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Transfer of Verb-Second in L2 Acquisition

A Qualitative Corpus Study of L1 Norwegian
Learners of L2 English

Master's thesis in English

Supervisor: Anne Dahl

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Abstract

This study investigates the transfer of verb-second (V2) word order in native speakers of Norwegian learning English as a second language. Data were collected from three learner corpora containing texts written by learners at different stages of L2 acquisition, ranging from 7th grade pupils to students enrolled in higher education, all having received English instruction from an early age. The focus of the study is on determining what evidence there is of the learners transferring V2 word order into their second language and how this kind of transfer varies across different linguistic contexts. In order to investigate this, errors that potentially indicate transfer of V2 from the L1 were extracted from the learner corpora analyzed qualitatively. Results show that there is clear evidence of transfer of V2 in the learners' second language productions, and that transfer effects remain even in late stages of acquisition. Furthermore, the raising of auxiliary verbs to second position of the clause is shown to transfer more persistently than the raising of lexical verbs out of VP. This is analyzed in part as a result of ambiguities in the input and differences in the frequencies of the relevant cues for acquisition. However, it is also consistent with predictions of the Interface Hypothesis, which holds that properties at the interfaces between narrow syntax and other cognitive domains are more difficult to acquire than properties of narrow syntax alone. In addition, the study investigates whether (non-)V2 is acquired on a clause-by-clause basis or whether it is acquired as a general property affecting all clause types. Evidence relating to this question in the corpora is found to be limited, but there is some indication that the learners transfer fine-grained distinctions from their L1 with regard to V2, rather than simply transferring a major parameter setting.

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1 Introduction

A large body of research within the field of second language acquisition (SLA) has been dedicated to ascertaining how a learner’s knowledge of their first language (L1) impacts their development of a second language (L2). Generative approaches to SLA are often concerned with investigating the interplay between innate knowledge that pertains to all human languages, knowledge that comes from the L1, and knowledge that comes from exposure to the target language (Rothman & Slabakova, 2018, p. 419). Hence, L1 transfer, i.e. cross-linguistic influence from the mother tongue, is often considered a significant source of knowledge in the process of acquiring a second language.

A key question in this context is how much and what aspects of the L1 can transfer into the L2. One influential hypothesis, the Full Transfer/Full Access hypothesis of Schwartz and Sprouse (1994, 1996), states that the entirety of the L1 grammar carries over as the initial state of the L2. In this model, the starting point of L2 acquisition is therefore radically different from L1 acquisition, with the learner initially assuming that the grammar of the L2 is identical to the L1 grammar. Other approaches posit that only part of the grammar is carried over to the L2, such as Vainikka and Young-Scholten’s (1996) Minimal Trees hypothesis, or that there is no transfer at all from the L1, and that L2 acquisition therefore has the same starting point as L1 acquisition, as in Platzack’s (1996) Initial Hypothesis of Syntax.

The present study investigates syntactic transfer in learners of L2 English with Norwegian as their L1. Specifically, I examine whether and how the verb-second word order that is found in Norwegian, but generally not in English, is transferred into the L2. Verb-second, or V2, is a property that is found in a number of languages that all share the commonality that the finite verb always moves to the second position of the clause. Since Norwegian is a V2 language and English is not, this leads to certain differences in word order between the two languages that Norwegian learners of English will have to pay attention to, as demonstrated by the examples in (1) and (2) below:

- (1) a. I går **gikk** Adam til parken (Norwegian)
 Yesterday walked Adam to park.DEF
- b. ‘Yesterday Adam **walked** to the park.’ (English)

- (2) a. Adam **går** ofte til parken (Norwegian)
 Adam walks often to park.DEF
 b. ‘Adam often **walks** to the park.’ (English)

As shown by these examples, the finite verb obligatorily moves to second position in Norwegian, while in English, the verb remains in a position lower in the clause in most clause types. If the V2 property does transfer from the L1, Norwegian learners of English will initially assume that the finite verb must raise to second position in English, as in Norwegian. Previous research by Westergaard (2002, 2003a) found strong evidence of transfer of V2 in the interlanguage of Norwegian elementary school pupils learning English as an L2. In the present thesis, I investigate data from several learner corpora of written L2 productions, and in this way I aim to contribute to this area of research with evidence from relatively natural language productions of a large number of learners. The learners investigated in this study are also older and have received more extensive English instruction than those investigated by Westergaard, and these data may therefore provide insight on patterns of transfer in more proficient L2 learners.

In this study, I also investigate whether the learners are sensitive to microvariation with regard to V2 word order, or whether they initially acquire non-V2 as a general property in all clause types in English. While V2 word order has traditionally been analyzed as a singular property with a uniform analysis in different clause types and contexts (e.g. Vikner, 1995), more recent theorizing around V2 has called this assumption into question. Westergaard (2008, 2009, 2014, 2019) proposes an alternative approach in her micro-cue model for the acquisition of V2, in which the V2 word order is acquired separately for each clause type. While single-parameter models of V2 predict large amounts of overgeneralization between clause types in the acquisition process, the micro-cue model does not predict any such overgeneralization, since the syntactic operations involved in V2 are assumed to be different for each clause type. Therefore, this study attempts to determine whether there is any evidence of overgeneralization between clause types of the non-V2 word order that is found in most – but not all – English sentences.

Lastly, the study investigates transfer of V2 in upper intermediate to advanced L2 learners of English with Norwegian as their L1 from the point of view of the Interface Hypothesis (Sorace, 2005; Sorace & Filiaci, 2006; Tsimpli & Sorace, 2006). The Interface Hypothesis states that while narrow syntactic properties can be completely acquired in a second language, properties at the interfaces between narrow syntax and another cognitive domain

may not be fully acquirable, and they are therefore vulnerable to transfer effects even at near-native stages of L2 acquisition (Sorace & Filiaci, 2006, p. 340). Rankin (2012) addresses the Interface Hypothesis in a study of V2 transfer in highly proficient learners of L2 English with Dutch and German L1 backgrounds, and he finds that these learners transfer V2 word order more persistently in interface contexts compared to contexts where verb movement is governed by narrow syntactic requirements. The present study investigates some of the same contexts as those examined by Rankin, but in learners with a different L1. Hence, the study aims to contribute to empirical evidence regarding the Interface Hypothesis and to examine the generalizability of Rankin's findings to learners with different L1 backgrounds.

In order to investigate these topics, I pose four research questions that I attempt to answer in this study:

1. Is there evidence of transfer of V2 word order from the learners' L1 Norwegian to their L2 English?
2. How does the transfer of word order vary across linguistic contexts?
3. Is there evidence of overgeneralization of word order between clause types in the L2?
4. Is there evidence of prolonged transfer effects in interface contexts compared to contexts involving only narrow syntax?

The study draws on data from three learner corpora containing written texts produced by learners of L2 English with Norwegian as their L1. The educational levels of the learners in the corpora range from 7th grade pupils to students in higher education, all having received extensive English instruction from early education. Sentences containing word order errors that may be indicative of transfer of V2 from the L1 or overgeneralization of non-V2 word order were extracted from each of the corpora, and the extracted material is analyzed using a primarily qualitative method.

The thesis is structured as follows. Chapter 2 presents the theoretical background for the study, and chapter 3 presents the learner corpora and research methods that were used. In chapter 4, the results of the investigation are presented, before I discuss the results in relation to the research questions in chapter 5. Finally, the conclusions of the study are presented in chapter 6, together with some suggestions for further research.

2 Theoretical background

In this chapter, I discuss the theories on language acquisition, transfer and V2 that contextualize the objectives of the present study. In the first section, I briefly describe the V2 property and give an overview of where V2 word order is found in Norwegian and English. Then, section 2.2 gives a short presentation of generative approaches to language acquisition, before I discuss some different theories on the acquisition of V2 within the generative framework. Section 2.3 moves on to second language acquisition and theories of transfer, and the Interface Hypothesis is discussed in section 2.3.1. Finally, in section 2.4, I summarize the main points of the different theories discussed in this chapter and outline some predictions for the present study that can be derived from these theories.

2.1 Verb-second word order

Verb-second (V2) is a syntactic property shared by certain languages. In particular, it is characteristic of the Germanic languages, with Modern English being the only one not typically considered a V2 grammar. A language is said to have V2 word order if the finite verb obligatorily appears in the second position of the clause, either in all finite clauses or in main clauses only (Holmberg, 2015, p. 342). This means that the finite verb in these cases is always preceded by a single constituent. In all V2 languages, a wide variety of categories are able to be fronted (Holmberg, 2015, p. 347), which is demonstrated for Norwegian by the sentences below (the finite verb is bolded in these examples, and the preceding constituent is marked in square brackets):

- (3) a. [Hun] **skal** sannsynligvis bygge drivhuset ved buskene.
she will probably build greenhouse.DEF by bushes.DEF
- b. [Sannsynligvis] **skal** hun bygge drivhuset ved buskene.
probably will she build greenhouse.DEF by bushes.DEF
- c. [Drivhuset] **skal** hun sannsynligvis bygge ved buskene.
greenhouse.DEF will she probably build by bushes.DEF
- d. [Ved buskene] **skal** hun sannsynligvis bygge drivhuset
by bushes.DEF will she probably build greenhouse.DEF

‘She will probably build the greenhouse by the bushes.’

The traditional generative analysis of V2 word order can be traced back to den Besten (1983). In this paper, den Besten discusses the fact that in Dutch and German, complementizers

and verb fronting are in complementary distribution, and he proposes that this is because the complementizer and the finite verb compete for the same position, namely C (1983, p. 54). This means that the verb moves to C if there is no overt complementizer present, by means of head-movement from V to C. Together with what den Besten (1983, p. 55) calls a Constituent Preposing rule, which under his analysis includes both fronting of the subject and topicalization, this can account for the V2 word order of main clauses in languages such as Dutch, German and Norwegian. In accordance with den Besten's analysis, most standard approaches to V2 have assumed that the V2 word order arises from head-movement from V to C via T, as well as movement of a single constituent to the specifier position of CP (See Vikner, 1995 for an overview of approaches to V2 in a standard principles and parameters framework).

In the sections that follow, I give a brief overview of the distribution of V2 word order in Norwegian and English. It is not intended to be an exhaustive description, but it should give an idea of the main differences and similarities between the two languages that may be expected to have a notable impact on the acquisition process.

2.1.1 Norwegian

A distinction is typically made between *symmetrical* and *asymmetrical* V2 languages, where the former refers to languages that have V2 word order in all finite clauses, main and embedded, and the latter refers to languages that are V2 in main clauses only (Holmberg, 2015, p. 356). Like the other mainland Scandinavian languages, Norwegian is an asymmetrical V2 language, meaning that it in general has V2 word order in main clauses, but not in embedded clauses. Declarative main clauses always have V2 word order (with a few exceptions, see e.g. Bentzen, 2014), with the position preceding the finite verb being filled by either the subject or a topicalized constituent, as demonstrated by the sentences in (4):

- (4) a. [Nora] **liker** ikke grønn te.
Nora likes not green tea
 'Nora does not like green tea.'
- b. [Fem minutter senere] **kom** han tilbake med en ordbok.
five minutes later came he back with a dictionary
 'Five minutes later, he came back with a dictionary.'
- c. [Denne boka] **skal** jeg lese i kveld.
this book will I read tonight
 'I will read this book tonight.'

In Norwegian subject-initial declaratives such as (4a), it is possible to tell that the verb has raised if there is negation or a sentence-medial adverb present, as these appear to the right of the subject but to the left of VP (Vikner, 1995, p. 46). Thus, if the verb appears to the left of the negation or adverb, it must have moved out of VP to a higher position. In non-subject initial declaratives such as (4b) and (4c), a constituent other than the subject has been moved to the initial position of the clause, and V2 word order is maintained by moving the finite verb past the subject. Whether or not subject-initial and non-subject-initial sentences are given the same structural analysis varies; some analyze the former as involving movement to the CP domain, just as with topicalized constituents, while others argue that the subject and finite verb only move as high as there is evidence for in the input, i.e. to TP (see for instance Westergaard et al., 2019 for discussion of this issue).

Main clause *wh*-questions are also obligatorily V2 in standard (written) Norwegian, as shown by the sentences below:

- (5) a. [Når] **var** du i Italia?
when were you in Italy
 ‘When were you in Italy?’
- b. [Hvor mange smørbrød] **lagde** de?
how many sandwiches made they
 ‘How many sandwiches did they make?’
- c. [Hvem] **har** ikke fått en gaffel?
who has not gotten a fork
 ‘Who has not gotten a fork?’

However, a significant proportion of Norwegian dialects display optional non-V2 word order in *wh*-questions. According to Lie (1992, p. 67), non-V2 in questions is found in a relatively wide distribution of dialects, though it is most prominent in northern and northwestern parts of the country. The examples in (6) and (7) are transcriptions of dialect recordings from the Nordic Dialect Corpus (Johannessen et al., 2009, glossing and translation mine).

- (6) a. korr hann kjæmm ifrå? korr hann bor? (medby_75)
where he comes from where he lives
 ‘Where is he from? Where does he live?’
- b. ka du ha jorrt på skola i dag? (ballangen_02uk)
what you have done at school.DEF today
 ‘What have you done at school today?’

- c. kemm samm har slidd deg? (lavangen_01um)
who that has hit you?
 ‘Who hit you?’

In many of the dialects that allow this word order, non-V2 in *wh*-questions only occurs with monosyllabic *wh*-elements, though some dialects also allow non-V2 in sentences introduced by more complex/longer *wh*-elements (Westergaard et al., 2017, p. 10). Furthermore, Westergaard (2003b, 2009) and Westergaard & Vangsnes (2005) show that where the syntax allows both V2 and non-V2, the choice of word order is dependent on the information status of the subject. Non-V2 is preferred when the subject conveys information that is given by context or otherwise readily available – often in the form of a pronoun as in (6a) and (6b) – while the subject in a V2 construction tends to convey contextually new information (Westergaard & Vangsnes, 2005, p. 119). Therefore, V2 word order typically occurs when the subject is a full DP and the verb is semantically light, often a form of the verb *vere* ‘be’ (Westergaard & Vangsnes, 2005, p. 125), as in the examples in (7):

- (7) a. ka e ditt favorittprogramm? (ballangen_02uk)
what is your favorite program/show
 ‘What is your favorite program?’
- b. kor e ho Leidi henne? (ballangen_02uk)
where is Lady (hen)
 ‘Where is Lady?’

Yes/no-questions in Norwegian are at least superficially V1, as there is no (overt) constituent present in the position preceding the finite verb. This is also the case in Norwegian imperatives. These clause types are sometimes analyzed as being “covertly V2” by positing the presence of a non-overt question/imperative operator in initial position, thus accounting for the exceptional nature of these clause types in languages that otherwise have a general V2 rule (Holmberg, 2015, p. 353). Whether or not this is the case, these clause types are by most accounts assumed to involve movement of the finite verb to the left periphery (e.g. Vikner, 1995; Westergaard, 2008; Holmberg, 2015), and for the purposes of this study, they will be treated as effectively V2 structures.

2.1.2 English

English is typically characterized as a non-V2 language, as the distribution of V2 word order is much more restricted than in Norwegian and other typical V2 languages. One major difference regarding verb movement in Norwegian and English is that lexical verbs in English generally cannot move at all, instead remaining in situ in VP, to the right of negation and sentence-medial adverbs (Rankin, 2012, p. 142). Only auxiliary verbs (here including modals and copula *be*) can move to a higher position.

English is often considered to have “residual V2”, a term stemming from Rizzi (1990), who defines the term as “construction-specific V-2 structures which arise in non-V-2 languages” (p. 375). The most common occurrence of V2 in English is found in questions. Both *wh*-questions and *yes/no*-questions in English have a syntactic requirement for subject-auxiliary inversion (Vikner, 1995, p. 49), i.e. head movement from T to a head in the CP-domain, leading to V2 word order (examples from Vikner, 1995, pp. 48-49, emphasis mine):

- (8) a. What **have** the children seen?
 b. Why **have** the children seen the film?
 c. **Have** you ever seen such a bad film?

Since only auxiliary verbs can appear in T in English, only these can undergo this type of inversion. Furthermore, since subject-auxiliary inversion is a syntactic requirement in these clause types, it leads to obligatory *do*-support when no other auxiliary is present (Westergaard, 2007a, p. 110).

English differs from Norwegian in that it does not have a general V2 rule in main clause declaratives. However, in most subject-initial declaratives, the surface word order is identical in the two languages, as such sentences are ambiguous as to whether they have V2 or regular SVO word order (Westergaard, 2003a, p. 91). The differences only arise in declaratives with negation or sentence-medial adverbs, as well as in non-subject-initial declaratives, as demonstrated by the sentence pairs in (9):

- (9) a. Norwegian: Adam **spiser** epler.
 Adam eats apples
 English: Adam **eats** apples.
- b. Norwegian: Adam **spiser** ofte epler.
 Adam eats often apples
 English: Adam often **eats** apples.

- c. Norwegian: Adam **spiser** ikke epler.
Adam eats not apples
 English: Adam **does** not eat apples.
- d. Norwegian: Ofte **spiser** Adam epler.
Often eats Adam apple.
 English: Often Adam **eats** apples.

As can be seen, the word order in the Norwegian and English subject-initial declaratives in (9a) is identical, while in (9b) and (9d), the finite verb is preceded by two different constituents in English, showing that English declaratives do not have V2 word order, but rather regular SVO word order. Furthermore, in the English sentence in (9c), the negation makes do-support necessary, which shows that the main verb cannot move, unlike in Norwegian.

While English declaratives are thus generally not V2, certain declaratives in English do require or allow V2 word order. For instance, when a negative element appears in the initial position of the clause, subject-auxiliary inversion takes place (examples from Vikner, 1995, p. 48):

- (10) a. Never **have** the children seen such a bad film.
 b. Only in Switzerland **could** such a thing happen.

Another type of inversion can optionally occur in sentences with a quoted speech complement to a verb of speaking – so-called quotative inversion (Collins & Branigan, 1997, p. 1). In this case, the positions of the subject and a lexical verb are inverted, rather than an auxiliary (examples from Roeper, 1999, p. 175):

- (11) a. “Nothing” said John
 b. “Go” shrieked the witch

This type of inversion is very rare in spoken English, but it may occur frequently in certain types of writing, such as children’s stories (Roeper, 1999, p. 175), and it may therefore be relatively frequent in input to children learning the language. There are also other contexts in which inversion may occur in English declaratives that are not discussed here, but these examples demonstrate that there are several exceptions to the general rules of (non-)V2.

To summarize, while Norwegian displays V2 word order in most main clauses, V2 in English is only found in a more limited set of clause types and contexts. *Wh*-questions and *yes/no*-questions are the same in both languages in terms of V2, but whereas any verb can raise in Norwegian, only auxiliaries may participate in the V2 structure in English. In the process of

acquiring English as an L2, Norwegian learners must therefore also acquire the different behaviors of lexical and auxiliary verbs. Main clause declaratives are generally V2 in Norwegian but not in English, though the surface structure of most subject-initial declaratives is the same in both languages, which may serve as a hindrance for Norwegian learners of L2 English. Furthermore, despite the general non-V2 word order of English declaratives, there are certain declaratives that require or allow V2, making input regarding V2 still less consistent.

2.2 Generative language acquisition

Central within generative approaches to language acquisition is the theory of Universal Grammar (UG), which posits that all humans are born with certain innate knowledge of language. Some such innate knowledge is often argued to be necessary to explain how children are able to fully acquire a language based on limited and otherwise imperfect linguistic data. Hornstein & Lightfoot (1981) refer to this as “the logical problem of language acquisition”. They identify several deficiencies in the input that children typically receive, but the one that is most central to their argument is the fact that there are structures for which there is *no* evidence in the data one can reasonably believe that the child has access to, but that children are nevertheless able to fully acquire (Hornstein & Lightfoot, 1981, p. 9). This fact in particular, they argue, makes any purely inductive theory of language acquisition untenable and points toward the necessity of a priori knowledge which makes language acquisition possible in spite of such deficiencies in the environmental stimulus (Hornstein & Lightfoot, 1981, p. 11). Similar arguments relating to the logical problem of acquisition or “the poverty of the stimulus” (Chomsky, 1980, p. 34) have been made in different forms with similar conclusions in favor of UG.

There are different theories regarding what exactly UG consists of and consequently how UG relates to language acquisition. One theoretical framework which has had great influence on approaches to language acquisition and linguistics more generally is the Principles and Parameters framework (P&P), in large part formulated by Noam Chomsky (1993). According to Chomsky (1993, p. 3), a theory of UG must meet two conditions: On the one hand, UG must be sufficiently restrictive in the options it permits, in order to account for how children are able to acquire a language based on limited evidence. On the other hand, it must also allow for enough variation to account for the diversity found in the wealth of existing and possible grammars.

Within the P&P framework, UG provides the language user with a number of fundamental principles that constrain the form of grammars that may be acquired (Chomsky,

1993, p. 4). However, some of these principles have open parameters which have to be set over the course of acquisition through exposure to linguistic input. Thus, in the P&P framework, language acquisition is a process of parameter setting, where the learner is equipped from the start with some innate knowledge of language, but the primary linguistic data (PLD) – the experiences with language that the child is exposed to – determines which values parameters are set to. For instance, the V2 property is often considered to be subject to parametric variation between languages, meaning that in any given language, there is a parameter set to either a positive or a negative value, which determines whether or not the grammar in question has the V2 property (e.g. Holmberg & Platzack, 1995, p. 44). A child who is exposed to Norwegian input will thus set this parameter to the positive value and produce V2 word order, while a child learning English will set it to the negative value.

A further development of this theory of parameters is proposed by Lightfoot (1999, 2006), who develops a cue-based model of L1 acquisition, according to which the child constructs an internal grammar based on designated structures or “cues” in their linguistic environment (Lightfoot, 1999, p. 149). A cue is a piece of structure which is derived from the input (Lightfoot, 2006, p. 78); for instance, the cue for V2 syntax is expressed as $CP[XP_{cV} \dots]$, which represents a piece of structure “where a phrasal category occurs in the Specifier of a CP whose head is occupied by a verb” (Lightfoot, 2006, p. 86). The child can derive this piece of structure by parsing certain utterances in the PLD – specifically, according to Lightfoot (2006, p. 78), a sentence *expresses* a cue if the cue is unambiguously required for the analysis of the sentence. Thus, for instance, a Norwegian subject-initial declarative sentence such as (12a) does not express the V2 cue, since it is ambiguous whether the subject and verb are located in CP or TP. In an SVO language, the word order in such sentences would be identical whether the language is V2 or not. On the other hand, in a non-subject-initial declarative like (12b), the verb and topicalized XP precede the subject, meaning that they must be located in CP and thus that the cue for V2 is unambiguously required to analyze the sentence (Westergaard, 2003a, p. 91).

- (12) a. Jeg kjørte hjem etter møtet.
I drove home after meeting.DEF
 ‘I drove home after the meeting.’
- b. Etter møtet kjørte jeg hjem.
after meeting.DEF drove I home
 ‘After the meeting, I drove home.’

Lightfoot argues that these cues are provided by UG, and parametric variation between languages is accounted for by the fact that different languages express different cues – hence, in the cue-based approach, the cues themselves constitute the points of variation between grammars (Lightfoot, 1999, p. 78).

2.2.1 Acquisition of V2

The standard generative approach to V2 as resulting from V-to-T-to-C movement provides a uniform analysis of the phenomenon, reducing the derivation of most or all cases of V2 to the same movement operations and the same derived structure. In accordance with this, most generative work on V2 has considered the word order to be the result of a single parameter, which can be set to either +V2 or -V2 (Westergaard, 2007a, p. 108). Also in Lightfoot's (2006, p. 86) cue-based approach, a single cue for V2 is formulated, meaning that exposure to that one cue should be sufficient for acquisition of the entire V2 property.

Such a uniform account of V2 is, however, called into question when taking into consideration the amount of variation within and across languages concerning the V2 property. Different V2 grammars often display V2 in different clause types. For instance, Norwegian generally requires non-V2 word order in embedded clauses and exclamatives, but, as discussed by Westergaard (2007a, 2007b, 2009), these clause types are subject to variation across various V2 languages with regard to whether or not they require or allow V2. The languages that are typically called symmetric V2 languages, such as Icelandic and Yiddish, display V2 in embedded clauses as well as main clauses (Holmberg, 2015, p. 356). Modern Spoken Afrikaans also displays V2 in embedded questions, and Danish has V2 word order in (certain) exclamatives (Westergaard, 2009, p. 19). Other examples come from certain varieties of English, including Belfast English, which displays V2 in embedded *yes/no*-questions, and Indian Vernacular English, which has V2 in embedded *wh*-questions (Westergaard, 2009, p. 19). Westergaard (2007a, p. 114) argues that examples such as these show that the word order in these clause types cannot come “for free” by setting a single V2 parameter but must instead be learned from the input.

In addition to the variation across clause types, there are also examples of variation within certain clause types in individual V2 languages that raise some learnability questions. In Norwegian, for instance, there are a number of exceptions to the general patterns of V2 clause structure, allowing for some optionality in word order in different contexts and clause types. Though Norwegian is in general V2 in main clauses, main clauses with the adverbial

kanskje “maybe” in clause-initial position display optional V2 (Bentzen, 2014a), allowing for non-V2 word order as in (13b) (examples from Bentzen, 2014a, p. 225):

- (13) a. Kanskje **har** de sett det før.
 maybe have they seen it before
- b. Kanskje de **har** sett det før
 maybe they have seen it before
- ‘Maybe they have seen it before.’

Likewise, while Norwegian typically does not have V2 in embedded clauses, V2 word order is also optionally allowed in certain embedded contexts (Bentzen, 2014b). One example is asserted complements embedded under predicates like *si* “say”, which allow both V2 and non-V2 word order, as demonstrated by the sentences in (14) (adapted from Bentzen, 2014b, pp. 211-212):

- (14) Hun sa...
 she said
- a. at han ikke **leste** avisene idag.
 that he not read paper.the today
- b. at han **leste** ikke avisene idag.
 that he read not paper.the today
- c. at idag **leste** han ikke avisene.
 that today read he not paper.the
- “‘She said that he didn’t read the paper today.’”

Another example of variation within clause types is the optional V2 in questions in many dialects of Norwegian that was discussed in section 2.1.1.

Within a single-parameter model of V2 word order, learners of Norwegian and other V2 languages are thus seemingly exposed to conflicting input evidence regarding the V2 parameter, with some clauses or contexts providing evidence for V2, and others for non-V2 (Westergaard, 2007a, p. 115). Lightfoot (1999, p. 93) argues for learnability reasons that there is a UG requirement that the finite verb obligatorily moves to C in V2 grammars, since negative evidence would be required in order to acquire V-to-C movement as an optional operation. In order to reconcile this requirement with the seemingly optional nature of V2 in Old English/Middle English, he argues that this apparent optionality was the result of competition between two coexisting grammars: a northern, Scandinavian-based V2 grammar, and a southern, indigenous grammar that lacked V2 (Lightfoot, 1999, p. 154). Hence, neither of the

two dialects had a system of optional V2, but the variation found in texts from that period is the result of speakers having access to both grammars and using them alongside each other.

Lightfoot's approach to this optionality has some parallels with Thomas Roeper's (1999) notion of "Theoretical Bilingualism", which posits that children who are exposed to conflicting input evidence will maintain multiple grammars as a narrow kind of bilingualism that exists within every language (p. 169). In this view, apparent optionality in features of grammar can be explained as learners establishing multiple grammars over the course of acquisition, which they use according to various linguistic and extralinguistic factors. For instance, discussing the lexically restricted nature of V2 in English, Roeper (1999, p. 175) hypothesizes that children establish vocabulary sets derived from principles of UG, and each of these lexical sets constitute different grammars with different rules. This can explain how V2 in English main verbs can be restricted to a few verbs like *be* and a few others, and how the frequency of these verbs in V2 structures does not trigger V2 as a general property in English (Roeper, 1999, p. 175).

In a similar vein, Yang's (2002) Variational Model of language acquisition sees acquisition as a Darwinian process of grammar competition. This model assumes that all possible grammars are defined by UG and accessible to the learner from the outset, and as the learner comes into contact with input from the target language, grammars that can successfully analyze the input data are given greater prominence, or weight, in the learner's language faculty (Yang, 2002, p. 26). Thus, in the process of acquisition, the learner will entertain multiple "competing" grammars, and learning stops when the weights of all the grammars are stabilized and no longer change, having converged on the probabilities exhibited in the target language (Yang, 2002, p. 27). The resulting competence, given a realistic, heterogenous linguistic environment, is then composed of multiple coexisting grammars that have reached a stable equilibrium (Yang, 2002, p. 33).

Hence, it is possible that some of the variation that characterizes the V2 property is the result of grammar competition in the speakers' linguistic competence, i.e., that they maintain and use both V2 and non-V2 grammars in parallel. This approach does have some limitations, however. Snyder (2007, p. 185) argues that while Yang's Variational Model is successful in areas of grammar where children typically commit errors of omission, the model also predicts "rampant errors of commission" (Snyder, 2007, p. 185) in other areas of grammar. Snyder (2007) shows that children in general are conservative learners, overwhelmingly producing errors where some required material is omitted, while errors of commission are strikingly rare. Westergaard (2014), focusing on the acquisition of V2 word order, likewise argues that theories

of grammar competition predict massive overgeneralization that is generally not found in acquisition data. One notable example is Westergaard's (2009) analysis of an acquisition corpus of three Norwegian children, which found that all three of the children investigated produced target-consistent V2 and non-V2 in appropriate contexts already in very early stages of acquisition, without any overgeneralization between contexts. Westergaard (2014, p. 34) argues that findings of this type indicate that children do not compute the overall percentages of V2 vs. non-V2 in the input and indiscriminately weigh the two grammars against each other, but that they are sensitive to the particular linguistic contexts that the different word orders appear in. According to Westergaard (2014, p. 41), such findings are thus difficult to explain in approaches that view V2 as the result of a single parameter, including theories of grammar competition.

An alternative approach is presented by Westergaard (2008, 2009, 2014, 2019), who develops a model of micro-cues for the acquisition of V2 word order inspired by Lightfoot's cue-based approach to L1 acquisition. This approach is based on a split-CP model of clause structure originally posited in Westergaard & Vangsnes (2005) and further developed in Westergaard's later publications. The split-CP model is inspired by Rizzi's (1997) expanded structure of the left periphery, which divides the CP domain into a number of functional projections, ultimately dominated by a ForceP expressing illocutionary force. Westergaard's split-CP model differs from Rizzi's in that the topmost head of the CP domain, ForceP, is replaced by a number of different heads depending on clause type (Westergaard, 2008, p. 1856). For instance, a *wh*-question is an Int(errogative)P, a declarative is a Top(ic)P, an exclamative is an ExclP, and an embedded question is a WhP. These heads can be seen as different types of ForceP with different features, each expressing a different "flavor" of illocutionary force tied to the particular clause type (Westergaard, 2008, p. 1856).

This set of functional heads is accompanied by a corresponding set of micro-cues for the acquisition of V2 word order. As in Lightfoot's (1999, 2006) approach, a cue is a piece of syntactic structure that is derived from the input; however, since each clause type has a different head in the topmost position of the CP domain, a different cue for V2 will be derived from each clause type in the input. Thus, in place of Lightfoot's single cue for V2 with a category in Spec,CP and a verb in the C head, Westergaard's split-CP model necessitates several cues expressing V2 – one for each type of ForceP. For instance, the cue for V2 in declarative main clauses would be a piece of structure with a phrasal category in the specifier of a TopP whose head is occupied by the finite verb, while the cue for V2 in main clause *wh*-questions would be

a *wh*-element in the specifier of IntP followed by the finite verb in the IntP's head. These cues are formalized as (15a) and (15b) respectively (Westergaard, 2008, p. 1856).

- (15) a. $\text{TopP}[\text{XP}_{\text{Top}}\text{V}]$
 b. $\text{IntP}[\text{wh}_{\text{Int}}\text{V}]$

According to Westergaard's model, there is thus no universal cue for V2 syntax, but rather several "micro-cues" that must be acquired separately for each clause type. A consequence of this is that when children search the PLD for syntactic cues, only input of a particular clause type will be considered (Westergaard, 2008, p. 1857) – for instance, only *wh*-questions will provide evidence as to whether the finite verb moves to the Int head. Therefore, the child will not consider the overall frequency of V2 in the input as in Lightfoot's approach, but instead consider the frequency of V2 in each clause type in isolation (Westergaard, 2008, p. 1857). This would explain how the various mixed systems of V2 outlined above can be acquirable, as different languages will express different micro-cues for V2 or non-V2.

Furthermore, since the clause types are considered on an individual basis, this model predicts no overgeneralization of V2 or non-V2 word order between clause types (Westergaard, 2008, p. 1858). For instance, no amount of V2 in *wh*-questions in the input will cause the child to produce V2 in declaratives if the micro-cue for V2 in declaratives is not also attested in the input. These micro-cues will also be much more robustly attested in the input compared to the overall percentage of V2 structures, often even being expressed in 100% of relevant contexts (Westergaard, 2008, p. 1857). This leads to less ambiguity in the input and can explain findings that show that children produce target-consistent V2 and non-V2 in appropriate contexts at very early stages of acquisition. Thus, while single-parameter approaches to V2 predict extensive overgeneralization before children learn the exceptions to a general V2 rule, Westergaard's model of micro-cues instead predicts that the correct word order is acquired for each clause type separately, and consequently that no overgeneralization takes place between clause types.

2.3 Second language acquisition

The acquisition of second languages presents a somewhat more complicated picture than L1 acquisition, though many of the underlying principles are likely to be similar. As when learning an L1, the L2 learner has to arrive at a system of grammar that can account for the input they are exposed to. Furthermore, L2 learners are also met with properties of grammar that are underdetermined in the input, but that they nevertheless are able to acquire (e.g. White, 2003;

Rothman & Iverson, 2008). Hence, there seems to be a “logical problem” in relation to L2 acquisition as well, which indicates that learners draw upon UG also in second language acquisition (White, 2003, p. 56).

One significant difference between L1 and L2 acquisition is that the initial state of acquisition is different. According to Chomsky (1993, p. 7), the initial state of L1 acquisition is UG; the child has as his or her point of departure the innate principles of UG, while the parameters that need to be fixed by experience are still open. In second-language acquisition, on the other hand, the learner approaches the acquisition process with preexisting knowledge of at least one other language – in terms of P&P, with the parameters of their mother tongue already set. The question is, how does this preexisting knowledge of the learner’s mother tongue affect the initial state of a second language (e.g. Schwartz & Eubank, 1996)?

One possibility is that the final state of the grammar of the learner’s L1 constitutes the initial state of the L2, i.e. that there is *full transfer* from the L1 to the L2. This is the principal claim of the Full Transfer/Full Access (FT/FA) hypothesis of Schwartz and Sprouse (1994, 1996). In the FT/FA model, all the principles and parameter values of the L1 immediately carry over as the initial state of the grammatical system of the L2 at first exposure to input from the target language (Schwartz & Sprouse, 1996, p. 41). Failure of this grammar to assign a representation to the input data then forces a restructuring of the system, drawing from options of UG, to which the learner has *full access* (Schwartz & Sprouse, 1996, p. 41).

According to the FT/FA hypothesis, L2 learners are thus expected to initially approach their L2 with the same grammatical system as their L1. Where this system corresponds with the target system, the grammar will be able to assign a representation to the input, and the learner’s productions will be target-consistent. In this case, transfer facilitates the course of L2 acquisition, and this kind of transfer is therefore often referred to as positive transfer (Odlin, 1989, p. 26). However, where the two grammars diverge, the learner will initially incorrectly assume an identical system as their L1, only adjusting their internal grammar when they are exposed to sufficient input with the correct structure (Schwartz & Sprouse, 1996, p. 41). Here, transfer becomes a source of errors, and this is therefore called negative transfer (Odlin, 1989, p. 26). Thus, if there is transfer from the L1 to the L2, one would expect to find errors of a kind where elements from the L1 grammar are incorrectly carried over to the target language.

At the other end of the spectrum are theories which assume that there is *no* syntactic transfer from the L1 to the L2. According to Platzack’s (1996) Initial Hypothesis of Syntax (IHS), the initial state of the syntax is identical in all language learning, both L1 and L2. Working within the framework of the Minimalist Program (Chomsky, 2015), Platzack argues

that all learners start out by assuming that all syntactic features are weak (1996, p. 376). Since movement in the minimalist framework is assumed to be triggered by strong features, this means that learners will initially assume that no movement operations take place, and that all elements will thus remain in their base positions (Platzack, 1996, p. 376). In this case, the initial state of L2 acquisition is not determined by the learner's mother tongue, but exclusively by UG, just as in L1 acquisition. If Platzack's hypothesis is accurate, V2, as a derived word order, should not transfer from the learner's L1 to their L2. Furthermore, Platzack, following Kayne (1994), assumes that SVO is the only underlying word order of UG and thereby the word order that learners initially assume when learning a new language (1996, p. 371). If these assumptions are correct, Norwegian learners of English should from the outset produce target-consistent non-V2 SVO word order.

Håkansson et al. (2002), investigating data from learners of L2 German with Swedish as their L1, seemingly found some evidence that could support hypotheses that predict no transfer of V2, as these learners were shown to not transfer V2 from their L1 to their L2, even though the structure is identical in both languages. However, the participants in the study also knew English as an L2, which means that the learners' prior knowledge of English could have affected their acquisition process in German. Bohnacker (2006) investigated L1 Swedish learners of German with and without English as an L2 and found that the learners who did not know English consistently transferred V2 into their L2 German, while the learners who knew English used V2 inconsistently and also produced non-target V3. Hence, Håkansson et al.'s results may not be indicative of non-transfer of V2 per se, but rather show transfer from the L2 to the L3.

The findings in Westergaard (2002, 2003a) also provide support for transfer of V2 to a second language. These studies show strong evidence that young Norwegian learners of English transfer Norwegian word order into their L2 English to a considerable extent. Through a variety of tests taken by pupils at a Norwegian elementary school, Westergaard shows that these learners often produce V2 word order in English, frequently moving the finite verb across the subject in topicalized structures and incorrectly moving lexical verbs to second position in *wh*-questions and sentences with adverbials. These data suggest that the learners do start out by assuming a similar grammar as their L1, and that they have to "unlearn" the V2 word order in the process of acquisition (Westergaard, 2003a, p. 77).

Westergaard (2002, 2003a) furthermore shows that Lightfoot's cue-based approach to L1 acquisition can also be applied to second language acquisition. In these papers, she argues that Norwegian learners acquiring English as an L2 will require two important cues in order to

adjust from the Norwegian V2 grammar to the English SVO grammar (Westergaard, 2003a, p. 91): In order to learn that English is not a V2 language, they will require a cue that shows that verbs do not move to C, and this cue is primarily expressed by topicalized sentences in the L2 input. In addition, they need to be exposed to a cue that shows that only auxiliary verbs can move in English questions, which is expressed by sentences with do-support (Westergaard, 2003a, p. 91). The first cue thus shows that (auxiliary) verbs do not move all the way to C in English main clause declaratives, while the second cue shows that English lexical verbs generally do not move out of VP at all. Westergaard (2002, p. 217) argues that these cues are necessary for the learners to reset the relevant parameters in the process of acquisition, and the frequencies of the cues in the input will impact the rate at which the correct word orders are acquired.

2.3.1 The Interface Hypothesis

Not all areas of grammatical knowledge are acquired at the same rate, and some areas are more susceptible to lasting transfer effects in the interlanguage representation (White, 2003, p. 93). Naturally, there are many factors that affect the rate and success of acquisition in a second language, but in recent years, explanations and predictions surrounding developmental delays, regressions and the inability to reach native-like attainment in specific areas of grammatical knowledge have been linked to the architecture of the language faculty (Montrul, 2012, p. 591). In particular, such theories have focused on the interfaces between the different modules of the language faculty (Montrul, 2012, p. 592).

One influential hypothesis that has spurred a significant amount of research in this area is the Interface Hypothesis, advanced by Antonella Sorace and her collaborators (Sorace, 2005; Sorace & Filiaci, 2006; Tsimpli & Sorace, 2006). According to the Interface Hypothesis, properties of narrow syntax can be fully acquired in a second language, but interface properties involving syntax and another cognitive domain may not be fully acquirable (Sorace & Filiaci, 2006, p. 340). Sorace (2006, p. 116) argues that syntactic features that belong to the interfaces between syntax and other domains may exhibit gradience and residual optionality which diverge from the target grammar, even at the most advanced competence stage of L2 acquisition, due to influence from the learner's native language.

Sorace and colleagues have especially focused on the interface between syntax and discourse-pragmatics, arguing that this interface is particularly vulnerable to transfer effects at highly advanced levels of L2 acquisition (Sorace, 2006, p. 111). An example of this is found in the L2 acquisition of null-subject grammars such as Italian. Italian allows the omission of

subjects in main clauses, and the distribution of null and overt subjects is regulated by discourse-pragmatic factors (Sorace, 2005, p. 59). This means that an L2 learner of Italian will not only have to acquire the syntactic parameter that licenses null subjects, but also the discourse-pragmatic rules that determine whether a null or overt subject is used. According to Sorace (2005, p. 59), L1 English near-native speakers of Italian may exhibit residual optionality due to L1 influence in such cases, optionally producing overt subjects where a monolingual Italian speaker would have a clear preference for null subjects due to discourse-pragmatic conditions. As an example, she gives the sentences in (16), where (16b-c) are answers to the question in (16a) (Sorace, 2005, p. 59):

- (16) a. *Perchè Maria non ha parlato con nessuno?*
 Why Maria not has talked to anyone?
- b. *Perchè lei è troppo timida*
 Because she is too shy
- c. *Perchè Ø è troppo timida*
 Because Ø is too shy

Due to the topic continuity between the question and the answer in this example, Italian requires a null subject pronoun in the answering sentence, and (16b) is therefore anomalous. However, an English near-native speaker of Italian may optionally produce a sentence with an overt subject such as (16b) in response to the question in (16a), indicating residual influence from their native English (Sorace, 2005, p. 59). This kind of persistent optional realization of an overt subject suggests that even though the learners have successfully acquired the narrow syntactic property that licenses null subjects, they have not completely acquired the discourse-pragmatic factors that constrain the distribution of null and overt subjects (Sorace, 2005, p. 61).

Some research on the Interface Hypothesis has also focused on verb-second word order and the transfer of this property in L2 acquisition. Notably, Rankin (2009, 2012) investigates the transfer of V2 syntax from L1 German and Dutch into L2 English, with a focus on the interface between narrow syntax and discourse-pragmatics. Rankin (2012) compares data from learner corpora of Dutch, German and French learners of L2 English at an advanced level, looking at evidence of V2 transfer in narrow syntactic and interface contexts. His study builds on earlier research on V2 transfer that has reported persistent transfer effects in topicalization contexts (Hulk, 1991; Bohnacker & Rosén 2007a, 2007b), as well as a study by Robertson and Sorace (1999) that finds V2 transfer only with non-thematic verbs, such as auxiliaries and

copular *be* (Rankin, 2012, pp. 143-144). Therefore, Rankin's hypothesis, following the Interface Hypothesis, is that the German and Dutch learners should have acquired target-accurate lack of thematic verb movement, since this type of movement is motivated by narrow syntactic requirements, but that there may be continued non-target inversion in topicalization contexts, which are affected by discourse-pragmatic factors (Rankin, 2012, p. 145).

Rankin's findings in the study seemingly confirm his hypothesis. The German and Dutch learners appear to have mastered the lack of movement of thematic verbs in English, as their productions of thematic verbs is largely target-accurate in questions, declaratives, and negation contexts (Rankin, 2012, pp. 147-150). Where the participants produce non-target word order, it instead occurs through T-to-C movement of auxiliaries and copula *be*, which, contrary to the raising of thematic verbs, is a permissible syntactic operation in English, for which there is evidence in the input in English questions and some declaratives (Rankin, 2012, p. 149). The mistake the learners make is applying this rule in contexts where it is not allowed in English, such as the sentences in (17) from Rankin (2012, p. 151):

(17) This excellent example of this principle, can we find whenever two countries or nations went to war. (ICLE-DU)

And secondly, can the government effectively use television to control and influence the public opinion. (ICLE-DU)

Based on this evidence, Rankin (2012, p. 154) proposes that it is not syntactic configurations that are affected by L1 interference, but that the learners transfer discourse-pragmatic patterns from their L1 to their L2. This, he argues, is especially demonstrated by the inversion data involving the verb *be*, which show that the Dutch and German learners produce inversion in conjunction with fronted "bare" (non-comparative) adjectival complements, which cannot felicitously undergo fronting in English (Rankin, 2012, p. 153):

(18) Important for today is the positive acknowledgement of the each opposite sex's qualities. Essential is just who decides what we can watch and why. (ICLE-GE)

Ironic is Jim's remark about this. Striking is the absence of self-esteem in the black community in the story. (ICLE-DU)

Hence, the learners make use of syntactic operations that are licensed by the target grammar, such as raising of *be*; what seems to have transferred is instead the learners' L1 preferences for topicalization patterns. This is consistent with the Interface Hypothesis claim that features at the interface between syntax and discourse-pragmatics remain unstable even at high levels of L2 acquisition (Rankin, 2012, p. 155).

2.4 Summary and predictions

This study aims to contribute to research on the transfer of V2 word order with data from three Norwegian-English learner corpora, which will be discussed in relation to the different theories presented in the previous sections. In this section, I give a summary of the central ideas of the theories that have been discussed and present some predictions for the present study that can be derived from these theories and earlier research on V2 transfer.

Native speakers of Norwegian learning English as an L2 are going from a grammar where V2 word order is found in most main clauses to a grammar where the distribution of V2 is more restricted. Theories of full transfer, such as Schwartz & Sproules's (1994, 1996) FT/FA model, predict that the representations of learners' L1 will carry over as the initial state of the L2, leading to transfer effects in the learners' interlanguage. Earlier research on the transfer of V2, such as Robertson and Sorace (1999), Westergaard (2002, 2003a) and Rankin (2012), has found that native speakers of V2 languages do transfer the V2 word order into their L2 English at both early and late stages of acquisition. It is therefore predicted that evidence of negative transfer should also be found in the learner corpora under investigation in this study.

There are at least two major cross-linguistic differences between Norwegian and English that may be expected to be a source of errors for the learners with regard to word order. The first is that Norwegian has a general V2 rule in main clause declaratives, while English main clause declaratives usually have a basic SVO word order. This gives rise to differences in the surface structure of non-subject-initial declaratives, as in Norwegian, the finite verb will move to second position of the clause when a constituent is topicalized, while in English, the verb will remain below the subject. The second major difference is that Norwegian lexical verbs can move as freely as auxiliary verbs, while in English, lexical verbs generally cannot move at all. Hence, if the learners do transfer word order, it is predicted that they should continue to move the finite verb to second position in non-subject-initial declaratives, as well as allow movement of lexical verbs out of VP. These types of errors should become less frequent as the learners become more proficient in the L2, as they adjust their interlanguage grammar in response to input with the correct structure.

Westergaard's (2002, 2003a) cue-based approach to L2 acquisition also assumes full or partial transfer, positing that learners initially transfer the word order of their L1 to the L2, only adjusting it to the target word order when they are exposed to sufficient cues in the input. Therefore, the rate and order of acquisition should be dependent on the frequency of the relevant cues in the L2 input, and negative transfer is predicted to be more persistent in structures for which input cues are rare or ambiguous (Westergaard, 2003a, p. 92). According

to Westergaard (2003a, p. 78), there are two cues of central importance to Norwegians learning English as a second language: a cue for non-V2 (i.e. lack of movement to C), and a cue that shows that main verbs generally cannot move. The former cue is expressed by topicalized structures and the latter by sentences with *do*-support, and the presence of these structures in the L2 input is thus necessary in order to restructure the transferred L1 grammar into the target English grammar.

Westergaard's later works (e.g. 2008, 2009, 2014, 2019) expand the cue for V2/non-V2 to a series of micro-cues that must be acquired separately for each clause type. While the model of micro-cues is primarily a model of L1 acquisition, Westergaard (2019, p. 16) also argues that L1 and L2 (and L3) acquisition are fundamentally the same process, taking place on a property-by-property basis. Each of the micro-cues for V2 only provide evidence for the word order of a single clause type, and the micro-cue model therefore predicts no overgeneralization of word order from one clause type to another (Westergaard, 2008, p. 1857). This is in contrast to approaches that view V2 as the result of a single parameter, including theories of multiple grammars and grammar competition such as Roeper's Theoretical Bilingualism (1999) and Yang's Variational Model (2002). Such approaches predict large amounts of overgeneralization in early acquisition as learners set a general V2 parameter (Westergaard, 2014, p. 30). L1 Norwegian learners of L2 English may under such approaches be expected to temporarily overgeneralize the non-V2 rule of English to clause types where English is actually V2, while the micro-cue model predicts no such overgeneralization. Evidence in connection with this is expected to come mainly from *wh*-questions, since that is the only clause type that is consistently V2 in English and thus constitutes an exception to the general non-V2 word order.

Finally, the Interface Hypothesis (Sorace 2005; Sorace & Filiaci, 2006; Tsimpli & Sorace, 2006) posits that properties at the interfaces between narrow syntax and another cognitive domain may not be fully acquirable in a second language. The interface between narrow syntax and discourse-pragmatics is argued to be particularly vulnerable to transfer effects even in very advanced L2 learners (Sorace, 2006, p. 111). Rankin (2012), investigating this topic in relation to the transfer of V2, finds evidence of transfer of verb movement first and foremost with auxiliary verbs in topicalization contexts, while placement of lexical verbs is largely target-accurate (p. 150). The present study investigates some of the same contexts as Rankin (2012), but in learners with a different L1. It is hypothesized that the most advanced learners in this study should transfer word order in a similar manner to what Rankin finds for

L1 Dutch and German learners of L2 English. Namely, that the placement of lexical verbs should be largely target-accurate, and that negative transfer should be found mainly with auxiliary verbs in topicalized structures.

3 Method

The research questions for the present study are as follows:

1. Is there evidence of transfer of V2 word order from the learners' L1 Norwegian to their L2 English?
2. How does the transfer of word order vary across linguistic contexts?
3. Is there evidence of overgeneralization of word order between clause types in the L2?
4. Is there evidence of prolonged transfer effects in interface contexts compared to contexts involving only narrow syntax?

The data used in the study were collected from three L2 English learner corpora: CORYL (CORpus of Young Learner language), a corpus collected for a study by Garshol (2019), and the Norwegian subcorpus of ICLE (International Corpus of Learner English). All three corpora are made up of texts written in English by Norwegians learning English as a second language. The corpus texts are written by learners at various educational levels, ranging from 7th grade students in CORYL to students enrolled in college or university in ICLE.

Learner corpora can provide large amounts of data on learners' language productions during the acquisition process, allowing for a wide empirical base incorporating data from many different subjects (Granger, 2002, p. 6). The data they provide are also more natural compared to elicitation methods, though the degree of authenticity may vary between corpora (Granger, 2002, p. 8). Particularly in relation to common phenomena that are likely to occur frequently in learners' general language use, learner corpora can provide extensive data that would otherwise require much time and resources to gather by other methods. The use of corpora also has the advantage of making the study highly reproducible – as long as the corpora are available to other researchers, they can easily go through the same search procedures and find the same data, or potentially correct inaccuracies or deficiencies in the present study.

A primarily qualitative approach to corpus linguistics is taken in this study. This approach was chosen in part due to the structures of the corpora that are used, as issues of annotation in the corpora, which are discussed below, make a quantitative analysis of error rates difficult. Instead, potential V2 errors from all three corpora were collected and analyzed qualitatively. This allows for in-depth interpretation of individual errors and patterns among them, with the goal of deepening the current understanding of the investigated phenomena. A qualitative approach also allows for more flexibility in the study as well as a somewhat

exploratory angle, potentially uncovering new aspects that were initially not the focus of the study (van Peer et al., 2012, p. 54).

Each of the three corpora are structured differently with regard to annotation and searchability, so it was necessary to take a different approach for each of them when collecting data. The three corpora and the methods used with each of them are therefore discussed separately in the sections that follow.

3.1 CORYL

CORYL is a learner corpus consisting of texts in English written by pupils in Norwegian schools. The corpus contains texts written by pupils in the 7th, 10th, and 11th grades, randomly selected from schools distributed widely across the country (Hasselgreen & Sundet, 2017, p. 199). Totalling a word count of 129,421 including punctuation (Hasselgreen & Sundet, 2017, p. 199), the corpus is fairly small, meaning that searches will in some cases yield a low number of occurrences, which may limit the generalizability of the findings to some degree. However, since the structures that are of interest to this study (e.g. topicalized declaratives, *wh*-questions, etc.) are common in general language use, the number of relevant occurrences was nevertheless expected to be sufficiently high. CORYL does not have any part of speech (POS) tagging, but the corpus is instead manually annotated for all errors, sorted into coded classifications based on the type of error (Hasselgreen & Sundet, 2017, p. 199).

One significant weakness of the CORYL data for the purposes of this study is that there is no information available on the L1 background of the writers (Hasselgreen & Sundet, 2017, p. 199). Therefore, it is not possible to distinguish between contributors with Norwegian as their L1 and contributors with different or additional L1s. This is of course problematic for a study that tries to examine transfer from the L1 to the L2. However, according to Hasselgreen & Sundet (2017), it is assumed that most pupils have Norwegian as an L1 or L2 (p. 199), and given that the texts were taken randomly from pupils at different schools in Norway, it is probably safe to assume that a majority of the contributors do have Norwegian as their L1. Despite this weakness, the CORYL data are therefore used in this study under the assumption that the general findings should be largely representative of learners of L2 English with Norwegian as their L1. However, individual deviations among the contributors may be an effect of other languages, and findings from the CORYL data should be supported by data from other sources to ensure their generalizability.

All data collection from CORYL was carried out using Corpuscle, the corpus management and analysis system that CORYL is hosted by. The data were collected by

searching for the two error tags that were expected to cover most of the errors relevant to this study, these being the tags SY and L1P. The first search was run on SY, which is the annotation that is used for most syntactic errors in the corpus (Hasselgreen & Sundet, 2017, p. 214). A second, separate search was run on the L1P tag (L1 phrase), which is used when “the whole phrase has a Norwegian formulation translated” (Hasselgreen & Sundet, 2017, p. 215), meaning that the whole phrase is seemingly directly translated from Norwegian (Hasselgreen & Sundet, 2017, p. 204). There is a large amount overlap between the two tags, so after excluding occurrences that were included from the first search, the second search only resulted in five new additions to the extracted material.

3.2 Garshol corpus

The second corpus that is used in this study is a corpus of L2 English written assignments collected in connection with a research project by Lenka Garshol (2019). The contributors were 15-16-year-old Norwegian students attending their first year of high school, which is their 11th year of English instruction at school (Garshol, 2019, p. 20). The texts in the corpus were collected at three different schools in the Agder region of Norway, and Garshol describes the corpus as semi-longitudinal, as the texts were collected over a period of one year and most learners contributed with more than one text (2019, p. 21). However, this longitudinal aspect is largely disregarded in this study, as the students’ potential development over the course of the collection period is not within the scope of the present research questions.

The corpus currently does not have any form of annotation, so the texts were manually screened for relevant word order errors, which were compiled into a list of extracted material. Due to the time-intensive nature of this kind of data collection, it was necessary to make a selection of a limited set of texts that could be examined. The selection was made on the basis of some of the background information that is included in the corpus. Only students whose only home language was Norwegian and who had received English education from first grade were included, and only those who reported not having any learning related diagnosis.

Furthermore, since this study is primarily concerned with the types of errors that learners make, and since it was only possible to investigate part of the corpus, I decided to focus on texts that were most likely to include the relevant word order errors, as such errors were expected to be rare at this level of proficiency. The selection was therefore also based on the students’ overall agreement error rates, which are included in the corpus. While a high rate of agreement errors does not necessarily imply a high rate of syntactic errors, it should nevertheless give an indication of the general English proficiency of the writer. Furthermore,

some research on Slabakova's (2008, 2013) Bottleneck Hypothesis has indicated that difficulties with functional agreement such as subject-verb agreement generally persist longer in L2 acquisition than difficulties with core syntax (Jensen et al., 2019, p. 20). If this is the case, then one would expect learners who make few agreement errors to have already acquired core syntax to a high level. For these reasons, only texts by students with a total error rate above the median were investigated, and among these, participants were chosen semi-randomly. This of course means that the selected texts do not form a representative sample of Norwegian students at this level, but that is not the aim of this study. In total, 126 texts of various lengths written by 43 different students were investigated, and the selected texts had a combined word count of 56,051.

3.3 ICLE

The International Corpus of Learner English (ICLE) is a corpus of academic texts written by upper intermediate and advanced learners. The current version of the corpus, ICLEv3, consists of 25 national subcorpora, each containing around 200,000 words (Granger et al., 2020, p. 33). The Norwegian subcorpus, which is used in this study, is comprised of 317 essays for a total of 213,701 words (Granger et al., 2020, p. 46). However, in order to reduce variability among participants, the corpus was narrowed down for this study to include only learners whose sole language at home was Norwegian and who had received 6 or more years of English instruction at school. The investigated material after these exclusions consisted of 283 texts for a total of 191,975 words. There are no independent measures of the L2 proficiency of the contributors to the corpus, but they are assumed to be proficient based on their educational level, as the contributors to the corpus were all students enrolled at various colleges and universities in Norway (Granger et al., 2020, p. 47).

All data collection from ICLE was carried out using the ICLEv3 web interface. The corpus is annotated with the CLAWS7 part of speech tagset (Granger et al. 2020, p. 20), and the data used in this study were extracted by conducting POS-searches in the ICLEv3 concordancer. A combination of POS-tags and simplified POS-tags were used in the searches, and the search results were manually screened to identify relevant word order errors. Not all possible V2 contexts were investigated, and the contexts that were investigated are not necessarily covered completely by the searches that were used. The extracted data should therefore not be considered an exhaustive collection of the relevant errors in the subcorpus. An overview of the searches that were run is presented below, while the exact tags that were used in the searches are detailed in appendix 3.

In order to investigate verb raising in *yes/no*-questions and *wh*-questions, searches were run for sentences with a finite lexical verb or a *wh*-element in initial position. Topicalization contexts were investigated in a similar manner, with searches on various parts of speech that may be topicalized – or may introduce a constituent that can be topicalized – in initial position of a sentence. These searches included various types of adverbs and prepositions, as well as subordinating conjunctions. Some searches were also run for two types of elements in initial position that cannot typically undergo fronting in English, these being bare (non-comparative) adjectives, which the Dutch and German learners in Rankin (2012) are shown to topicalize, and object pronouns, which can also be topicalized in Norwegian, but typically not in English (Engdahl & Lindahl, 2014, p. 2). The searches on topicalization thus mostly cover topicalized adverbials. It would also have been worthwhile to investigate the topicalization of objects (other than object pronouns), but due to the difficulty of distinguishing between objects and subjects using POS-tags, no data on topicalized objects were collected. Finally, potential errors involving the position of a lexical verb relative to negation or sentence-medial adverbs were investigated by searching for strings of a lexical verb followed by either negation or one of multiple different types of adverbs.

3.4 Limitations of the method

There are a few limitations that should be noted regarding the data used in the study. While the extracted error data are informative with respect to the types of errors that the learners make, the lack of statistical data on error rates makes it difficult to draw definitive conclusions about which structures are more affected by transfer. This is because the total number of occurrences of a given type of error is dependent on the frequency of the contexts in which the error may appear in the learners' productions. Hence, finding more occurrences of a certain type of negative transfer does not necessarily imply that this is an area that is more affected by the learners' L1 in their L-language, as it might also be a result of the learners using that type of structure more often in their language productions.

Another limitation comes from the lack of data from native speakers of English that might be used as a point of reference for the learner corpora. This matters especially in edge cases and with more advanced learners where potentially relevant errors may be more difficult to analyze. Comparing the productions of learners with the productions of native speakers would in such cases help to identify whether the structures are actually transferred from the L1, as opposed to being structures that also native speakers may in some cases produce. In a similar vein, data from learners of L2 English with a non-V2 L1 would help to identify whether errors

are a result of transfer of the V2 property, though this is of course a large undertaking worthy of its own study.

Finally, as I have manually extracted sentences from the three learner corpora, there is by necessity some degree of subjectivity involved in the data collection. Therefore, I have attempted to describe the process of data collection in as much detail as possible and make clear my motivations for including or not including certain data. I am also personally not a native speaker of English, which may have had an impact in determining which sentences contain errors. However, native speaker judgements have been relied on in cases where it may be difficult to determine whether or not the sentences are acceptable.

4 Results

In this chapter, I present the data collected from the three investigated learner corpora. The chapter includes tables showing some numerical information in order to give an overview of the collected data, but it should be noted that the numbers themselves are not of primary importance, given the qualitative approach of this study. Because of the differences between the corpora and methods used when investigating them, the results for each corpus are presented separately in different sections of this chapter. The full lists of extracted material are included in appendices 1-3. All examples from the extracted material in this and subsequent chapters refer to these appendices, with each example being annotated with the name of the corpus they were extracted from and the numbered position of the entry in the extracted material.

4.1 CORYL

Table 1 shows the overall number of sentences extracted from CORYL by sentence type, all of which contained some kind error relating to verb movement. Since not all of the texts in CORYL are annotated with a student ID, it is not possible to say exactly how many learners these sentences came from, but the errors that were identified are distributed widely across the corpus and were collected from many different texts. The complete list of extracted material from CORYL is shown in appendix 1.

Table 1

Number of extracted sentences from CORYL

Non-subject-initial declaratives	129
Subject-initial declaratives	15
Questions	9
Total:	153

4.1.1 Non-subject-initial declaratives

Table 2 shows the number of extracted non-subject-initial declarative sentences that were extracted from the corpus. These are sentences where the learner has incorrectly raised the finite verb to second position of the clause after a fronted constituent, leading to non-target V2 word order, as demonstrated by the examples in (19). The raised constituent is marked in square brackets and the finite verb is bolded.

- (19) a. [On the floor] **is** the dog laying. CORYL, 29
 b. [when we Run to the Snake] **Come** the Police. CORYL, 81

The table also shows how many of these errors occurred in conjunction with a topicalized adverbial versus any other type of topicalized constituent, as well as whether the raised verb was an auxiliary verb or a lexical verb.

Table 2

Number of extracted non-subject-initial declaratives, CORYL

Topicalized adverbials		Other topicalized constituents	
Auxiliary verbs:	66	Auxiliary verbs:	6
Lexical verbs:	44	Lexical verbs:	13
Total:	110	Total:	19
Total extracted non-subject-initial declaratives:			129

As the table shows, most errors in topicalization contexts in the CORYL data occur in conjunction with a topicalized adverbial. This should not be interpreted as the learners having particular problems with topicalized adverbials, however, as adverbials are the elements that are most frequently topicalized (Hasselgård et al., 1998). The high incidence of errors in such contexts is therefore assumed to be mainly due to adverbials being fronted more often than other constituents. Some examples of errors with a raised adverbial are given in (20):

- (20) a. [In the treasure-chest] **was** the many gold mony. CORYL, 3
 b. [To day] **was** everyting wrong. CORYL, 4
 c. [When i come to the mal] **saw** i many if my friends. CORYL, 72

Other topicalized constituents in the extracted material include DP objects (21a-b), prepositional complements (21c-d), and direct speech complements to a verb of speaking (21e-f).

- (21) a. We young people have other things to think on, [the environment] **can** we take when we are adults CORYL, 112
 b. But [the same problems] **have** the adults. CORYL, 128
 c. I've chosen a very wide program so [my aducation after CORYL, 111
 highschool] **am** I not so sure about.
 d. [The shelves with the fish on] **is** many books in. CORYL, 116

- e. [No we go up to you and cal the police,] **did** I say. CORYL, 115
- f. [" What do you want to eat? "] **ask** my little brother me. [" Pizza ",] **answer** I. CORYL, 119

Regarding the sentences with a raised direct speech complement in the corpus, it is in some cases debatable whether they should be considered errors. This is because English does in some cases allow subject-verb inversion in such contexts (i.e. quotative inversion), as discussed in section 2.1.2. Some of the extracted sentences, such as (21e) and (21f), are definitively ungrammatical – the former because English quotative inversion never allows inversion with an auxiliary verb, and the latter because quotative inversion may not occur in conjunction with a DP indirect object (Collins & Brannigan, 1997, p. 20). However, the learners also produce sentences that are more in line with what is allowed by English quotative inversion, even though some of these are also very unnatural, as in the following examples:

- (22) a. [who are you,] **asks** I CORYL, 118
- b. [Yes] **sad** she. CORYL, 126
- c. [You'r brother has bean there to day] **sad** a litle girl to me. CORYL, 125

Sentences like (22a) and (22b) are unnatural because pronouns cannot participate in quotative inversion as easily as full DPs (Collins & Brannigan, 1997, p. 7). Other sentences, such as (22c), involve a full DP subject, and while such sentences seem to be consistently tagged as syntactic errors in CORYL, many of them were not included in the extracted material because their forms appear to correspond with what is allowed by English quotative inversion. Nevertheless, the frequency of this type of construction in the learners' productions may indicate some form of transfer from their L1. This is discussed further in the next chapter.

There are many occurrences of non-target raising of both auxiliary and lexical verbs to second position in topicalization contexts, and there do not appear to be any lexical restrictions on the types of verbs that the CORYL learners allow to raise. Raised auxiliaries include *do* (23a), *have* (23b), auxiliary and copula *be* (23c-d), and a variety of modal verbs (23e-g):

- (23) a. But [that day] **did** Peter see God. CORYL, 2
- b. [Fiwe days letter] **has** we bild a trehaus. CORYL, 61
- c. [of course] **am** I going to stumble in that and fall down to the floor. CORYL, 35
- d. [When mom came home] **was** She proud of me. CORYL, 23

- e. [On day] **shud** mee may sisher and my friands sleep in the wood, CORYL, 1
- f. [When you come to visit mi in norway] **wil** i take you to some beautiful places because you can see how fine this country is. CORYL, 5
- g. [Here] **can** you see my famely. CORYL, 28

A variety of lexical verbs are also attested, as demonstrated by the examples in (24):

- (24) a. [One day when i, John and Jack was outsid] **found** we a big tre. CORYL, 69
- b. [After they hav write the house] **bye** they some coca cola and pizza. CORYL, 76
- c. [Now] **came** the snake up to us! CORYL, 104
- d. [This day] **crash** the king his car CORYL, 107

While some lexical verbs, such as *come* and *say* appear especially often in the extracted material, this is most likely due to high frequency of these verbs in general in the investigated texts.

4.1.2 Subject-initial declaratives

The extracted subject-initial declaratives are sentences where a lexical verb appears to the left of negation or a sentence-medial adverb, indicating that the lexical verb has moved out of VP. As shown in table 3, movement across both negation and adverbs is attested in the extracted material.

Table 3

Number of extracted subject-initial declaratives, CORYL

Movement of a lexical verb across negation:	3
Movement of a lexical verb across adverb:	12
Total:	15

The three sentences involving movement of a lexical verb across negation are shown in (25) below, and some examples of sentences with a lexical verb appearing to the left of an adverb are given in (26). The negation or adverb is underlined in these sentences, and the moved verb is bolded as in previous examples.

- (25) a. I **LiKe** not my dady Becas I for not ri THE HORSES I well ri my CORYL, 130
Horses But I for not ri THE HORSES.
- b. But I **had** not good time so I just rushed out with'out jacket or CORYL, 131
anything.
- c. Mum were with a friends and **came** not home before foure times. CORYL, 132
- (26) a. Adam **eat** as usual pizza CORYL, 136
- b. Adults **talk** often about yong people who do stupid things like CORYL, 139
increasing or something.
- c. The snake was very dangerous so Kristian and Lars and Per **came** CORYL, 141
never back to the wood.
- d. But I **wake** suddenly up from the dream CORYL, 134

Regarding (26d), it should be noted that it is not necessarily verb movement that is the cause of the non-target word order. The adverb *suddenly* can appear to either the left or right of a lexical verb, and the cause of the unacceptability in this case is not the position of the verb relative to the adverb (“I wake up suddenly from the dream” is acceptable), but rather the intervention of the adverb between the verb and its particle. This non-target word order could be derived by the adverb having a position above V and the lexical verb being raised to a higher position, leaving the particle below the adverb, but it is also possible that the adverb is in the post-verbal position, and the error stems from the particle being misplaced too far to the right. In the latter case, the sentence would of course not indicate transfer of verb raising.

4.1.3 Questions

The extracted questions from CORYL include errors of two kinds, these being movement of a lexical verb across the subject and lack of subject-auxiliary inversion in *wh*-questions. Table 4 shows the number of extracted sentences containing either of these types of errors.

Table 4

Number of extracted questions, CORYL

Movement of a lexical verb across subject	1
Non-target non-V2 word order	8
Total:	9

A single sentence was identified where the learner has moved a lexical verb across the subject, shown in (27). This is perhaps a borderline error, as some varieties of English do allow movement of *have* in such contexts (Roeper, 1999, p. 174).

(27) **have** you a idea? CORYL, 145

Additionally, eight strings produced by five different learners containing *wh*-questions with non-target non-V2 word order were identified, some of which are shown in (28):

- | | | | |
|------|----|----------------------------|------------|
| (28) | a. | Were they are ? | CORYL, 147 |
| | b. | What you are doing? | CORYL, 150 |
| | c. | Wat she doing ? | CORYL, 149 |
| | d. | Why you cry ? | CORYL, 153 |
| | e. | How it's going at home? | CORYL, 146 |

Some of these questions, such as (28c) and (28d), involve verbs that are non-finite or are ambiguous as to whether the verb is finite or not, and they can therefore potentially be analyzed as involving a missing auxiliary rather than a failure of verb movement. In addition, the error in (28e) could possibly be caused by some specific difficulties associated with the pronoun and the attached clitic. These questions are further discussed in the next chapter.

4.2 Garshol corpus

Out of the 43 contributors to the Garshol corpus that were investigated, 18 were found to produce at least one of the relevant verb raising errors in any of their texts. Table 5 shows how many of the learners produced the different types of errors that were identified. The data are represented in this way, unlike the data in CORYL, because certain contributors were found to produce some types of errors numerous times, and the overall number of errors are therefore skewed by a few subjects. No errors in questions were identified in the Garshol corpus, and the resulting extracted material consists entirely of declarative sentences. The complete list of extracted material is included in appendix 2.

Most of the learners that produced any of the relevant types of errors were found to produce such errors sporadically and relatively infrequently, producing at most three or four errors in a single text. However, one of the contributors to the corpus, 15STK04, produced such errors at a much higher rate than any of the other students. This contributor produced at most 40 errors in a single text, and a total of 73 errors were identified across all of his texts, which

Table 5*Number of learners who produced verb raising errors, Garshol corpus*

Any verb raising error	18
Non-target V2 in non-subject-initial declaratives	13
Movement of a lexical verb across negation	4
Movement of a lexical verb across adverb	5
No identified errors	25

is nearly three times as many as the total number of errors collected from all the other learners combined. While this subject is certainly an outlier, the available background information places him in the target population for the study, and there are no clear reasons to exclude the subject. These errors are therefore included in the extracted material, though they are listed separately from the results collected from the other learners for the sake of readability.

4.2.1 Non-subject-initial declaratives

13 of the investigated contributors to the Garshol corpus produced sentences involving non-target verb movement to second position of the clause in non-subject-initial declaratives. As in the CORYL data, the majority of these sentences involve a topicalized adverbial, though other topicalized constituents are also attested. Some examples of sentences with a topicalized adverbial are shown in (29):

- (29) a. [In some of the flashbacks] **are** Kate Barlow and the onion-man Sam good friends. Garshol, 1
- b. [Today] **is** about 2% of the Australian population aboriginals. Garshol, 2
- c. [When America still was racially segregated, in the early 1950s,] **were** African Americans slaves, Garshol, 4

The other topicalized constituents that are attested in these sentences are DP objects, as in (30a) and prepositional complements, as in (30b):

- (30) a. In the film, you can see racism, [racism] **can** you see when she plays football and have to play with the boys in the beginning of the film. Garshol, 13
- b. [They three person] **shall** I say a little bit of after. Garshol, 16

In almost all of the collected non-subject-initial declaratives from the Garshol corpus, it is an auxiliary verb that is raised; only two of the investigated learners (one of these being the outlier 15STK04) produced any sentences where a lexical verb had been raised across the subject. Examples of raised lexical verbs are shown in (31):

- (31) a. [First] **dies** his father, which he wants to revenge by killing his uncle, which he thinks, murdered his father. Garshol, 12
- b. [After 27 years] **realized** the president of South Africa, F.W. de Klerk, that the apartheid system was wrong. Garshol, 98

The 11 other learners who produced sentences with non-target V2 in topicalization contexts did so exclusively by raising an auxiliary verb. This non-target raising occurs with a variety of auxiliary verbs, including *do* (32a), auxiliary and copula *be* (32b-c), and several different modal verbs (32d-e).

- (32) a. [Because of the huge, time-lapse] **did** the movie represent the 1920s as good as the book did. Garshol, 6
- b. and [then] **is** friend Ford I coming whit beer to everyone and he now that they are going to destroy the earth. Garshol, 8
- c. [In the movie] **is** Vin Diesel in a relationship with letty. Garshol, 10
- d. [All the people I meet in my daily life] **would** I also do a change with Garshol, 14
- e. [This] **should** they not have done, because somebody sees them and tells the whole village. Garshol, 15

The vast majority of errors produced by 15STK04 are also cases where an auxiliary verb has been raised to second position of the clause in non-subject-initial declaratives. This type of error accounts for 69 of the 73 sentences extracted from the learner's texts, and while sentences with a raised lexical verb are also attested, these occur very rarely by comparison. Furthermore, the learner frequently makes use of *do*-support to maintain V2 in sentences where there is no other auxiliary available for movement:

- (33) a. [Therefore] **did** everybody think she couldn't kill her husband. Garshol, 27
- b. [In other wards] **did** her choices become a bad habit witch was hard to break. Garshol, 37
- c. [Because of this,] **does** it today exist different cultures and peoples with different beliefs Garshol, 39

This indicates that the learner generally does not allow the lexical verb to raise out of VP, making *do*-support necessary in lieu of any available head that can move to the CP-domain. Thus, while the learner at this point has largely acquired the non-movement of lexical verbs in English, he seems to still be transferring the V2 requirement from his L1 Norwegian to a large extent. This requirement is satisfied by moving an auxiliary verb where this is available, or by *do*-support where no other auxiliaries are present.

4.2.2 Subject-initial declaratives

Several errors involving non-target placement of a lexical verb relative to negation or an adverb were identified in the investigated texts. Four sentences produced by four different learners were identified that involved this type of error with negation:

- (34) a. The Native Americans and the Europeans **had not** the same immune system Garshol, 17
- b. and they **got not** much jobs. Garshol, 18
- c. Jessminder was from India, so she **has not** she same color as the other girls in London. Garshol, 19
- d. This is a bit of what I have learned but I **have not** time to write more. Garshol, 20

As shown in (34), three out of these four sentences involve a form of the lexical verb *have*. The frequent appearance of this verb indicates that the learners may have some issues with the distinction between lexical *have* and its auxiliary homophone. For this reason, verb raising in these cases does not necessarily imply that the learners have not acquired the non-movement of lexical verbs in English, as it is possible that the error stems from the learner treating possessive *have* as an auxiliary verb.

Errors involving the relative placement of a lexical verb and an adverb were identified in six sentences produced by five different learners. Four of these sentences are shown in (35):

- (35) a. Chris the son **tried always** to make his father happy. Garshol, 25
- b. Some kids **have also** problems at home, at school or just problems in general. Garshol, 26
- c. Moreover, love is something that **comes very often** up in the movie and the book. Garshol, 21
- d. They **ended first** up in a toilet at the subway, and then at a homeless shelter. Garshol, 24

Lexical *have* also shows up twice in these sentences, and the potential for issues with distinguishing it from its auxiliary homophone applies here as well. There are also two sentences with phrasal verbs with an adverb intervening between the verb and its particle, shown in (35c) and (35d). Like with the similar sentence that was highlighted from the CORYL data, it is possible for these errors to be caused by the particle being misplaced below a post-verbal adverb, which would mean that the lexical verb has not necessarily raised. It should also be noted that it in general cannot be definitively concluded that the verb has moved in sentences where a lexical verb appears to the left of an adverb; since some adverbs can appear in the post-verbal position, it is possible that some of the errors are caused by a misplaced adverb instead.

4.3 ICLE

22 sentences containing potentially V2-related errors were collected from the Norwegian ICLE subcorpus. The identified errors are distributed widely across the subcorpus, occurring in 19 different texts, each written by a different contributor. Table 6 summarizes the results of the different searches that were run in the ICLE concordancer. The exact searches and the results from each of them are included in the full list of extracted material in appendix 3.

Table 6

Number of errors identified through searches in the Norwegian ICLE subcorpus

Topicalized adverbs	9
Topicalized prepositional phrases	4
Topicalized subordinate clauses	2
Topicalized bare adjectives	No errors
Topicalized object pronouns	No errors
Lexical verb movement across negation	No errors
Lexical verb movement across adverbial	7
Lexical verb movement in questions	No errors
Total:	22

4.3.2 V2 in topicalization contexts

In the searches for topicalized adverbs, prepositional phrases, and subordinate clauses, a total of 15 sentences with non-target V2 word order were identified. Examples of these are shown in (36) below.

- (36) a. [For instance] **is** seventeen weeks of practise not enough . ICLE, 9
 b. [In my point of view] **is** it the latter . ICLE, 13
 c. [When we hear about pollution in the 19th century] **is** it more or less air pollution we hear about . ICLE, 14

The topicalized constituent in each of these 15 sentences is an adverbial, though this is to be expected since the parts of speech that were searched for usually function as adverbials when they appear in a clause-initial position. Furthermore, in all of the sentences, it is an auxiliary verb that is raised; no occurrences of movement of a lexical verb to second position were identified in topicalization contexts. A variety of auxiliary verbs are attested, including *do* (37a), *have* (37b), auxiliary and copula *be* (37c-d), and two different modal verbs: *should* and *will* (37e-f).

- (37) a. [Even in schools] **do** children learn to use computers from the age of 6 , and as an adult you are a " loser " if you can not manage to use a PC . ICLE, 2
 b. [Today] **has** religion in our part of the world , turned into a personal business . ICLE, 7
 c. [In 1628 ,] **was** it changed into a more modern army based on conscription . ICLE, 12
 d. [When the time reaches us in our daily lives , by stress for instance ,] **are** dreams and imaginations something which we have by intuition . ICLE, 15
 e. [Of course] **should** they no longer stay at home . ICLE, 6
 f. [Hopefully] **will** other people 's attitude towards convicts also change if they know that the criminals are rehabilitated and improved as human beings . ICLE, 5

The searches for topicalized bare adjectives and object pronouns did not return any relevant results – i.e., no sentences were found in which either of these parts of speech had been topicalized.

4.3.3 Raising of lexical verbs across negation or adverbs

The searches for movement of a lexical verb across negation also did not result in any relevant errors being found. However, in the searches for lexical verbs appearing to the left of a sentence-medial adverb, seven sentences were identified that may indicate non-target

movement of a lexical verb to second position of the clause. Some of these sentences are shown in (38):

- (38) a. A notorious criminal has committed several minor crimes , ICLE, 16 and **gets** eventually caught and imprisoned .
- b. Aristoteles **gave** once birth to the expression " cause and effect ICLE, 18 " .
- c. Similarly to religion , television **has** clearly an element of ICLE, 19 entertainment , that is for sure .
- d. It **has** also something to do with the life we are living , and that ICLE, 22 we can not stand to be bored .

Out of the seven extracted sentences with a lexical verb appearing to the left of a sentence-medial adverb, four involve a form of the lexical verb *have*, as in (38c-d) above. As in the Garshol data, the high frequency of this verb indicates that those errors may stem from the learners having problems distinguishing the verb from auxiliary *have*.

As has been indicated earlier, the use of adverb placement as a diagnostic for verb movement is also somewhat problematic in general (Delfitto, 2005, p. 104). Adverbial syntax is a particularly complex area of grammar given the variability in the syntactic distribution of adverbs, and the relations between the different syntactic positions that adverbs can occupy are still poorly understood (Delfitto, 2005, p. 102). It is therefore difficult to say with any certainty when a verb has actually moved across an adverb, as opposed to the adverb occupying a position lower than the verb in its base-generated position. Also in the case of L2 learners' productions with non-target word order, where the relative positions of the verb and adverb are not licensed by native English grammars, it is hard to say whether the learner has incorrectly raised the lexical verb across the adverb, or whether the error stems from incorrect placement of the adverb in question. This is less of a problem in the data from CORYL and the Garshol corpus, since those learners are shown to raise lexical verbs also in other contexts, but in ICLE, the only evidence for lexical verb raising comes from the sentences where the verb appears to the left of an adverb. This issue is discussed more extensively in relation to the transfer of V2 in the next chapter, but it should be noted that errors in the relative placement of a lexical verb and adverb do not necessarily mean that the verb has moved.

4.3.1 Questions

No V2 errors were found in the searches for sentence-initial finite lexical verbs or wh-elements. While these searches most likely do not cover all main clause questions in the corpus texts, the word order in all of the investigated questions were found to be target-accurate with regard to V2.

5 Discussion

In this chapter, I discuss the results that were presented in chapter 4 in relation to the research questions that were posed at the beginning of chapter 3. For the sake of convenience, the research questions are repeated below:

1. Is there evidence of transfer of V2 word order from the learners' L1 Norwegian to their L2 English?
2. How does the transfer of word order vary across linguistic contexts?
3. Is there evidence of overgeneralization of word order between clause types in the L2?
4. Is there evidence of prolonged transfer effects in interface contexts compared to contexts involving only narrow syntax?

The discussion that follows is structured along the lines of these questions, with each one being addressed in turn.

5.1 Is there evidence of transfer of V2 word order from the learners' L1 Norwegian to their L2 English?

The first question that this study seeks to answer is whether there is evidence of transfer of word order from the learners' L1 Norwegian to their L2 English in the investigated learner corpora. According to Schwartz & Sprouse's (1994, 1996) Full Transfer/Full Access hypothesis, the final state of the L1 carries over as the initial state of the L2, and negative transfer should therefore occur in the learners' interlanguage productions in the form of errors caused by the learners mistakenly applying elements of their L1 grammar to the L2. Evidence of transfer of word order in the learners' productions will therefore come from sentences with word order that is licensed by the L1 grammar but not by the target grammar. Such errors will be gradually filtered out as the learners grow more proficient and restructure their grammar in response to L2 input data, but the time needed to restructure the grammar in different cases may vary greatly, and transfer effects may therefore be visible even in late stages of acquisition (Schwartz & Sprouse, 1996, p. 41).

Based on some major cross-linguistic differences between Norwegian and English, two types of errors in particular were predicted in chapter 2, these being movement of the finite verb to second position in non-subject-initial declaratives and movement of lexical verbs out of VP. As was shown in the previous chapter, this prediction is borne out in the data that were

collected from the three learner corpora. All three corpora contain occurrences of non-target V2 word order in non-subject-initial declaratives, and at least CORYL and the Garshol corpus, and possibly ICLE, contain evidence of non-target raising of lexical verbs out of VP. Since these sentences involve word order that is allowed by the learners' L1 Norwegian but is ungrammatical in the target English, this indicates that these errors may be the result of negative transfer.

The presence of these types of errors in the corpora does not in itself automatically lead to the conclusion that the learners transfer word order, since there are other potential sources of errors, and the correspondence with structures in the learners' L1 could be merely incidental. However, as Westergaard (2007a, p. 116) points out, overgeneralization of V2 word order from questions to declaratives or any other phrase types is largely unattested in production data from English L1 learners. Radford (1994), drawing from a corpus of monolingual children acquiring British English, also does not report any overgeneralization of the behavior of auxiliary verbs to lexical verbs in these learners' productions. Given that such errors are largely unattested in learners of L1 English, the majority of the verb raising errors that have been extracted from the investigated learner corpora are most likely caused by transfer from the learners' L1, rather than by overgeneralizations of structures in the input.

There is some evidence that raising of lexical verbs to T in L2 English is not caused exclusively by transfer, at least in contexts involving sentence-medial adverbs. Eubank et al. (1997) show that L1 Chinese learners of L2 English seemingly allow adverbs to intervene between lexical verbs and their direct objects, even though their native language does not permit verb raising. In this case, therefore, non-target raising of lexical verbs cannot be attributed to transfer. As noted by Chu & Schwartz (2005, p. 82), however, Chinese learners of English allow this word order at a rate substantially lower than French learners of L2 English, whose L1 does allow raising of lexical verbs. This indicates that transfer is still the main source of this type of error for learners with verb raising L1s (Chu & Schwartz, 2005, p. 83). Hence, many of the occurrences of non-target verb raising across adverbs in the corpora investigated in this study are likely to be caused by transfer, but such errors cannot be considered definitive evidence of transfer on their own.

The findings of this study thus confirm some of the central findings of Westergaard (2002, 2003a). Though the learners that were investigated in the present study are older and have received more extensive English instruction than most of the ones investigated by Westergaard, there is nevertheless clear evidence of transfer of V2 word order in the learners' written L2 productions. Westergaard (2002, p. 203) argues that the cues that are required for

Norwegian learners of L2 English to restructure their internal grammar with regard to V2 are rare in the input, and it is therefore expected that the learners will take a long time to realize that English is not V2 in most main clauses like Norwegian is. This is supported by the data gathered in the present study, as it is shown that learners in the 7th, 10th and 11th grades in CORYL and the Garshol corpus still produce non-target V2 in declaratives, even though they have received English instruction since first grade. Even the upper intermediate and advanced learners who contributed to the Norwegian ICLE subcorpus were found to occasionally produce non-subject-initial declaratives with non-target raising of auxiliary verbs to second position of the clause, showing that transfer of V2 can remain even in highly advanced stages of acquisition.

5.2 How does the transfer of word order vary across linguistic contexts?

In the sections that follow, I discuss the transfer of word order in different linguistic contexts and note some ways in which transfer was found to vary across them. I also suggest some possible explanations for the patterns that were identified, especially with reference to the cue-based approach to acquisition and the frequency of relevant cues in the input.

5.2.1 Transfer of subject-auxiliary inversion and lexical verb raising

Westergaard (2003a, p. 99) reports a massive leap in development regarding sentences with adverbials and questions requiring *do*-support between 6th and 7th grade. She argues that this leap in development is due to increased exposure to the cue necessary to acquire the non-movement of lexical verbs in English, namely sentences with *do*-support, which were introduced in the teaching material of the investigated children at the beginning of 7th grade (Westergaard, 2003a, p. 100). The youngest learners investigated in the present study were already in the 7th grade, but some of the data seem to indicate that the learners continue developing relatively rapidly from this level with regard to the non-movement of lexical verbs in English. In CORYL, there are only slightly fewer occurrences of raised lexical verbs in topicalization contexts compared to auxiliary verbs, suggesting that these learners still have not acquired the different behaviors of auxiliary and lexical verbs in the target grammar. However, in the case of the slightly older 11th grade learners in the Garshol corpus, 13 of the contributors that were investigated were found to raise auxiliaries to second position in non-subject-initial declaratives, while only two produced sentences where a lexical verb had been raised past the subject. As noted in the previous chapter, one of these two was also the outlier 15STK04, who

consistently produced errors with raised auxiliaries in topicalization contexts, while only producing a few errors involving a raised lexical verb.

While some of the learners in the Garshol corpus are shown to still produce errors involving incorrect placement of lexical verbs relative to negation or adverbs, many of these errors are not necessarily caused by transfer of lexical verb movement, as there are other plausible sources of error. Half of these sentences involve non-target raising of the lexical verb *have*, which, as discussed in the previous chapter, is likely to be caused by the learners treating possessive *have* as an auxiliary verb. If lexical *have* is miscategorized as an auxiliary in these sentences, this would mean that raising may occur in these cases even if the learners have acquired the non-movement of lexical verbs. Rankin (2012) also reports such errors with lexical verbs with auxiliary homophones in learners of L2 English with German, Dutch and French L1 backgrounds. Two of the sentences with adverbs may also involve a misplaced particle rather than a raised lexical verb, and in general, non-target word order in sentences with adverbs may be caused by a misplaced adverb rather than by verb raising, due to the variability in the positions of adverbs in the input.

Hence, it is difficult to determine exactly which of these errors could be attributed to transfer of verb raising, but what appears to be the case is that the learners in the Garshol corpus only rarely raise lexical verbs other than *have*, while non-target subject-auxiliary inversion in topicalization contexts appears more frequently. This indicates that once the learners have started to be exposed to the cue for the lack of movement of lexical verbs in English, i.e. sentences with *do*-support, they are able to learn relatively quickly that lexical verbs cannot raise to T and by extension that they cannot undergo subject-verb inversion. Meanwhile, unlearning the V2 rule in non-subject-initial declaratives may be more difficult, seeing as subject-auxiliary inversion in these contexts is produced more frequently by the learners in the Garshol corpus. Likewise, some of the more advanced learners in ICLE were found to occasionally produce non-target V2 by raising an auxiliary in topicalization contexts, while only a few examples of possible lexical verb raising across an adverb were identified. These results are consistent with findings by Westergaard (2003a, p. 94) and Jensen et al. (2019, p. 21) that show that raising of auxiliary verbs is more problematic for L1 Norwegian learners of L2 English than raising of lexical verbs.

Part of the reason that the learners may be able to pick up the non-movement of lexical verbs more quickly is that, as Westergaard (2003a, p. 92) notes, sentences with *do*-support are very common in everyday conversation in English. According to the cue-based model of acquisition, the learners' ability to acquire structures in the target language is dependent on the

5.2.3 Transfer of V2 in declaratives with different fronted constituents

One might also expect to see some difference in how the learners transfer V2 in topicalized declaratives depending on what type of constituent has been topicalized. Westergaard (2003a, p. 93) notes that object topicalizations are especially rare in English and that the cue-based approach therefore predicts that it should take Norwegian learners of L2 English longer to acquire the word order in sentences with topicalized objects compared to sentences with topicalized adverbials, which are more frequent in the input. The findings in her study support this hypothesis, as she shows that object topicalizations were slightly more difficult for the learners who were investigated in her study (Westergaard, 2003a, p. 93).

The data in the present study do include errors in sentences with both topicalized adverbials and topicalized objects, as well as some other topicalized constituents that were presented in the previous chapter. This is the case in the data from both CORYL and the Garshol corpus, while the data in ICLE only includes topicalized adverbials, as it was mostly adverbials that were targeted by the searches that were run on topicalized structures. Thus, the lack of data on topicalized objects in ICLE does limit how much can be said about the persistence of transfer in these contexts. However, it is also difficult to say anything about whether topicalized objects are more problematic for the learners than adverbials based on the data from CORYL and the Garshol corpus, since the number of errors in each case is dependent on how often the learners topicalize these types of constituents. Especially if the difference is slight, as in Westergaard's study, a more quantitative investigation of error rates would be more informative.

As mentioned, topicalized objects are rare compared to topicalized adverbials, and this is especially the case in English, where object topicalizations typically have a special pragmatic function, such as contrast or double focus (Hasselgård et al., 1998, p. 310). It is therefore to be expected that topicalized adverbials are more frequent in the extracted material, as is the case in both CORYL and the Garshol corpus. There is some evidence that the learners who produce non-target V2 tend to use object topicalizations more in line with the way they are used in their L1 Norwegian, such as in the examples below:

- (40) a. i hope yow are fine, because [that] **are** i. CORYL, 113
 b. In the film, you can see racism, [racism] **can** you see when she plays football and have to play with the boys in the beginning of the film. Garshol, 13

In these sentences, the object topicalizations do not appear to be intended to have any of the particular pragmatic functions that such topicalizations in English usually signal. Rather, they seem to be fronted only for the purpose of cohesion, as is common in Norwegian (Hasselgård et al., 1998, p. 310), presenting given information at the beginning of the clause. Even with these divergent uses of topicalized objects, however, topicalized adverbials are far more common in the extracted material, and this must be assumed to be due to the learners topicalizing adverbials more frequently, rather than them having particular issues with the structure. The data that were gathered in this study are therefore not very informative regarding any difference in the degree of transfer between these two types of topicalized constituents.

5.2.4 Transfer of V2 in declaratives with fronted direct speech complements

Several of the non-subject-initial declaratives that were extracted from CORYL were shown to involve a topicalized direct speech complement to a verb of speaking. While English is optionally V2 in such contexts due to the possibility of quotative inversion, there are a number of restrictions associated with this type of inversion (see e.g. Collins & Brannigan, 1997). As was shown in the previous chapter, two of these extracted sentences display word order that cannot be derived by quotative inversion, and the sentences are therefore ungrammatical. These are repeated in (41):

- (41) a. [No we go up to you and cal the police,] **did** I say. CORYL, 115
 b. [" What do you want to eat? "] **ask** my little brother me. [" Pizza ",] **answer** I. CORYL, 119

To briefly repeat from chapter 3, quotative inversion cannot occur with an auxiliary verb, nor can it occur in sentences with a DP indirect object. Since quotative inversion cannot account for this word order, this indicates that at least in these sentences, the V2 word order is the result of transfer from the learners' L1. Some of the other extracted sentences are not strictly ungrammatical, though they are still very unnatural because they contain pronominal subjects, which cannot easily participate in quotative inversion (Collins & Brannigan, 1997, p. 7):

- (42) a. [who are you,] **asks** I CORYL, 118
 b. [the are over now] **said** I. CORYL, 122
 c. [Yes] **sad** she. CORYL, 126

While such structures with pronominal subjects can occasionally occur in English, at least in older narrative texts, it is unlikely that the learners have had any significant exposure to them,

and it is again more likely that they are transferring the word order from their L1 Norwegian, where such structures are perfectly acceptable.

These errors are relatively frequent in the extracted material from CORYL specifically, and as mentioned in the previous chapter, many similar sentences that were marked as syntactic errors in CORYL were not included because they could seemingly be derived through quotative inversion. A large part of the reason that such errors are frequent in CORYL is likely that many of the texts in the corpus involve narratives with significant amounts of dialogue, and quoted speech complements therefore appear often. However, it is also possible that the learners transfer their L1 word order more heavily in this particular structure, due to the seemingly contradictory evidence in the input that is caused by quotative inversion. Because quotative inversion is optional, this leads to a situation where some of the input provides evidence for V2 in this context, and some provides evidence for non-V2. This is of course assuming that the learners are exposed to quotative inversion in their L2 input, but while the construction is rare in spoken English, it does occur frequently in many types of narrative texts that young learners of English are likely to be exposed to.

Note that the syntactic operations behind the word order of quotative inversion are not necessarily the same as the syntactic operations that lead to V2 in languages like Norwegian. For instance, Collins & Brannigan (1997, p. 9) argue that in quotative inversion, the verb only moves to the Agr head, which leads to inversion because the subject remains in situ in Spec,VP. Contrast this with the standard generative approach to V2, which assumes that the finite verb moves to C, and the subject or topicalized constituent raises to Spec,CP. However, the important point here is that the surface structure of most English sentences where quotative inversion has taken place is indistinguishable from the structure of corresponding V2 sentences in languages like Norwegian, and L1 Norwegian learners of L2 English will be able to parse such sentences using their L1 grammar. According to Westergaard (2019), transfer takes place as a result of parsing, and negative transfer occurs “when the learner mis-analyses L2 input that bears some resemblance to structures in the L1, assuming it is identical (when in fact it is not) and uses the L1 structure to parse it” (p. 11). Thus, quotative inversion may lead the learners to incorrectly assume that English is V2 in these contexts in the same manner as Norwegian declaratives. Furthermore, acquiring the restrictions associated with quotative inversion may be difficult for these learners, as it would require some kind of negative evidence to show the learners that this type of inversion for instance cannot occur with indirect objects or pronominal subjects.

5.3 Is there evidence of overgeneralization of word order between clause types in the L2?

Another goal of this study was to determine whether there is any evidence of overgeneralization of (non-)V2 word order between clause types in the investigated learner corpora. If L2 acquisition is a process of setting major parameters, including a general V2 parameter, the learners should go through a stage where they overgeneralize the non-V2 word order that is found in most English sentences to clause types that are actually V2, before they eventually learn the exceptions to the wider parameters. The only clause type that is consistently V2 in English is *wh*-questions, and this is therefore the clause type where evidence of overgeneralization is most likely to be found. Given that the learners' L1 grammar and the target grammar are both V2 in this clause type, non-V2 should only occur if they are overgeneralizing the word order from other clause types in the input.

As was shown in the previous chapter, eight occurrences of non-target non-V2 in *wh*-questions were identified in the texts of five different learners in CORYL. This may seem like a small amount, but when taking into consideration that questions are most likely quite infrequent in the corpus texts, the number of occurrences should be considered significant. However, not all of these errors can necessarily be attributed to a failure of verb movement. In three of the eight entries in the extracted material, the only verb in the question is a lexical verb that is either non-finite or ambiguous with regard to whether it is finite or not:

- (43) a. Wat she **doing**? CORYL, 149
 b. What you **doing** in the town. What you **dislike** ind the town. CORYL, 152
 c. Why you **cry**? CORYL, 153

The verb *doing* in (43a) and in the first question of (43b) are unambiguously non-finite, while the verbs in the second question of (43b) and in (43c) are ambiguous, as the second-person present tense forms of these verbs are identical with the infinitive. Of course, lexical verbs do not move in any case in the target grammar, though this is contingent on the learners having acquired the different behaviors of lexical and auxiliary verbs, which many in CORYL are shown not to have. Furthermore, realizing that lexical verbs do not move should not override the requirement that the finite (auxiliary) verb move to second position of the clause in *wh*-questions, since questions with *do*-support, which express the cue for the lack of movement of lexical verbs, also involve subject-auxiliary inversion.

However, in cases where the verb is non-finite, the sentences may be analyzed as involving a missing auxiliary. Errors of auxiliary omission are frequently attested in the

productions of learners of L1 English (e.g. Rowland & Pine, 2000, 2003), as well as in the L2 productions of learners of English as a second language (e.g. Ionin & Wexler, 2002; Gavrusseva, 2008; Muftah & Eng, 2011). Given that errors involving missing auxiliaries are relatively common, it seems reasonable to assume that the non-target word order of the questions with non-finite *doing* in (43a-b) above are caused by missing surface realization of auxiliary *be*, in which case they do not provide evidence for overgeneralization of non-V2 to *wh*-questions. While *dislike* in (43b) and *cry* in (43c) can be analyzed as finite forms, they can also be plausibly analyzed as the infinitive forms, and these questions may therefore also involve a missing auxiliary rather than a failure of verb movement.

The other five questions with non-V2 word order that were extracted involve finite forms of auxiliary and copula *be*, and as such, these errors cannot be caused by a missing auxiliary:

- | | | | |
|------|----|----------------------------------|------------|
| (44) | a. | How it's going at home? | CORYL, 146 |
| | b. | Were they are ? | CORYL, 147 |
| | c. | Whver they are ? | CORYL, 148 |
| | d. | What you are doing? | CORYL, 150 |
| | e. | Where you are on holiday? | CORYL, 151 |

The error in (44a) may be related to the usage of the subject pronoun and the attached enclitic – possibly it is a frequency effect of these parts of speech appearing so commonly in this fixed order, potentially also causing the learner to misanalyse the two elements, though this is largely speculation. Apart from this possibility, these questions involve unambiguously finite forms of auxiliary verbs that have not raised past the subject. Since both standard Norwegian and English are V2 in in this context, a possible explanation of the errors is that they are caused by overgeneralization of the general non-V2 word order of English to *wh*-questions.

However, another possible explanation is that the non-target word order in these sentences is caused by transfer of the optional non-V2 word order in *wh*-questions that is found in many Norwegian dialects. Unfortunately, due to the limited background information on the contributors to CORYL, it is not possible to determine whether the learners in question are from regions of Norway where this optional word order is common. However, as shown by Lie (1992) and Westergaard et al. (2017), this optional word order is found in a wide distribution of dialects, and since the texts in CORYL were collected from schools distributed widely across Norway (Hasselgreen & Sundet, 2017, p. 199), it should be expected that at least a portion of

the learners do allow and use non-V2 in questions in their L1. Of course, this does not necessarily mean that the property will transfer, but Westergaard (2003a) found that the distinction between V2 and non-V2 in questions in a North Norwegian dialect was seemingly carried over to the investigated learners' L2 English. The learners were found to be more likely to accept non-V2 in English questions in contexts where their dialect would allow non-V2, compared to contexts where this word order is not allowed (Westergaard, 2003a, p. 88). Westergaard's findings thus indicate that it is possible for this dialectal property to transfer to a second language.

What particularly indicates that the errors with unraised auxiliaries in (44) may be caused by transfer of the optional non-V2 of Norwegian dialects is that the sentences follow the pragmatic patterns associated with non-V2 word order in questions in these dialects. To briefly repeat from chapter 2, the choice between V2 and non-V2 in these dialects is dependent on the information status of the subject, with non-V2 being the preferred word order when the subject conveys information that is given by context or is otherwise readily available. The subjects in all of the *wh*-questions in (44) are unstressed pronouns, which are prime examples of given nominals and are therefore very common in questions with V3 word order in Norwegian dialects (Westergaard et al., 2017, p. 11). Expletive subjects, as in (44a), are also informationally light and likewise appear frequently with this word order (Westergaard & Vangnes, 2005, p. 129). Furthermore, the *wh*-elements that are used in the extracted sentences are ones that are common in non-V2 questions in dialects that allow them. While some dialects do allow non-V2 in *wh*-questions with complex *wh*-elements, it is more widespread in questions with simple, monosyllabic *wh*-elements (Westergaard et al., 2017, p. 26). *What* and *where*, which are used in (44b-e), are monosyllabic *wh*-elements in Norwegian, while *how*, which is used in (44a), is monosyllabic in some dialects and multisyllabic in others (Vangnes, 2006 p. 119). They are also monosyllabic in English, meaning that if this rule is productive in the learners' L2 grammar, learners who allow non-V2 with monosyllabic *wh*-elements in their L1 may also apply this to the English *wh*-elements.

Thus, while it is possible for some of the questions with non-V2 word order that were extracted from CORYL to be the result of overgeneralization of a general non-V2 parameter, I have shown in this section that all of these errors have other plausible explanations. Therefore, I would argue that these sentences do not provide evidence in support of a single-parameter model of the V2 property, and no other evidence of overgeneralization between clause types was found elsewhere in the corpora. However, this does not mean that the present findings directly support Westergaard's model of micro-cues for the acquisition of V2/non-V2 either.

The learners that were investigated in this study were all relatively advanced, and one might not in any case expect any overgeneralization of the non-V2 word order at this stage. While it is true that approaches that view V2 as the result of a single parameter do predict temporary overgeneralization at some stage, evidence for V2 in *wh*-questions in English is frequent enough that the effect may be negligible at this level. Therefore, the apparent lack of overgeneralization of non-V2 word order in the investigated corpora cannot be said to provide strong evidence for a micro-cue model of the V2 property.

However, if the questions with unraised auxiliaries are interpreted as resulting from transfer of the optional non-V2 in Norwegian dialects, this does indicate that the learners are sensitive to microvariation with regard to V2, and that the whole range of possible V2 word orders cannot be incorporated in a single V2 parameter. If it is only the value of a single parameter covering V2 word order that is transferred from the L1, fine-grained distinctions such as those displayed in Norwegian dialects should not be able to transfer into the L2. Evidence of this kind of transfer would also lend support to the notion that all aspects of the learner's L1 may transfer into their L2, as in the Full Transfer/Full Access hypothesis of Schwartz & Sprouse (1994, 1996), or in Westergaard's (2019) model of Full Transfer Potential. It should be noted that the evidence for transfer of this dialectal property in the present study is quite weak, however. In the first place, the sentences in question were produced by only three different learners, and the lack of background information in CORYL makes the source of these errors less certain, as it is unknown whether these learners speak a dialect that allows this optional word order, and the possibility of influence from other languages cannot be ruled out.

5.4 Is there evidence of prolonged transfer effects in interface contexts compared to contexts involving only narrow syntax?

This study also investigated the prediction of the Interface Hypothesis that properties at the interfaces between narrow syntax and another cognitive domain will be more difficult to acquire for learners of a second language compared to properties of narrow syntax alone. Since this is argued to lead to residual optionality even in near-native learners who have already acquired properties of narrow syntax, the potential effects will be most visible in highly advanced L2 learners. Most of the relevant evidence here therefore comes from the learners in ICLE, who are the most advanced of the learners that were investigated in this study. In what follows, I argue that the mentioned Interface Hypothesis prediction is seemingly borne out in the data that were gathered from the Norwegian ICLE subcorpus.

The specific prediction for the present study that was presented in section 2.4 was that the placement of lexical verbs should be largely target-accurate in the productions of the learners in ICLE, and that negative transfer should be found mainly with auxiliary verbs in topicalized structures. In this study, following Rankin (2012, p. 145), the raising of lexical verbs out of VP is assumed to constitute a property of narrow syntax exclusively, as this type of raising would be motivated by tense and agreement requirements, while V2 in topicalized structures is connected to the exercise of discourse-pragmatic options and is therefore considered an interface property. Looking at the data from ICLE that were presented in chapter 4, non-target V2 in topicalization contexts is attested in the texts of 15 different contributors. Only a single occurrence of this non-target word order was identified in each of the learners' productions, which is consistent with Sorace's description of residual optionality:

In the typical L2 end state characterized by optionality, optional variants are not in free variation: a steady state is reached in which the target option is strongly but not categorically preferred and the non-target option surfaces in some circumstances. (Sorace, 2003, p. 140)

Hence, while these learners most likely produce target-accurate non-V2 in most topicalization contexts, V2 remains as an option that may occasionally surface, indicating residual transfer from the L1.

Furthermore, all the identified occurrences of non-target V2 in ICLE are the result of subject-auxiliary inversion. In contrast to the findings in CORYL and the Garshol corpus, no occurrences of raising of lexical verbs to second position in non-subject-initial declaratives were identified in the ICLE subcorpus. Thus, while some of the learners are shown to still produce this type of error with auxiliary verbs, movement of lexical verbs to the CP-domain seems to have been effectively rooted out at this stage. The evidence for raising of lexical verbs elsewhere is also sparse. No errors involving movement of a lexical verb were found in either *wh*-questions or *yes/no*-questions, and no sentences were identified in which a main verb had moved across negation.

The results from the searches for lexical verbs appearing to the left of sentence-medial adverbs in ICLE do include some sentences that can possibly be analyzed as involving movement of a lexical verb. Seven occurrences of non-target verb-adverb word order were identified in the texts of six different contributors. As with the similar sentences in the Garshol corpus, however, these cannot necessarily be attributed to the transfer of lexical verb raising from Norwegian. As discussed in the previous chapter, four out of the seven extracted

sentences with a lexical verb appearing to the left of an adverb in ICLE involve a form of the lexical verb *have*, and these errors are most likely caused by miscategorization of the verb as an auxiliary rather than the learners allowing lexical verbs to raise. This leaves the three extracted sentences with other potentially raised lexical verbs that are shown in (45):

- (45) a. A notorious criminal has committed several minor crimes , ICLE, 16 and **gets** eventually caught and imprisoned .
- b. The constant flow of information from all sorts of ICLE, 17 media **contributes** additionally to the feeling of not keeping up with the world .
- c. Aristoteles **gave** once birth to the expression " cause and effect ICLE, 18 " .

In these sentences, too, one might question whether the error is caused by a misplaced adverb rather than a raised lexical verb. In (45b), for instance, the position immediately following the lexical verb is available to certain classes of adverbs, but *additionally* appears to be semantically inappropriate here. Given the high variability in the input with regard to the placement of adverbs, it seems reasonable to assume that even advanced learners may occasionally misplace them.

The error in (45c) is perhaps more likely to involve verb raising, since the position between the lexical verb and its direct object is not a position that is available to adverbs in English (Chu & Schwartz, 2005, p. 82), except in the case of heavy DP shift, which is not possible in this sentence. However, since such errors are also found in L1 Chinese learners of L2 English (Eubank et al., 1997; Chu & Schwartz, 2005), whose L1 does not allow verb raising, there must at least be some other possible source of error than transfer from the L1. The fact that no evidence of lexical verb raising was found in any of the other investigated contexts does indicate that this may be an issue with adverbs specifically rather than with verb raising.

Thus, there is very little evidence that the contributors to ICLE are transferring movement of lexical verbs from their L1 Norwegian to their L2 English. No occurrences of lexical verb raising are found in questions or negative sentences, and only a few examples of non-target placement of lexical verbs were identified in sentences with adverbs, and these errors cannot necessarily be attributed to transfer. Meanwhile, a significant number of learners are shown to still allow V2 as an optional variant in topicalized declaratives. Thus, the prediction of the Interface Hypothesis is borne out in that residual optionality is shown to exist in an area that is governed by both syntax and discourse-pragmatics, while the narrow syntactic

constraints on lexical verb movement appear to be completely acquired by all or almost all of the investigated learners in ICLE. This pattern is consistent with what Rankin (2012) identifies in advanced learners of L2 English with Dutch and German L1 backgrounds, as well as with Robertson & Sorace's (1999) findings on optionality in L1 German learners of L2 English.

Rankin (2012, p. 151) also finds that often in cases of non-target auxiliary inversion in topicalization contexts, the type of constituent that is fronted is also divergent from target English norms, in that the constituent would not be felicitous in a fronted position in any case. Thus, non-target V2 is shown to pattern with topicalization of constituents that cannot be felicitously fronted in English, and Rankin argues that what has transferred in these cases is the discourse-pragmatic patterns that allow these types of constituents to topicalize. Evidence of such patterns is not found in the data that were gathered from the Norwegian subcorpus of ICLE in the present study, however. In all of the extracted non-subject-initial declaratives with non-target subject-auxiliary inversion, the constituents that have been topicalized are ones that can felicitously undergo fronting in English. Some examples are shown in (46):

- (46) a. [Perhaps] **was** the successful snatch what triggered a more serious crime , changed their lives and made them suffer ICLE, 3
- b. [Of course] **should** they no longer stay at home . ICLE, 6
- c. [For instance] **has** a new bio-technology , genetic engineering , made interference and alteration of the genes possible . ICLE, 8
- d. [When we hear about pollution in the 19th century] **is** it more or less air pollution we hear about . ICLE, 14

These and the other fronted constituents in the extracted material do not diverge from English norms; rather, it is only the position of the finite verb that that makes these sentences unacceptable. However, this does not necessarily mean that discourse-pragmatic considerations are not involved here. It is for instance possible that the learners associate the V2 word order itself with a different discourse-pragmatic function and that it is therefore persistently transferred as a potential option in their interlanguage.

The searches that were run for specific types of constituents that cannot felicitously undergo fronting in English but can in Norwegian also did not result in any divergence from English norms being found. To briefly repeat, these included bare adjectives, which the Dutch and German learners investigated by Rankin (2012) were shown to topicalize, as well as object pronouns, which are quite commonly fronted in mainland Scandinavian languages, but hardly ever in English (Engdahl & Lindahl, 2014, p. 2). None of the contributors to the Norwegian

subcorpus of ICLE were found to topicalize either of these types of constituents in their L2 productions. The data gathered from ICLE in the present study thus does not provide any evidence of the learners transferring discourse-pragmatic patterns of constituent fronting from their L1. Even so, the findings in this connection may be limited by the contexts that were investigated, and some indication of the type of pattern reported by Rankin (2012) is found in the other investigated corpora. It was shown earlier in this chapter that learners in CORYL and the Garshol corpus tended to use object topicalizations more in line with the discourse-pragmatic patterns of Norwegian than those of English, and these sentences also displayed non-target V2 word order. It is possible that this type of divergence from target English norms is also found in the Norwegian subcorpus of ICLE, but since topicalized objects in ICLE were not investigated in the present study, this remains unknown.

5.5 Summary

In the above discussion, I have argued that the results of the present study provide strong evidence of transfer of word order from the learners' L1 Norwegian to their L2 English. The learners are shown to transfer both the V2 word order of Norwegian non-subject-initial declaratives and the raising of lexical verbs out of VP in general. The data that were gathered from the learner corpora show that evidence of transfer of V2 from Norwegian is found also in later stages of acquisition, even remaining in the productions of upper intermediate and advanced learners in the Norwegian subcorpus of ICLE.

The results of the study also indicate that non-target inversion involving auxiliary verbs is transferred more persistently in the learners' interlanguage compared to non-target raising of lexical verbs. While the learners in CORYL were shown to frequently raise lexical verbs as well as auxiliaries, evidence of lexical verb raising is far more limited in the productions of the more advanced learners in the Garshol corpus and ICLE. In contrast, clear evidence of non-target subject-auxiliary inversion is attested in all three corpora. I have argued that this pattern can be explained, at least in part, by the frequency of the relevant cues in the input, as well as by the less consistent evidence regarding auxiliary verb movement compared to the movement of lexical verbs.

The data on lexical verb movement in questions and non-target V2 in declaratives with topicalized objects were found to be too limited to draw any conclusions regarding transfer in these contexts. However, a number of the learners in CORYL were found to produce V2 word order in declaratives with a fronted direct speech complement to a verb of speaking, and in many cases, these sentences do not correspond with what is generally allowed by quotative

inversion in English. While the relatively large number of this type of error in CORYL is likely in large part due to the learners frequently using dialogue in their texts, it is also possible that this type of structure is particularly problematic for the learners. I have argued that quotative inversion may lead to contradictory evidence in the input, and that sentences where such inversion has taken place can usually be parsed by the learners' L1 grammar, which may cause them to rely on L1 structures more persistently. A more in-depth analysis of transfer in such contexts would be necessary to determine whether this is the case.

With regard to the question of whether the learners overgeneralize non-V2 word order between clause types, I have argued that there is little evidence of this type of overgeneralization in the corpora. While several questions with non-target V3 word order were identified in CORYL, all of these have other plausible explanations. Some were most likely caused by omission of an auxiliary verb, while the questions involving unraised auxiliaries were argued to be caused by transfer of the optional V3 word order in *wh*-questions that is found in many Norwegian dialects. If this dialectal property is able to transfer, as these findings seem to suggest, this lends support to Westergaard's model of micro-cues for V2, as well as to theories of full transfer.

Finally, the findings in the investigated subcorpus of ICLE were shown to support the prediction of the Interface Hypothesis that properties at the interfaces between narrow syntax and another cognitive domain will be more difficult to acquire than properties of narrow syntax alone. The results of the study indicate that the raising of lexical verbs, which is motivated by narrow syntactic requirements, has been completely acquired by most of the upper intermediate to advanced learners in the Norwegian subcorpus of ICLE. In contrast, a number of these learners are shown to produce V2 word order in topicalized structures by raising an auxiliary, which in such cases is affected by discourse-pragmatic considerations. However, the data from ICLE did not reveal any evidence of the kind of co-occurrence of non-target V2 with infelicitous fronted constituents that is identified in the productions of similarly proficient Dutch and German learners by Rankin (2012). On the other hand, some evidence of learners transferring discourse-pragmatic patterns of topicalization alongside V2 word order is found in CORYL and the Garshol corpus, where some learners were shown to topicalize objects in contexts where this type of fronting is infelicitous in English.

6 Conclusion

In this study, I have investigated the transfer of V2 word order in the L2 productions of learners of English as a second language with Norwegian as their L1. Data were collected from three learner corpora containing texts written by learners at various educational levels, ranging from 7th grade pupils to students enrolled in higher education. Sentences containing word order errors indicative of V2 transfer or overgeneralization of non-V2 were extracted from each of the corpora and sorted into lists of extracted material, and the collected data were analyzed using a primarily qualitative method. Clear evidence of transfer of Norwegian word order was found in the investigated learner corpora, as the learners were shown to produce errors involving non-target movement of the finite verb to second position of the clause, as well as errors involving raising of lexical verbs in general. Residual transfer of V2 was also shown to persist into late stages of acquisition, as verb raising errors were identified even in the productions of the highly proficient learners in the Norwegian subcorpus of ICLE.

I have followed Westergaard (2002, 2003a) in analyzing some of the patterns of transfer in terms of cue-based acquisition and the frequencies of the relevant cues in the input. Findings in this study indicate that the learners are able to acquire the lack of movement of lexical verbs out of VP in English more quickly than target-accurate non-V2 in non-subject initial declaratives, as learners were shown to persistently raise auxiliary verbs to second position in such sentences. I have argued that this can be explained in part by the relative infrequency of topicalized structures in English, which provide the learners with the cue for non-V2, as well as by the inconsistent evidence in the input with regard to subject-auxiliary inversion. Data from CORYL also indicate that the learners possibly transfer V2 more heavily in sentences with topicalized direct speech complements, and I have proposed that this may be due to ambiguous and inconsistent evidence in the input caused by quotative inversion.

The study also attempted to examine whether acquisition of V2 takes place on a clause-by-clause basis, or whether it is a process of setting a major parameter and then learning exceptions to the general V2 rule. Approaches that view V2 as the result of a single major parameter, including theories of multiple grammars and grammar competition, predict overgeneralization of V2/non-V2 word order between clause types in the acquisition process, while Westergaard's (2008, 2009) model of micro-cues for V2 posits that the word order is acquired separately for each clause type and thus predicts no overgeneralization between them. Very little evidence of this type of overgeneralization was identified in the investigated corpora, but since these learners are relatively advanced, it is possible that this is due to the learners

having already acquired the exceptional word order of English questions. However, some evidence was identified that possibly indicates that learners transfer the optional non-V2 word order in questions that is found in many Norwegian dialects, and this would mean that the learners transfer fine distinctions with regard to V2 from the L1 rather than simply transferring a parameter setting. Hence, the findings in this study lend slight support to Westergaard's micro-cue model.

Finally, I have investigated the transfer of V2 from the perspective of the Interface Hypothesis, which states that properties at the interfaces between narrow syntax and another cognitive domain may not be fully acquirable in a second language, and that they are therefore more vulnerable to transfer effects in late stages of acquisition (Sorace & Filiaci, 2006, p. 340). The focus has been on the interface between narrow syntax and discourse-pragmatics; the study compared transfer of lexical verb raising, which is motivated by narrow syntactic requirements, and transfer of V2 in topicalization contexts, which is affected by discourse-pragmatic considerations. It was shown that the most advanced of the investigated learners had seemingly fully acquired target-accurate lack of movement of lexical verbs, while a number of them were found to still produce non-target subject-auxiliary inversion in topicalization contexts. This is consistent with what is found in advanced learners of L2 English with German and Dutch L1 backgrounds by Rankin (2012) and Robertson and Sorace (1999), and it confirms the prediction of the Interface Hypothesis that interface properties remain unstable in advanced stages of L2 acquisition.

6.1 Limitations of the study and suggestions for further research

While this study provides insight into patterns of V2 transfer, it also leaves many questions unanswered that could be taken up in later research. The data gathered in the present study give an overview of the types of errors that Norwegian learners of L2 English commonly make with regard to V2, but it is difficult to draw definite conclusions about more subtle patterns of transfer based on these data alone. A more quantitative analysis of error rates in some of the contexts where the learners were found to transfer V2 word order in this study could therefore lead to deeper insights into how transfer of V2 affects learners' interlanguage. For instance, such a study may be able to answer whether there is any difference in the extent to which the learners transfer V2 word order in sentences with different types of topicalized constituents, which the data in the present study were too limited to answer. It may also be interesting to analyze error rates in declaratives with topicalized direct speech complements, in order to

determine whether quotative inversion has any effect on the transfer of V2, as I have speculated in this study.

More could also potentially be garnered from the three learner corpora that were used, as the extent to which the corpora could be investigated was limited by the time constraints on the study. For instance, only a relatively small portion of the Garshol corpus could be investigated, and many possible V2 contexts in ICLE were likewise not examined. I especially would have liked to be able to look at sentences with topicalized objects in the Norwegian subcorpus of ICLE, as this might have provided more insight into the transfer of discourse-pragmatic patterns from the L1. It should also be restated that the linguistic backgrounds of the learners who contributed to CORYL is uncertain, as the corpus lacks this kind of background information. While it is assumed that a majority of the learners are L1 speakers of Norwegian, there is a possibility that some of L2 productions in the corpus are influenced by other languages the learners may know, and the empirical evidence from CORYL in this study is weakened as a result.

Lastly, there are structures that are difficult to investigate using corpora because they are rare in production and therefore may not appear at all. For instance, the searches for topicalized bare adjectives and object pronouns in ICLE did not return any results, but that does not necessarily mean that such structures are impossible in the learners' interlanguage, as they are already relatively rare in Norwegian. In such cases, acceptability judgement tasks or elicitation tasks may be better suited to gather relevant data.

7 References

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8 Appendices

Appendix 1: Extracted material, CORYL

The extracted sentences are sorted by linguistic context and type of error. Where available, the extracts are annotated with the learner's ID in the corpus, and all of them are annotated with the learner's age and the position of the sentence in the corpus (cpos).

Non-subject-initial declaratives

Topicalized adverbials (auxiliary verbs)

1. [On day] **shud** mee may sisther and my friands sleep in the wood,
(p02-7, age 12/13, cpos 2213)
2. But [that day] **did** Peter see God.
(p03-10, age 15/16, cpos 2849)
3. [In the treasure-chest] **was** the many gold mony.
(p08-7, age 12/13, cpos 9249)
4. [To day] **was** everyting wrong.
(p105-10, age 15/16, cpos 16841)
5. [When you come to visit mi in norway] **wil** i take you to some beutiful places because you can see how fine this country is.
(p106-10, age 15/16, cpos 17669)
6. [When we are one this places] **wil** I take you to big pizza resturant with name Peppes Pizza.
(p106-10, age 15/16, cpos 17797)
7. But [when we are one this trip] **can** we also go to the mountan
(p106-10, age 15/16, cpos 17838)
8. So [then] **mätte** I and my last friend help us selfs.
(p106-10, age 15/16, cpos 18381)
9. [When I have become friends with the snake,] **was** everything allright.
(age 12/13, cpos 23509)
10. Kari do that and [the next day] **coud** they see on their job.
(age 12/13, cpos 24737)
11. [on the Carpet] **can** i see toys.
(age 12/13, cpos 32668)
12. [on the bookcase] **are** the a gold fish.
(age 12/13, cpos 32711)
13. [When i Come back] **was** the little house finish.
(age 12/13, cpos 33160)

14. I said [;now] **can** we have a house party
(age 12/13, cpos 33182)
15. [Here in New York] **is** everithing soo big!
(age 12/13, cpos 34878)
16. [Now when I and Anne are happy gain,] **Can** well the story end.
(age 12/13, cpos 36240)
17. I gikk in and [Plutselig] **var** i to my room.
(age 12/13, cpos 37335)
18. And [wee come up to thje house] **vas** the very beuteful!!
(age 12/13, cpos 44766)
19. [In Norway] **is** skiing a popular thing to try,
(p144-10, age 15/16, cpos 50370)
20. [One hollyday when I come home from my grandmother and my grandfather.] **have**
my friend paint " the clubb house ".
(p148-07, age 12/13, cpos 55569)
21. [Then we have paint it ready] **are** we hungry, very hungry.
(p148-07, age 12/13, cpos 55682)
22. [When i checked the bed rom] **Was** the thief Sleeping.
(p149-07, age 12/13, cpos 56242)
23. [When mom came home] **was** She proud of me.
(p149-07, age 12/13, cpos 56286)
24. but [this time] **was** the thief on toilet.
(p149-07, age 12/13, cpos 56339)
25. [No] **was** thet 2 agein.
(p150-07, age 12/13, cpos 57897)
26. [No] **was** the I agein.
(p150-07, age 12/13, cpos 57961)
27. So i take dadys Shotgun and Shoot the thief and [no] **are** he so dead like he coud be.
(p161-07, age 12/13, cpos 66388)
28. [Here] **can** you see my famely.
(p162-07, age 12/13, cpos 67150)
29. [On the floor] **is** the dog laying.
(p17-7, age 12/13, cpos 76195)
30. but [then they have Went in the house] **was** the burgular gone.
(age 12/13, cpos 78995)
31. [When the Politi coms] **Hove** i going in to the hous
(age 12/13, cpos 81601)

32. And [now] **was** evryone helping to make the cabbin.
(p181-07, age 12/13, cpos 86062)
33. [On day when the Sun are shining] **are** Mary, Adam and Michael in their cabin.
(age 12/13, cpos 93320)
34. We can clear more, [than] **will** the environment be better.
(p201-10, age 15/16, cpos 102139)
35. [of course] **am** I going to stumble in that and fall down to the floor.
(p209-10, age 15/16, cpos 109020)
36. [Then i go to the bathroom,] **was** it someone back the door,
(p211-7, age 12/13, cpos 112319)
37. [There] **can** we play fotball, eat iscream..... and sleep...
(p224-07, age 12/13, cpos 121475)
38. [When they came to the three agen] **was** the snake gon to the zoo,
(p224-07, age 12/13, cpos 121803)
39. [no] **are** mom come home and I am save....
(p248-7, age 12/13, cpos 129757)
40. [Naw] **are** im in the city i New York.
(p251-7, age 12/13, cpos 132867)
41. [To marow] **can** i just go to the swimming pool and just relaks.
(p251-7, age 12/13, cpos 132988)
42. [On the shelves] **is** it many books
(p26-7, age 12/13, cpos 136827)
43. [There] **is** he, [There] **is** he.
(p27-7, age 12/13, cpos 139722)
44. [now] **are** we going to (name) my son
(p276-10, age 15/16, cpos 142138)
45. [One day we schold go in the new hous] **was** it a big snake there
(p277-07, age 12/13, cpos 143307)
46. [In the picture] **is** it a pararot in his nest!
(p279-07, age 12/13, cpos 144597)
47. [Now] **are** I in campingien. [Her] **are** the boring.
(p281-07, age 12/13, cpos 146619)
48. So [now] **cod** Adam, Michael and John jobbing (mer) or the tree house.
(p281-07, age 12/13, cpos 147065)
49. [Under the table] **is** it many books.
(p287-07, age 12/13, cpos 150166)

50. [No] **have** I bin in the city and shoping alot of make-up.
(p289-07, age 12/13, cpos 150680)
51. [When he where coming up] **did** the boys kicing he so he fall all the way down.
(p289-07, age 12/13, cpos 150965)
52. [Now] **am** I and dad in Italy.
(p290-07, age 12/13, cpos 151671)
53. [Tomorrow] **are** we going to see the footballmatch beetween AC Milan and Juventus.
(p290-07, age 12/13, cpos 151700)
54. [Now] **was** it finish.
(p293-07, age 12/13, cpos 153996)
55. [Today] **have** I shooping on the city
(p295-07, age 12/13, cpos 154579)
56. [One ours later] **wasn't** mom home.
(p43-7, age 12/13, cpos 162678)
57. [To day] **have** we onely laying here on the beach and relaxs.
(p53-7, age 12/13, cpos 168383)
58. and [2 oures later] **was** we ferdig
(p58-7, age 12/13, cpos 172112)
59. So [now] **can't** ve begin the picknick
(p58-7, age 12/13, cpos 172152)
60. but [so] **was** the a old lady
(p58-7, age 12/13, cpos 172355)
61. [Fiwe days lelter] **has** we bild a trehaus.
(p67-7, age 12/13, cpos 175636)
62. [When allthing was ready to go,] **was** the car brooken.
(p88-10, age 15/16, cpos 184795)
63. [When he went to work,] **was** he 1 hour delay to work.
(p88-10, age 15/16, cpos 184843)
64. [on the wall] **is** it a picture of their son.
(p88-7, age 12/13, cpos 185029)
65. [Here in Skogstad] **is** the water cold,
(p92-7, age 12/13, cpos 187084)
66. [Of course] **can** we sleep said, Per.
(p97-7, age 12/13, cpos 190550)

Topicalized adverbials (lexical verbs)

67. and [sow] **com** the a bear,
(p02-7, age 12/13, cpos 2227)
68. [Bratt] **com** the a bear the lady tock fier and jag the bear away.
(p07-7, age 12/13, cpos 8560)
69. [One day when i, John and Jack was outsid] **found** we a big tre.
(p100-7, age 12/13, cpos 12356)
70. [Unfortunately] **come** the problems.
(p101-10, age 15/16, cpos 12870)
71. [mens they andre is jobbings and maler] **laget** they a Flag som var Rad Blac and thet var kult
(p101-7, age 12/13, cpos 13230)
72. [When i come to the mal] **saw** i many if my friends.
(p106-10, age 15/16, cpos 18069)
73. but [then..] **come** some bad people to the mal, and everything changs.
(p106-10, age 15/16, cpos 18128)
74. [when the bad people went to the toilet] **sad** my friend " let's try to come oss out of this mal
(p106-10, age 15/16, cpos 18267)
75. [When the bad people Gikk to the store med mye dyr bare ting,] **begynte** many people to run and find a fone to call the police
(p106-10, age 15/16, cpos 18524)
76. [After they hav write the house] **bye** they some coca cola and pizza.
(age 12/13, cpos 23903)
77. [Yesterday] **tok** my mum and dad me to the tivoli!
(age 12/13, cpos 24510)
78. [One day] **say** Kari: " Can we make a treeehous? "
(age 12/13, cpos 24597)
79. [Next day after school] **goes** the friends to the wood and begain.
(age 12/13, cpos 24682)
80. [One years after] **come** they back
(age 12/13, cpos 24791)
81. [when we Run to the Snake] **Come** the Police.
(age 12/13, cpos 25746)
82. [Yesterday] **raining** it,
(age 12/13, cpos 31537)

83. [Now I'm going in the door] **hear** I a stemme as say
(age 12/13, cpos 31626)
84. and [so] **come** one of them in the skap and la from he a present.
(age 12/13, cpos 31759)
85. [Now the had gone] **våget** I me from and I lookt on the present.
(age 12/13, cpos 31814)
86. and [after the party was finish] **come** mom and dad.
(age 12/13, cpos 33302)
87. [Then i Prøvde and ta nøkelen] **ble** the elePhant hel vill.
(age 12/13, cpos 37270)
88. [Ther] **play** we computer and TV Play.
(p148-07, age 12/13, cpos 55740)
89. [Six O'Clock] **have** we football and we goes to the football graund.. [Ther] **come** I, Peter, John, Mary, Sarah and my teacher Jack.
(p148-07, age 12/13, cpos 55768)
90. [Today] **care** young people only about fashion, instead of the environment.
(p150-10, age 15/16, cpos 57148)
91. [After a long time] **saw** Sarah and John at Adam.
(p181-07, age 12/13, cpos 85948)
92. [Than] **come's** the snake up to them and Mary see it first.
(age 12/13, cpos 93407)
93. [Now] **see** Michael and Adam the snake too.
(age 12/13, cpos 93438)
94. [After he's cross-country-skiing-carrer,] **beginning** he a make sochs.
(p201-10, age 15/16, cpos 102212)
95. [Before these sochs come,] **freeze** all the people on their feet
(p201-10, age 15/16, cpos 102271)
96. [After the test] **asked** Linda: " how did it go? "
(p208-10, age 15/16, cpos 108605)
97. and [there] **asked** they about the snake,
(p224-07, age 12/13, cpos 121828)
98. [After 1 ouers and 39 min..] **came** my dad home frome hes worke.
(p231-07, age 12/13, cpos 123504)
99. [Some aures later,] **said** the girl to me that she was my sister,
(p245-7, age 12/13, cpos 127260)
100. [One day I and Nick and Eirik was in the toy's hous] **come** the a one snacke.
(p292-07, age 12/13, cpos 153397)

101. The snacke teik the pizza and the drink and [so] **sleeping** he.
(p292-07, age 12/13, cpos 153459)
102. But [so one day] **come** a big, big snake
(p293-07, age 12/13, cpos 153996)
103. But [one day] **came** a snake up in the three hous,
(p295-07, age 12/13, cpos 154684)
104. [Now] **came** the snake up to us!
(p35-7, age 12/13, cpos 157596)
105. [Da] **sed** may friend.
(p44-7, age 12/13, cpos 164161)
106. [From dat day] **have** ve fod in the pairat house.
(p44-7, age 12/13, cpos 164233)
107. [This day] **crash** the king his car
(p56-10, age 15/16, cpos 170433)
108. but [når we sitting ther and play fredelig] so **came** a snake.
(p58-7, age 12/13, cpos 172210)
109. an [after tat] **begyn** won of my Freand and Hyle
(p67-7, age 12/13, cpos 175819)
110. but [so] **beginn** tht a new boy in my claz
(p67-7, age 12/13, cpos 175990)

Other topicalized constituents (auxiliary verbs)

111. I've chosen a very wide program so [my aducation after highschool] **am** I not so sure about.
(p04-10, age 15/16, cpos 4434)
112. We young people have other things to think on, [the environment] **can** we take when we are adults
(p100-10, age 15/16, cpos 11458)
113. i hope yow are fine, because [that] **are** i.
(age 12/13, cpos 40931)
114. [that] **have** i forgotend.
(age 12/13, cpos 41427)
115. [No we go up to you and cal the police,] **did** I say.
(p213-7, age 12/13, cpos 113621)
116. [The shelves with the fish on] **is** many books in.
(p26-7, age 12/13, cpos 136866)

Other topicalized constituents (lexical verbs)

117. [" Peter, "] **skrimd** Per to me.
(age 12/13, cpos 23468)
118. [who are you,] **asks** I
(age 12/13, cpos 26129)
119. [" What do you want to eat? "] **ask** my little brother me. [" Pizza ",] **answer** I.
(age 12/13, cpos 34110)
120. [" John ",] **said** I.
(age 12/13, cpos 34215)
121. [Yes!] **say** Adam and I.
(age 12/13, cpos 44614)
122. [the are over now] **said** I.
(age 12/13, cpos 49416)
123. [We are so happy] **say** one frend John.
(p156-07, age 12/13, cpos 61998)
124. [" Why do you not help ",] **askd** Sarah, Adam.
(p181-07, age 12/13, cpos 85979)
125. [You'r brother has bean there to day] **sad** a litle girl to me.
(p251-7, age 12/13, cpos 133056)
126. [Yes] **sad** she.
(p251-7, age 12/13, cpos 133150)
127. [so wath] **sad** i
(p251-7, age 12/13, cpos 133229)
128. But [the same problems] **have** the adults.
(p267-10, age 15/16, cpos 138544)
129. [" Ooh its good to be down again "] **said** we all.
(p58-7, age 12/13, cpos 172505)

Subject-initial declaratives

Lexical verb movement across negation

130. I **LiKe** not my dady Becas I for not ri THE HORSES I well ri my Horses But I for not ri THE HORSES.
(age 12/13, cpos 45950)
131. But I **had** not good time so I just rushed out with'out jacket or anything.
(p171-10, age 15/16, cpos 78507)

132. Mum were with a friends and **came** not home before four times.
(p284-10, age 15/16, cpos 148275)

Lexical verb movement across adverbial

133. We **have** already the tree, and the paint.
(p12-7, age 12/13, cpos 29089)
134. But I **wake** suddenly up from the dream
(age 12/13, cpos 34435)
135. I **like** spesially the good food they have.
(p154-07, age 12/13, cpos 60188)
136. Adam **eat** as usual pizza
(age 12/13, cpos 93362)
137. and you **have** allways something to do.
(p202-10, age 15/16, cpos 103433)
138. so the snak **came** never bak.
(p224-07, age 12/13, cpos 121857)
139. Adults **talk** often about yong people who do stupid things like increasing or something.
(p284-10, age 15/16, cpos 147743)
140. Adults **talk** often about clouds.
(p284-10, age 15/16, cpos 147841)
141. My friends was send to a hospital and **told** lather it had been a realy bad day.
(p284-10, age 15/16, cpos 148374)
142. The snake was very dangerous so Kristian and Lars and Per **came** never back to the wood.
(p295-07, age 12/13, cpos 154835)
143. They **have** also a cactus and another plant.
(p33-7, age 12/13, cpos 156412)
144. At school i **broke** allmost my finger.
(p86-10, age 15/16, cpos 184370)

Questions

Lexical verb inversion

145. **have** you a idea?
(age 12/13, cpos 44546)

Wh-questions with non-V2 word order

146. How it's going at home?
(age 12/13, cpos 42300)
147. Were they **are**?
(p150-07, age 12/13, cpos 57788)
148. Whver they **are**?
(p150-07, age 12/13, cpos 57876)
149. Wat she **doing**?
(p150-07, age 12/13, cpos 57998)
150. What you **are** doing?
(p155-07, age 12/13, cpos 60735)
151. Where you **are** on holiday?
(p155-07, age 12/13, cpos 60766)
152. What you **doing** in the town. What you **dislike** ind the town.
(p212-7, age 12/13, cpos 112537)
153. Why you **cry**?
(p43-7, age 12/13, cpos 162955)

Appendix 2: Extracted material, Garshol corpus

The extracts are annotated with the name of the file they were extracted from, and they are sorted by linguistic context and type of error. In addition, the extracts from the learner 15STK04 are listed in a separate section for the sake of readability, since the errors produced by this learner by far outnumber the ones produced by the other learners.

Topicalized adverbials (auxiliary verbs)

1. [In some of the flashbacks] **are** Kate Barlow and the onion-man Sam good friends.
(15MKV18_Mar16)
2. [Today] **is** about 2% of the Australian population aboriginals.
(15SSK01_May16)
3. [Besides] **is** it not usual in the big cities to know the grocery-owner by name and personally.
(15STK30_Sep15)
4. [When America still was racially segregated, in the early 1950s,] **were** African Americans slaves,
(15STV14_Apr16)
5. [For many gays] **is** it almost impossible to get out and they marry the opposite sex to hide it.
(15STV23_Oct15)
6. [Because of the huge, time-lapse] **did** the movie represent the 1920s as good as the book did.
(15STV34_Feb16)
7. [Suddenlly] **is** the sound of the chainsaw more near now!
(15TIPV07_Nov15)
8. and [then] **is** friend Ford I coming whit beer to everyone and he now that they are going to destroy the earth.
(15TIPV12_Mar16)
9. [The movie fast and furious] **is** the many USAs big star some Vin Diesel, paul walker, and hoobs.
(15TIPV29_Apr16)
10. [In the movie] **is** Vin Diesel in a relationship with letty.
(15TIPV29_Apr16)
11. [In the movie] **is** Hobbs boss for FBI he go around with arms and knife.
(15TIPV29_Apr16)

Topicalized adverbials (lexical verbs)

12. [First] **dies** his father, which he wants to revenge by killing his uncle, which he thinks, murdered his father.
(15STV40_Oct15)

Other topicalized constituents

13. In the film, you can see racism, [racism] **can** you see when she plays football and have to play with the boys in the beginning of the film.
(15STV13_Dec15)
14. [All the people I meet in my daily life] **would** I also do a change with
(15STV14_Dec15)
15. [This] **should** they not have done, because somebody sees them and tells the whole village.
(15MKV18_Mar16)
16. [They three person] **shall** I say a little bit of after.
(15TIPV29_Apr16)

Lexical verb movement across negation

17. The Native Americans and the Europeans **had not** the same immune system
(15SSK01_May16)
18. and they **got not** much jobs.
(15SSK18_May16)
19. Jessminder was from India, so she **has not** she same color as the other girls in London.
(15STV13_Dec15)
20. This is a bit of what I have learned but I **have not** time to write more.
(15HOV20_Feb16)

Lexical verb movement across adverbial

21. Moreover, love is something that **comes very often** up in the movie and the book.
(15STV13_Feb16)
22. and he **has also** experience with work where you have to care for others when he worked at Care home.
(15STV49_Dec15)
23. grandpa got all this stories about the figure generation where he talk about his great great grandpa who **got ones** robbed by the famous Kissing Kate Barlow from his families thresher.
(15MKV08_Mar16)

24. They **ended** first up in a toilet at the subway, and then at a homeless shelter.
(15SSK19_Oct15)
25. Chris the son **tried** always to make his father happy.
(15SSK19_Oct15)
26. Some kids **have** also problems at home, at school or just problems in general.
(15STV42_Oct15)

Data from 15STK04

Topicalized adverbials (auxiliary verbs)

27. [Therefore] **did** everybody think she couldn't kill her husband.
(15STK04_Sep15)
28. [For some reason] **did** many of them lead to misery.
(15STK04_Nov15)
29. Therefore, [in this essay] **will** we look on the reason too why she made the choices she made.
(15STK04_Nov15)
30. This is because [in her childhood] **did** she experience a lot of violence.
(15STK04_Nov15)
31. [Third,] **did** she get thrust issues of it.
(15STK04_Nov15)
32. [Therefore,] **was** she afraid to commit to someone.
(15STK04_Nov15)
33. [Therefore] **did** she accepted the job because it was a kind of an opportunity after being expelled from collage to do what she wanted to do.
(15STK04_Nov15)
34. [Finally] **did** she manage to straighten up her life.
(15STK04_Nov15)
35. [Because of this] **did** she get thrust issues.
(15STK04_Nov15)
36. [After she got into that bad community] **was** it hard for her to "break the pattern".
(15STK04_Nov15)
37. [In other wards] **did** her choices become a bad habit witch was hard to break.
(15STK04_Nov15)
38. [Then in the end,] **did** she want to marry Forrest because she had straightened up her life.
(15STK04_Nov15)

39. [Because of this,] **does** it today exist different cultures and peoples with different beliefs there.
(15STK04_Dec15)
40. [Among them] **are** there the stereotypes.
(15STK04_Dec15)
41. Therefore, [in this little essay] **will** I discuss two of the more common ones, and to what level I believe they exists today.
(15STK04_Dec15)
42. [To begin with,] **are** there the “USA is the best” stereotypes.
(15STK04_Dec15)
43. [Of course] **is** it not only them who is the “USA is the best” stereotypes, but they are a part of them.
(15STK04_Dec15)
44. [For instance] **is** one of the main focuses in the media all the actors and the singers who live in America.
(15STK04_Dec15)
45. [Obviously] **are** there still many individuals and persons who still beliefs in the American dream.
(15STK04_Dec15)
46. [On the other hand] **is** it also other persons who do not believe in it.
(15STK04_Dec15)
47. [With that said,] **can** we find many individuals in those groups who still believe.
(15STK04_Dec15)
48. But [again,] **is** it mostly, specifically these ones who does not share the “general” opinion about the American dream.
(15STK04_Dec15)
49. However [nevertheless] **are** there many persons who don’t, specifically the poorer ones.
(15STK04_Dec15)
50. Therefore, [since almost half of the population lives in the lower class or the lower-middle-class,] **is** the American dream threatened.
(15STK04_Dec15)
51. [If this continues,] **will** this way of thinking face extinction
(15STK04_Dec15)
52. [With fast-food businesses like MacDonal’d’s,] **is** it not so rare for people to get overweighed anymore.
(15STK04_Dec15)

53. For [when it costs maybe two dollars for a menu,] **is** it obvious that the poorer ones will buy it.
(15STK04_Dec15)
54. [Therefore again,] **is** people generally getting more weight.
(15STK04_Dec15)
55. [Then with that said,] **are** there many people in this world that thinks it is almost only Americans who struggles with the overweight-problem.
(15STK04_Dec15)
56. That one is connected to the two others, and [together] **does** that create the fundamental to why Americans buys junk-food.
(15STK04_Dec15)
57. [Nevertheless is the stereotype “all Americans are fat” not correct.
(15STK04_Dec15)
58. [With that in mind,] **will** the stereotype be more and more correct if nothing happens.
(15STK04_Dec15)
59. [In this world] **does** it exist a lot of different problems.
(15STK04_Dec15)
60. [To these problems] **are** there many persons who believe that the state is not doing enough.
(15STK04_Dec15)
61. [Notably] **can** this be done in different ways.
(15STK04_Dec15)
62. Therefore [in this essay,] **will** I discuss different ways people can influence the government and some of the issues these ways can make.
(15STK04_Dec15)
63. [28th August] **did** a demonstration occur.
(15STK04_Dec15)
64. Because [apparently] **did** 99% of the demonstrators appear well-behaved.
(15STK04_Dec15)
65. [With that said] **did** probably some individuals come there just for the chaos of a demonstration.
(15STK04_Dec15)
66. But [nevertheless] **does** it still create a fear.
(15STK04_Dec15)
67. It makes people think “[if I go to a demonstration,] **can** I be arrested”.
(15STK04_Dec15)

68. [Therefore] **is** police interference bad for demonstrators, but [with that in mind,] **is** it still many persons who still demonstrate.
(15STK04_Dec15)
69. [Alternatively] **are** many individuals, especially younger ones, making videos where they are representing a problem.
(15STK04_Dec15)
70. Therefore, [as a result] **is** it hard for someone new to go into politics.
(15STK04_Dec15)
71. [Because of this,] **are** there not many people who choose to do this.
(15STK04_Dec15)
72. [For instance in America, when racism was everywhere in the south,] **did** they try many things before they started to demonstrate.
(15STK04_Dec15)
73. For [somehow] **does** it work better.
(15STK04_Dec15)
74. [As a conclusion,] **are** there many ways to influence the different choices a country or a state makes.
(15STK04_Dec15)
75. [Alternatively] **is** it also a chance of getting nowhere with your actions.
(15STK04_Dec15)
76. [Despite that] **are** people still trying and risking their freedom for something they believe in, like racism.
(15STK04_Dec15)
77. Therefore, [if we looks at its history,] **will** we find the answer to “why does inequality happen?”
(15STK04_Feb16)
78. [In 1652] **did** Jan van Riebeeck from the Dutch East India Company settle the first colony in South Africa.
(15STK04_Feb16)
79. [A few years later, in 1795,] **did** the British government also invade South Africa.
(15STK04_Feb16)
80. Therefore, [after two wars (the Anglo-Boer wars), where the British Empire won,] did South Africa become a British colony.
(15STK04_Feb16)
81. [At the same time as this system came,] **did** the ANC (the African National Congress), an illegal party, fight against this inequality.
(15STK04_Feb16)

82. [In 1964] **did** the leader of this party, Nelson Mandela, become prisoned.
(15STK04_Feb16)
83. [Therefore] **did** he free Mandela and [after a while and cooperation,] **did** the apartheid system come to an end.
(15STK04_Feb16)
84. [In that way] **can** we find out why the apartheid system came.
(15STK04_Feb16)
85. [For instance] **did** the government of America, imprison the indigenous people with small lands, to stop them from taking their land back.
(15STK04_Feb16)
86. [Because the fear of losing power,] **does** the people with power limit the power of their people.
(15STK04_Feb16)
87. [Additionally] **is** it often the minority who has this power.
(15STK04_Feb16)
88. [Therefore] **will** the rest of the society have a feeling of injustice.
(15STK04_Feb16)
89. [For them] **will** it not be fair, that the minority controls everything.
(15STK04_Feb16)
90. [For this reason] **will** the feeling of injustice turn into hatred.
(15STK04_Feb16)
91. [For many] **will** this be extremely difficult, they has to abandon what they have learned since childhood.
(15STK04_Feb16)
92. [To do this,] **do** they have to first forgive the whites and furthermore forget their habits of looking down on each other.
(15STK04_Feb16)
93. [In addition] **did** it get a worthy criticism by Daily Mirror and Publishers Weekly.
(15STK04_Apr16)
94. [In this essay] **am** I going to prove this by looking at the different reactions Mr. Bolitar has to the different events that occurred to him in the book
(15STK04_Apr16)

Topicalized adverbials (lexical verbs)

95. [Likewise] **does** the rest of the population is this world.
(15STK04_Dec15)
96. [Secondly,] **has** everybody the opportunity to use the media or the news.
(15STK04_Dec15)

97. [Eventually] **came** the apartheid system.

(15STK04_Feb16)

98. [After 27 years] **realized** the president of South Africa, F.W. de Klerk, that the apartheid system was wrong.

(15STK04_Feb16)

Other topicalized constituents (auxiliary verbs)

99. [Most of her choices] **can** we relate back to her childhood.

(15STK04_Nov15)

Appendix 3: Search results and extracted material, ICLE

In this appendix the results of the searches that were run in the ICLEv3 concordancer are shown. The corpus is annotated with the CLAWS7 part of speech tagset, and an overview of the POS-tags in the corpus can be found in Granger et al. (2020, p. 68).

Topicalized adverbials

Adverbs at left of search string:

RG: No errors

RGQV: No errors

RGR: No errors

RGT: No errors

RL: 1 error

1. [Here] **is** probably an abortion a good solution .
(NOOS1013)

RP: No errors

RR: 4 errors

2. [Even in schools] **do** children learn to use computers from the age of 6 , and as an adult you are a " loser " if you can not manage to use a PC .
(NOBU1002)
3. [Perhaps] **was** the successful snatch what triggered a more serious crime , changed their lives and made them suffer
(NOBE1020)
4. [Therefore ,] **should** the tutors of universities and colleges , especially tutors in job-related education , been handpicked from the real world .
(NOOS1003)
5. [Hopefully] **will** other people 's attitude towards convicts also change if they know that the criminals are rehabilitated and improved as human beings .
(NOUO2024)

RR21: 1 error

6. [Of course] **should** they no longer stay at home .
(NOOS1017)

RR41: No errors

RRQV: No errors

RRR: No errors

RT: 1 error

7. [Today] **has** religion in our part of the world , turned into a personal business .
(NOUO1090)

REX: No errors

REX21: 2 errors

8. [For instance] **has** a new bio-technology , genetic engineering , made interference and alteration of the genes possible .
(NOHO1031)
9. [For instance] **is** seventeen weeks of practise not enough .
(NOHO1004)

Topicalized prepositional phrases

spos:PREP (left of search string): 4 errors

10. [In some cases] **is** it unfair - the person working hardest do not receive the reward he or she deserves .
(NOAG1014)
11. [In such cases also] **is** a rehabilitation programme a necessity in order to convince the offender that crime is not the only way out .
(NOBE1008)
12. [In 1628 ,] **was** it changed into a more modern army based on conscription .
(NOBU1001)
13. [In my point of view] **is** it the latter .
(NOHB1002)

Topicalized subordinate clauses

CSU at start of sentence: 2 errors

14. [When we hear about pollution in the 19th century] **is** it more or less air pollution we hear about .
(NOHE1002)
15. [When the time reaches us in our daily lives , by stress for instance ,] **are** dreams and imaginations something which we have by intuition .
(NOUO1059)

Topicalization of bare adjectives

ADJ at left of search string: No errors

ADJ + Vbe: No errors

JJ + spos! N: No errors

(No occurrences of topicalized adjectives)

Topicalization of object pronouns

Object pronouns at start of sentence:

PPHO1: No errors

PPHO2: No errors

PPIO1: No errors

PPIO2: No errors

PPY: No errors

PPH1: No errors

(No occurrences of fronted pronominal objects)

Lexical verb movement across negation

Vlex + NEG: No errors

Vhave + NEG + pos!:VVN: No errors

Vdo + NEG + pos!:VVI: No errors

Lexical verb movement across adverbial

VV0 + RR: No errors

VVZ + RR: 2 errors

16. A notorious criminal has committed several minor crimes , and **gets** eventually caught and imprisoned .
(NOBE1008)

17. The constant flow of information from all sorts of media **contributes** additionally to the feeling of not keeping up with the world .
(NOUO1013)

VVD + RR: 1 error

18. Aristoteles **gave** once birth to the expression " cause and effect " .
(NOUO1061)

Vhave + RR + pos!:VVN: 4 errors

19. Similarly to religion , television **has** clearly an element of entertainment , that is for sure .
(NOBE1016)

20. Many countries **have** already professional armies , both the US and Great Britain have based their military systems on enlisted volunteers .
(NOBU1001)

21. And even if Russia has lost much of its power , it **has** still one of the worlds largest and most advanced armies .

(NOBU1001)

22. It **has** also something to do with the life we are living , and that we can not stand to be bored .

(NOOS1039)

Vdo + RR + pos!:VVI: No errors

Lexical verb movement in questions

Lexical verbs at left of search string:

VV0: No errors

VVD: No errors

VVZ: No errors

Vhave: No errors

Vdo: No errors

Wh-elements at left of search string:

RGQ: No errors

DDQ: No errors

DDQGE: No errors

PNQS: No errors

PNQO: No errors

RRQ: No errors

