002), citing Lardiere (2000) and Meisel (1994), also claims that acquisition data in general do not support an approach where children use verbal morphology as a cue

for syntactic parameter setting. This would also correspond to claims made in Bentzen (2003, 2005, 2007) that there is occasional V-to-I movement in embedded clauses in Norwegian dialects, although there is no morphological agreement in these cases. Wiklund, Hrafnbjargarson, Bentzen and Hróarsdóttir (2007) also question the weaker version of the Rich Agreement Hypothesis, in that they show that, in certain varieties of Icelandic, there may be lack of verb movement despite the presence of agreement.

In the next section we turn to a more detailed discussion of the syntax-morphology correlation in language acquisition, more specifically the acquisition of V2 word order.

2.2 Acquisition research on V2 and tense/agreement morphology

As verb movement generally only applies to finite verbs, the acquisition of V2 has often been linked to the mastery of verbal morphology. Clahsen (1986), for example, shows that subject-verb agreement is not fully mastered until around the age of 34-36 months in German child language. He also argues that the acquisition of agreement is developmentally linked to V2 word order. At the stage when the agreement paradigm falls into place, there is an increase in the use of V2 from 40% to nearly 90% in the German child data he investigated. Clahsen therefore argues that the acquisition of agreement is a prerequisite for verb movement.[2] These findings are reported also in e.g. Clahsen and Muysken (1986, 1989) and Clahsen (1988), and the same argument is made for a developmental correlation between the acquisition of agreement and the production of V2. Furthermore, in Clahsen and Penke (1992) it is claimed that in particular the 2sg ending –st serves as a lexical trigger for the setting of the V2 parameter in German child language. For the purposes of the present paper, it is interesting that Clahsen and Penke also discuss the situation in the Mainland North Germanic languages, where there is no agreement at all on the verb. They admit that the triggering relationship between subject-verb agreement and verb movement thus cannot hold universally, but simply conclude that in "languages without subject-verb agreement, generalized V2 … has to be triggered in a different way" (p. 215). In this connection one may note that Verrips and Weissenborn (1992), based on bilingual German-French data, argue that it is finiteness that is of primary importance in this respect, not agreement, and that finiteness and V2 word order are available to children independently of their knowledge of agreement morphology.

The idea that tense/agreement morphology and syntactic movement are causally related has been further developed in the Optional Infinitive (OI) hypothesis advocated by Poeppel and Wexler (1993) and Wexler (1994). This hypothesis argues that children go through a stage in which they may produce root clauses with uninflected verbs, due to an option in child grammar to leave tense underspecified.

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[2] Clahsen also argues that the production of overt subjects is related to the mastery of agreement markings, as the number of subjectless sentences decreases sharply at the stage when agreement endings are acquired.

This has especially been found to be the case in V2 languages such as Dutch and German. In Harris and Wexler (1996), this hypothesis is also argued to hold for English, as they show that tense is used more often in affirmative than medial-NEG sentences (43% vs. 9.6%). They relate this finding to the OI stage: as the tense feature is missing, dummy *do* will not be inserted in negative sentences and since English is not a language with verb movement (V-to-I or V2), there is nothing that causes the verb to move across negation either.

Wexler (1999) argues for a maturational model where parameters are generally set early, whereas some universal principles emerge late. The OI stage is explained as young children's adherence to a restriction in UG called the Unique Checking Constraint (UCC), which causes them to check the D-feature of the subject only once and thus to omit either tense or agreement.[3] Learners of V2 languages set the V2 parameter early, as argued by e.g. Poeppel and Wexler (1993) for German and Santelmann (1995) for Swedish, but the presence of this developmental UG constraint in their grammar (the UCC) makes it possible for them to optionally leave the verb non-finite. In the early work, e.g. Wexler (1994), the OI hypothesis was contrasted with an analysis with missing modals. However, Wexler (1999) seems to specifically include such cases within the OI stage, since an OI language is defined as "one in which in early development a substantial proportion of root clauses (that in the adult grammar are required to be finite) are produced by the child in non-finite form" (p. 55). This means that when tense or agreement is omitted, verb inflections as well as auxiliaries will be lacking in children's clauses.

Rizzi (1993/94, 1999), on the other hand, assumes a truncation model to explain the non-target forms of early child language. That is to say, although the full set of functional projections are assumed to be available from the onset of language acquisition, young children may optionally truncate a clausal structure at some point in the hierarchy (normally either IP or VP). When this happens, all projections above the truncation point will be missing. This means that, unlike the tense omission model, the truncation analysis predicts that, when tense is missing, there will be no CP layer present in the clause either. This captures the fact that root infinitives are generally not found in *wh*-questions and non-subject-initial declaratives in V2 languages, illustrated in examples (3) and (4) above. In Rizzi (1993/94), truncation is argued to be possible in child grammar because children lack a principle, present in the adult grammar, requiring root clauses to be CPs. This principle is assumed to be subject to maturation, which will take place around age 2;5. Rizzi (2000) suggests that the generalization 'root=CP', which is a clear restriction in the adult language, is only a tendency in the child grammar. Thus, what children need to learn is that truncation is restricted to certain registers. The truncation model accounts well for the findings in child V2 languages such as Dutch and German, but fares less well with findings in child English. In order to explain the occurrence of RIs in *wh*-questions in child English, Guasti (2000) proposes an analysis within a Split-CP model (Rizzi 1997), with truncation of the highest

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[3] The UCC is defined in the following way (Wexler 1999a, p. 59):
  Unique Checking Constraint (UCC) (on kids in OI-stage)
  The D-feature of DP can only check against one functional category.

projection (ForceP) and the presence of a null auxiliary in the head of the next projection, the FocP.

Not all studies from this time agree that there is a causal relationship between word order and verbal morphology, e.g. Atkinson (1998), Lasser (1997) or Bohnacker (1999). Already in Jordens (1990), arguments are presented against Clahsen's approach to the German data as well as de Haan's (1987) similar analysis of child Dutch, claiming that the acquisition of V2 is not a sudden development dependent on the acquisition of subject-verb agreement. According to Jordens (1990), the two processes only appear to be related. Based on a re-examination of some of the German and Dutch data, Jordens (1990) shows that children go through a relatively long period of time when there are clear distributional differences in the child data in that finite verbs predominantly appear in first/second position and non-finite verbs in final position, as illustrated by the following examples from de Haan (1987), cited in Jordens (1990:1415-1416):

(7)   *papa* **slaapt**   *nog.* (Tim, age 25.5-27.5)   (Dutch)
        daddy sleep.PRES still
        'Daddy is still sleeping.'

(8)   *ik ook* **doen***.* (Tim, age 25.5-27.5)
        I also do.INF
        'I also (want to?) do (this).

Investigating his own daughter Jasmijn, Jordens (1990) finds that she also systematically uses finite forms in second position (often modals and auxiliaries) and non-finite forms in final position (infinitives and participles), already from a relatively early age (approximately 23-24 months). Jordens also argues that the position of the verb in Jasmijn's early data is dependent on the semantic category of the verb. More specifically, stative verbs are used exclusively in second position, while resultative verbs may occur either in second position with finite morphology or in final position with past participle morphology and activity verbs in final position with either infinitive or past participle morphology. He then argues that the early verb-final structures in Dutch and German child language are precursors to complete predicates with discontinuous word order. This means that sentences like (8), where the verb is in final position, are not examples of word order mistakes where the children have failed to move the verb. Jordens (1990) also finds that these verb-final structures rapidly disappear from the child's production at the stage where there is a simultaneous increase in clauses with modals and other auxiliaries.

Several proposals have been presented, also for other languages, arguing that there is a modal or another auxiliary missing in these root non-finite clauses, e.g. Plunkett and Strömquist (1990), Boser et al. (1992), Behrens (1993), Ingram and Thompson (1996) and Josefsson (1999). Wijnen, Kempen and Gillis (2001) explore the possibility that the predominance of infinitive forms in child Dutch is a result of the input. They conclude that the frequency of infinitive constructions in child-directed speech is too low to account for this, but that the salience of the infinitive in final position may contribute to children's early preference for root infinitives. Like

Jordens (1990), Hoekstra and Hyams (1998) also focus on the different verb types appearing in finite and non-finite root clauses in child language and the modal interpretation that is typically found in root infinitives in Dutch and many other languages, but not in English child language. Discussing an analysis with a missing modal, they conclude that, despite its merits, it must be discarded due to certain shortcomings. One of these is the difference between the proportion of non-finite root clauses in *wh*-questions and other clause types in V2 languages. In section 4 below, I show that this distinction in Norwegian child language is due to other factors, more specifically the types of verbs typically appearing in early *wh*-questions. Finally, Blom (2007) presents naturalistic and experimental data confirming the difference between the interpretation of root infinitives in Dutch and English child language, although she shows that this difference is smaller than previously assumed. Adopting an approach in terms of Distributed Morphology, she argues that non-finite verb forms are underspecified in child language and may thus be inserted in various syntactic contexts. Thus, she views morphology as distinct from syntax.

   In the next section we take a closer look at the word order variation found in *wh*-questions in the adult language in English and Norwegian.

2.3 Wh-questions in English and Norwegian

Norwegian is often referred to as a classical V2 language with verb movement across the subject in most main clause questions and (non-subject-initial) declaratives. This is illustrated in (9)-(10). English, on the other hand, only shows residual V2-effects in the form of subject-auxiliary inversion in main clause questions (Rizzi 1996), also applying to the copula, see (11)-(12).

(9)   ***Likte du*** *denne boka?*
        liked you this   book
        'Did you like this book?'

(10)   *Denne boka **likte jeg** virkelig godt.*
        this   book liked I   really   well
        'This book I liked really well.'

(11)   **Have you** read this book?

(12)   What else **was there** to do?

   But V2 is somewhat restricted also in Norwegian. First, it does not apply in all clause types, as exclamatives and most embedded clauses require non-V2. Second, and more important for this paper, word order in *wh*-questions is variable in many dialects, see e.g. Vangsnes (2005). In the dialect spoken by the children in this study (Tromsø), V2 is only required when the *wh*-element is phrasal, i.e. disyllabic or longer, as illustrated in (13). When the *wh*-word is monosyllabic (i.e. a *wh*-head, see

Westergaard 2008, 2009a, b), on the other hand, the choice of V2 vs. non-V2 is dependent on information structure, non-V2 being chosen when the subject is given information (typically a pronoun) and V2 when the subject is new and/or focused information (most often a full DP), see Westergaard (2003, 2009a, b). V2 word order also tends to appear with the verb *være* 'be'. The importance of information structure for the choice of word order is illustrated in examples (14a, b) from one of the adult investigators in the acquisition corpus: In the first question, the subject (*skoan hannes* 'his shoes') is mentioned for the first time and appears in postverbal position (V2). In the follow-up question the subject is given information and can therefore be referred to by a pronoun and appear in preverbal position (non-V2).

(13)   *Korfor **kommer han** ikkje? *Korfor han ikkje kommer?*
       why   comes   he   not   why   he   not   comes
       'Why isn't he coming?'

(14)   a.   *kor   **er skoan**   **hannes** henne?* (INV, file Ole.17)   V2
            where are shoe.DEF/PL his   LOC
            'Where are his shoes?'
       b.   *kor   **dem er** henne?*   Non-V2
            where they are LOC
            'Where are they?'

In my view, both Norwegian and English are mixed V2 grammars in that there is variation between V2 and non-V2 in both languages, dependent on clause type, verb class, type of initial element, as well as information structure, see Westergaard (2008, 2009b). Children acquiring the two languages cannot simply set a parameter for a positive value in one case and a negative value in the other (+/-V2), but need to pay attention to various linguistically relevant factors that affect the choice of word order in different contexts. This is what is referred to as micro-cues in Westergaard (2009a, c), i.e. small pieces of I-language structure that are produced in the children's grammars on exposure to the relevant input. More specifically, while Norwegian and English are similar in that both have V2 word order in *wh*-questions, they are different in that English-speaking children need to restrict V2 to certain verb types (auxiliaries and *be*), while Norwegian children need to make distinctions depending on the type of *wh*-element and restrict V2 to certain subject types (those conveying new and/or focused information).

Another similarity between English and Norwegian is that finiteness morphology is fairly impoverished. English verbs mark agreement only on 3rd person sg. subjects (-*s*), and modals have no morphological marking at all. In comparison, the verb in Norwegian has no person or number agreement. Both languages have tense marking on the verb, in English the familiar past tense and past participle –*ed* on regular verbs, and in Norwegian two different endings, –*a* and –*t(e)*, reflecting the two regular weak classes which make up about 96% of all verbs in the language, according to Endresen and Simonsen (2001). In addition there are various irregular past tense and participle forms in both languages. This is illustrated for Norwegian (Tromsø dialect) in Table 1, which gives an overview of verbal morphology in the

two major verb classes (WL – large weak class, WS – small weak class) and a few examples of irregular morphology.

Table 1: Overview of verb forms in the Tromsø dialect.

	INFINITIVE	PRESENT	PAST	PAST PART.	IMPERATIVE
WL class	kast-e 'throw'	kast-e	kast-a	kast-a	kast-Ø
WS class	lek-e 'play'	lek-e	lek-te	lek-t	lek-Ø
Irregular	drikk-e 'drink'	drikk-Ø	drakk-Ø	drukk-et/-e	drikk-Ø
	komm-e 'come'	komm-er	kom-Ø	komm-et	kom-Ø
	si-Ø 'say'	si-r	sa-Ø	sag-t	si-Ø

Furthermore, apart from the 3rd person sg. form, the present tense in English is identical to the infinitive, and it might be predicted that children initially find it hard to distinguish between the two, i.e. between a finite and a non-finite form. In the Tromsø dialect of Norwegian, this might be even more difficult, since the present tense ending –*er* of the standard language has been reduced to –*e* in the dialect for virtually all regular verbs in the two major weak classes, cf. columns 2 and 3 in Table 1. This makes the infinitive and the present tense forms of these verbs identical in all cases. Norwegian is thus different from V2 languages such as German and Dutch where infinitive morphology is distinct from the bare form.

This means that, if finiteness morphology really serves as a trigger for verb movement, then this triggering mechanism must be extremely weak, both in English and in Norwegian. On such an account, therefore, one might expect to see a certain delay in the acquisition of verb movement, as compared with other Germanic languages. This is not the case, as has been shown both for English (e.g. Radford 1992) and Norwegian (Westergaard 2009a). This will also be clear from the data discussed in the next two sections.

Finally, there is one difference between English and Norwegian that will turn out to be relevant for the present study, viz. the frequency of auxiliaries in *wh*-questions. As already mentioned, only auxiliaries and *be* undergo verb movement to second position in English questions, while in Norwegian any lexical verb may appear there. Since subject-auxiliary inversion is a syntactic requirement in English, the language must also create a dummy auxiliary in the form of *do*-support when there is no other auxiliary present. And finally, the existence of progressive aspect in English makes the use of the auxiliary *be* quite frequent in everyday spontaneous speech. This means that English *wh*-questions involve an auxiliary much more frequently in the input to children than the Norwegian data. These frequencies should also be reflected in the child data, English-speaking children producing (or attempting to produce) a considerably higher percentage of *wh*-questions with auxiliaries than Norwegian-speaking children. In the next two sections, we consider some child data from both languages.

3. Finiteness morphology and verb movement in English child language

In this section we investigate data from seven English-speaking children, all from the CHILDES database (MacWhinney 2000). Two of the children are American, while five children are speakers of British English.

(15)   **Brown corpus** (Brown 1973): Adam (3;0.11–3;5.1), Sarah (2;9.6–5;1.6)
       Manchester corpus (Theakston et al. 2001): Warren (1;10.6–2;9.20), Anne (1;10.7–2;9.10), Ruth (1;11.15–2;11.21), Liz (1;11.9–2;10.18), Nicole (2;0.25–3;0.10)

As mentioned in the Introduction, auxiliaries are functional elements and for this reason generally late acquired. It is also well known that English-speaking children produce a high proportion of auxiliary-less structures in all clause types for a relatively extended period of time, and examples are frequently found in English child data. This is illustrated in the declaratives in (16)-(17), illustrating the lack of auxiliary *be* and dummy *do* respectively.

(16)   I **going** sit.   (Adam 2;6.17)

(17)   tha(t) no(t) **hurt**.   (Sarah 3;1.24)

Furthermore, non-finite and verbless *wh*-questions (lacking an auxiliary or the copula) are also frequent, as illustrated in (18)-(23):

(18)   what he **doing**?   (Adam 3;0.11)

(19)   where my spoon **gone**?   (Warren 2;0.17)

(20)   where me **sit**?   (Anne 2;3.28)

(21)   why you **get** another one?   (Liz 2;8.14)

(22)   what you **looking** for?   (Ruth 2;7.24)

(23)   what the name, Caroline?   (Nicole 2;9.17)

According to Radford (1992) and Roeper (1999), as soon as auxiliaries appear in English child data, they are typically target-consistently inverted, as illustrated by the examples in (24)-(25). There is also early inversion with copula *be*, as in example (26):

(24)   what **do I** see?   (Eve 2;0)

(25)   Sue # what **are you** folding?   (Eve 2;1)

(26)   where **is a box**?   (Adam 3;0.11)

However, as first pointed out by Klima and Bellugi (1966), some English-speaking children go through a stage where there is occasional lack of inversion in *wh*-questions, especially questions involving modals, illustrated in examples (27)-(28) from Adam's data.

(27)   why **I can** keep dem?   (Adam 3;2.21)

(28)   why **he can't** hit?   (Adam 3;4.01)

This phenomenon has been studied extensively, see e.g. Labov and Labov (1978), Stromswold (1990), Radford (1994), Guasti, Thornton and Wexler (1995), Guasti (1996), Rowland and Pine (2000, 2003), Berk (2003), and Thornton (2008). In the latter two, it is argued that the main cause of this word order distinction is that the question word *why* is significantly different from other *wh*-elements, occurring more frequently without verb movement. In Guasti, Thornton and Wexler (1995) and Guasti (1996) it is argued that the presence of negation is the cause of the problem for English-speaking children: While they in general produce target-consistent word order in affirmative questions, they make a considerable number of verb placement errors in negative questions, as in (28).

Since two different word orders are attested in some English-speaking children's data, one might ask whether verb movement at this stage is somehow related to finiteness morphology on the verb. The answer to this question seems to be no: In sentences with non-inverted word order the unmoved auxiliary is always finite, i.e. there are no examples attested where non-finite auxiliaries appear in post-subject position. This is in many cases necessarily so, since non-inversion typically appears with modals, and modals have no non-finite forms in present-day English.[4] Thornton (2008) has also found non-inversion with the question word *why* up to the age of 5-6 in the production of some English-speaking children, and it seems obvious that these children do not have any problem with finiteness at this stage. Thus, the lack of subject-auxiliary inversion cannot be related to missing finiteness on the auxiliary. There are also occasional examples in the child data where (target-consistently) uninverted lexical verbs are also finite, as illustrated in (29)-(32):

(29)   where he **went**?   (Anne 2;5.2)

(30)   what dey **said**?   (Adam 3;2.9)

(31)   what it **looks** like now?   (Sarah 4;2.28)

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4 In Norwegian, where the modals do have a non-finite form, they never appear in non-finite root clauses (e.g. **han ikke kunne gjøre det* 'he not could.INF do it'). This seems to be evidence that children very early recognize the appropriate modals as finite verbs, despite the lack of finiteness morphology (see section 4 below, and Westergaard 2009a).

(32)   what four **means**?   (Sarah 4;5.29)

Within the model of Role and Reference grammar, Van Valin (2002) has argued for an alternative version of the correspondence between syntactic movement and finiteness. More specifically, he argues that the lack of inversion with auxiliaries, typically modals, is due to the fact that modals have no clear finiteness morphology in English, lacking 3rd person sg –*s.* Modals are therefore presumably not perceived as clearly tensed by children and are consequently not inverted. Similarly, this should explain the lack of inversion with negative auxiliaries (since they always end in *n't*). But if this were the case, we would expect to see modals not moving to a position above negation in declaratives either (V-to-I movement) – also a movement process that only applies to finite forms of auxiliaries and *be*. Such examples (e.g. *I not can go*) seem to be unattested in English child data. Considering Adam's data in detail, we find that his first example of a modal together with a full (non-contracted) version of the negation *not* shows target-consistent word order, see (33). Other auxiliaries also appear above negation, as in (34). This means that Aux-Neg word order is in place as soon as the relevant elements appear in child language data.

(33)   I **may not**. (Adam 3;2.21)

(34)   I'**m not** going put some more +... (Adam 3;3.18)

Another argument against there being a finiteness/movement correlation in this case is that, as reported in many studies (see above), English-speaking children who have a problem with inversion in *wh*-questions typically do invert in *yes/no*-questions, illustrated by the following example from Adam:

(35)   **Can you** # play with me? (Adam 3; 3.18)

Furthermore, it has sometimes been noted that there is typically a distinction between the copula and auxiliaries with respect to inversion. Investigating Adam's data between the ages of 3;2 and 3;5, Westergaard (2009c) finds that, while the copula is inverted 96.4% (455/472) of the time, auxiliaries are inverted only 34.2% (35/73). This distinction also holds for omissions in *wh*-questions: while the copula is missing only 36.8% (261/710) in Adam's data at this time, auxiliaries are missing as often as 83.6% (588/703). Furthermore, a discrepancy between the copula and other verbs with respect to verb movement has also been found in Swedish child language (Waldmann 2008), as well as in declaratives in Norwegian child data (Westergaard 2009a). This would be surprising on an account that analyzes the lack of finiteness marking as the result of a grammatical deficit (e.g. the UCC). Table 2 shows that a similar discrepancy between auxiliaries and the copula is also found in *wh*-questions in the data of other English-speaking children. It also shows that there is a difference in the development of finiteness marking involving the two verbal categories: At an early stage, the copula is missing almost as often as auxiliaries, but these omissions quickly disappear, and at a later stage (varying among different

children), there is a considerable difference between the proportion of auxiliary and copula omissions.

Table 2: The overt realization of copula vs. auxiliaries in *wh*-questions in English child data.

	Age	Missing copula	Missing auxiliary
Sarah	2;9-3;8	73.7% (84/114)	94% (47/50)
	3;8-5;1	4.5% (7/156)	50% (127/254)
Warren	1;10-2;3	91.9% (34/37)	95.2% (20/21)
	2;3-2;9	21.0% (47/224)	45.1% (32/71)
Liz	1;10-2;3	17.4% (36/207)	33.3% (24/72)
	2;3-2;9	4.4% (7/158)	36.2% (38/105)

Westergaard (2009c) provides an account of the lack of inversion in specific cases in terms of children's sensitivity to fine distinctions in syntax (micro-cues), which prevents them from generalizing a rule from one (sub-)category to another. This is argued to be what is responsible for children generally being conservative learners (see Snyder 2007 for a recent discussion). In addition to preventing overgeneralization errors in syntax, this ability to recognize micro-cues also sometimes causes children to 'undergeneralize' a syntactic rule, making even finer distinctions than the target grammar. In the case of English, for example, this results in a difference between *be* and auxiliaries with respect to inversion and omissions in *wh*-questions.[5] This model may also explain why English-speaking children make a distinction between *why* and other question words. That is, V2 with *be* doesn't automatically generalize to aux, and V2 with *what* does not immediately generalize to *why*. Thus, English, Norwegian and Swedish children are argued to have smaller V2 grammars than the corresponding adult languages.

Given the child data investigated in this section, I argue that the occurrence of non-finite root clauses produced by English-speaking children is not due to a problem related to the realization of finiteness *per se*. I also argue that there is no direct link between the production of non-finite root clauses and verb movement (subject-auxiliary inversion). That is, non-inversion or non-finite *wh*-questions are not caused by a lack of finiteness, but rather by a problem realizing auxiliaries combined with a conservative approach to rule generalization.

4. Finiteness and verb movement in Norwegian child language

The investigation of *wh*-questions in the Norwegian child data is based on a corpus of three Norwegian children (Ina, Ann and Ole) between the ages of approximately

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[5] An anonymous reviewer asks whether it s justified to generalize over the different auxiliaries and suggests that there may be relevant distinctions also at a further micro-level. The micro-cue model clearly opens up for this possibility. In fact, it it shown in section 5 below that English-speaking children have considerably more problems with the auxiliaries *be* and *do* than the modals (cf. Tables 6 and 8).

1;8 and 3;3, illustrated in the overview in (36) (see Anderssen 2006 for further information about the corpus).

(36) **Tromsø corpus** (Anderssen 2006): Ina (1;8.20-3;3.18), Ann (1;8.20-3;0.1), Ole (1;9.10-2;11.23).

Westergaard (2003, 2009a, c) shows that both V2 and non-V2 word orders are in place from early on. The children also produce the two word orders in appropriate contexts, e.g. only V2 with disyllabic *wh*-elements, as in (37), cf. example (13) above.

(37) *korfor **får** den ikkje mat?*   (Ole 2;8.5)   **V2**
      why   get.PRES it   not   food
      'Why doesn't it get any food?'

In questions with monosyllabic *wh*-elements, where both word orders are possible in the adult language (cf. example (14) above), the children are also target-consistent with respect to the verb and subject types appearing with the two word orders. Table 3 provides an overview of all complete non-subject *wh*-questions produced by the three children in the corpus (i.e. questions containing a *wh*-element, a verb and a subject).[6] Examples (38) and (39) illustrate that V2 is preferred with full DP subjects (and *be*) and non-V2 with pronominal subjects, as in the adult language.

Table 3: Percentage of V2 in questions with monosyllabic *wh*-elements, three Norwegian children.

WH-WORD	INA.01-23, age 1;8.20-2;10.12	ANN.01-21, age 1;8.20-3;0.1	OLE.01-22, age 1;9.10-2;11.23	Total
ka 'what'	34.7% (43/124)	25.4% (18/71)	100% (3/3)	198
kor 'where'	88.7% (126/142)	78.3% (65/83)	100% (42/42)	267
kem 'who'	69.2% (18/26)	63.6% (7/11)	100% (2/2)	39
Total	64.0% (187/292)	54.5% (90/165)	100% (47/47)	504

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[6] Ole does not produce a single complete *wh*-question with non-V2 word order. However, in so-called *wh*-less questions, he produces questions with and without verb movement, with the same subject and verb preferences as in the adult data – i.e. verb movement with full DP subjects and no verb movement with pronominal subjects, see (i)-(ii).

    (i) ***er**   doktoren?* (Ole.02, age 1;10.0)
        be.PRES doctor.DEF
        '(Where) is the doctor?' Target: Kor er doktoren?
    (ii) ***den gjør**   der?* (Ole.02, age 1;10.0)
        that do.PRES there
        '(What) is that doing there?' Target: Ka den gjør der?

(38) *kor er   Ann sin dukke* hen? (Ann 1;11.0)   **V2**
      where be.PRES Ann POSS doll   LOC
      'Where is Ann's doll?

(39)   *ka   du gjør?* (Ann 2;3.9)   **Non-V2**
        what you do.PRES
        'What are you doing?'

   If there were a causal correspondence between finiteness morphology and syntactic movement in child language, we would expect to find the V2 examples appearing with finite verbs and the non-V2 questions with non-finite verbs, at least at an early stage. However, this is not the case. The children's verb types appearing with the two word orders are illustrated in Table 4, where the corpus has been divided into three periods in order to illustrate some development. The verbs occurring in *wh*-questions are almost exclusively finite, or they are ambiguous, meaning that they belong to one of the weak verb patterns where the infinitive and the present tense forms are identical (cf. section 2.3). The only difference between *wh*-questions with V2 and non-V2 is that the latter type occurs much more often with ambiguous verb forms. This is simply a function of V2 being preferred with the verb *være* 'be', for reasons of information structure (see Westergaard 2003, 2009a), while non-V2 is chosen when the verb is any other verb, often one which belongs to the weak verb classes.

Table 4: The number of finite, ambiguous and non-finite verb forms in the three Norwegian children's *wh*-questions, with V2 and non-V2 word order.

FILES	V2			Non-V2		
	FIN	AMB	NON-F	FIN	AMB	NON-F
Ina.01-10	43	6	0	12	5	0
Ina.11-16	89	2	0	17	5	1
Ina.17-23	47	0	0	31	32	2
Total	**179**	**8**	**0**	**60**	**42**	**3**
Ann.01-10	11	0	0	9	1	0
Ann.11-16	42	1	0	16	15	0
Ann.17-21	36	0	0	34	0	0
Total	**89**	**1**	**0**	**59**	**16**	**0**
Ole.01-10	3	0	0	0	0	0
Ole.11-16	7	0	0	0	0	0
Ole.17-22	37	0	0	0	0	0
Total	**47**	**0**	**0**	**0**	**0**	**0**

In the whole corpus, there are only three examples of clearly non-finite *wh*-questions, illustrated in (40)-(42), all three produced by Ina.[7] One example contains an infinitive, while the other two have past participle forms. In all three cases it seems reasonable to assume that there is an auxiliary missing, a modal in (40) and the perfective *have* in (41)-(42), as suggested by the translations. The three examples of non-finite root clauses are of course necessarily non-V2, since, given that there is no auxiliary, there is no element that may or may not undergo movement. The non-finite verb is in target-consistent post-subject position.

(40)   *kor   æ legge den hen?* (Ina.16, age 2;7.8)
       where I lay.INF it   LOC
       'Where (should) I put it?'

(41)   *ka   reven   gjort?* (Ina.18, age)
       what fox.DEF done
       'What (has) the fox done?'

(42)   *ka   æ fått den?* (Ina.22, age 2;10.2)
       what I got   that
       'What (have) I got there?'

This means that, as predicted by both the OI and the Truncation models, the number of non-finite root clauses is very low, making up only 0.6% (3/504) of the total number of *wh*-questions. In comparison, these Norwegian children relatively frequently produce non-finite root clauses in *yes/no*-questions and subject-initial declaratives with negation, typically also lacking the subject, as shown in (43)-(44). According to Westergaard (2009a), these appear between 5.1% and 22.5% in the child data. On an account that there is a causal correlation between finiteness and verb movement, the distinction in the Norwegian child data between *wh*-questions and *yes/no*-questions with respect to finiteness is somewhat surprising, just like in the English data (cf. section 3). The V2 requirement holds completely consistently in *yes/no*-questions, while *wh*-questions allow both V2 and non-V2 in the Tromsø dialect, as we have seen. Yet, it is the former clause type that displays examples of non-finite root clauses.

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[7] There is also one example in Ina's data and one in Ann's involving the verb *si* 'say', where they have produced the bare form instead of the standard present tense *si(e)r* with non-V2, see example (i). However, this bare form is also occasionally found in the data of some the adults in the corpus and may thus be considered a dialect variant of the present tense of this verb.

       (i)   *ka   du si?* (Ann.11, age 2;4.0)
                what you say.PRES
                'What are you saying?'

(43)   *tegne den*? (Ina, 2;0.5)
       draw that
       '(Can I) draw that?'

(44)   *ikke være sånn*. (Ole, 1;10.0)
       not be   such
       '(It should) not be like that.'

Examples such as (43)-(44) often have a modal meaning, cf. the translations. Crucially, therefore, I interpret these structures to be cases where there is an auxiliary missing, not examples where there is no verb movement due to the lack of finiteness morphology on the verb. Thus, this corresponds to what has been argued by others questioning the causal correlation between finiteness morphology and verb movement (see section 2.2). Some evidence supporting this position is that non-finite root clauses are sometimes preceded or followed by the same sentence with the auxiliary provided, as in the follow-up to example (5), which was provided in the Introduction.

(5')   a.   *... han ikke **røre**   klossen.*   (Ina.11, age 2;4.1)
            he   not touch.INF brick.DEF
            'He (should/must/may) not touch the brick.'
       b.   *han **kan ikke røre** klossen.*   (Ina.11, age 2;4.1)
            he can not touch brick.DEF
            'He may not touch the brick.'

Despite this distinction between *wh*-questions and these other clause types, my account for the occurrence of non-finite root clauses is the same in both cases, viz. a problem realizing auxiliaries (often modals). The difference between *wh*-questions and other clause types is thus one of frequency. We may now ask why there is a difference between *wh*-questions on the one hand and subject-initial declaratives and *yes/no*-questions on the other with respect to the occurrence of non-finite root clauses. Could it be that the latter two clause types for some reason involve more auxiliaries, especially modals? A detailed investigation of the Norwegian child data reveals that in fact they do: Subject-initial declaratives with negation (which is the context investigated) often appear with modals, e.g. *kan ikke* 'cannot', *vil ikke* 'will not', *må ikke* 'must not', etc. And in early *yes/no*-questions modals are attested as often as 40-65%, see Westergaard (2009a).

In comparison, modals and other auxiliaries are virtually non-attested in *wh*-questions. A detailed investigation of the verb types typically appearing in Norwegian children's *wh*-questions reveals that the copula is by far the most frequent verb. Lexical verbs such as *ha* 'have', *gjøre* 'do' and *hete* 'be-called' also appear relatively frequently in this clause type. Auxiliaries are correspondingly rare, especially in early files. It is important to stress that the children do not attempt to produce such clauses either – in fact, most of the earliest *wh*-questions are with the verb *be*.

More specifically, Ina produces only 7 examples of an auxiliary in *wh*-questions (5 modals, 2 with perfective *have*), spread across the corpus (the first in file 5, age 2;0.5). This means that only 3.4% (10/292) of her complete *wh*-questions have an auxiliary (overt or missing). As noted above, Ann and Ole do not produce a single example of a non-finite *wh*-question. An investigation of the number of auxiliaries in their data reveals that Ole uses altogether 5 (all modals) while Ann produces 21 (15 modals, 6 perfective *have*) – making up 10.6% (5/47) and 12.7% (21/165) for the two of them respectively. These *wh*-questions appear with both V2 and non-V2. But the crucial fact is the following: Most of the *wh*-questions with auxiliaries appear in the latest files in the corpus, as 4 of Ole's 5 examples are attested in files 19 and 20 (age 2;10.0-2;10.15), while 17 of Ann's 21 examples appear after file 17 (age 2:8.4). And at this stage, the number of non-finite root clauses in other clause types is negligible: In subject-initial declaratives these examples tend to disappear around file 16 (age 2;7.8) for Ina, file 14 (age 2;6.0) for Ann, and file 12 (age 2;5.18) for Ole, and in *yes/no*-questions somewhat earlier than this (see Westergaard 2009a). This means that, by the time these Norwegian children start producing auxiliaries in *wh*-questions, they are already at a stage where these are no longer missing to any large extent in other clause types.

Finally, it could be mentioned that the Norwegian children also produce some verbless *wh*-questions. The verb missing is in all cases the copula, and these examples are thus similar to the ones where *be* is missing in English child data. The examples occur in the production of all three children, although not to a very large extent in Ole's data, where only one such example is attested, making up 2.1% (1/48). Ina produces 22 (7%, 22/314) and Ann five (2.9%, 5/170) - examples are given in (45)-(46). Most of these verbless questions occur in the children's early files (e.g. 18 of Ina's 22 examples are in files 3-9). However, the verb *være* 'be' is very frequent in the children's production and also appears early in *wh*-questions as well as other clause types. Just as in the English child data, therefore, there seems to be a distinction between missing *be* and missing auxiliaries in early Norwegian child language, in that *be* falls into place earlier than the auxiliaries.

(45)   *ka   det*? (Ina.03, age 1;10.23)
       what that
       'What (is) that?'

(46)   *kor   dem*? (Ann.07, age 2;1.7)
       where they
       'Where (are) they?'

Summarizing, we have seen in this section that the Norwegian children have both V2 and non-V2 word orders in place in *wh*-questions from early on and that finiteness morphology is not only a feature of questions with V2 word order, as also questions with non-V2 almost exclusively appear with finite verbs. Similarly, in the previous section, we saw that occasional non-inverted *wh*-questions in English child data involve finite verbs only. Furthermore, the clear difference between the copula and auxiliaries indicates that the problem for English-speaking children is related to

the realization of auxiliaries. In this section, this is argued to be the case also in non-finite root clauses in Norwegian child language, as well as in the occasional non-finite *wh*-questions. Thus, I have argued that non-finite verbs are intended to be infinitive (or in some cases a participle form), and also intended to be in situ. That is, it is not a verb that lacks finiteness morphology and therefore does not move, or reversely, does not move and therefore lacks morphology. The alleged causal connection between finiteness morphology and verb movement therefore does not seem to hold in the acquisition of subject-auxiliary inversion or V2 word order in English and Norwegian, and the distinction between the two languages is reduced to one of frequency. This is discussed in the next section.

5. Discussion: The difference between English and Norwegian *wh*-questions

In the two previous sections we have considered child language data from English and Norwegian and argued that there cannot be a causal correlation between finiteness morphology and syntactic verb movement, resulting in V2 word order in *wh*-questions. This is generally due to the fact that verbs are virtually exclusively finite in Norwegian *wh*-questions, regardless of word order, V2 or non-V2 (both grammatical in the target language). Similarly, English-speaking children who produce certain non-inverted examples in *wh*-questions do not produce non-finite auxiliaries in such cases. The distinction between the copula and auxiliaries also shows that the main problem for English-speaking children is in the realization of auxiliaries. Since auxiliaries are often missing in all clause types in English, there is no reason why they should not be missing also from *wh*-questions. Thus, as we are not assuming that there is any correlation between finiteness and syntactic movement, we need no extra explanation for non-finite *wh*-questions in English child language. When English non-finite *wh*-questions have a modal meaning, there is a modal missing – in other cases it may be dummy *do* or progressive *be* that is intended. And given the analysis adopted in this paper of non-finite root clauses in general, with a modal or other auxiliary missing, this is what I argue is the problem for Norwegian children too. This is the case in all clause types, and the problem with the realization of auxiliaries is unrelated to the position of the finite verb and the issue of verb movement.

What could be the cause of the difference between English and Norwegian in *wh*-questions then? That is, why are examples such as (2) relatively frequent in English child language, while examples such as (40) are virtually non-existent in Norwegian child data?

(2')   what you doing? (Eve.14, age 2;0)

(40')   *kor   æ legge den hen*? (Ina.16, age 2;7.8)
        where I lay.INF it   LOC
        'Where (should) I put it?'

In the Norwegian child corpus investigated here, the only failed attempts at producing an auxiliary in *wh*-questions are the three examples in (40)-(42). But in order to explain why non-finite examples are infrequent in Norwegian *wh*-questions, we need to consider the number of these non-finite *wh*-questions in relation to the number of examples that have an overt modal or auxiliary. That is, how often do the children actually produce (or attempt to produce) a *wh*-question with an auxiliary?

As shown in section 2, inversion is required with different verbs in the two languages (see the overview in (47)): While in Norwegian, all verbs may invert - lexical verbs as well as auxiliaries, i.e. perfective *have* and modals, only auxiliaries and the copula invert in English. Furthermore, English has two auxiliaries that do not exist in Norwegian, progressive *be* and dummy *do*. This means that, while Norwegian children encounter problematic elements in only some *wh*-questions (those which involve auxiliaries), English-speaking children are faced with these problems in all *wh*-questions (except those involving the copula).

(47)   **English**:   modals, *have*, *do*, *be* + copula
       Norwegian: modals, *have* + all lexical verbs

In order to investigate whether this may be a reason for the difference between English and Norwegian child language with respect to finiteness in *wh*-questions, we will first have a look at the distribution of the various auxiliaries in English child language. Table 5 shows an overview of the use of auxiliaries in *wh*-questions in the data of the seven children investigated in section 3. The data have been searched for all *wh*-questions, and every single example has been individually considered with respect to overt or missing auxiliaries. If the auxiliary is missing, a present participle (*-ing*) is considered to be a *be* context, a past participle is considered to be a *have* context and an infinitive considered to be a modal or *do* context, depending on the linguistic environment of the *wh*-question. In the table, a distinction is made between *do* and *be* contexts on the one hand (those that are only found in English) and *have* and modals on the other, i.e. those auxiliaries that are also relevant for Norwegian.

Table 5: Type of auxiliary contexts in English *wh*-questions.

	do + *be* contexts	*have* + modal contexts
Adam	89.4% (734/821)	10.6% (87/821)
Sarah	91.2% (279/306)	8.8% (27/306)
Ruth	92.6% (63/68)	7.4% (5/68)
Nicole	73.1% (76/104)	26.9% (28/104)
Anne	57.1% (121/212)	42.9% (91/212)
Warren	55.4% (51/92)	44.6% (41/92)
Liz	49.7% (88/177)	50.3% (89/177)
Total	79.3% (1412/1780)	20.7% (368/1780)

It is clear from Table 5 that the auxiliaries *do* and *be* are the most frequent ones, making up almost 80% of the total.[8] A closer investigation of these examples shows that these two auxiliaries also make up the core of English-speaking children's problems with auxiliary realization: Table 6 shows how often the auxiliary is missing in *do* and *be* contexts, as well as how much these omissions account for in relation to the total number of omissions in *wh*-questions in the English child data. As we see, both *do* and *be* are missing approximately 70% of the time, and more importantly, these omissions make up close to 90% of all auxiliary omissions in *wh*-questions in the child data. As these auxiliaries are not relevant for Norwegian-speaking children, it seems that these figures should account for most of the difference between the two child groups with respect to finiteness in *wh*-questions.

Table 6: Missing auxiliaries *do* and *be* in English *wh*-questions and the percentage of this in relation to all missing auxiliaries

	Missing of all *do*	Missing of all *be*	% of all missing aux
Adam	74.3% (375/505)	88.6% (203/229)	95.7% (578/604)
Sarah	64.5% (147/228)	54.9% (28/51)	94.6% (175/185)
Ruth	100.0% (11/11)	97.9% (47/48)	92.5% (62/67)
Nicole	93.3% (28/30)	60.9% (28/46)	69.1% (56/81)
Anne	41.1% (30/73)	50.0% (24/48)	62.8% (54/86)
Warren	30.8% (4/31)	55.3% (21/38)	48.1% (25/52)
Liz	36.4% (8/22)	53.0% (35/66)	69.4% (43/62)
Total	67% (603/900)	73.4% (386/526)	87.3% (993/1137)

But we also need to have a closer look at the contexts for *have* and modals in the child data. As shown in Table 7, these auxiliary types are fairly infrequent in both English and Norwegian *wh*-questions: The modals make up less than 10% for all the children (average around 5-6%), while there is more variation with respect to perfective *have*. As noted in footnote 7, the British children (especially Anne, Warren and Liz) produce more *have* contexts than the American children, presumably because British English uses perfective *have* in contexts where American English would prefer the simple past tense.

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[8] Some of the British children (especially Anne, Warren and Liz) produce a lower percentage of *do* and *be* contexts than the American children. This is due to a much higher proportion of perfective *have* in their data (cf. Table 7), presumably caused by a difference between the two varieties of English with respect to contexts for the present perfective vs. the simple past.

Table 7: *Have* and modal contexts in English and Norwegian *wh*-questions.

	have contexts	modal contexts
Adam	2.9% (24/821)	7.7% (63/821)
Sarah	0.3% (1/306)	8.5% (26/306)
Ruth	7.4% (5/68)	0.0% (0/68)
Nicole	26.0% (27/104)	1.0% (1/104)
Anne	38.7% (82/212)	4.2% (9/212)
Warren	44.6% (41/92)	0.0% (0/92)
Liz	48.6% (86/177)	1.7% (3/177)
Total	14.9% (266/1780)	5.7% (102/1780)
Ina	1.4% (4/292)	2.0% (6/292)
Ann	3.6% (6/165)	9.1% (15/165)
Ole	0.0% (0/47)	10.6% (5/47)
Total	2% (10/504)	5.2% (26/504)

Furthermore, as shown in Table 8, these auxiliaries are not as often missing as *do* and *be* (cf. Table 6). This is especially the case for modals.

Table 8: Missing *have* and modals in English and Norwegian *wh*-questions.

	have contexts	modal contexts
Adam	91.7% (22/24)	6.3% (4/63)
Sarah	0.0% (0/1)	38.5% (10/26)
Ruth	100.0% (5/5)	—
Nicole	92.6% (25/27)	0.0% (0/1)
Anne	37.8% (31/82)	11.1% (1/9)
Warren	65.9% (27/41)	—
Liz	22.1% (19/86)	0.0% (0/3)
Total	48.5% (129/266)	15.2% (15/99)
Ina	50.0% (2/4)	16.7% (1/6)
Ann	0.0% (0/6)	0.0% (0/15)
Ole	—	0.0% (0/5)
Total	20% (2/10)	3.9% (1/26)

In this section it has been argued that the difference between English and Norwegian with respect to the frequency of non-finite *wh*-questions is not due to a qualitative difference in the child grammars related to finiteness and verb movement. Instead, this is shown to be due to a difference in the type of verb that moves in these questions - all verbs in Norwegian, but only auxiliaries (and *be*) in English. This means that English-speaking children encounter functional elements in all *wh*-questions except those involving the copula, while Norwegian children face these problematic elements only in *wh*-questions containing auxiliaries. As noted in section 4, the copula is the most frequent verb in early *wh*-questions, as well as a few other lexical verbs. Furthermore, the auxiliaries produced by two of the children (Ann and Ole) appear so late in the corpus that non-finite root clauses are hardly

attested any more in other clause types. Investigating the child that does produce occasional non-finite *wh*-questions, Ina, it turns out that she produces only 7 examples of auxiliaries. This means that only 3.4% (10/292) of her complete *wh*-questions contain an auxiliary (overt or missing). But this also means that her three failed attempts at producing an auxiliary make up 30% (3/10) – considerably more than the 0.6% we calculated above for non-finite root clauses in relation to all *wh*-questions. Although numbers are very small and caution is required, this indicates that Ina is no longer that different from what is found in the data from English-speaking children.

The account of young children's non-finite root clauses presented in this paper is similar in spirit to what is argued in Phillips (1995). Comparing the occurrence of non-finite *wh*-questions in the data of English and French children, he finds that such examples are virtually non-attested in the French child data. He also argues that this is not due to a grammar deficit, but to the type of verb that typically appears in *wh*-questions in the two languages. Interestingly, however, the French children produce almost exclusively auxiliaries in this clause type. Given that auxiliaries are always finite in young children's production data (see e.g. Wexler 1994 and section 3 above), this fact should account for the lack of RIs in French *wh*-questions. This is of course the opposite of what has been found in *wh*-questions in the Norwegian child data, where auxiliaries are hardly attested at all. I have no explanation for the discrepancy between French and Norwegian with respect to the occurrence of auxiliaries in *wh*-questions, nor why auxiliaries seem to be easier to acquire in French than in Norwegian. Nevertheless, the two accounts are not contradictory: In languages where auxiliaries are difficult to learn (Norwegian, English), non-finite root clauses will appear in early child language due to omission of the auxiliary. Once auxiliaries appear, however (early in French, somewhat later in English and Norwegian), they will always be finite. Thus, the fact that neither French nor Norwegian children produce non-finite *wh*-questions can be accounted for by the high frequency of auxiliaries (always finite) in this context in French and the corresponding lack of auxiliaries in early child Norwegian.

6. Summary and conclusion

In this paper I have argued that the alleged causal correlation between finiteness morphology and syntactic movement does not hold with respect to the acquisition of V2 word order. Evidence for this is provided by child data on *wh*-questions in English and a dialect of Norwegian, both considered in this paper to be mixed V2 grammars. Finiteness is shown to be in place in both languages irrespective of verb movement, also in occasional non-inverted examples in English and target-consistent non-V2 examples in Norwegian. The difference between the two languages with respect to the number of non-finite *wh*-questions is related to a difference in the restriction on V2, which is limited to auxiliaries (and *be*) in English, a category that is typically late acquired, in all clause types. In Norwegian, on the other hand, any verb can move to second position in *wh*-questions. Non-finite root clauses, often attested in subject-initial declaratives and *yes/no*-questions in

Norwegian child data, are argued to be due to the same problem as in English child language, viz. a problem realizing auxiliaries. The lack of non-finite examples in *wh*-questions in Norwegian child data is shown to simply be due to auxiliaries being virtually non-existent in this clause type. Instead, most of the Norwegian children's early *wh*-questions involve the copula or frequent lexical verbs. The paper has also presented extensive child data showing that the auxiliaries *do* and *be*, which are not relevant for Norwegian, pose the biggest challenge for English-speaking children, accounting for approximately 90% of the non-finite *wh*-questions produced. Modal contexts, on the other hand, are shown to be very rare in *wh*-questions both in English and in Norwegian. This means that Norwegian-speaking children are faced with problematic auxiliary contexts in *wh*-questions much less frequently than English-speaking children. Consequently, while non-finite wh-questions are relatively frequent in English child language, they are hardly attested in Norwegian child data.

References

Anderssen, Merete. 2006. *The Acquisition of Compositional Definiteness in Norwegian*. Doctoral dissertation, University of Tromsø.

Atkinson, Martin. 1998. Now, hang on a minute: Some reflections on emerging orthodoxies. In Harald Clahsen (ed.), *Generative perspectives on language acquisition: empirical findings, theoretical considerations and crosslinguistic comparisons,* 451-499*.* Amsterdam: John Benjamins.

Behrens, Heike. 1993. *Temporal reference in German child language: Form and function of early verb use.* PhD dissertation, University of Amsterdam.

Bentzen, Kristine. 2003. V-to-I Movement in the absence of morphological cues: evidence from Northern Norwegian. In Peter Svenonius, Anne Dahl and Marit R. Westergaard (eds.), *Nordlyd: Proceedings from the 19th Scandinavian Conference of Linguistics* 31.3, 573-588. University of Tromsø.

Bentzen, Kristine. 2005. What's the better move? On verb placement in Standard and Northern Norwegian. *Nordic Journal of Linguistics* 28.2, 153-188.

Bentzen, Kristine. 2007. The degree of verb movement in embedded clauses in three varieties of Norwegian. In Kristine Bentzen and Øystein A. Vangsnes (eds.) *Nordlyd 34: Scandinavian Dialect Syntax 2005*, 127-146.

Berk, Stephanie. 2003. Why 'why' is different? In Barbara Beachley, Amanda Brown and Frances Conlin (eds.), *Proceedings of the 27th Annual Boston University Conference on Language Development*, 127-137. Somerville, MA: Cascadilla Press.

Blom, Elma. 2007. Modality, infinitives, and finite bare verbs in Dutch and English child language. *Language Acquisition*,14:1, 75-113.

Bobaljik, Jonathan David. 2002. Realizing Germanic inflection: why morphology does not drive syntax. *Journal of Comparative Germanic Linguistics* 6, 129-167. Dordrecht: Kluwer.

Bobaljik, Jonathan David and Höskuldur Thráinsson. 1998. Two heads aren't always better than one. *Syntax* 1.1, 37-71.

Bohnacker, Ute. 1999. *Icelandic plus English: Language differentiation and functional categories in a successively bilingual child.* Doctoral dissertation, University of Durham.

Boser, Katharina, Barbara Lust, Lynn Santelmann and John Whitman. 1992. The syntax of V2 in early child German grammar: The Strong Continuity Hypothesis. *Proceedings of the Northeastern Linguistic Society* 22, 51-66.

Brown, Roger. 1973. *A First Language: The Early Stages.* Cambridge, MA: Harvard University Press.

Clahsen, Harald. 1986. Verb inflections in German child language: acquisition of agreement markings and the functions they encode. *Linguistics* 24, 79-121.

Clahsen, Harald. 1988. Parameterized grammatical theory and language acquisition: a study of the acquisition of verb placement and inflection by children and adults. In Suzanne Flynn and Wayne O'Neil (eds.), *Linguistic Theory in Second Language Acquisition*, 47-75. Dordrecht: Kluwer.

Clahsen, Harald and Pieter Muysken. 1986. The availability of Universal Grammar to adult and child learners – a study of the acquisition of German word order. *Second Language Research* 2.2, 93-119.

Clahsen, Harald and Pieter Muysken. 1989. The UG paradox in L2 acquisition. *Second Language Research* 5.1, 1-29.

Clahsen, Harald and 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*, 181-223. Dordrecht: Kluwer.

Endresen, Rolf Theil and Hanne Gram Simonsen. 2001. The Norwegian verb. In Hanne Gram Simonsen and Rolf Theil Endresen (eds.), *A Cognitive Approach to the Verb: Morphological and Constructional Perspectives*, 73-94. Berlin and New York: Mouton de Gruyter.

Eide, Kristin Melum. 2009. Finiteness: The haves and the have-nots. In Artemis Alexiadou, Jorge Hankamer, Thomas McFadden, Justin Nuger and Florian Schäfer (eds.), *Advances in Comparative Germanic Syntax,* 357-390 [Linguistics Today 141]. Amsterdam: John Benjamins.

Guasti, Maria Teresa. 1996. Acquisition of Italian interrogatives. In Harald Clahsen (ed.), *Generative perspectives on language acquisition*, 241-270. Amsterdam and Philadelphia: John Benjamins.

Guasti, Maria Teresa. 2000. An excursion into interrogatives in Early English and Italian. In Marc-Ariel Friedemann and Luigi Rizzi (eds.), *The Acquisition of Syntax: Studies in Comparative Developmental Linguistics*, 105-128, Harlow: Longman.

Guasti, Maria Teresa, Rosalind Thornton and Ken Wexler. 1995. Negation in children's questions: The case of English. In Dawn MacLaughlin and Susan McEwen (eds.) *Proceedings of BUCLD 19*, 228-240. Somerville, MA: Cascadilla Press.

Harris, Tony and Ken Wexler. 1996. The optional-infinitive stage in child English: evidence from negation. In Harald Clahsen (ed.), *Generative Perspectives on Language Acquisition: Empirical Findings, Theoretical Considerations and*

Crosslinguistic Comparison. [Language Acquisition and Language Disorders 14], 1-42. Amsterdam and Philadelphia: John Benjamins.

Hoekstra, Teun and Nina Hyams. 1998. Aspects of root infinitives. *Lingua* 106, 81-112.

Ingram, David and William Thompson. 1996. Early syntactic acquisition in German: Evidence for the Modal Hypothesis. *Language* 72.1, 97-120.

Josefsson, Gunlög. 1999. Non-finite root clauses in Swedish child language. *Working Papers in Scandinavian Syntax* 63, 105-150.

Josefsson, Gunlög. 2004. Input and Output: Sentence patterns in Child and Adult Swedish. In Gunlög Josefsson, Christer Platzack and Gisela Håkansson (eds.), *The Acquisition of Swedish Grammar* [Language Acquisition and Language Disorders 33], 95–133. Amsterdam and Philadelphia: Benjamins.

Klima, Edward S. and Ursula Bellugi[-Klima]. 1966. Syntactic regularities in the speech of children. In John Lyons and Roger J. Wales (eds.), *Psycholinguistic papers*, Edinburgh: Edinburgh University Press, 183-208. Also published in Barbara C. Lust and Claire Foley (eds.), 2004, *First Language Acquisition: The Essential Readings*, 344-366. Malden, MA and Oxford: Blackwell.

Labov, William and Teresa Labov. 1978. Learning the syntax of questions. In Robin N. Campbell and Philip T. Smith (eds.), *Recent Advances in the Psychology of Language: Formal and Experimental Approaches*. New York: Plenum.

Lardiere, Donna. 2000. Mapping features to forms in second language acquisition. In John Archibald (ed.), *Second Language Acquisition and Linguistic Theory*, 102-129. Oxford: Blackwell.

Lasser, Ingeborg. 1997. *Finiteness in adult and child language.* Doctoral dissertation, City University of New York.

Lightfoot, David. 2002. *Syntactic Effects of Morphological Change*. Oxford: Oxford University Press.

Meisel, Jürgen M. 1994. Getting FAT: Finiteness, Agreement and Tense in early grammars. In Jürgen M. Meisel (ed.), *Bilingual First Language Acquisition: French and German Grammatical Development*, [*Language Acquisition and Language Disorders* 7]*,* 89-129. Amsterdam and Philadelphia: John Benjamins.

MacWhinney, Brian. 2000. *The CHILDES Project: Tools for analyzing talk.* 3rd Edition. Vol. 2: The Database. Mahwah, NJ: Lawrence Erlbaum Associates.

Phillips, Colin. 1995. Syntax at age two: Cross-linguistic differences. In Carson T. Schütze, Jennifer B. Ganger and Kevin Broihier (eds.), *Papers on language processing and acquisition, MIT Working Papers in Linguistics* 26, 325-382.

Plunkett, K. & S. Strömqvist. 1990. The Acquisition of Scandinavian Languages. *Gothenburg Papers in Theoretical Linguistics* 59.

Poeppel, David and Ken Wexler. 1993. The Full Competence Hypothesis of clause structure in early German. *Language* 69, 1-33.

Pollock, Jean-Yves. 1989. Verb movement, universal grammar and the structure of IP. *Linguistic Inquiry* 20.3, 365–425.

Radford, Andrew. 1992. The acquisition of the morphosyntax of finite verbs in English. In Jürgen M. Meisel (ed.), *The Acquisition of Verb Placement: Functional Categories and V2 Phenomena in Language Acquisition*, 23-62. Dordrecht: Kluwer Academic Publishers.

Radford, Andrew 1994. The syntax of questions in child English. *Journal of Child Language* 21, 211-236.

Rizzi, Luigi. 1993/94. Some notes on linguistic theory and language development: the case of root infinitives. *Language Acquisition* 3.4, 371-393.

Rizzi, Luigi. 1996. Residual verb second and the *wh*-criterion. In Adriana Belletti and Luigi Rizzi (eds.), *Parameters and Functional Heads*, Oxford University Press, Oxford, 63-90.

Rizzi, Luigi. 1997. The fine structure of the left periphery. In Liliane Haegeman (ed.), *Elements of Grammar: Handbook of Generative Syntax*, 281-337. Dordrecht: Kluwer.

Rizzi, Luigi. 2000. Remarks on early null subjects. In Marc-Ariel Friedemann and Luigi Rizzi (eds.), *The Acquisition of Syntax: Studies in Comparative Developmental Linguistics*, 269-292, Harlow: Longman.

Rohrbacher, Bernhard Wolfgang. 1999. *Morphology-Driven Syntax: A Theory of V to I Raising and Pro-drop.* Amsterdam: John Benjamins.

Rowland, Caroline F. and Julian M. Pine. 2000. Subject-auxiliary inversion errors and *wh*-question acquisition: 'What children do know?' *Journal of Child Language* 27, 157-181.

Rowland, Caroline F. and Julian M. Pine. 2003. The development of inversion in *wh*-questions: a reply to Van Valin. *Journal of Child Language* 30, 197-212.

Santelmann, Lynn. 1995. *The Acquisition of Verb Second Grammar in Child Swedish: Continuity of Universal Grammar in WH-questions, Topicalizations and Verb Raising.* Doctoral dissertation, Cornell University.

Snyder, William. 2007. *Child Language: The Parametric Approach.* Oxford/New York: Oxford University Press.

Stromswold, Karin. 1990. *Learnability and the Acquisition of Auxiliaries.* Doctoral dissertation, MIT, Cambridge, MA.

Theakston, Anna L., Elena V. M. Lieven, Julian M. Pine, and Caroline F. Rowland. 2001. The role of performance limitations in the acquisition of verb-argument structure: An alternative account. *Journal of Child Language* 28, 127-152.

Thornton, Rosalind. 2008. Why continuity? *Natural Language and Linguistic Theory* 26, 107-146.

Vangsnes, Øystein A. 2005. Microparameters for Norwegian *wh*-grammars. *Linguistic Variation Yearbook* 5, 187-226. Amsterdam and Philadelphia: John Benjamins.

Van Valin, Robert D. 2002. The development of subject-auxiliary inversion in English *wh*-questions: an alternative analysis. *Journal of Child Language* 29, 161-175.

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

Verrips, Maaike and Jürgen Weissenborn. 1992. Routes to verb placement in early German and French: the independence of finiteness and agreement. In Jürgen Meisel (ed.), *The Acquisition of Verb Placement: Functional Categories and V2 Phenomena in Language Acquisition*, 283-331. Dordrecht: Kluwer Academic Publishers.

Waldmann, Christian. 2008. *Input och output: Ordföljd i svenska barns huvudsatser och bisatser*. [Input and output: Word order in Swedish children's main and embedded clauses]. Doctoral dissertation, Lundastudier A 65, University of Lund.

Westergaard, Marit 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, Marit. 2008. Acquisition and Change: On the Robustness of the Triggering Experience for Word Order Cues. *Lingua* 118.12, 1841-1863.

Westergaard, Marit. 2009a. *The Acquisition of Word Order: Micro-cues, Information Structure and Economy.* [Linguistics Today 145], Amsterdam: John Benjamins.

Westergaard, Marit. 2009b. Microvariation as diachrony: A view from acquisition. *Journal of Comparative Germanic Linguistics* 12.1, 49-79.

Westergaard, Marit. 2009c. Usage-based vs. rule-based learning: The acquisition of word order in *wh*-questions in English and Norwegian. *Journal of Child Language*, 36.5, 1023-1051.

Westergaard, Marit and Kristine Bentzen. 2010. Word order and finiteness in the acquisition of English and Norwegian *wh*-questions. In Katie Franich, Kate M. Iserman, and Lauren L. Keil (eds.), *Proceedings of the 34th annual Boston University Conference on Language Development*, Vol 2, 457-467. Somerville, MA: Cascadilla Press.

Wexler, Kenneth. 1994. Optional infinitives, head movement and the economy of derivation. In David Lightfoot and Norbert Hornstein (eds), *Verb Movement,* 305-350. Cambridge: Cambridge University Press.

Wexler, Kenneth. 1999. Very early parameter setting and the unique checking constraint: a new explanation of the optional infinitive stage. In Antonella Sorace, Caroline Heycock and Richard Shillock (eds.), *Language Acquisition: Knowledge Representation and Processing,* special issue of *Lingua,* 23-79. Amsterdam: Elsevier.

Wijnen, Frank, Masja Kempen and Steven Gillis. 2001. Root infinitives in Dutch early child language: an effect of input? *Journal of Child Language* 28.3, 629-660.

Wiklund, Anna-Lena, Gunnar Hrafn Hrafnbjargarson, Kristine Bentzen and Þorbjörg Hróarsdóttir. 2007. Rethinking Scandinavian verb movement. *Journal of Comparative Germanic Linguistics* 10.3, 203-233.