I don't know why did they accept that: Grammaticality judgements of negation and questions in L1 Danish and L1 Finnish learners of English

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Abstract
In a grammaticality judgement test of main clause and embedded sentential negation, *yes-no* questions, and *wh*-questions, performance was less accurate on embedded constructions than on main clause constructions across experienced and inexperienced L1 Danish and L1 Finnish learners of English. Likewise, accuracy scores were higher for negation than for questions across L2 groups. Comparisons between groups revealed that inexperienced L1 Finnish learners accepted *do*-support in embedded *wh*-questions more often than the other L2 groups and the native speaker baseline. This may be interpreted as an instance of cross-linguistic overcorrection, given that neither English nor Finnish embedded *wh*-questions have I°-to-C° movement, but English main clause questions do. No other between-group differences were observed. The results support Hawkins' Modulated Structure building model, which claims that the acquisition of L2 syntax involves incremental structure building.

1. Introduction

The generative conception of language acquisition is rooted in a rationalist approach to acquisition of knowledge, claiming that innate principles guide the form of knowledge in a restricted and highly organised way. This is contrary to an empiricist approach, according to which only the capacity to learn from data-processing is innate (Chomsky 1965:47-59). Since a large body of research suggest that empiricist approaches to linguistics are

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'intrinsically incapable of yielding the systems of grammatical knowledge that must be attributed to the speaker of a language' (Chomsky 1965:54), this study[1] adopts a generative, and thereby a rationalist, perspective on language acquisition.

Generative approaches to first (L1) and second (L2) language acquisition aim to account for two principal problems: 1) the logical problem, and 2) the developmental problem (e.g. Hawkins 2001:1). The logical problem, also known as the poverty of the stimulus problem, centers on the paradox that language learners come to know more than they have been exposed to in the input (e.g. Chomsky 1986:xxv-xxvi). In response to the logical problem, generative linguists argue that since the grammatical knowledge observed in speakers of a language contains information that cannot be derived from language input alone, innate principles must be guiding the acquisition of grammar (e.g. Chomsky 1986:55). According to Chomsky (1986:24) 'UG [Universal Grammar] is a characterisation of these innate, biologically determined principles, which constitute one component of the human mind – the language faculty'. Note that grammatical knowledge is assumed to consist of both UG and learned elements; 'a generative grammar purports to depict exactly what one knows when one knows a language: that is, what has been learned, as supplemented by innate principles' (Chomsky 1986:24). UG consists of a number of subsystems, each containing a set of principles and parameters, and of certain overriding principles. Both principles and parameters are innate, but while principles apply universally, parameters must be set to a specific value for the language of acquisition, which can be done from simple linguistic evidence, i.e. exposure to language input (Chomsky 1986:102).

X-bar-theory, one of the subsystems of UG, holds that a phrase (XP) is a projection of its head (X°). The head is the core of the phrase and may be modified by a complement and/or a specifier (Spec). There is an intermediate projection (X-bar or X'), consisting of the head and its complement, and the phrase constitutes the maximal projection (XP), consisting of the bar-level and its specifier. According to X-bar-theory, all phrases of all languages have the structure in (1). However, specifiers and complements may either follow the head or precede the head. The order of specifiers and complements vis-à-vis heads is subject to parameter settings (Haegeman & Guéron 1999:78-79; Hawkins 2001:15-16).[2]

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[1] Many thanks to Johanna Wood for help in developing the grammaticality judgement test and for helpful comments and suggestions concerning the analysis.

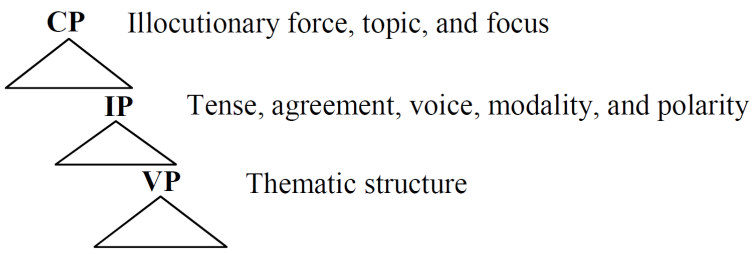
[2] For a thorough introduction to generative grammar, see Haegeman & Guéron (1999).

(1)

Heads may consist of lexical and functional categories, giving rise to lexical and functional phrases. Lexical categories are nouns, verbs, adjectives, adverbs, and prepositions, and the corresponding lexical phrases are thus Noun Phrases (NPs), Verb Phrases (VPs), Adjectival Phrases (AdjPs), Adverbial Phrases (AdvPs), and Prepositional Phrases (PPs). Functional categories are built around functional words, i.e. words without lexical meaning, such as determiners and complementizers, and around functional aspects of syntax, such as inflection. Consequently, there are Determiner Phrases (DPs), Complementizer Phrases (CPs), and Inflectional Phrases (IPs) (Haegeman & Guéron 1999:103-104).

The general clause structure can be divided into three main layers. The hierarchically lowest layer is the VP-layer, where thematic structure is encoded, i.e. who did what to whom. The next layer is the IP-layer, where tense, agreement, voice, modality, and polarity are encoded, and where subject predication takes place. Negative polarity is encoded in a so-called Negation Phrase (NegP), which is part of the IP-layer. The highest layer is the CP-layer, where illocutionary force, topic, and focus are encoded (Christensen 2005:27-28 and works cited there). Together, this gives the general clause structure schematised in (2).

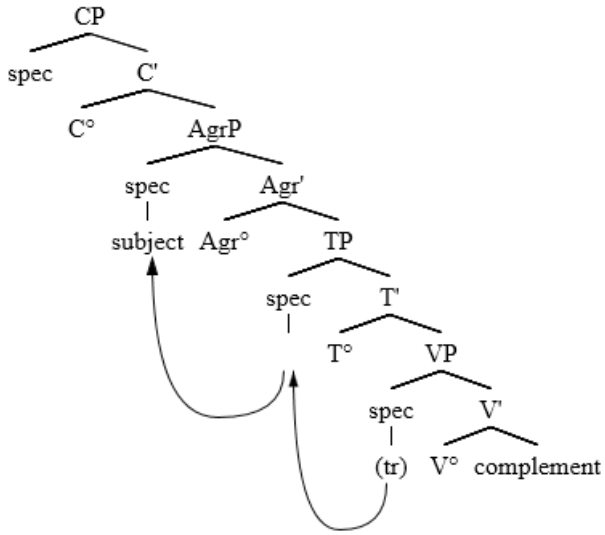
(2)



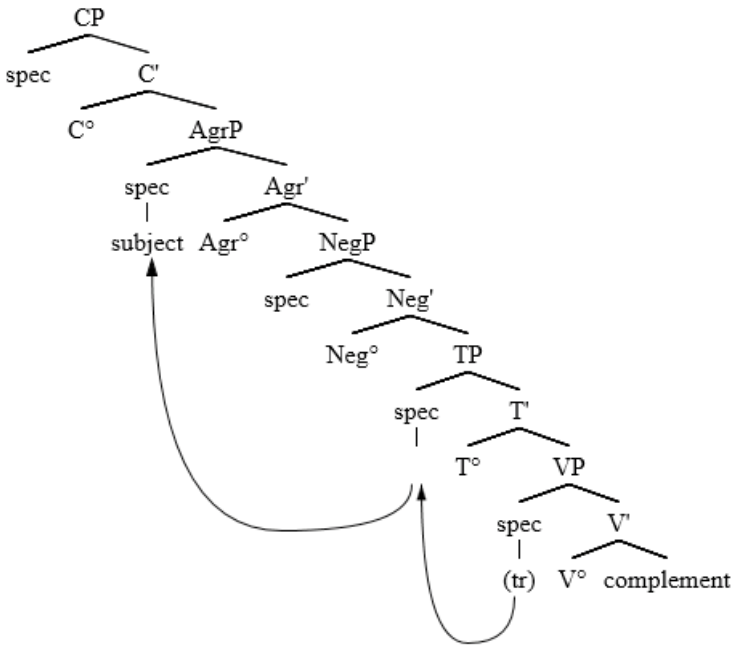
Based on analyses of French infinitival clauses, Pollock (1989) suggest that IP is split into a Tense Phrase (TP) and an Agreement Phrase (AgrP), the so-called split-IP analysis. Specifically, Pollock suggests that

TP is above AgrP and that NegP, when present, intervenes between TP and AgrP. However, based on the order of verbal inflections, Belletti (1990:30) proposes the reversed order of TP and AgrP, leading to the universal structures of positive and negative sentences illustrated in (3)a and (3)b respectively.

(3) a.



b.



The developmental problem is concerned with the way the grammar of language learners develops (Hawkins 2001:1). This study investigates the development of L2 English negation and question formation in L1 Danish and L1 Finnish learners by by means of a grammaticality judgement test. Negation and question formation are chosen because they display interesting structural differences across the three languages. Negation reflects differences in the IP-layer, while question formation reflects differences in the CP-layer. The following two sections present these differences in detail.

2. Negation

Syntactic negation can take three forms. In sentential negation, as in (4)a, the negator *not* has scope over the entire sentence. In constituent negation, as in (4)b, the negator *not* has scope over one constituent, *French*. Finally, there is anaphoric negation, as in (4)c, where *no* is used as a negative response to a question (Hawkins 2001:83). The present study is concerned with sentential negation only.

(4) a. John did <u>not</u> speak French last night.
b. John spoke <u>not</u> French but Italian last night.
c. - Did John speak French last night?
- <u>No</u>.

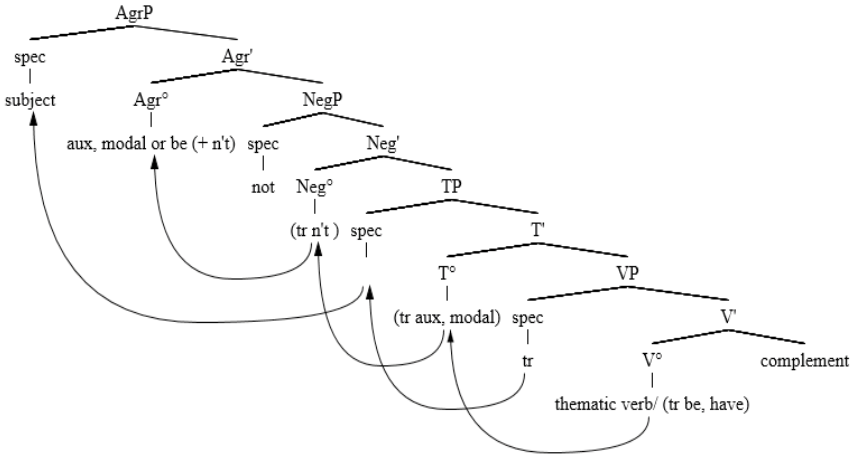
Negators are universally base-generated in NegP, but languages differ in whether they realise Neg°, the specifier of NegP or both overtly. Full negators, like English *not* and Danish *ikke*, are assumed to be base-generated in NegP-spec, while clitic negators, like English *n't* and Finnish *ei*, are assumed to be base-generated in Neg°. This variation and variation in other parametric settings, such as differences in verb movement, explain cross-linguistic differences in the surface position of the negator. The next three sections outline negation in English, Danish, and Finnish in more detail.

2.1. Negation in English

The sentential negator has two forms in English, the full form *not* and the reduced form *n't*. *Not* is generally assumed to be in NegP-spec, while *n't* is assumed to be in Neg°. Both forms require a filled Agr°, and consequently

English negation has *do*-support with thematic verb constructions (since finite thematic verbs remain in V°), while negation with modals (which are all base-generated in T° and move to Agr°), auxiliary *be* and *have*, and copula *be* (all of which move from V° to T° to Agr° when finite) requires no *do*-support (Haegeman & Guéron 1999:322; 529-530). The present study tests only constructions with thematic verbs and full negators. There are no structural differences between main clause negation and embedded negation in English. (5) presents an overview over the structure of English negation.

(5)



Haegeman & Guéron note that *not* can coordinate with *whether* but not with *if*, as is clear from the grammaticality of (6)a and the ungrammaticality of (6)b. Based on the assumption that only constituents of the same type can coordinate and the claim that *whether* is in CP-spec, while *if* is in CP°[3], Haegeman & Guéron deduce that *not* must be in a specifier position.

[3] See Haegeman & Guéron (1999:175-176) for the arguments behind the structural positions of *if* and *whether*.

(6) a. John wonders whether or not he should speak French.
b. * John wonders if or not he should speak French.

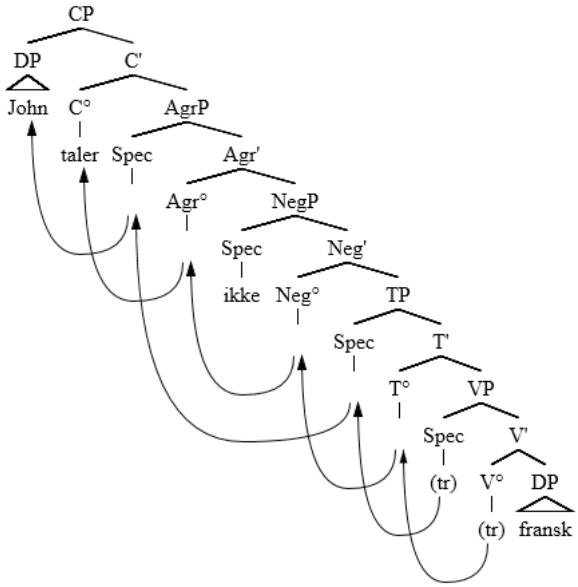
2.2. Negation in Danish

Christensen (2003) argues that the Danish negator *ikke* is in NegP-spec for three reasons:1) Danish *ikke* does not move with the verb under subject-auxiliary inversion, 2) Danish *ikke* does not cliticize (the clitic negators in English, Norwegian, Swedish, and Icelandic are all in Neg°), and 3) the full negators in all the other Scandinavian languages are in NegP-spec.

The surface position of the Danish negator varies between main clauses and embedded clauses. Danish main clause negation is always postverbal, since Danish main clauses are always Verb Second (V2), and finite main clause verbs therefore undergo obligatory V°-to-T°-to-Agr°-to-C° movement. Embedded negation, however, is preverbal as a standard, but may be postverbal, since V2 is optional in embedded clauses in Danish. Embedded V2 is subject to a number of restrictions, as listed e.g. by Vikner (1995:71-72, 84-85, 2001:226). Consequently, embedded finite verbs may but need not, undergo V°-to-T°-to-Agr°-to-C° movement. In embedded non-V2 clauses, the finite verb remains in V°.

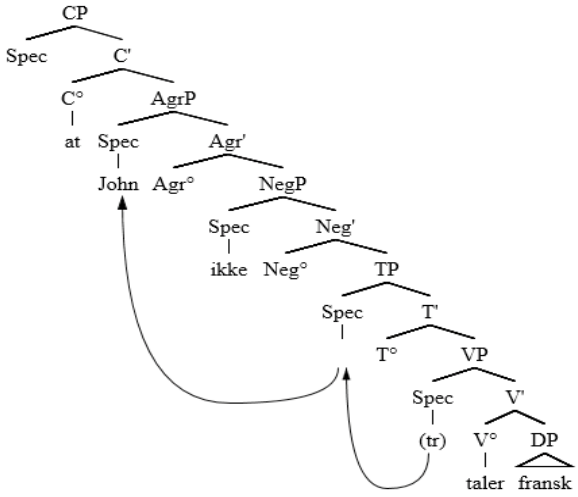
I leave aside embedded V2 here, as this study investigates constructions for which embedded V2 would be ungrammatical in Danish, i.e. violating the restrictions on embedded V2. The structure of main clause negation and embedded (non-V2) negation is exemplified in (7)a and (7)b, respectively.

(7) a. John tal-er ikke fransk.
John speak-PRS not French
'John does not speak French.'



b. Jeg ved at John ikke tal-er fransk.
I know[PRS] that John not speak-PRS French
'I know that John does not speak French.'

Jeg ved ...



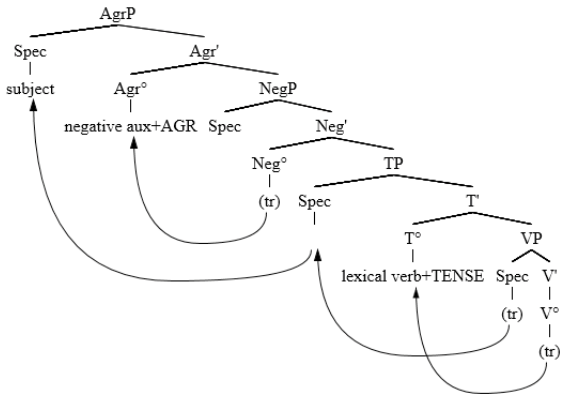
2.3. Negation in Finnish

The Finnish negator is an auxiliary that expresses agreement with the subject, while the lexical verb expresses tense (Karlsson 1999:69-70). Mitchell (2006) argues that the negative auxiliary in Finnish is a syntactic head for three reasons: 1) The negative auxiliary shows agreement with the subject, and subject-verb agreement is typically assumed to express a specifier-head relationship, 2) the presence of the negative auxiliary blocks the expression of subject agreement on the lexical verb, suggesting that the negative auxiliary intervenes in a head position between the lexical verb and the phrase where subject-verb agreement takes place in line with the Head Movement Constraint, and 3) the negative auxiliary can move to C° and merge with the complementizer *että* 'that' as in (8).

(8) Kerro-Ø-n ett-e-t puhu-Ø ranska.
say-PRS-1SG that-NEG-2SG speak-PRS French
'I say that you do not speak French.'

In affirmative sentences, the lexical verb moves from V° to T° to Agr° and expresses both tense and agreement. In negative sentences, the negative auxiliary blocks the movement of the lexical verb in T°, and the lexical verb thus expresses tense but not agreement, while the negative auxiliary, moving from Neg° to Agr°, expresses agreement but not tense. The structure of Finnish negation is shown in (9). There are no structural differences between main clause negation and embedded negation in Finnish (Mitchell 1991).

(9)



2.4. Summary of negation in English, Danish, and Finnish

(10) presents an overview over the surface structure in English, Danish, and Finnish negation. For reasons of space, only the structural positions overtly occupied are shown. Note that the distinction between main clauses and embedded clauses is accompanied by different word orders in Danish only.

(10)

	CP-spec	C°	AgrP-spec	Agr°	NegP-spec	T°	V°	DP
ENG			*John*	*does*	*not*		*speak*	*French.*
DK Main	*John*	*taler*			*ikke*			*fransk.*
DK Emb		*at*	*John*		*ikke*		*taler*	*fransk.*
FIN			*John*	*ei*		*puhu*		*ranska.*

ENG: English, DK: Danish, FIN: Finnish,
Main: main clause, Emb: embedded clause

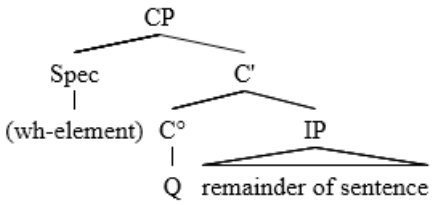
Summing up, the English negator *not* always follows the element in Agr°. Agr° is the position for modals, finite auxiliaries, and the finite copula *be*. In the case of finite thematic verbs, which remain in V°, Agr° is empty and auxiliary *do* is inserted into T° and moves to Agr° to support the negator. The surface position of *not* is therefore post-auxiliary or post-copula-*be*. The surface position of the Danish negator *ikke* vis-à-vis the finite verb depends on the type of clause due to the fact that Danish main clauses are V2, forcing finite verbs to move beyond the negator in main clauses. Hence, in main clause negations, *ikke* is postverbal. Contrarily, embedded clauses in Danish are not obligatorily V2, and *ikke* is thus preverbal in embedded non-V2 negations. In Finnish negative constructions, the negative auxiliary blocks the movement of the lexical verb midway; in affirmative sentences, Finnish finite verbs undergo V°-to-T°-to-Agr° movement, but since NegP intervenes between TP and AgrP, the negative auxiliary in Neg° stops the verb in T°. The negative auxiliary itself moves from Neg° to Agr°. Consequently, the Finnish negative auxiliary always precedes the lexical verb.

3. Questions

Question formation is a CP-layer phenomenon. The split-IP analysis so central to the discussion of negation is therefore peripheral to the discussion of question formation. Thus, for reasons of space and simplicity, the IP-layer is simply represented by IP as far as questions go.

Questions are universally assumed to involve the presence of a question morpheme Q in C°. That is, questions are assumed to have the same underlying structure in all languages and cross-linguistic differences in surface structure are accounted for in terms of parameter settings. The presence or absence of overt (visible) morphological question markers depends on Q being realised as an overt or a covert (invisible) morpheme. The word order in interrogatives depends on Q being realised as a bound or a free morpheme. If Q is a bound morpheme, it cannot stand alone in C°, and consequently there is I°-to-C° movement. Reversely, if Q is a free morpheme, it occupies C°, and hence no other element can move to this position. Note, that Q can occupy C° even though it is covert. With respect to *wh*-questions, the parameter ±*wh*-movement accounts for cross-linguistic variations in the surface position of *wh*-elements (Hawkins 2001:149-151). English, Danish, and Finnish all have *wh*-movement (Allan, Holmes & Lundskær-Nielsen 1995:495; Karlsson 1999:73-74; Haegeman & Guéron 1999:47), and hence the *wh*-element is in CP-spec. However, the three languages vary with respect to the circumstances under which they have I°-to-C° movement. Consequently, questions in English, Danish, and Finnish all have the structure in (11).

(11)



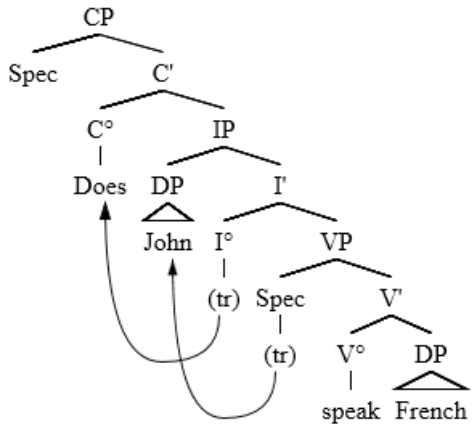
The following three sections outline question formation in English, Danish, and Finnish in more detail.

3.1. Questions in English

In English main clause questions, Q is a covert, bound morpheme and as such it needs another head to attach to, thus triggering I°-to-C° movement, which is realised as subject-auxiliary inversion in English. Auxiliaries, modals, and copula *be*, which are in I° when finite, move to C° to support Q. In the case of finite thematic verbs (which remain in V°), *do*-support is required in order for there to be an element in I° that can move to C°, as in (12)a and (12)b. In embedded questions in English, Q is the free, overt morpheme *if* or a free, covert morpheme when *whether*, as

in (13)a, or a *wh*-element, as in (13)b, occupies CP-spec.[4] Hence, there is no I°-to-C° movement in embedded questions in English (Haegeman & Guéron 1999:170-174; Hawkins 2001:149-151).

(12) a.



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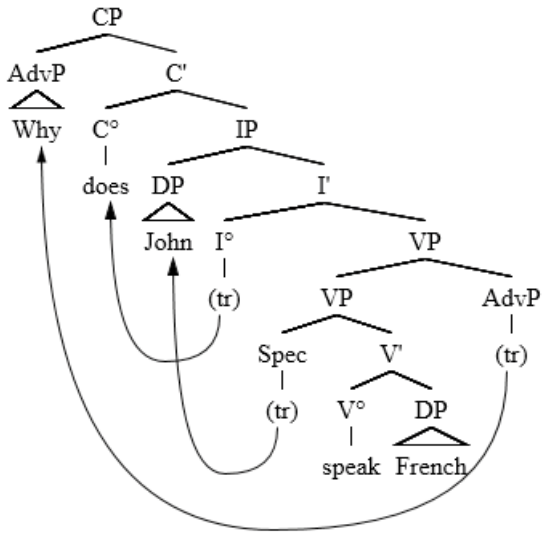
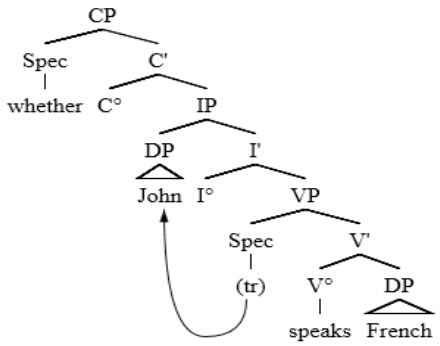
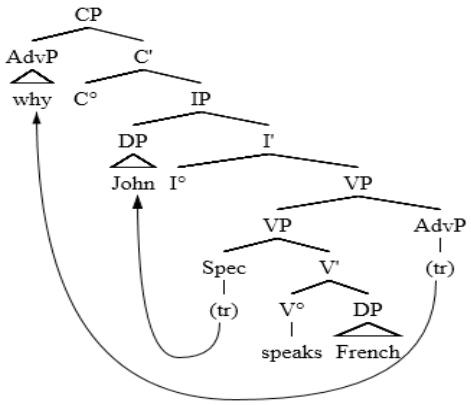


[4] See Haegeman & Guéron (1999:175-176) for the arguments behind the structural positions of *if* and *whether*.

(13) a. I wonder ...



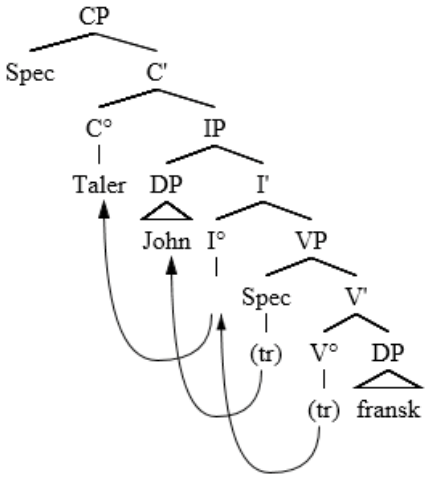
b. I wonder ...



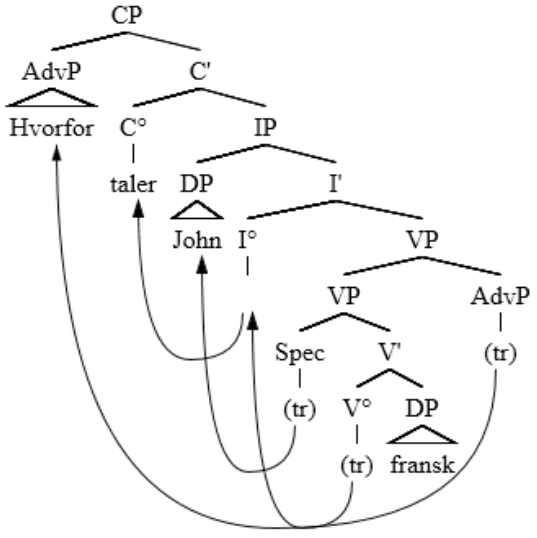
3.2. Questions in Danish

In Danish main clauses, Q is a covert morpheme that must be bound in order not to block the V°-to-I°-to-C° movement that occurs in all Danish main clauses due to V2, as illustrated in (14)a and (14)b. The finite verb thus occupies C° in both declarative and interrogative main clauses. Q is the overt, free morpheme *om* in embedded *yes-no* questions and a covert, free morpheme in embedded *wh*-questions. Thus, there is no movement to C° in embedded questions in Danish (Vikner 2007:471-474), as illustrated in (15)a and (15)b.

(14) a. Tal-er John fransk?
speak-PRE *John* *French*
'Does John speak French?'



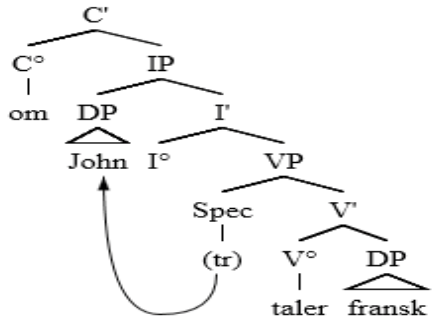
b. Hvorfor tal-er John fransk?
why *speak-PRE* *John* *French*
'Why does John speak French?'



(15) Jeg spekuler-er på ...
I wonder-PRS on …

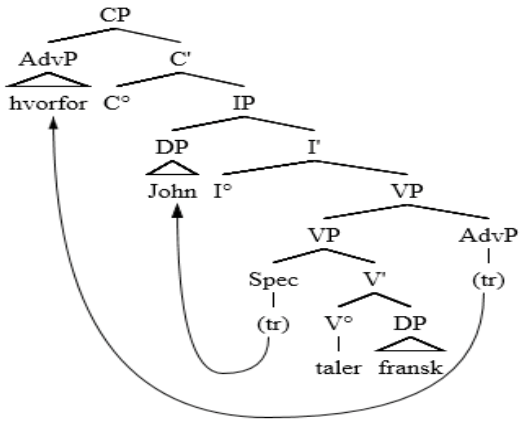
a. om John tal-er fransk.
whether John speak-PRS French
'I wonder whether John speaks French.'

Jeg spekulerer på…



b. hvorfor John tal-er fransk.
why John speak-PRS French.
'I wonder why John speaks French'.

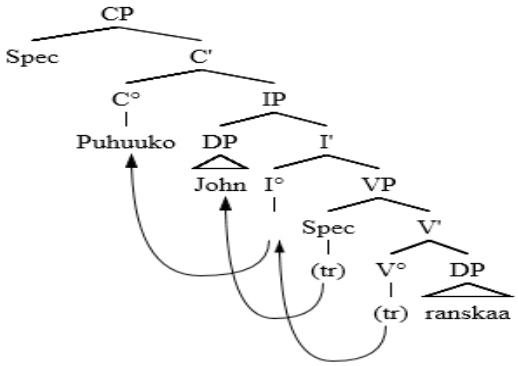
Jeg spekulerer på…



3.3. Questions in Finnish

In all Finnish *yes-no*-questions, Q is an overt, bound morpheme, *-ko*/*-kö*, that attaches to the finite verb.[5] Consequently, there is I°-to-C° movement, realised as subject-verb inversion, in both main clause and embedded *yes-no*-questions in Finnish, as illustrated in (16)a and (17)a respectively.[6] Reversely, in all Finnish *wh*-questions, Q is a covert, free morpheme and hence there is no I°-to-C° movement in neither main clause nor embedded *wh*-questions in Finnish, as illustrated in (16)b and (17)b, respectively. The interrogative status of Finnish *wh*-questions, both in embedded clauses and main clauses, is thus signalled by *wh*-movement only (Karlsson 1999:71-74).

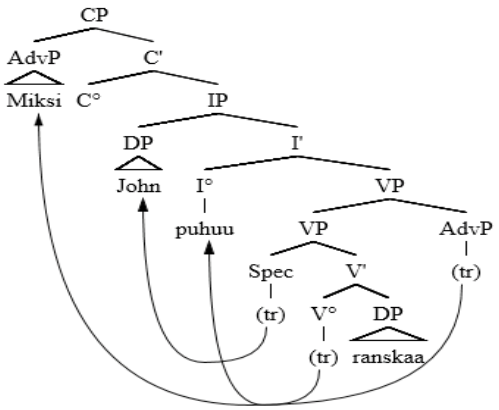
(16) a. Puhu-Ø-u-ko John ranskaa?
speak-PRE-3SG-Q *John* *French*
'Does John speak French?'



[5] *-ko* attaches to verbs with back vowels and *–kö* attaches to verbs with front vowels due to vowel harmony (Karlsson 1999:16).

[6] Note that Belfast English also has I°-to-C° movement in embedded *yes-no*-questions (Henry 1995:105).

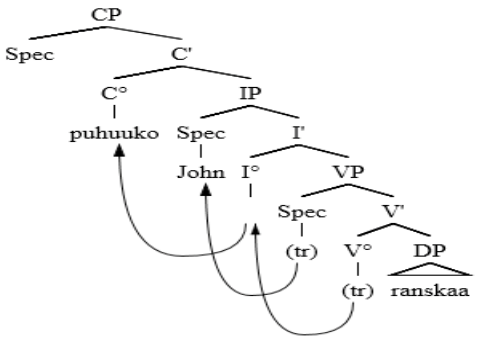
b. Miksi John puhu-Ø-u ranskaa?
why John speak-PRE-3SG French
'Why does John speak French?'



(17) Ihmettele-Ø-n ...
wonder-PRE-1SG …

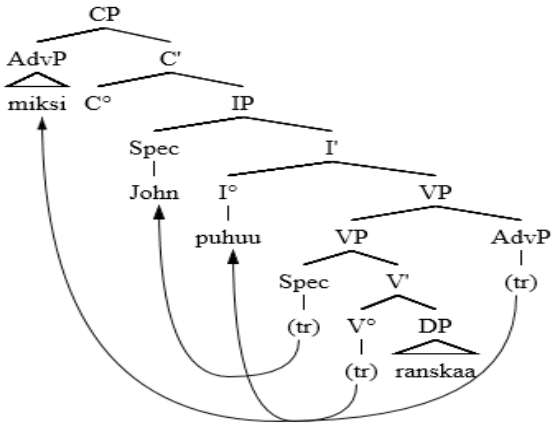
a. puhu-Ø-u-ko John ranskaa
speak-PRE-3SG-Q John French
'I wonder whether John speaks French'.

Ihmettelen...



b. miksi John puhu-Ø-u ranskaa?
why John speak-PRE-3SG French
'I wonder why John speaks French'.

Ihmettelen...



3.4. Summary of questions in English, Danish, and Finnish

(18) presents an overview over the surface structure in *wh*-questions and *yes-no*-questions in main clauses and embedded clauses in English, Danish, and Finnish. For reasons of space, only the structural positions overtly occupied are shown.

Summing up, all three languages have *wh*-movement in both main clause and embedded *wh*-questions. The three languages, however, differ in the status of Q and thereby the circumstances under which they have I°-to-C° movement. Q is a covert, bound morpheme in English main clause questions, which consequently have I°-to-C° movement. Reversely, there is no I°-to-C° movement in embedded questions in English, since Q is either the overt free morpheme *if* or, when *whether* or a *wh*-element is in CP-spec, a covert, free morpheme. Since Danish main clauses are V2, all Danish main clauses have V°-to-I°-to-C° movement. In Danish embedded questions, Q is the overt, free morpheme *om* in embedded *yes-no* questions and a covert, free morpheme in embedded *wh*-questions. Consequently, there is no I°-to-C° movement in embedded questions in Danish. While English and Danish have I°-to-C° movement in main clause questions,

but not in embedded questions, Finnish has I°-to-C° movement in *yes-no*-questions, but not in *wh*-questions. This is so because Q is an overt, bound morpheme, *-ko*/*-kö*, in both main clause and embedded *yes-no*-questions, while Q is a covert, free morpheme in both main clause and embedded *wh*-questions.

(18)

			CP-spec	**C°**	**IP-spec**	**I°**	**V°**	**DP**
Main WH	**ENG**		*Why*	*does*	*John*		*speak*	*French?*
	DK		*Hvorfor*	*taler*	*John*			*fransk?*
	FIN		*Miksi*		*John*	*puhuu*		*ranska?*
Main Y/N	**ENG**			*Does*	*John*		*speak*	*French?*
	DK			*Taler*	*John*			*fransk?*
	FIN			*Puhuuko*	*John*			*ranska?*
Emb WH	**ENG**	*I wonder*	*why*		*John*		*speaks*	*French.*
	DK	*Jeg spekulerer på*	*hvorfor*		*John*		*taler*	*fransk.*
	FIN	*Ihmettelen*	*miksi*		*John*	*puhuu*		*ranska.*
Emb Y/N	**ENG**	*I wonder*	*whether*		*John*		*speaks*	*French.*
	DK	*Jeg spekulerer på*		*om*	*John*		*taler*	*fransk.*
	FIN	*Ihmettelen*		*puhuuko*	*John*			*ranska?*

ENG: English, DK: Danish, FIN: Finnish, Main: main clause, Emb: embedded clause, WH: *wh*-question, Y/N: *yes-no*-question

The next two sections present theoretical perspectives on how the syntactic structure of English negation and question formation may be acquired by L2 learners.

4. Modulated Structure Building

The present analysis adopts Hawkins' (2001) Modulated Structure Building model, which deals specifically with the L2 acquisition of English negation and question formation. Modulated Structure Building combines the notion of incremental structure building from the Minimal Trees model by Vainikka & Young-Scholten (1994, 1996), and the possibility for L1 transfer at all syntactic layers from the Full Transfer/Full Access model by Schwartz & Sprouse (1994, 1996). All three models are formulated within the generative approach to Universal Grammar.

According to Modulated Structure Building, the initial stage of L2 grammar consists in principle of lexical projections only, and the initial structural features of these categories are in principle the L1 values. That is, L2 learners are assumed to transfer their native VP to the target language at the initial stage of L2 acquisition. The *in principle*-part accounts for the possibility that restructuring may be very rapid, so that it may be difficult or even impossible to detect initial transfer empirically. Functional categories are in principle established later than lexical categories, when positive evidence for their existence is encountered in the L2 input (the structure building component), but again, category establishment may be so rapid that stages before the establishment of certain functional categories may not be empirically observable. Once functional categories are established, they are subject to L1 transfer at relevant points in the development, i.e. L1 transfer occurs only when the syntactic representation is sufficiently elaborated to instantiate the property in question (the modulated component). Specification of categories is believed to proceed incrementally from local head-complement relations to non-local binding relations to purely formal specifier-head agreement relations (Hawkins 2001). Hawkins' account of empirical patterns in the L2 acquisition of English sentential negation and question formation will be applied in the present analysis.

4.1. The acquisition of sentential negation in L2 English

Hawkins draws on the systematic development that has been observed in the L2 acquisition of English negation by L1 speakers of Spanish (Cancino, Rosansky & Schuman 1978; Shapira 1976 as reported in Schumann 1976; Stauble 1984) and Japanese (Stauble 1984) and explains these data in terms of gradual establishment of the IP-layer. Based on longitudinal data of L1 Spanish learners of English, Cancino et al. propose a four-stage model of the acquisition of English negation, presented in (19) along with Hawkins' account.

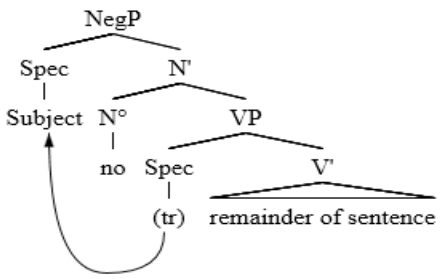
(19)

	Cancino et al.'s model of the acquisition of L2 English negation		Modulated Structure Building perspective
Stg	**Negative construction**	**Examples**	
1	*no* + verb	*You no tell your mother* *But no is mine, is my brother* *I no can see*	NegP-only stage
2	*no* + verb *don't* (unanalysed) + verb	*He no like it* *He don't like it* *I don't can explain*	
3	copula/auxiliary + *no*/*not*	*It's not danger* *Not, he's not skinny* *Somebody is not coming in* *He can't see*	TP and AgrP are established, but not fully specified
4	*don't* (analysed) + verb (*no* + verb disappears)	*He doesn't laugh like us* *I didn't even know*	TP and AgrP become fully specified

Adapted from Hawkins (2001:84), which is based on Cancino et al. (1978:210-211).

Based on these empirical patterns and in line with Modulated Structure Building, Hawkins argues that, initially, *no* is acquired as a lexical item projecting to NegP, and NegP is proposed to take VP as its complement. The form *no* is suggested to be the result of a generalisation from anaphoric negation. AgrP and TP are assumed to be absent at initial stages of L2 acquisition of English negation, and the first two stages in Cancino et al.'s model may therefore be viewed as NegP-only stages. At these stages, *no is*, which is typical of L1 Spanish learners of English, and *don't*, which is common among L2 learners from various L1 backgrounds, may be interpreted as unanalysed forms that are interchangeable with *no*, all carrying the semantic meaning 'negator'. Hawkins claims that the negator is in Neg° at this point in development, since at this point NegP is a lexical projection stemming from the projection of its head *no*, which, at this stage, is a lexical item for the L2 learners. As the native NegP is a functional projection, NegP is not transferred from the L1. In the absence of AgrP-spec, the subject arguably moves from VP-spec to NegP-spec, resulting in the structure in (20).

(20)



Subsequently, at stage 3, as learners acquire copula/auxiliary *be*, which undergoes V°-to-T°-to-Agr° movement, TP and AgrP are established as the movement of *be* provides positive evidence for the existence of an IP-layer. The IP-layer is assumed to facilitate the acquisition of the target form *not* and lead to an increase in the use of *don't* and *isn't*, since T° provides a structural position for base-generating auxiliary *do* and for *be* to move through, and hence both *do* and *be* can pick up *n't* under V°-to-T°-to-Agr° movement, resulting in *be+n't* and *do+n't* contractions. Since L2 learners enquire no evidence that *not* is picked up during V°-to-T°-to-Agr° movement, *not* is assumed to be in NegP-spec. As a result of this restructuring of NegP, *no* is abandoned as a sentential negator due to lack of positive evidence for *no* in either NegP-spec or Neg°.

Note that the development of L2 English negation follows the pattern of category specification predicted by Modulated Structure Building. The first part of negation to be acquired is the head-complement relation between the negator, at this point *no*, and its VP-complement, which is in line with the prediction that the head-complement relation is the first part of category specification to be acquired. Similarly, the last part of negation to be acquired is person and number agreement in AgrP, thus following the prediction that spec-head agreement is the last part of category specification to be acquired.

4.2. The acquisition of question formation in L2 English

Parallel to his account of L2 acquisition of English sentential negation, Hawkins draws on Lightbown & Spada's (1993) six-stage model of L2 acquisition of English interrogatives, presented in (21) along with Hawkins' account.

(21)

Stg	Lightbown & Spada's model of L2 acquisition of English question formation: Description	Examples	Modulated Structure Building Perspective
1	Rising intonation on words/ formula	*Four children?*	No CP-layer, perhaps no IP-layer
2	Rising intonation on clauses	*The boys throw the shoes?*	
3	A question word is placed at the front of the clause, but often without a copula, auxiliary etc. moving	*Is the picture has two planets on top?* *Where the little children are?* *Does in this picture there is four astronauts?*	Question marker in front of IP → establishment of CP-layer Q as a free, overt morpheme
4	Copula *be* moves to the front of *yes-no*-questions and to second position in *wh*-questions	*Is the fish in the water?* *Where is the sun?*	Q as a bound, covert morpheme → I°-to-C° movement for *be*
5	Auxiliaries, modals and *do* move to the front or second position	*Can you tell me?* *What is the boy doing?* *How do you say 'proche'?*	I°-to-C° movement for elements base-generated in I°
6	Non-movement of the copula, auxiliaries etc. in embedded questions is acquired* Question tags are acquired	*Can you tell me what the date is today?* *It's better, isn't it?*	Q as a free morpheme in embedded questions → no I°-to-C° movement in embedded questions

***Up until stage 6, L2 learners construct embedded questions with the same structure as the one they use for main clause questions.**

Adapted from Lightbown & Spada (1993:63), which is adapted from Pienemann, Johnson & Brindley (1988).

Similar to the proposed development of negation in L2 English, Hawkins argues that L2 acquisition of English interrogatives starts without the CP-layer, perhaps even without the IP-layer. At this point in development (stages 1 and 2 in Lightbown & Spada's model), learners signal the interrogative status of an utterance by means of rising intonation only. The

trigger for the establishment of a CP-layer might be the realisation that there is an element in front of IP (stage 3 in Lightbown & Spada's model) interacting with the UG principle that IP is the complement of CP. These pre-IP elements, either a *wh*-element or a finite verb that L2 learners place in front of a declarative sentence, seem to function as 'question markers'. Specifically, these pre-IP elements are treated by L2 learners as overt, free Q morphemes. Hence, there is no I°-to-C° movement; instead there is some sort of verbal duplication in *yes-no*-questions, i.e. there is a pre-IP finite verb along with a finite verb in its declarative position, and there is *wh*-movement only in *wh*-questions. The learner analysis of English Q as a free morpheme suggests that the CP-layer is initially minimally specified; a development that is parallel to the development of the IP-layer outlined above.

At stages 4 and 5, learners realise that Q is a covert, bound morpheme, leading to gradual specification of CP. I°-to-C°-movement for copula/ auxiliary *be* is established at stage 4, and I°-to-C° movement for elements base-generated in I° (modals and auxiliary *do*) is established at stage 5. Recall that *be* was the first element to occur in I° (Agr°) in the acquisition of negation and that *do*-support was one of the last parts of negation to be acquired, so it is not surprising that *be* is likewise the first element to move to C° and that *do*-support is among the last parts of question formation to be acquired. The order of stages 4 and 5 in the question model thus parallels the order of stages 3 and 4 in the negation model. The overgeneralisation of I°-to-C° movement in embedded questions at this point in development suggests that the bound status of Q in main clause questions is assumed by L2 learners to hold for embedded questions as well. The distinction between main clause questions and embedded questions with respect to I°-to-C° movement is acquired at stage 6, suggesting that the specification of Q in embedded questions is more complex than the specification of Q in main clause questions.

Like the development of negation, the development of question formation follows predictions derived from Modulated Structure Building. Paralleling the development of negation, the first syntactic characteristic of question formation to be acquired is the head-complement relation between Q and its IP complement. Also in line with modulated Structure Building is the observation that the last part of question formation to be acquired, i.e. embedded questions, involves an extra layer of syntactic structure compared to main clause questions.

5. L1 transfer and cross-linguistic overcorrection

Modulated Structure Building identifies two sources of errors in L2 syntax; errors stemming from L1 transfer and errors stemming from under-specification of a syntactic category. Studies on L1 transfer suggest that L2 learners' intuitions about the similarity of the L1 and the L2 and about the language-specificity of constructions affect which constructions will be transferred (see Ortega 2009:33-34). Plausibly, syntactic under-specification may also be qualitatively affected by perceived L1-L2 similarities. The concept of cross-linguistic overcorrection, which is the 'tendency to overstress what is different rather than what is common' in the L1 and the L2 (Kupisch 2014:223), may illuminate this point. Specifically, Kupisch argues that L2 learners and non-dominant bilinguals may prefer a target language construction that differs notably from any native construction to a target language construction that is similar to a native construction, because they have detected that this "different" construction is specific to the target language.

In support of such cross-linguistic overcorrection, Kupisch (2014) found that German-dominant heritage speakers of Italian had a tendency to overuse Noun-Adjective constructions, which are the more frequent in Italian, compared to Adjective-Noun constructions, which are common to German and Italian but less frequent than Noun-Adjective in Italian. Interestingly, the Noun-Adjective construction is syntactically more complex, and Kupisch's study thus suggests that cross-linguistic overcorrection may lead L2 learners to prefer a syntactically more complex construction to a syntactically less complex construction if the more complex construction is target language specific.

Applying the insight from cross-linguistic overcorrection to gradual category specification as outlined in Modulated Structure Building, L2 learners may plausibly struggle to acquire a syntactic specification resulting in an L2 construction that is similar to an L1 construction if a lower degree of specification permits an L2 construction that is very different (and more complex) than the corresponding L1 construction. It is moreover plausible that learners' intuition of general L1-L2 similarity impacts cross-linguistic overcorrection, as it does L1 transfer (Ortega 2009:33-34). The generative approach offers a theoretical framework for comparing L1 and L2 constructions with respect to both similarity and complexity, and cross-linguistic overcorrection can therefore easily be incorporated into Modulated Structure Building.

The observation from Lightbown & Spada (1993) that L2 learners of English construct embedded questions in the same way as they construct main clause questions up until the last stage of acquisition may be seen as an instance of cross-linguistic overcorrection. This is so because the syntax of main clause questions in English, with its *do*-support, is English specific, while the syntax of embedded questions in English is cross-linguistically more common.

6. Hypotheses

The following five hypotheses may be derived from Modulated Structure Building and cross-linguistic overcorrection:

- **Hypothesis 1:** Since structure building is posited to develop incrementally, experienced L2 learners are expected to outperform inexperienced L2 learners, and native speakers are expected to outperform (inexperienced) L2 learners.
- **Hypothesis 2:** Since clauses with embedding, other things being equal, have more structure than clauses without embedding, performance on main clause constructions is expected to be more accurate than performance on embedded constructions.
- **Hypothesis 3:** Since negation is an IP-layer phenomenon and question formation is a CP-layer phenomenon, performance on negation is expected to be more accurate than performance on questions.
- **Hypothesis 4:** Since structure building is posited to develop incrementally, L2 experience is expected to interact with structural complexity, so that effects of L2 experience are larger for more complex constructions.
- **Hypothesis 5:** Since cross-linguistic overcorrection is posited to be more extensive for learners whose L1 differs more from the L2, and since Finnish syntax is more different from English syntax than Danish syntax is, L1 Finnish learners are expected to exhibit more cross-linguistic overcorrection errors than L1 Danish learners.

7. Methods

The above hypotheses were investigated by having experienced and inexperienced L1 Finnish and L1 Danish learners of English complete a grammaticality judgement (GJ) test on sentential negation, *wh*-questions, and *yes-no*-questions in main clauses and embedded clauses. A group of native English speakers functioned as a baseline. The GJ test was part of a larger test battery investigating different aspects of L2 performance. Only the GJ results are reported here.

7.1. Participants

Three groups of participants were tested; 41 L1 Finnish learners of English (6 m, 35 f, mean age = 25.17 years), 41 L1 Danish learners of English (8 m, 33 f, mean age = 24.71 years), and a baseline of 14 native English speakers (2 m, 12 f, mean age = 20.65 years).

The L1 Finnish learners of English were all university students living in and around Jyväskylä, Finland. The L1 Finnish participants were divided into two groups: 1) 21 experienced learners: students of English who had lived in an English speaking country for a longer period (range: 2.5 months to 3 years, mean = 10.02 months), and 2) 20 inexperienced learners: students of Finnish who had not lived in an English speaking country.

The L1 Danish learners of English all lived in and around Aarhus, Denmark. The L1 Danish participants were also divided into two groups: 1) 20 experienced learners: participants who had lived in an English speaking country for a longer period (range: 4 months to 2.17 years, mean = 10.73 months), and 2) 21 inexperienced learners: participants who had not lived in an English-speaking country. 14 of the L1 Danish experienced learners and 15 of the L1 Danish inexperienced learners were students of English at Aarhus University. The remaining participants were students of other subjects at Aarhus University or non-students.

The native English baseline group consisted of students at Bangor University, Wales, who were native speakers of standard Southern British English.

7.2. The grammaticality judgement test

The GJ test consisted of a corresponding set of 110 grammatical and 110 ungrammatical sentences, which the participants were asked to judge as grammatically *Correct* or *Incorrect*. Ungrammatical sentences were inspired by one of the source languages (transfer items) or by possible cross-linguistic overcorrection (wrong application of an English construction). Each syntactic construction was tested with one or two types of ungrammaticality, depending on the variation between source languages and target language and opportunities for cross-linguistic overcorrection. Each type of ungrammaticality was represented by 10 ungrammatical sentences. Grammatical and ungrammatical examples of each syntactic construction are presented in detail below. Across constructions, all verbs are mono-transitive thematic verbs, and all subjects are personal names, in order to avoid additional variables.

Main clause negation
All negators are full negators, i.e. *not*.

(22)	a.		*Simon does not eat oranges.*	
	b.	*	*Simon not eats oranges.*	Preverbal negation: Transfer from Finnish
	c.	*	*Simon eats not oranges.*	Postverbal negation: Transfer from Danish

Embedded negation
All negators are full negators, i.e. *not*. All embedded negations are situated in clausal objects. Matrix verbs were chosen among English translations of Danish verbs, listed by Vikner (1995:71-72), that allow only non-V2 clausal objects.

(23)	a.		*Paul demands that Wendy does not drink red wine.*	
	b.	*	*Paul demands that Wendy not drinks red wine.*	Preverbal negation: Transfer from Finnish and Danish

Main clause *yes-no*-questions

(24)	a.		*Does Simon teach biology?*	
	b.	*	*Teaches Simon biology?*	Subject-verb inversion: Transfer from Finnish and Danish

Embedded *yes-no*-questions
All embedded *yes-no*-questions are introduced by *whether* in order to avoid a *whether*/*if* variable. Since *if* can introduce different types of embedded clauses, while *whether* introduces only embedded questions, *whether* was considered more unambiguous. Matrix verbs were chosen on the basis of a search in the British National Corpus (BNC) and the Corpus of Contemporary American English (COCA) of verbs that typically introduce *whether*-clauses.

(25)	a.		*Tim wonders whether Hannah dances salsa.*	
	b.	*	*Tim wonders whether dances Hannah salsa.*	Subject-verb inversion: Transfer from Finnish
	c.	*	*Tim wonders whether does Hannah dance salsa.*	Embedded *do*-support: Overcorrection

Main clause *wh*-questions

In order to reduce the number of variables, all *wh*-question items are *why*-questions. *Why*-questions were chosen because they are semantically compatible with a range of verbs.

(26)	a.		*Why does Simon play golf?*	
	b.	*	*Why plays Simon golf?*	Subject-verb inversion: Transfer from Danish
	c.	*	*Why Simon plays golf?*	Verb in declarative position: Transfer from Finnish

Note that (26)c is grammatical as an echo-question.

Embedded *wh*-questions

Parallel to main clause *wh*-question items, all embedded *wh*-question items are *why*-questions. Matrix verbs were chosen on the basis of BNC and COCA searches of verbs that typically introduce embedded *why*-questions.

(27)	a.		*Paul knows why Stella eats apples.*	
	b.	*	*Paul knows why does Stella eat apples.*	Embedded *do*-support: Overcorrection

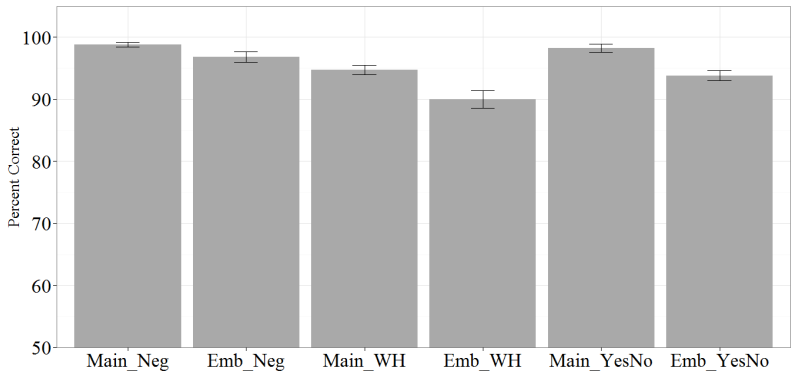
7.3. Statistical analyses

The data were analysed by means of logistic mixed effect models in the software program R (R Core Team 2015). Mixed effect models are regression models that model the random variation between participants and items so that this random variation does not skew the estimated predictor effects. Mixed effect models constitute an alternative to both ANOVA and ordinary regression, offering a number of advantages over these models, especially in the case of binary outcome data as in the present study (see Jaeger 2008; Cunnings 2012). All p-values are Holm corrected (Holm 1979) to avoid inflating the Type I error rate (the rate of false positives) by multiple comparisons. The R packages used were *lme4* (Bates, Maechler, Bolker & Walker 2015) and *optimx* (Nash 2014) for mixed effect models, *multcomp* (Hothorn, Bretz & Westfall 2008) for pairwise comparisons, and *ggplot2* (Wickham 2009) for graphs.

8. Results

The GJ results show a considerable ceiling effect with mean accuracy scores of 96.13% for the native speaker baseline, 95.41% for L1 Danish learners, and 95.60% for L1 Finnish learners. Logistic mixed effect models revealed no overall significant differences between the native speaker baseline and L1 Danish and L1 Finnish learners[7] or between native speakers and experienced and inexperienced L1 Danish and L1 Finnish learners.[8]

(28)



Performance on main clause negation (Main_Neg), embedded negation (Emb_Neg), main clause *wh*-questions (Main_WH), embedded *wh*-questions (Emb_WH), main clause *yes-no*-questions (Main_YesNo), and embedded *yes-no*-questions (Emb_YesNo) across L2 groups.

A logistic mixed effect model on the L2 learner data only[9] revealed that accuracy scores were significantly higher for main clause constructions than for embedded constructions across negation and both question types ($p \leq 0.0043$). However, the differences between embedded and main clause constructions are very small (see (28)), plausibly due to the ceiling effect. The model further revealed that accuracy scores were significantly higher for negation than for *wh*-questions in both main clauses ($p = 0.0000001$)

[7] Model: glmer(Performance ~ L1 + (1|Item) + (1|Subject), family =”binomial”, data = GJ)

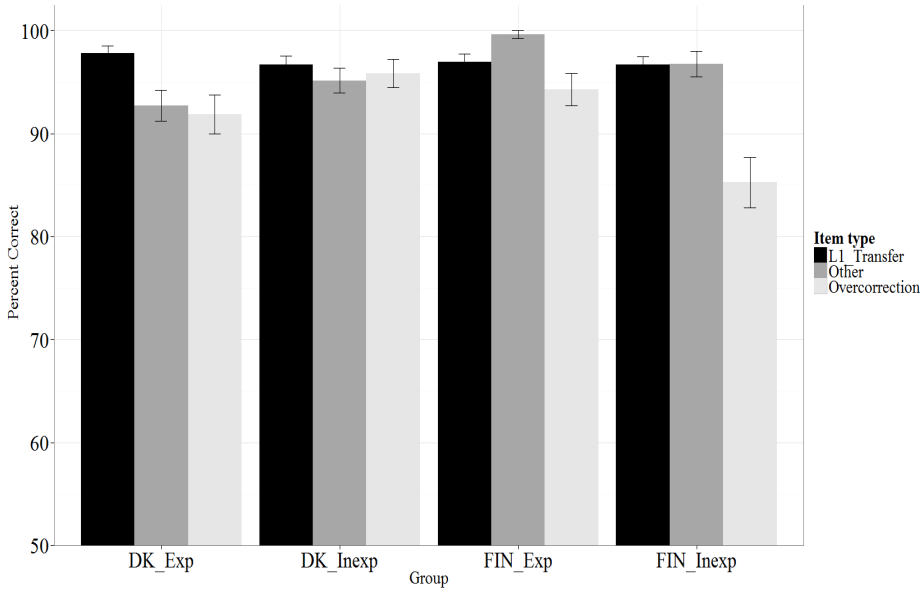
[8] Model: glmer(Performance ~ Group + (1|Item) + (1|Subject), family =”binomial”, data = GJ)

[9] Model: glmer(Performance ~ Construction + (1|Item) + (1|Subject), family =”binomial”, data = GJ, subset = L1 != “English”)

and embedded clauses (p = 0.000074) and significantly higher for negation compared to *yes-no*-questions in embedded clauses only (p = 0.0263). Finally, the model revealed significantly higher accuracy scores for *yes-no*-questions compared to *wh*-questions in both main clauses (p = 0.0032) and embedded clauses (p = 0.0263). Again the differences were very small (see (28)), which may again be due to the ceiling effect.

A logistic mixed effect model on the ungrammatical L2 learner data only[10] revealed that inexperienced L1 Finnish learners performed significantly more accurately on both L1 transfer items (p = 0.000586) and items constructed by transfer from Danish (Other) (p = 0.0001) than on cross-linguistic overcorrection items (see (29)). The model further revealed that the difference in performance accuracy between L1 transfer items and items constructed by transfer from Finnish (Other) was marginally significant for both L1 Danish groups (p ≤ 0.0948) (see (29)). No other within-group differences between different types of ungrammaticality reached significance.

(29)

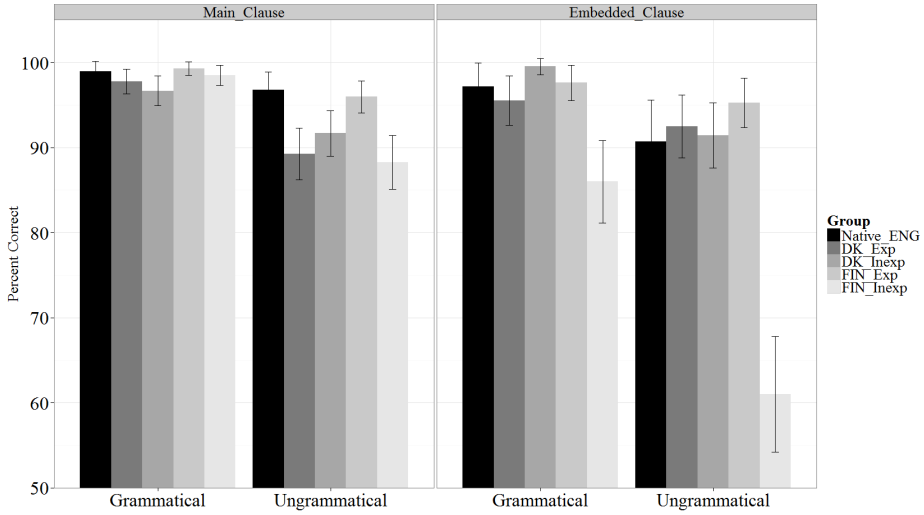


Performance on L1 Transfer items, Other items (transfer from the other source language), and Overcorrection items by experienced and inexperienced L1 Danish and L1 Finnish learners of English.

[10] Model: glmer(Performance ~ Origin * Experience + (1|Item) + (1|Subject), family ="binomial", data = GJ, subset = CorrectAnswer == "Incorrect" & L1 != "English")

A logistic mixed effect model on the ungrammatical embedded *wh*-question items only[11] showed that no L2 group differed significantly from the native speaker baseline. However, inexperienced L1 Finnish participants scored marginally significantly lower than native speakers ($p = 0.0744$) (see (30)). The model further showed that the inexperienced L1 Finnish group scored significantly lower than the three other L2 groups ($p \leq 0.0125$) (see (30)). No other between-group differences reached significance. Considering the general ceiling effect, the difference between native speakers and inexperienced L1 Finnish learners being only marginally significant, while the differences between inexperienced L1 Finnish learners and the other L2 groups reached significance, may be due to the fact that the native speaker baseline group was slightly smaller than the L2 groups; 14 participants compared to 20 or 21. (30) shows accuracy scores for all groups for grammatical and ungrammatical main clause and embedded *wh*-questions. Logistic mixed effect models were also run for the remaining subsets of the data, but no significant between-group differences were observed.

(30)



Performance on grammatical and ungrammatical main clause and embedded *wh*-questions by L1 English speakers and experienced and inexperienced L1 Danish and L1 Finnish learners of English.

[11] Model: glmer (Performance ~ Group + (1|Item) + (1|Subject), family = "binomial", data = WH, subset = CorrectAnswer == "Incorrect" & Complexity == "Embedded")

9. Discussion

This study aimed to investigate the syntactic knowledge of English sentential negation and question formation in L1 Danish and L1 Finnish L2 learners. The study further aimed to test hypotheses on L2 performance derived from Hawkins' Modulated Structure Building model and the concept of cross-linguistic overcorrection. Syntactic knowledge was measured by having experienced and inexperienced L1 Danish and L1 Finnish learners of English and a native speaker baseline group complete a grammaticality judgement test on English negation and question constructions in main clauses and embedded clauses. In general, the results support the main notion of incremental structure building in L2 acquisition, and the data revealed an instance of cross-linguistic overcorrection. Evidence for and against the five hypotheses is presented below.

Hypothesis 1: *Since structure building is posited to develop incrementally, experienced L2 learners are expected to outperform inexperienced L2 learners, and native speakers are expected to outperform (inexperienced) L2 learners.*

Hypothesis 1 was not supported by the present data. The overall differences between experienced and inexperienced L2 learners and between L2 learner groups and the native speaker baseline did not reach significance. However, this lack of significant between-group differences may be an artefact of the strong ceiling effect observed for all groups. The ceiling effect suggests that the test was too easy for L2 learners of the investigated proficiency levels and limited the possibilities for obtaining significant differences between groups. Hypothesis 1 may be tested by applying the present GJ test to low proficiency L2 learners.

Hypothesis 2: *Since clauses with embedding, other things being equal, have more structure than clauses without embedding, performance on main clause constructions is expected to be more accurate than performance on embedded constructions.*

The GJ data support Hypothesis 2. A logistic mixed effect model revealed that accuracy scores were significantly higher for main clause constructions compared to embedded constructions across questions and negation and across L2 groups. However, the difference between embedded and main clause constructions was quite small, which is suggested to be due to the general ceiling effect in the data.

Hypothesis 3: *Since negation is an IP-layer phenomenon and question formation is a CP-layer phenomenon, performance on negation is expected to be more accurate than performance on questions.*

Hypothesis 3 was supported by the GJ data. A logistic mixed effect model revealed that negation constructions were significantly easier than main clause and embedded *wh*-questions and embedded *yes-no*-questions across L2 groups. The model further revealed significantly higher accuracy scores for *yes-no*-questions than for *wh*-questions, suggesting some difference between the two question types not accounted for in Lightbown & Spada's (1993) model. Yet, these differences were quite small, plausibly due to the general ceiling effect in the data.

Hypothesis 4: *Since structure building is posited to develop incrementally, L2 experience is expected to interact with structural complexity, so that effects of L2 experience are larger for more complex constructions.*

The study found some support for Hypothesis 4. Analyses on subsets of the data revealed between-group differences for embedded *wh*-questions only. Specifically, the difference between the native speaker baseline and one of the L2 groups approximated significance for embedded *wh*-questions, in which inexperienced L1 Finnish learners accepted *do*-support in 38% of the cases, which was significantly more often than the other L2 groups and marginally significantly more often than the native speaker baseline. This finding supports Lightbown & Spada's prediction that absence of I°-to-C° movement in embedded questions is one of the last parts of English question formation to be acquired. The fact that inexperienced but not experienced L1 Finnish learners made this error supports Hypothesis 4.

Hypothesis 5: *Since cross-linguistic overcorrection is posited to be more extensive for learners whose L1 differs more from the L2, and since Finnish syntax is more different from English syntax than Danish syntax is, L1 Finnish learners are expected to exhibit more cross-linguistic overcorrection errors than L1 Danish learners.*

The GJ data support Hypothesis 5. The finding that inexperienced L1 Finnish learners but not inexperienced L1 Danish learners accepted *do*-support in embedded *wh*-questions, which is an overcorrection error, supports the hypothesis that L1 Finnish learners exhibit more cross-linguistic overcorrection errors than L1 Danish learners.

Surprisingly, this acceptance of embedded *do*-support by inexperienced L1 Finnish learners was not observed in *yes-no*-questions, suggesting some difference between the two question types not accounted for in Lightbown & Spada's model. A possible explanation may lie in the fact that Finnish has I°-to-C° movement in both main clause and embedded *yes-no*-questions but neither in main clause nor embedded *wh*-questions. Consequently, L1 Finnish learners, having acquired the fact that English *wh*-questions have I°-to-C° movement, may be prone to overstress this difference between main clause English and Finnish *wh*-questions and overgeneralise this difference to embedded *wh*-questions, despite the fact that embedded *wh*-questions have similar structures in English and Finnish. This account is supported by the analysis of the ungrammatical L2 learner data finding that across negations and questions, inexperienced L1 Finnish learners were better at detecting ungrammaticalities stemming from transfer from Finnish or Danish than ungrammaticalities stemming from cross-linguistic overcorrection.

Future research into this area should investigate less proficient learners of English in order to test the order of acquisition of different question types. Specific research questions are: Do L1 Danish learners accept embedded *do*-support in earlier stages? Do L1 Finnish learners accept embedded *do*-support in *yes-no*-questions in earlier stages? How do L1 Finnish learners judge different types of *wh*-questions; do they also accept *do*-support in subject questions such as (31)b, and do they accept embedded subject-auxiliary inversion with modals and auxiliary *be* and *have*, as in (32)b, (33)b, and (34)b respectively?

(31) a. Who speaks French?
b. * Who does speak French?

(32) a. I wonder why John would speak French.
b. * I wonder why would John speak French.

(33) a. I wonder why John is speaking French.
b. * I wonder why is John speaking French.

(34) a. I wonder why does John speak French
b. * I wonder why has John spoken French.

The pattern observed in the development of negation and main clause questions of *be* being the first element to move to I° and C° respectively suggests that the acquisition of the right position of *be* in a given syntactic construction works as a catalyst for the acquisition of the general pattern of head movement related to that syntactic construction. Applying this pattern to the development of embedded questions, I hypothesise that non-movement of *be* will be acquired before absence of *do*-support and non-movement of modals and auxiliary *have*.

10. Conclusion

In conclusion, the study found support for the general notion of incremental structure building in the acquisition of L2 syntax. The study further suggests that the expected between-group differences, which were not observed in the present data, plausibly due to the general ceiling effect, may be obtained by investigating less proficient L2 learners of English. An investigation of less proficient L2 learners may also answer a number of research questions regarding the difference between *yes-no*-questions and *wh*-questions not accounted for in Lighbown & Spada's (1993) model. Moreover, a study of less proficient L2 learners may further enhance the understanding of the nature and development of cross-linguistic overcorrection in L2 syntax. It is argued that the phenomenon of cross-linguistic overcorrection can be incorporated into the Modulated Structure Building model. Specifically, cross-linguistic overcorrection is suggested to play a role in the gradual specification of syntactic categories posited by Modulated Structure Building. Moreover, the generative approach offers a theoretical framework for assessing cross-linguistic similarities and differences as well as relative complexity of L1 and L2 constructions and thus predict possibilities for cross-linguistic overcorrection more accurately.

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