

On the Synchronic and Diachronic Status of the Negative Adverbial *ikke/not**

(Published 2003 in *Working Papers in Scandinavian Syntax WPSS 72*, 1-53)

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Abstract:

In all the Scandinavian languages, sentential negation can be realized as an adverb corresponding to the Danish *ikke*, which is completely parallel to the English *not*. These languages fall into two groups when it comes to topicalization of negation. In English and Danish, topicalization of *ikke/not* is ungrammatical, whereas it is grammatical in Faroese, Icelandic, Norwegian, and Swedish. This could be taken to indicate a categorial difference in the status of the negative adverb; in English and Danish, negation seems to be an X^0 , whereas in the other languages, it is an XP.

Blocking effects on movement in phenomena such as *wh*-movement and Stylistic Fronting are found with both full and enclitic versions of negation, such as English *not/-n't* and Icelandic *ekki/-ekki*, and therefore islands cannot be used as a test for XP vs. X^0 status of the negation. I present data from Old Norse and Middle Danish and Old and Middle English that shows that topicalization of negation was possible in these earlier stages. This supports my analysis of *ikke/not* as XP like *aldrig/never* and other adverbials.

Thus, assuming that negation has the same categorial status in all the languages, the synchronic variation in the licensing of topicalization of the sentential negation can be accounted for in an OT framework as the result of conflicting constraints. I present data from Old Norse as support for an analysis of diachronic change as the result of constraint reranking.

* I would like to extend my deepest gratitude to Gunnar Hrafn Hrafnbjargarson for tirelessly discussing this analysis with me. I would also like to thank Thórhallur Eythórsson for patiently answering my questions about Old Norse, Susan Pintzuk for help on Old English, Christer Platzack and Sten Vikner for comments on an earlier version of this paper, and Peter Svenonius, Kristine Bentzen, Marit Julien, Janne Bondi Johannessen, and Kersti Börsjars for grammaticality judgements.

1 Is negation a head or a maximal projection?

1.1 The Problem

Danish *ikke* and English *not* cannot be topicalized and must remain in NEGP, whereas e.g. Danish *aldrig* and English *never* like most other adverbials can.

- (1) a. Da: *Ikke₁ har jeg t₁ læst den dumme bog.
 b. En: *Not₁ have I t₁ read that stupid book.
- (2) a. Da: Aldrig₁ har jeg t₁ læst noget så dumt.
 b. En: Never₁ have I t₁ read anything so stupid.

Elements that can be topicalized must be XPs in order to fill spec-CP. As *ikke* and *not* cannot be topicalized, they appear to be X⁰s. However, they do not block verb movement and they do not move with the verb to C⁰ under inversion like the Norwegian clitic *-kke* does which suggests that they are not X⁰s (I return to clitic negation in section 1.6 below):

- (3) a. No: Ha-kke du set den? (cf. Johannessen 1997:3)
 b. Da: *Har-ikke du set den?
 c. En: *Have-not you seen it?

1.2 Optimality Theory

The framework adopted in this paper is Optimality Theory, or OT (e.g. Grimshaw 1995, Kager 1999, Prince & Smolensky 1993, Vikner 2001a, b). In OT, the various syntactic criteria are universal but hierarchically ranked such that the effect of their influence may sometimes be hidden.

The grammar of a language consists of two parts (cf. Kager 1999: 19 (24)): the generator, GEN, and the evaluator, EVAL. GEN consists of the principles that are inviolable, such as X⁰-structure, and takes input from the lexicon and generates a set of competing candidates which in turn becomes the input for EVAL, which is the language-specific ordering of the universal set of violable constraints. The output of EVAL is the optimal candidate, i.e. the grammatical string corresponding to the lexico-semantic input.

(4) input \rightarrow GEN \rightarrow {candidate₁, candidate₂, candidate₃, candidate₄ ...} \rightarrow
 EVAL \rightarrow output

I assume the input to consist of a lexical array LA (cf. Chomsky 1998: 13-14) and an LF representation.

(5) Tableau: Ranking / priority: Higher \leftarrow \rightarrow Lower

	Candidate set↓	Constraint hierarchy→	CON ₁	CON ₂	CON ₃	CON ₄
☞ 1	Candidate ₁			*	*	
2	Candidate ₂		*!			
3	Candidate ₃		*!	*		*
4	Candidate ₄			**!		

☞ marks the optimal candidate, i.e. the grammatical string.

* marks a constraint violation

*! marks a fatal violation

The optimal candidate is the one that best satisfies the constraint ranking. Violations of lower ranked constraints are tolerated in order to satisfy higher ranked constraints, compare candidates 1 and 2.

(6) **Strict Domination**

Violations of higher ranked constraints cannot be compensated for by satisfaction of lower ranked constraints (Kager 1999: 22, (31)).

The candidate that has the smallest number of violations of a certain constraint wins over other candidates with more violations, compare candidates 1 and 4. Constraints that are not ranked with respect to each other have the same priority. They are thus ranked at the same level, as CON₃ and CON₄ in (5) – there is no ‘wall’ between them in the tableau. Shaded cells indicate that possible violations are not crucial due to violations of higher constraints.

1.3 Islands

1.3.1 *Wh*-movement

Negation may trigger an island effect. In the following examples from Vikner (2001b: 203 (81a) and (82a)), adjunct extraction¹ across NEGP is not possible. The fact that negation, Danish *ikke* ‘not’, may block \bar{A} -movement suggests that spec-NEGP is filled (Vikner has ‘*’ where I have ‘??’).

- (7) Da: a. ??Det er frygteligt [hvor klog]₁ du ikke er t₁
It is terrible how clever you not are
- b. Det er frygteligt [hvor dum]₁ du er t₁
It is terrible how stupid you are

The same can be observed in English (from Vikner 2001b: 203 (83); see also Haegeman 1995: 190):

- (8) En: a. *It is terrible [how clever]₁ you are not t₁
 b. *It is terrible [how clever]₁ you aren't t₁
- c. It is terrible [how stupid]₁ you are t₁

The fact that the clitic head *-n't*, has the same blocking effect shows that it doesn't matter whether negation is realized as an X⁰ or as an XP.

- (9)
-
- En: a. *not*
- Da: c. *ikke*
- b. *-n't*
- d. *ikke*

¹ NEGP blocks non-argument extraction rather than adjunct extraction. The sentences in (7) and (8) are examples of (remnant) movement of the predicate phrase containing the trace of the subject:

(i) it is terrible [_{CP} [_{ADJP} t₁ how stupid] you₁ are [_{ADJP} t]]

If Danish *ikke* ‘not’ (and possibly even English *not*) is analysed as NEG° (below I shall argue that this is not the case), as in (9)d, it is immediately explained why topicalization is out: Movement of an X° into a spec-position would be an instance of improper movement – in OT terminology, a violation of **PROPERMOVE**, which must be an inviolable constraint, i.e. part of the generator **GEN**.

(10) **PROPERMOVE**

- a. * X° in specifier/complement position.
- b. *XP in head position.

PROPERMOVE must not rule out A-movement moving through an \bar{A} -position, because when e.g. Danish *ingen* ‘no one’ is the subject, it moves (at least) from spec-VP (A-position), through spec-NEGP (\bar{A} -position) in order to license sentential negation (see tableau 1 below) to spec-IP (A-position) where its case features are checked. As negative subjects are fully grammatical, such constructions cannot violate any absolute constraints. In other words, **GEN** would not be able to generate such structures. The constraint violated by negative subjects is **PROPERCHAIN**:

(11) **PROPERCHAIN**

- a. A-chains may not contain intermediate traces in \bar{A} -positions.
- b. \bar{A} -chains may not contain intermediate traces in A-positions.

Take for example the following Danish sentence with a negative subject:

- (12) Da: Har ingen af jer set filmen?
Has no.one of you.PL seen movie.the?

Assuming that subjects move to spec-IP (or rather to the topmost spec-position in the split-IP domain) to be assigned/check case, failure to move to spec-IP leads to ungrammaticality due to a violation of the case filter:

(13) **CASE**

The case filter: Overt NPs must have case.

I follow the standard assumption and take the case filter to be inviolable and therefore part of GEN. In tableau 1, candidate 3 is actually somewhat contradictory; as GEN never generates candidates with CASE-violations, such structures cannot be part of the candidate set. To indicate this, the entire row is inverted. In fact, neither PROPERMOVE nor CASE should be in the tableau as they are inviolable. I indicate the distinction between the inviolable constraints (GEN) and the violable ones (EVAL) with double vertical lines:

Tableau 1: Danish negative subject

		PROPER MOVE	CASE	NEG CRIT	PROPER CHAIN	ST AY
1	[_{CP} har [_{IP} <u>ingen</u> _I [_{NEGP} t ₁ [_{VP} t ₁ set filmen]]]?]				*	**
2	*[_{CP} har [_{IP} <u>ingen</u> _I [_{NEGP} [_{VP} t ₁ set filmen]]]?]			*!		*
3	*[_{CP} har [_{IP} [_{NEGP} <u>ingen</u> _I [_{VP} t ₁ set filmen]]]?]		*!			*

The movement (or merger) of elements into spec-NEGP is motivated by the NEG-Criterion (cf. Christensen 2003: 6, Haegeman 1995: 106, and Haegeman & Zanuttini 1991: 244):

(14) **NEGCRIT**

The [NEG] feature must be checked on NEG°.

The constraint labelled STAY punishes the presence of traces and is thus violated whenever an element is moved. It is the Economy of Movement:

(15) **STAY**

Economy of Movement (Grimshaw 1995: 1)

1.3.2 Stylistic Fronting

The elements that can undergo Stylistic Fronting (SF) can be ordered in an accessibility hierarchy (cf. e.g. Maling 1990), based on locality:

(16) **Accessibility hierarchy for stylistic fronting:**

{negation, sentential adverbials} > predicative adjective > {past participle, verbal particles}

Icelandic *ekki* blocks SF of any other (lower positioned) element, head or XP, and therefore SF reveals nothing about the X^o vs. XP status of *ekki* (data due to Gunnar Hrafn Hrafnbjargarson). In (17)b, negation can undergo SF, while neither the main verb nor a PP can, cf. (17)c and (17)d. Without negation, both the main verb and a PP may undergo SF, as in (18)b and (18)c.

(17) Ic: Þeir sem ...
Those who

- | | | | |
|----|------------------------------------|--|-------------------|
| a. | ... | hafa <u>ekki</u> verið í Ósló | (no SF) |
| b. | ... ekki ₁ | hafa t ₁ verið í Ósló | (Negation) |
| c. | *... verið ₁ | hafa <u>ekki</u> t ₁ í Ósló | (V ^o) |
| d. | *...[í Ósló] ₁ | hafa <u>ekki</u> verið t ₁ | (PP) |
| | <i>in Oslo</i> | <i>have not lived</i> | |

- (18) Ic: a. Þeir sem hafa verið í Ósló
 b. Þeir sem **verið**₁ hafa t₁ í Ósló (V^o)
 c. Þeir sem [**í Ósló**]₁ hafa verið t₁ (PP)

A NEG-shifted object, e.g. *engan mat* ‘no food’, which is obviously an XP, only affects SF of XPs, not X^os. Compare (19)b and c:

(19) Ic: Þeir sem ...
Those who

- | | | | |
|----|---------------------------------------|--|-------------------|
| a. | ... | hafa <u>engan mat</u> ₁ borðað t ₁ með skeið | |
| b. | ... borðað ₂ | hafa <u>engan mat</u> ₁ t ₂ t ₁ með skeið | (V ^o) |
| c. | *...[með skeið] ₂ | hafa <u>engan mat</u> ₁ borðað t ₁ t ₂ | (PP) |
| | <i>with spoon</i> | <i>have no food eaten</i> | |

Higher adverbials, i.e. those that normally precede negation, can undergo Stylistic Fronting because movement of adverbials adjoined to NEGP does not cross NEGP:

(20) Ic: Þeir sem ...
Those who

- a. ... hafa áreiðanlega engan mat₁ borðað t₁
 b. ...**áreiðanlega**₂ hafa t₁ engan mat₁ borðað t₁
without doubt have no food eaten

1.4 Topicalization

As is well-known, a topic may briefly be defined as follows:

(21) *A topic is a constituent which receives special emphasis by virtue of being positioned at the beginning of a clause and which may be moved into that position by topicalization.* (Radford 1997: 532)²

Unlike subjects, topics are not obligatory. In English, this is quite clear because English is not a V2 language. In (22)a there is no topic, whereas in (22)b *yesterday* is the topic and has been moved to spec-CP – in other words, it has been topicalized:

(22) En: a. I went to see the doctor yesterday
 b. Yesterday₁ I went to see the doctor t₁

In a V2 language such as Danish, there is only a syntactic difference between topic-less clauses and clauses with topic when the topic is **not** also the subject due to the V2 parameter/constraint (cf. (81) in section 3.2 below). In (23)a there is no topic and the subject is sentence-initial, while in (23)b the temporal adverbial *i går* ‘yesterday’ is topic. (24)a and (24)b are syntactically identical, even though only (24)b has a topic, namely the subject.³

² This is the definition of a *syntactic* topic, which is not to be confused with a semantic or information-structural topic: “a part of a sentence seen as corresponding to what the sentence as a whole is about” (Matthews 1997: 380). Syntactic topicalization is movement to spec-CP, whereas information-structural topicalization is achieved e.g. with special intonation.

³ In German, when there is no topic, spec-CP is filled with an expletive. That the expletive is indeed in spec-CP and not in the subject position spec-IP can be seen from the fact that nothing else can be topicalized when an expletive subject is present:

- (23) Da: a. Jeg₁ gik t₁ til lægen i går
 b. I går₁ gik jeg til lægen t₁
Yesterday went I to doctor.the

- (24) Da: a. Jeg₁ gik t₁ til lægen i går
 b. Jeg₁ gik t₁ til lægen i går

I suggest that the movement of the topic to spec-CP is motivated by the Topic Criterion (on a par with the Wh-Criterion and the NEG-Criterion):

(25) **TOPCRIT**

The [TOP] feature must be checked on C^o_[TOP].

Only main clause C^o is compatible with the [TOP] feature, unlike [WH] which is compatible with both main and embedded C^o. TOPCRIT must outrank STAY in order to license the movement of topics to spec-CP. This is independent of the polarity of the clause; both positive and negative elements can be topicalized.⁴

- (26) Da: a. Ingen₁ har jeg t₁ set t₁ (Polarity = Negative)
No-one have I seen
 b. Nogle₁ har jeg set t₁ (Polarity = Positive)
Some have I seen

Tableau 2: Danish

	TOPIC: <i>ingen</i>	PROPERMOVE	TOPCRIT	STAY
1	Jeg har <u>ingen</u> ₁ [VP set t ₁]		*!	*
☞ 2	<u>Ingen</u> ₁ har jeg t ₁ [VP set t ₁]			**

-
- (i) Es ist ein Brief gekommen (no topic)
 (ii) Ein Brief ist gekommen (topic=*ein Brief*)
 (iii) *Ein Brief ist es gekommen
A letter is it come

⁴ The intermediate trace of *ingen* is due to NEG-shift which is motivated by NEGCRIT (e.g. Christensen 2003): The negative object moves to spec-NEGP to license sentential negation, thus satisfying NEGCRIT, and on to spec-CP to satisfy TOPCRIT.

As mentioned, if Danish *ikke* ‘not’ were to be analysed as a head, it would be easy to explain why it cannot be topicalized: Moving an X^0 into a spec-position violates PROPERMOVE:

- (27) Da: *Ikke₁ har jeg t₁ set nogen
 Not have I seen any

Tableau 3: Danish

*	TOPIC: <i>ikke</i>	PROPERMOVE	TOPCRIT	STAY
☞ 1	Jeg ₁ har t ₁ <u>ikke</u> [VP set nogen]		*	
2	* <u>Ikke</u> ₁ har jeg t ₁ [VP set nogen]	*!		*

Surprisingly, this would hold for Danish alone and not for its closest relatives. In Faroese, Icelandic, Norwegian, and Swedish, the negative adverb corresponding to Danish *ikke* must be an XP as topicalization is fully grammatical (the same goes for Finland Swedish, cf. Bergroth 1917: 168, §251):⁵

- (28) Fa: Ikki dámar mær hettar.
 Not like me.DAT this.NEUT.ACC
 “I don’t like this.” (Lockwood 1977: 155)

- (29) Fa: Ikki ljóðar tað væl.
 Not sounds that well (Lockwood 1977: 155)

⁵ At least in Norwegian (cf. Faarlund et al. 1997: 814) and Swedish (Platzack, p.c.), fronting of negation is usually accompanied with focal stress, which implies focalization rather than topicalization. According to the split-CP Hypothesis (Rizzi 1997), the former is movement to FOCF, the latter is movement to TOPP (see also footnote 27). However, focalization in the Scandinavian languages as well as English is normally done with emphatic stress, while topicalization is always movement. Thus, Danish *ikke* and English *not* can be focalized (phonological process) but not topicalized (syntactic process) while the other languages in question have no such restriction. Furthermore, the focal stress is often on a constituent other than the fronted negation, e.g. Sw: *Inte vet JAG* ‘I don’t know’. In Icelandic, there has to be focal stress on one of the constituents following the topicalized negation, e.g. *bilinn* ‘the car’ in (30) and *ég* ‘I’ in (31).

- (30) Ic: Ekki hafði hann átt bílinn lengi
Not had he owned car.the long

áður en honum var stolið.
before than it was stolen
- (31) Ic: Ekki hef ég áhyggjur af börnunum.
Not have I worries of children.the
- (32) No: Ikkje var det sett opp noko varsel
Not were it put up any warning

om denne faren.
about this danger.the (Nynorsk, Tekstlaboratoriet)⁶
- (33) No: Ikke har han problemer med alkoholen heller.
Not has he problems with alcohol.the either
(Bokmål, Stavanger Aftenblad 1995)⁷
- (34) Sw: Inte tänker han sälja bilen i vår.
Not thinks he sell car.the in spring
(Holmes & Hinchliffe 1994: 516)
- (35) Sw: Nej, inte har hon blivit en ny människa.
No, not has she become a new human
(Dagens Nyheter 1998)⁸

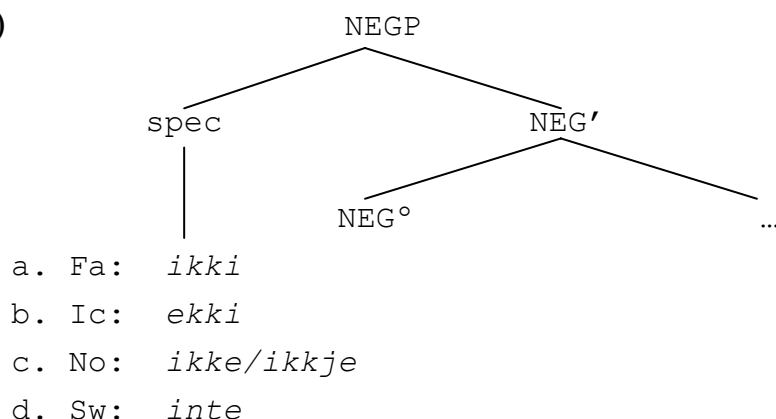
The structure of NEGP in Faroese, Icelandic, Norwegian, and Swedish thus looks as follows:⁹

⁶ From the Nynorsk corpus at the *Tekstlaboratoriet* at Universitetet i Oslo, <http://www.hf.uio.no/tekstlab/>. The webpage gives no more specific data on the origins or dates of the text other than *lokalaviser*, ‘local newspapers’.

⁷ From the Bokmål corpus at *Tekstlaboratoriet*, Universitetet i Oslo.

⁸ From the corpus at *Språkbanken* (<http://spraakbanken.gu.se/lb/konk/>) Göteborg Universitet. ‘Dagens Nyheter’ is a Swedish newspaper.

(36)



In the following two tableaux, NEG-topicalization is exemplified by Swedish, but the analysis is the same for the other Scandinavian languages except Danish:

- (37) Sw: a. #Jag har ingen sett¹⁰ (Topic=*ingen*)
 b. Ingen har jag sett
No-one have I seen

Tableau 4: Scandinavian (except Danish)

	TOPIC: <i>ingen</i>	TOPCRIT	STAY
1	Jag ₁ har t ₁ <u>ingen</u> ₂ [VP sett t ₂]	*!	*
☞ 2	<u>Ingen</u> ₁ har jag t ₁ [VP sett t ₁]		**

- (38) Sw: a. #Jag har inte sett någon (Topic=*inte*)
 b. Inte har jag sett någon
Not have I seen anyone

Tableau 5: Scandinavian (except Danish)

	TOPIC: <i>inte</i>	TOPCRIT	STAY
1	Jag ₁ har t ₁ <u>inte</u> [VP sett någon]	*!	
☞ 2	<u>Inte</u> ₁ har jag t ₁ [VP sett någon]		*

⁹ This is contrary to Johannessen (2000) who argues that Norwegian *ikke* is in NEG° (though base-generated inside VP where it is subcategorised for by the main verb).

¹⁰ (37)a is only ungrammatical if *ingen* is topic. If for example the subject is topic, the sentence is fine, hence the # instead of *. The same is the case for (38)a.

1.5 Middle Danish

As the following examples show, topicalization of the negation was possible in Old and Middle (and early Modern) Danish:

- (39) OD: Ekki kan umbotzman mere for siin ret fangæ
Not can ombudsman more for his right catch
 “The ombudsman has no right to catch more.”
 (1241, *Jyske Lov*, Udaler & Wellejus 1968: 90)
- (40) MD: Ey vildi i til scrifte gange
Not would you.PL to confession go
 (15th century, *St. Pouls Nedfart til de dødes Rige*,
 Bertelsen 1905: 124)
- (41) MD: Icke tror ieg ath Gud kunde bliffue mand
Not think I that God could become man
 (1534, *Karl Magnus' Krønike*, Ruus 2001)
- (42) MD: Icke er han helder nogen ringe werdsens Herre
Not is he either any poor world's lord
 (1539, *Postil*, Hans Tausen, Ruus 2001)

The status of Modern Danish *ikke* appears to be the same as that of English *not*, which must be an XP as opposed to *-n't*, which is an X⁰. In English, the set of elements that can be topicalized is parallel to the Danish one: all negative adverbials except *not*:

- (43) En: a. Under no circumstances will I read that nonsense.
 b. Never will I read that nonsense.
 c. *Not will I read that nonsense.
- (44) Da: a. Under ingen omstændigheder vil jeg læse det sludder.
 b. Aldrig vil jeg læse det sludder.
 c. *Ikke vil jeg læse det sludder.

1.6 Two versions: clitic and XP

In English, Icelandic, Norwegian, and Swedish, it is clear that there are two versions of the negation, i.e. a full XP version and an enclitic X^o version: English *not/-n't*, Icelandic *ekki* [ɛhɔɪ] /-*ekki* [ɪɔɪ], Norwegian *ikke/-kke*, and Swedish *inte/-nte*.¹¹

- (45) En: a. Has John not read the book?
 b. Has-n't John read the book?
- (46) Ic: a. Hefur Jón ekki lesið bókina?
 b. Hefur-ekki Jón lesið bókina?¹²
- (47) No: a. Har Johan ikkje lest boka?
 b. Ha-kkje Johan lest boka?
- (48) Sw: a. Har Johan inte läst boken?
 b. Ha-nte Johan läst boken?

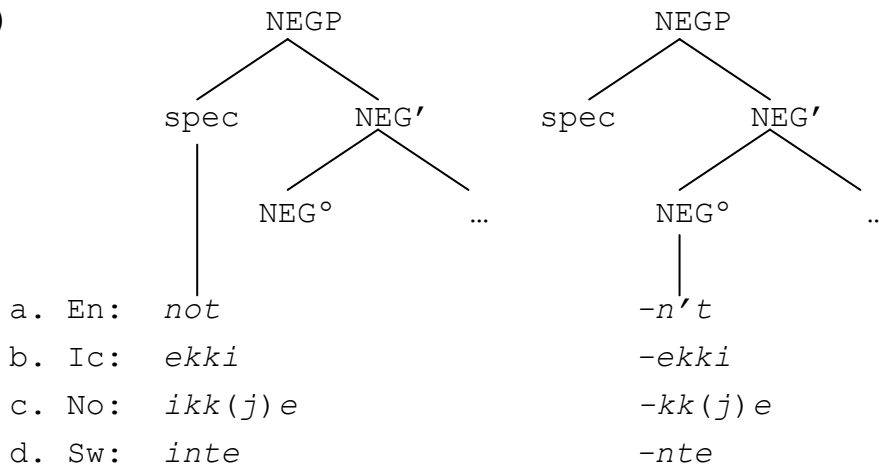
The two versions occupy different structural positions. The full version is an XP in spec-NEGP, whereas the clitic version, which moves with the verb under inversion, is base-generated in NEG^o (as is the case with French *pas* and *ne-*, respectively):

¹¹ The Swedish *-nte* may, however, not have a syntactic version but may only be the result of phonological cliticization. In Swedish main clauses, both the finite verb and the non-clitic sentential negation (as well as the topic) may precede the subject, e.g. *idag kommer (inte) Peter (inte)* ‘Peter isn’t coming today’ (Holmes & Hinchliffe 1994: 522). In embedded clauses, negation may precede the subject, e.g. *att (inte) Johan (inte) gillar prinsesstårta* ‘that Johan doesn’t like princess cake’ (Sells 2000: 2). This seems to suggest that the subject may occupy a position lower than spec-NEGP and therefore it is possible that the *-nte* version of *inte* may be the result of phonological cliticization.

¹² If the subject is a pronoun, the negation has to follow the (enclitic) subject:

- (i) *Hefur-ekki hann lesið bókina?
Has-not he read book.the
- (ii) Hefur-ann-ekki lesið bókina?
Has-he-not read book.the

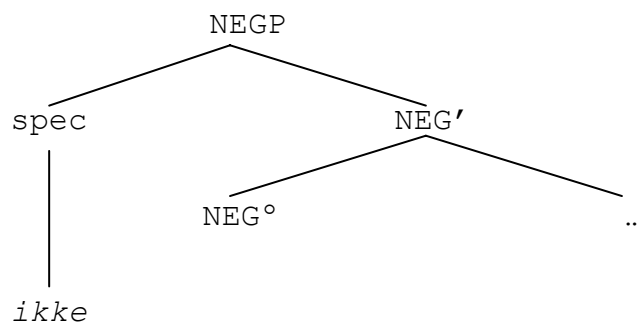
(49)



1.7 Danish *ikke*

Considering the data from the other Scandinavian languages and English, it seems reasonable to analyse Danish *ikke* like the English *not* as an overt operator in spec-NEGP rather than as the head of NEG^o, though there is no direct empirical evidence to support it. Ergo, the structure in (9)d above is out and (9)c, repeated here as (50), is correct:

(50) Da:



Recall that the island effects in English *wh*-movement (section 1.3.1) and in Icelandic Stylistic Fronting (section 1.3.2) revealed nothing about the category of the negative adverb. Danish *ikke* doesn't block movement and cannot cliticize, which supports the analysis of *ikke* as an XP, while the fact that it cannot be topicalized seems to speak against it. However, in the next section, I present evidence that *ikke* isn't the only XP that cannot be topicalized.

2 Non-lexical overt operators and topic

Why are Danish *ikke* and English *not* incompatible with the role of topic? What all other possible topics have in common is lexical content. For example, English *never* literally (as well as etymologically¹³) means *not ever* or \neg *ever*, whereas the operator *not* itself has no lexical meaning, it only means “ \neg ”. I propose that the constraint that regulates whether a language allows topicalization of non-lexical material or not is LEXTOP:

(51) **LEXTOP**

The topic must have lexical content.

Not is [+OP, +NEG, -LEX], *never* is [+OP, +NEG, +LEX]

There are thus two different types of features, i.e. functional and lexical features. The following table is a simple example of the difference between the two (the list of features is not intended to be exhaustive, merely illustrative; the lexical features are particularly difficult to list):

(52) Lexical and Functional Features:

Da	ikke	aldrig	hvilken	hvem	en	hende
En	not	never	which	who	a	her
Lexical	–	TIME	ENTITY	HUMAN	–	FEMALE
Functional	OP, NEG	OP, NEG	OP, WH	OP, WH	-DEF, 3 RD , -PLUR, D	ACC, +DEF, 3 RD , -PLUR, +FEM, -MASC, D

(Note that the functional feature [+FEM(ININE)] and the lexical feature [+FEMALE] are not the same. In German, the word for ‘girl’, *Mädchen*, is [+FEMALE] but [-FEM, -MASC], i.e. neuter. The Danish word for ‘girl’, *pige*, is [+FEMALE] and [+FEM, +MASC], i.e. common gender.)

In Danish and English as well as in German, non-lexical negative operators can not be topic and LEXTOP outranks TOPCRIT, whereas in Faroese, Icelandic, Norwegian, Swedish, and Middle Danish both lexical and non-lexical

¹³ Etymologically, *never* is OE: *nāfre* < *ne-āfre* (not-ever); *aldrig* is ON: *aldri-gi* (age-no = never) < *ne aldri-gi* (not age-any = not at any age/time).

operators can be topic (again, the list is not exhaustive; there are of course other possible negative topics, such as Danish *på ingen måde* ‘in no way’):

(53) Possible negative topics:

Da	En	Fa	Ge	Ic	MD	No	Sw
*ikke	*not	ikke	*nicht	ekki	icke	ikke	Inte
aldrig	never	ongantið ¹⁴	nie	aldrei	aldrig	aldri	aldrig

In terms of constraints, this means that in Danish, English, and German, the ranking is LEXTOP » TOPCRIT and that the ranking is reversed for the other Scandinavian languages (» means “is ranked higher than”):

- (54) a. Da, En, Ge: LEXTOP » TOPCRIT » STAY
 b. Fa, Ic, MD, No, OD, Sw: TOPCRIT » LEXTOP » STAY

This is illustrated in the tableaux below with the sentence pair in (55):

- (55) En: a. I have not seen anyone
 b. *Not have I seen anyone

Tableau 6: Danish and English

	TOPIC: <i>ikke/not</i>	LEXTOP	TOPCRIT	STAY
☞ 1	Jeg har <u>ikke</u> [set nogen]		*	
2	* <u>Ikke</u> har jeg t [set nogen]	*!		*

Tableau 7: Faroese, Icelandic, Norwegian, Swedish, and Middle Danish

	TOPIC: <i>ikki/ekki/inte/ikke</i>	TOPCRIT	LEXTOP	STAY
1	Jag har <u>inte</u> [sett någon]	*!		
☞ 2	<u>Inte</u> har jag t [sett någon]		*	*

In Danish and English, the negative adverb cannot be topicalized and candidate 2 in tableau 6 is ungrammatical. Instead, In English nothing is topicalized (both spec-CP and C° are empty), whereas in Danish, the candidate with the subject in

¹⁴ En. *never* translates into both Fa. *ongantið* and *aldri(n)*.

spec-CP is optimal (due to the V2 constraint, see (81) below). In the other Scandinavian languages, candidate 2 with the negative adverb in spec-CP is optimal.

This difference in topicalization is also (partly) supported by differences in topicalization of semantically light adverbs in the various languages. The sentence-medial adverbs in (56), all of which are [-OP] except *ikke*, can all occupy the underlined slot in (57) in the respective languages¹⁵. (‘-’ indicates that the language has no corresponding single term.)

(56) Sentence medial adverbs:

Danish	English	Faroese	Icelandic	Norwegian	Swedish
ikke	not	ikki	ekki	ikke	inte
jo	-	jú	nú	jo	ju
også	also	eisini	líka	også	också
da	-	tá	sko	da	då
sikkert	probably	ivaleyst	örugglega	sikkert	säkert
nok	-	nokk	ábyggilega	nok	nog
kun	just	bara	bara	kun	bara
endda	even	enntá	-	%enda	ändå
vistnok	-	helst	eflaust	visstnok	visst
9	5	9	8	8 (9)	9

- (57) a. Da: Hun har _____ læst bogen
 b. En: She has _____ read the book
 c. Fa: Hon hevur _____ lisið bókina
 d. Ic: Hún hefur _____ lesið bókina
 e. No: Ho har _____ lest boka
 f. Sw: Hon har _____ läst boken

Consider next topicalization of these adverbs:

¹⁵ Thanks to Peter Svenonius & Kristine Bentzen, Marit Julien, and Janne Bondi Johannessen for judgements on Norwegian, Kersti Börjars for judgements on Swedish, and Gunnar Hrafn Hrafnbjargarson for Icelandic.

(58) Fronted adverbs:

Danish	English	Faroese	Icelandic	Norwegian	Swedish
*ikke	*not	ikki	ekki	ikke	Inte
*jo	-	*jú	nú	*jo	*ju
*også	*also	eisini	*líka	*også	%också
*da	-	*tá	*sko	*da	Då
*sikkert	*probably	ivaleyst	örugglega ¹⁶	sikkert ¹⁷	säkert
*nok	-	*nokk	ábyggilega	*nok	Nog
*kun	*just	*bara	*bara	*kun	*bara
*endda	*even	enntá	-	enda	ändå
*vistnok	-	helst	eflaust	visstnok	visst
0	0	5	5	4	6 (7)

The adverbs in (58) above are to occupy the underlined slot in (59) below:

- (59) a. Da: _____ har hun læst bogen
 b. En: _____ (has) she read the book
 c. Fa: _____ hevur hon lisið bókina
 d. Ic: _____ hefur hún lesið bókina
 e. No: _____ har ho lest boka
 f. Sw: _____ har hon läst boken

¹⁶ Sentences with topicalized *örugglega*, *ábyggilega* and *eflaust* are better in the subjunctive (ii) than in the indicative (i). Both are grammatical but the indicative version is slightly marked:

- (i) ?Örugglega/ábyggilega/eflaust hef ég lesið bókina
Probably/possibly/maybe have I read book.the
 (ii) Örugglega/ábyggilega/eflaust hefði ég lesið bókina
Probably/possibly/maybe had I read book.the

¹⁷ My informants and Faarlund et al. (1997: 814) agree that *sikkert* cannot be topicalized. Interestingly, I have found one example in the Bokmål corpus at Tekstlaboratoriet, www.tekstlab.uio.no:

- (i) Sikkert kunne student-aktørerne ha turnert med den på
Probably could student-actors.the have toured with it on
 Vestlandsbygdene med stort hell om de kunne gi seg tid
Vestland-towns.the with great luck if they could give SELF time
 til sligt.
to such.

There are, of course, other adverbs that can be fronted in all the languages:

- (60) a. Da: Hun har måske / naturligvis læst bogen
 b. En: She has ?maybe / ?naturally read the book¹⁸
 c. Fa: Hon hefur kanska / natúrliga lisið bókina
 d. Ic: Hún hefur kannski / náttúrlega lesið bókina
 e. No: Ho har kanskje / naturligvis lest boka
 f. Sw: Hon har kanske / naturligvis läst boken
- (61) a. Da: Måske¹⁹ / naturligvis har hun læst bogen
 b. En: Maybe / naturally she has read the book
 c. Fa: Kanska / natúrliga hefur hon lisið bókina
 d. Ic: Kannski / náttúrlega hefur hún lesið bókina
 e. No: Kanskje / naturligvis har ho lest boka
 f. Sw: Kanske / naturligvis har hon läst boken

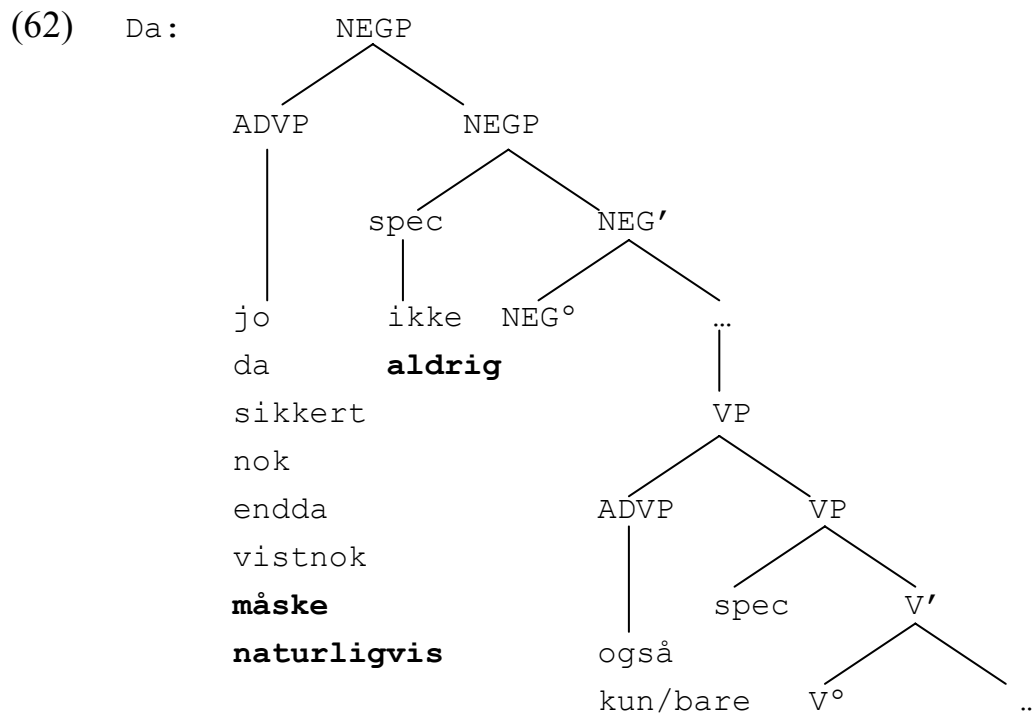
The point is that topicalization of adverbs is significantly more restricted in Danish and English than in the other languages in question. None of the semantically light adverbs in (58) can be fronted in Danish and English, whereas it is possible to varying degrees in the other languages. The fact that not all of these adverbials behave the same within each language suggests that some other constraint or constraints are involved besides LEX_{TOP} and/or that [\pm LEX] is not binary: A certain amount of meaning or number of lexical features (such as [+TEMPORAL] and [+SPATIAL]) is necessary to license topicalization.

¹⁸ Both *maybe* and *naturally* are significantly better with a pause/comma intonation:

(i) I have, maybe/naturally, read the book.

¹⁹ Subject-auxiliary inversion is not obligatory after *måske/kanske* ‘perhaps’ in any of the Scandinavian languages (cf. e.g. Faarlund et al. 1997: 814, Holmes & Hinchliffe 1994: 542, Lockwood 1977: 154). This is due to the fact that there are two versions of this adverb: One is a real adverb (an XP), and the other is a C° element. Only the former induces inversion. The etymology of *måske/kanske* is *må/kan* ‘may/can’ + *ske* ‘happen’, exactly as the English *maybe*. Interestingly, the difference between the adverb and the C° element has yet another consequence in Icelandic. When *kannski* is in C° (no inversion), the verb is in the subjunctive, whereas when *kannski* is in spec-CP (with inversion), the verb is in the indicative. In Swedish, *kanske* may also immediately follow the subject, e.g. *han kanske inte vill göra det*, where it appears to be a raising verb.

One might also argue that the adverbials have different structural positions in the clause and that only higher ones may be topicalized. This is not borne out. In (62), the underlined adverb is the one that cannot be fronted in any of the languages and those in bold are the ones that can be fronted in all of the languages. The rest vary:



Aldrig ‘never’ is in spec-NEG; this is supported by the fact that *ikke* and *aldrig* are in complementary distribution and also by the fact that they both license sentential negation and NPIs.²⁰

The question is not whether a language allows fronting of adverbials in general or not, because that is licensed in all the languages. The same goes for operators, because all the languages allow topicalization of (some version of) the operator *never*. The important distinction is whether semantically light adverbs

²⁰ I tacitly assume what might be called a Doubly Filled NEG Filter. As none of the languages in question (except Old English and Old Norse) have Negative Concorde, with two (or more) negations the first negates the second (they do not cancel each other out – the sentence is still negative). For example, *hun hører ikke aldrig efter* ‘she doesn’t never pay attention’ (however semantically marked) has negative polarity as it can be followed by a negative tag such as *og det gør jeg heller ikke* ‘and neither do I’. As both *ikke* and *aldrig* function as negations, there must be two NEGP, the first taking scope over the second. If the two elements were to be within the same NEGP, only one would be able to check the [NEG] feature. In this paper, however, I disregard Negative Concorde in Old English and Old Norse.

may be topicalized or not, which can be derived from the relative ranking of LEXTOP and its interaction with some other constraints. There may, of course, also be differences in which adverbs count as “light” in each language.

3 From Old Norse to Modern Danish

3.1 Jespersen’s Cycle, part I

Jespersen’s (1917) cycle offers support for the XP status of Danish *ikke* as well as for negation in the other Scandinavian languages and English. In Old Norse, the original negative marker *ne* was reduced to a clitic *ne-* and subsequently another marker was introduced, namely *ekki*. At some point *ne-* disappears and the adverbial *ekki* is used alone to mark negation. I shall follow Jespersen and argue that *ekki* started out as a negative polarity item (NPI) and later took over the role of sentential negation.

(63) *Ne V > Ne-V ekki_{NPI} > V ekki_{NEG}*

The former status of the negative adverb as an NPI receives some support from the etymology of Scandinavian *ikke* as well as English *not*:

(64) a. Da: *ikke* < OD *ekki* < ON *ekki*, neuter of *engi* < *ne einn-gi* / *ne eitt-gi* (‘not one-at.all’)
 b. En: *not* < ME weak variant of *naught* < ME, OE *nauht*, *nāwith* (*nā* ‘no’ + *with* ‘thing’)

Jespersen (1917: 8 (1)-(3)) lists the following stages:

(65) 1. Haraldr ne veit
 2. Haraldr ne veit-at / ne veit-at Haraldr
 3. Veit-at Haraldr

About (65)3, Jespersen (1917: 8) notes that “[t]his form, with *-at* or *-a* as the negative element, is frequent enough in poetry; in prose, however, another way of strengthening the negative was preferred as having “more body”, namely by

means of of *eigi* or *ekki* after the verb.” This “strengthening” suggests that *ekki* started out as a negative polarity item (NPI). Negation was already expressed by the proclitic *ne* and to begin with *ekki* did not express negation on its own but only served to ‘strengthen’ the negation, in the same way as the Modern Danish NPI *overhovedet* ‘at all’.

It appears that there are two developments: one for prose and another for poetry; in the former *ekki* is the preferred negation marker whereas in the latter, *-at* is preferred (see also Hellesnes & Høyland 1974: 27); *-at* and *ekki* appear to be in more or less complementary distribution.²¹

- (66) a. Prose: $Ne\ V > Ne-V\ ekki_{NPI} > V\ ekki_{NEG}$
 b. Poetry: $Ne\ V > Ne-V\ at_{NPI} > V-at_{NEG}$

As Eythórsson (2002) states in his analysis of the enclitic *-at*:

- (67) Occurring almost exclusively in Old Icelandic texts, *-a/-at* is very rare in Old Norwegian documents, where it is not found at all in literary texts. [...] In Icelandic itself, *-a/-at* was not long-lived. [...] In prose it only occurs in early Old Icelandic documents such as the *Stockholm (Icelandic) Book of Homilies* (early 12th century) and the *Grágás* law code (mid-13th century). It is absent from the bulk of Old Icelandic prose of the 12th-14th centuries, where sentential negation is expressed by adverbs like *eigi* (and its shortened form *ei*), as well as *þeygi* and *ekki* (all meaning ‘not’). (p. 195-196)

I shall focus on the development in the prose system, i.e. the *ekki* version.

In Old Norse, topicalization of the negation was common. According to Iversen (1973: 158; my translation), “on both the morphological and the syntactic level, the main rule is that an element is fronted when it has particular weight [...]. With negative words, this fronting has developed into being quite common [...]”. Examples (68) and (69) are from Iversen (1973: 158):

²¹ According to Eythórsson (p.c.) both systems in (66) occur simultaneously and are thus in competition with each other. The loss of *-a/-at* at the expense of *ekki* (outside poetry) has, strictly speaking, nothing to do with Jespersen’s Cycle. The more salient form in one system, i.e. the XP *ekki*, wins over and substitutes the less salient form in the other system, i.e. the enclitic *-a/-at*.

(68) ON: Ekki er þat vart ætt nafn
Not is that our family-name

(69) ON: Eigi má ek þat vita
Not can I that know

Topicalized negation can also be found in Proto Norse (Da. *urnordisk*) runic inscriptions:

(70) PrN: ni's solu sot uk ni sakse stAin skorin.
not-is sun sought and not knife stone cut

ni x x x x maR nAkdan isn x (x)r x xR,
not man naked

ni wiltiR manE lAgi
not misguided men laid

“It is not hit by the sun and the stone is not cut with a knife.
 No-one may expose it, nor may misguided men put it away.”
 (ca. 700, *The Eggjum Stone in Norway*, Krause 1971: 143)

According to Eythórsson (2002), the negative marker *ne* (*ni*) is rare and not productive in Old Norse and when it is there, it displays the characteristics of an archaism (base-generated on the verb). Moreover, in Old Norse, the verb with the proclitic *ne* never occurs sentence initially. The stages are thus as follows:

(71) Proto Norse (PrN), ca. 200-800:

1. [_{CP} Ne₁ V [_{IP} SUB t_v [_{NEGP} t₁ t_v ...]]]

2. [_{CP} TOP₁ ne-V [_{IP} SUB t_v [_{NEGP} t_v [_{VP} ekki ... t₁]]]]

Old Norse (ON), ca. 800-1100:

3a. [_{CP} TOP₁ V [_{IP} SUB t_v [_{NEGP} ekki t_v ... t₁]]]]

3b. [_{CP} Ekki₁ V [_{IP} SUB t_v [_{NEGP} t₁ t_v ...]]]

Old Danish (OD), ca. 1100-1350:

4a. [_{CP} TOP₁ V [_{IP} SUB t_v [_{NEGP} ekki t_v ... t₁]]]]

4b. [_{CP} Ekki₁ V [_{IP} SUB t_v [_{NEGP} t₁ t_v ...]]]

Middle Danish MD (ca. 1350-1500):

5a. [_{CP} TOP₁ V [_{IP} SUB t_v [_{NEGP} icke t_v ... t₁]]]

5b. [_{CP} Icke₁ V [_{IP} SUB t_v [_{NEGP} t₁ t_v ...]]]

Modern Danish (Da), ca. 1500-:

6. [_{CP} SUB₁ V [_{IP} t₁ t_v [_{NEGP} ikke t_v ...]]]

Note that in Proto Norse, stage 2, *ekki* is adjoined to VP like other VP-adverbials, whereas it occurs in spec-NEGP in later stages where it has the status of true negation. It is, of course, also possible to analyse stage 2 such that *ekki* is adjoined to NEGP like other sentential adverbials instead of being adjoined to VP; the difference is string-vacuous as the negative *ne* is cliticized onto the verb in C°.

3.2 Constraints

The following constraints are used in the analysis:

(72) **LEXTOP**

Only lexical elements can check [TOP] on C°.

Because NEGCRIT, cf. (14) above, is otherwise never satisfied by movement in English (cf. that English does not have NEG-shift), it cannot be the (sole) motivator of inversion. Thus, a different constraint is needed that demands that negative operators (not NPIs, see below) are within the (maximal) domain of a ‘true’ negation.

(73) **NEGLIC**

Negative operators must be licensed by being within the domain of a true negation, i.e. a negative head NEG° (cf. Negative Concord).

The (maximal) domain of X is X°, spec-XP, the complement of X°, elements c-commanded by X°, and elements adjoined to X° or XP (i.e. the minimal domain of X plus everything c-commanded by X°). In short, an element Y is within the domain of X iff it is m-commanded by X (dominated by the maximal projection of X). The definition of NEGLIC makes it a ‘surface’ constraint as its domain of application is larger than the ‘working area’ accessible under the Phase Impenetrability Condition PIC (Chomsky 2001: 14, (11)). This is completely

parallel to the constraint on object licensing, LICENSE (Vikner 2001a: 328) or V-LICENSE and P-LICENSE (Christensen 2003:6), stating that an object must be licensed by being c-commanded either by its selecting V^0 or P^0 or by the trace of the selecting V^0 . I take NEGLIC (together with V-LICENSE and P-LICENSE), to be an instance of the more general constraint family LICENSE:

(74) **LICENSE(α , X) / LIC(α , X)**

[α] must be licensed by being within the domain of X^0 ; $\alpha \in \{\text{NEG, NPI, OBJ...}\}$.

The NEGLIC constraint does not apply to NPIs as they are licensed in a different way. For example, when an indefinite object in a negative sentence is topicalized, it cannot occur in the NPI form, which is obligatory when c-commanded by the overt negation. Thus, it cannot be topicalized, cf. (76)b, unless the quantifier can be stranded, as in (76)c:

(75) Da: a. De har ikke læst nogle af Chomskys bøger
They have not read some of Chomsky's books

b. De har ikke læst nogen (som helst) af Chomskys bøger
They have not read any (at all) of Chomsky's books

(76) Da: a. Nogle af Chomskys bøger har de ikke læst
Some of Chomsky's books have they not read

b. *Nogen (som helst) af Chomskys bøger har de ikke læst
Any (at all) of Chomsky's books have they not read

c. Chomskys bøger har de ikke læst nogen (som helst) af
Chomsky's books have they not read any (at all) of

As the finite verb moves through and picks up NEG^0 on its way to C^0 , a topicalized element in spec-CP is within the domain of NEG^0 . Thus, the fact that topicalization of NPIs is ungrammatical shows that NEGLIC does not apply to NPIs. Rather they must be within the domain of (be c-commanded by) the **overt** realization of negation.

- (77) **OPSCOPE / OPSC**
Operators must be in scope positions, i.e. c-command the clause.
- (78) **STAY**
Economy of movement (Grimshaw 1995: 1).
- (79) **TOPCRIT**
The [TOP] feature must be checked on $C^o_{[TOP]}$.

The definition of TOPCRIT makes the prediction that all clauses with a topic are CPs, where C^o houses the [TOP] feature.

I take TOPCRIT, as well as NEGCRIT and WHCRIT, to be instances of a more general family of constraints, namely CHECK (cf. e.g. Vikner 2001b: 141, (5): CHECK-DIST-PERS):

- (80) **CHECK(α , X) / CHK(α , X)**
The feature [α] must be checked on $X^o_{[\alpha]}$; $\alpha \in \{\text{NEG, TOP, WH ...}\}$.

I assume that V2 in Scandinavian (and Germanic in general) is motivated by the constraint V2 which may be considered a short-hand for the interaction of a set of other constraints, such as e.g. HEADLEFT and SPECLEFT (cf. Grimshaw 2001: 2-3). It may also be considered an instance of CHECK: CHK(V2, C), provided that there is such a thing as a [V2] feature and that something like an [EPP] feature on C^o attracts an XP to spec-CP.

- (81) **V2**
The finite verb must be in V2 position, i.e. occupy a C^o preceded by only an overt spec-CP.

This constraint (or set of constraints) is what motivates V2 in the absence of a topic to fill spec-CP. The subject is the unmarked initial element or ‘default topic’. This is due to the fact that the subject is the closest relevant element and therefore induces the fewest violations of STAY (constraint on the number of traces; take as few steps as possible) and SHORTESTMOVE (constraint on the distance; move the closest possible element).

Given that English has *do*-insertion, a constraint on late insertion of non-input material is needed to avoid *do*-insertion in all the other languages:

(82) ***INSERT / *INS**

Output elements must have input correspondents. During the derivation, do not insert material which is not part of the input/lexical array (cf. *the Inclusiveness Condition*, Chomsky 2001: 2).²²

As the input to the derivations by GEN includes a lexical array (LA), it may seem that *INSERT is superfluous because the derivation would be constrained by LA. However, that is not the case. *INSERT only punishes candidates with elements that have no correspondent in LA; it doesn't punish candidates with deleted elements. Such candidates would violate *DELETE (equivalent to MAXIO: Input segments must have output correspondents, cf. Kager 1999: 67, (28)). Changing the elements themselves violates IDENTIO (output elements must be identical to the input elements).

3.3 An OT Analysis of Danish

In the tableaux below, the candidates are organized such that the topic is in spec-CP with and without the finite verb in C° in candidates (a1)/(b1) and (a2)/(b2) respectively; in the (a) competition, negation is the topic, in the (b) competition, some other constituent is the topic. Next, the topic is in situ with and without the finite verb in C° in (a3)/(b3) and (a4)/(b4). Finally, something other than the topic is moved to spec-CP; in (a5) it's the subject, in (b5) and (b6) it's the negation.

In the earliest stage of Old Norse, sentential negation is realized as the operator *ne*, which obligatorily preceded the finite verb in C°:

(83) PrN1: [_{CP} Ne₁ Verb_v [_{IP} SUB t_v [_{NEGP} t₁ t_v [_{VP} ...]]]]

²² This is the syntactic equivalent of DEPIO: “no epenthesis” (cf. Kager 1999: 68, (32)).

Tableau 8: Proto Norse 1, stage 1, *ne*=spec-NEGP

		OP SC	TOP CRIT	LEX TOP	V2	ST AY
a1	*[_{CP} <i>ne</i> ₁ C° [_{IP} sub V _{fin} [_{NEGP} t ₁ ...]]]			*	*!	*
☞ a2	[_{CP} <i>ne</i> ₁ V _{fin} [_{IP} sub t _v [_{NEGP} t ₁ ...]]]			*		**
a3	*[_{CP} C° [_{IP} sub V _{fin} [_{NEGP} <i>ne</i> ...]]]	*!	*		*	
a4	*[_{CP} V _{fin} [_{IP} sub t _v [_{NEGP} <i>ne</i> ...]]]	*!	*		*	*
a5	*[_{CP} sub ₁ V _{fin} [_{IP} t ₁ t _v [_{NEGP} <i>ne</i> ...]]]	*!	*			**
b1	*[_{CP} top ₁ C° [_{IP} sub V _{fin} [_{NEGP} <i>ne</i> ... t ₁]]]]	*!			*	*
b2	*[_{CP} top ₁ V _{fin} [_{IP} sub t _v [_{NEGP} <i>ne</i> ... t ₁]]]]	*!				**
b3	*[_{CP} C° [_{IP} sub V _{fin} [_{NEGP} <i>ne</i> ... top]]]	*!	*		*	
b4	*[_{CP} V _{fin} [_{IP} sub t _v [_{NEGP} <i>ne</i> ... top]]]	*!	*		*	*
b5	*[_{CP} <i>ne</i> ₁ C° [_{IP} sub V _{fin} [_{NEGP} t ₁ ... top]]]		*		*!	*
☞ b6	[_{CP} <i>ne</i> ₁ V _{fin} [_{IP} sub t _v [_{NEGP} t ₁ ... top]]]		*			**

In tableau 8, a violation of the high-ranking OPSC is fatal – operators must move to spec-CP. In the (a) competition, the only two surviving candidates (a1) and (a2) both violate LEXTOP and therefore this violation is not crucial. Proto Norse 1 is a V2 language (the same holds for all its descendants) and therefore the violation of V2 by candidate (a1) is fatal. Thus, (a2) is optimal. In the (b) competition, both of the surviving candidates violate TOPCRIT, as the negation *ne* must be in spec-CP blocking topicalization of any other constituent. Candidate (b5) fatally violates V2 and (b6) is optimal.

At stage 2, Proto Norse 2, the adverb *ekki* is introduced as a VP-adjoined NPI, not as an operator in spec-NEGP and therefore not yet subject to OPSC.

(84) PrN2: [_{CP} TOP₁ *ne*-Verb_v [_{IP} SUB t_v [_{NEGP} t_v [_{VP} *ekki* ... t₁ ...]]]]]

Two things separate Proto Norse 1 in tableau 8 from Proto Norse 2 in tableau 9. First, negation changes from being realized as spec-NEGP to being realized as NEG°.²³ *Ne* is reduced to a head and is therefore not subject to OPSC as this constraint only applies to operators (XPs). To save space, I leave out the structure of NEGP and VP in the tableau.

²³ The cyclic change between spec-NEGP and NEG° may be analyzed as the result of rerankings of some set of high ranking constraints on features and projections.

Second, some of the constraints are reranked (all constraint rerankings are summed up in (88) below): LEXTOP now outranks TOPCRIT, and OPSC is ranked below TOPCRIT. As OPSC doesn't apply to negation (which is now an X^o), no negative operator is moved to spec-CP, which makes topicalization of other constituents possible. Because of this, learners have no reason to rank it higher and therefore the constraint is ranked lower (even though the difference is not observable until in Old Norse). It must, however, outrank STAY in order to license *wh*-movement.

Tableau 9: Proto Norse 2, stage 2, *ne*=NEG^o, *ekki*=NPI

		LEX TOP	TOP CRIT	OP SC	V2	ST AY
a1	*[_{CP} <i>ekki</i> ₁ C ^o [_{IP} sub <i>ne</i> -V _{fin} t ₁ ...]]	*!			*	*
a2	*[_{CP} <i>ekki</i> ₁ <i>ne</i> -V _{fin} [_{IP} sub t _v t ₁ ...]]	*!				**
a3	*[_{CP} C ^o [_{IP} sub <i>ne</i> -V _{fin} <i>ekki</i> ...]]		*		*!	
a4	*[_{CP} <i>ne</i> -V _{fin} [_{IP} sub t _v <i>ekki</i> ...]]		*		*!	*
☞ a5	[_{CP} sub ₁ <i>ne</i> -V _{fin} [_{IP} t ₁ t _v <i>ekki</i> ...]]		*			**
b1	*[_{CP} top ₁ C ^o [_{IP} sub <i>ne</i> -V _{fin} <i>ekki</i> ... t ₁]]				*!	*
☞ b2	[_{CP} top ₁ <i>ne</i> -V _{fin} [_{IP} sub t _v <i>ekki</i> ... t ₁]]					**
b3	*[_{CP} C ^o [_{IP} sub <i>ne</i> -V _{fin} <i>ekki</i> ... top]]		*!		*	
b4	*[_{CP} <i>ne</i> -V _{fin} [_{IP} sub t _v <i>ekki</i> ... top]]		*!		*	*
b5	*[_{CP} <i>ekki</i> ₁ C ^o [_{IP} sub <i>ne</i> -V _{fin} t ₁ ... top]]		*!		*	*
b6	*[_{CP} <i>ekki</i> ₁ <i>ne</i> -V _{fin} [_{IP} sub t _v t ₁ ... top]]		*!			**

In the (a) competition (where negation is topic), violating LEXTOP is fatal: The negation cannot move to spec-CP. Satisfying LEXTOP automatically violates TOPCRIT as the negation stays in situ. Violating TOPCRIT is therefore not crucial in the (a) competition and the violation of the lower ranked V2 is fatal (recall that all the Scandinavian languages are V2).

In the (b) competition, violating TOPCRIT is fatal. The topic must move to spec-CP to check the [TOP] feature on C^o. This leaves only (b1) and (b2). As (b1) violates V2 and (b2) doesn't, (b2) is optimal.

The change from Proto Norse 2 to Old Norse is also two-sided.²⁴ First, negation changes from NEG° back to spec-NEGP. *Ne* has disappeared and *ekki* has changed status from NPI to negative operator (and thus from being adjoined to VP to being inserted into spec-NEGP). Old Danish and Middle Danish (i.e. stages 3-5), as well as all the other Scandinavian languages except Modern Danish, behave in the same way as Old Norse in allowing topicalization of the negative operator, as exemplified in (85)b:

- (85) ON: a. [_{CP} TOP₁ Verb_v [_{IP} SUB t_v [_{NEGP} ekki t_v [_{VP} ... t₁ ...]]]]]
 b. [_{CP} Ekki₁ Verb_v [_{IP} SUB t_v [_{NEGP} t₁ t_v [_{VP} ...]]]]]

As before, the second change is constraint reranking. However, this time only one constraint changes priority: LEXTOP is now ranked below TOPCRIT. As before, STAY is ranked below all the other constraints which are not crucially ranked. Thus, violating the highest-ranking TOPCRIT is fatal. Because LEXTOP, OPSC, and V2 are not ranked with respect to each other, they count as a single constraint. Violating only one of them once is better than violating more than one, compare (a1) and (a2), and (b1) and (b2):

²⁴ There is another important difference between Old Norse and the descendant Scandinavian languages on the one hand and Modern Danish on the other. The latter is strictly V2, while the former (at least up till Middle Danish) allow (stylistically marked) V1 declarative main clauses in certain contexts, primarily in written narrative texts, a phenomenon known as Narrative Inversion. If Narrative Inversion is analyzed as topic-drop (perhaps of something like “and then”, cf. footnote 26), such structures probably contain an empty operator OP in spec-CP. This OP, being an operator and topic, is subject to OPSC, LEXTOP and TOPCRIT; in fact it violates LEXTOP. Also, V2 is violated because the operator is non-overt. Some other constraint or constraints that outrank STAY render such V1 declaratives grammatical. Alternatively, the finite verb (or some property of it) is the topic and thus checks [TOP] on C°. However, I disregard Narrative Inversion in my analysis.

Tableau 10: Old Norse and its descendants except Modern Danish, stages 3-5, *ekki*=spec-NEGP

		TOP CRIT	LEX TOP	OP SC	V2	ST AY
a1	*[_{CP} <i>ekki</i> ₁ C° [_{IP} sub V _{fin} [_{NEGP} t ₁ ...]]]		*		*!	*
☞ a2	[_{CP} <i>ekki</i> ₁ V _{fin} [_{IP} sub t _v [_{NEGP} t ₁ ...]]]		*			**
a3	*[_{CP} C° [_{IP} sub V _{fin} [_{NEGP} <i>ekki</i> ...]]]	*!		*	*	
a4	*[_{CP} V _{fin} [_{IP} sub t _v [_{NEGP} <i>ekki</i> ...]]]	*!		*	*	*
a5	*[_{CP} sub ₁ V _{fin} [_{IP} t ₁ t _v [_{NEGP} <i>ekki</i> ...]]]	*!		*		**
b1	*[_{CP} top ₁ C° [_{IP} sub V _{fin} [_{NEGP} <i>ekki</i> ... t ₁]]]]			*	*!	*
☞ b2	[_{CP} top ₁ V _{fin} [_{IP} sub t _v [_{NEGP} <i>ekki</i> ... t ₁]]]]			*		**
b3	*[_{CP} C° [_{IP} sub V _{fin} [_{NEGP} <i>ekki</i> ... top]]]	*!		*	*	
b4	*[_{CP} V _{fin} [_{IP} sub t _v [_{NEGP} <i>ekki</i> ... top]]]	*!		*	*	*
b5	*[_{CP} <i>ekki</i> ₁ C° [_{IP} sub V _{fin} [_{NEGP} t ₁ ... top]]]	*!			*	*
b6	*[_{CP} <i>ekki</i> ₁ V _{fin} [_{IP} sub t _v [_{NEGP} t ₁ ... top]]]	*!				**

Consider next Modern Danish, which doesn't allow topicalization of the negative operator:

(86) Da: [_{CP} TOP₁ Verb_v [_{IP} SUB t_v [_{NEGP} ikke t_v [_{VP} ... t₁ ...]]]]]

Tableau 11: Modern Danish, stage 6, *ikke*=spec-NEGP

		LEX TOP	TOP CRIT	OP SC	V2	ST AY
a1	*[_{CP} <i>ikke</i> ₁ C° [_{IP} sub V _{fin} [_{NEGP} t ₁ ...]]]	*!			*	*
a2	*[_{CP} <i>ikke</i> ₁ V _{fin} [_{IP} sub t _v [_{NEGP} t ₁ ...]]]	*!				**
a3	*[_{CP} C° [_{IP} sub V _{fin} [_{NEGP} <i>ikke</i> ...]]]		*	*	*!	
a4	*[_{CP} V _{fin} [_{IP} sub t _v [_{NEGP} <i>ikke</i> ...]]]		*	*	*!	*
☞ a5	[_{CP} sub ₁ V _{fin} [_{IP} t ₁ t _v [_{NEGP} <i>ikke</i> ...]]]		*	*		**

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		LEX TOP	TOP CRIT	OP SC	V2	ST AY
b1	*[_{CP} top ₁ C° [_{IP} sub V _{fin} [_{NEGP} <i>ikke</i> ... t ₁]]]			* *!		*
☞ b2	[_{CP} top ₁ V _{fin} [_{IP} sub t _v [_{NEGP} <i>ikke</i> ... t ₁]]]			*		**
b3	*[_{CP} C° [_{IP} sub V _{fin} [_{NEGP} <i>ikke</i> ... top]]]		*!	* *		
b4	*[_{CP} V _{fin} [_{IP} sub t _v [_{NEGP} <i>ikke</i> ... top]]]		*!	* *		*
b5	*[_{CP} <i>ikke</i> ₁ C° [_{IP} sub V _{fin} [_{NEGP} t ₁ ... top]]]		*!		*	*
b6	*[_{CP} <i>ikke</i> ₁ V _{fin} [_{IP} sub t _v [_{NEGP} t ₁ ... top]]]		*!			**

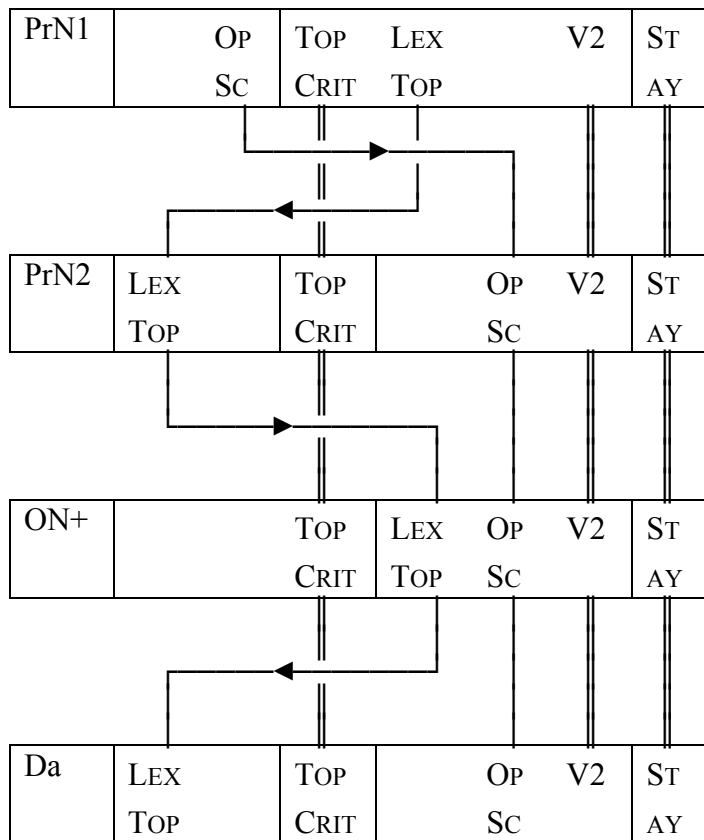
The difference between Modern Danish in tableau 11 and Old Norse (and its descendants) in tableau 10 is that in Modern Danish, LEX_{TOP} has highest priority. LEX_{TOP} and TOP_{CRIT} have swapped places again, and interestingly, Modern Danish has the exact same constraint ranking as Proto Norse 2 (see tableau 9). There is, however, an important difference between Proto Norse 2 and Modern Danish: In the former, negation is the proclitic NEG^o, *ne-*, whereas in the latter, it is an XP in spec-NEGP, namely *ikke*.

The constraint hierarchies for the different stages of Danish are given in (87). The » symbol means “is ranked higher than”, and curly brackets {} mark constraints that are not crucially ranked with respect to each other:

- (87) a. PrN1: OPSC » {TOP_{CRIT}, LEX_{TOP}, V2} » STAY
 b. PrN2: LEX_{TOP} » TOP_{CRIT} » {OPSC, V2} » STAY
 c. ON, OD, MD,
 Fa, Ic, No, Sw: TOP_{CRIT} » {LEX_{TOP}, OPSC, V2} » STAY
 d. Da: LEX_{TOP} » TOP_{CRIT} » {OPSC, V2} » STAY

That the differences between the stages are rather minimal becomes clearer once the hierarchies are set up in a box-diagram as in (88) below. The syntactic changes (but not the cyclic change between spec-NEGP and NEG^o) are accounted for by the movement of a single constraint – except in the change from Proto Norse 1 (PrN1) to Proto Norse 2 (PrN2) which involves movement of two constraints, one of which (OPSC) has no empirical reflex at that stage. Finally, there is another difference, namely the change in crucial constraint ranking, i.e. adding or removing ‘walls’ between constraints. (ON+ is short for ‘Old Norse, Old Danish, Middle Danish, Faroese, Icelandic, Norwegian, and Swedish’.)

(88) Diachronic Change and Parametric Variation in Danish:



4 From Old English to Modern English

4.1 Jespersen's Cycle, part II

The pattern described for Danish in section 3.1 above can also be found in English (compare (63) and (89)):

(89) *Ne V > Ne-V not_{NPI} > V not_{NEG}*

Jespersen (1917: 9-11, (1)-(5)) lists the following stages:

(90)	En:	1. OE:	Ic ne secge	(ca. 450-1100)
		2. ME:	I ne seye not.	(ca. 1100-1450)
		3. ENE:	I say not	(ca. 1450-1700)
		4. En:	I do not say	(ca. 1700-)
		5.	I don't say	(present)

In Old English as in Old Norse, it was possible and indeed obligatory in topicless clauses to have the sentential negation *ne* sentence initially (note also that Old English like Old Norse has negative concord). Van Kemenade (2000: 63) divides the language in Beowulf into two stages, namely 8th century Old English, for which I use the term Proto English (PrE), and Early and Later Old English, which I merely call Old English (OE).

Proto English is a non-V2 language and negation is marked with the sentence initial *no/ne*:

(91) PrE: Nō hē wiht fram mē flōdyþum feor fleotan
Not he thing from me waves-DAT.PL far swim

*meahte, hraþor on holme; nō ic fram him wolde.
 could, quicker in water; not I from him wanted*

“In no way could he swim far from me on the waves of the flood, more quickly on the sea; I would not consent to leave him.”

(ca. 750, *Beowulf*, 541-543, Klaeber 1922;
 translation: van Kemenade 2000: 61, (11a))

- (92) PrE: Nō ic on niht gefrægn under heofones hwealf
Not I of night heard under heaven.GEN vault

heardran feohtan,
harder fight

nē on ēgstrēamum earmran mannon;
not on ocean.DAT more-miserable man.ACC.SG

“Of night-fought battles ne’er heard I a harder ’neath heaven’s
dome, or adrift on the deep a more desolate man!”

(ca. 750, *Beowulf*, 575-577, Klaeber 1922; translation: Gummere 1910)

Old English is a V2 language and sentential negation is realized as the sentence initial *ne* immediately followed by the finite verb:

- (93) OE: Ne seah ic elpeodige þus manige men modiglicran
Not see I all-people thus many men brave

“Among all the peoples, I haven’t seen so many brave men.”

(ca. 750, *Beowulf*, 336-337, Klaeber 1922)

- (94) OE: Ne mihte snotor hæleð wēan onwendan
Not might clever man trouble change

“The wise man could not ward off trouble.”

(ca. 750, *Beowulf*, 190-191, Klaeber 1922)

- (95) OE: Ne forealdige þeos hond æfre.
Not grow.old this hand ever

“This hand never grows old.”

(ca. 890, *Bede’s Ecclesiastical History of the English People*, 4, Miller 1959)

In Middle English (ME), the sentence initial *ne* has been weakened and it is now supported by the sentence medial adverb *na*, as in (96), or by some other negative element such as a negative quantifier phrase, as in (97), which shows that ME had Negative Concorde. *Ælfric* is normally classified as Old English but when it comes to negation, it behaves more like Middle English:

- (96) ME: Ne hate ic eow na þeowan
 Not hate I you not slave
 “I don’t hate you, slave.”
 (ca. 1000, *Ælfric’s Lives of Saints*, 84, Skeat 1966)

- (97) ME: Ne sloh ic nænne,
 Not hit I no.one
 “I didn’t hit anyone.”
 (ca. 1000, *Ælfric’s Lives of Saints*, 365, Skeat 1966)

The following example shows that the transition from *ne* to *ne...na* was not complete:

- (98) ME: Se halga wer him cwæð to, Ne hoga þu embe þæt
 The holy man him said to not think you about that
 “The holy man said to him: Don’t you think about that.”
 (ca. 1000, *Ælfric’s Lives of Saints*, 416, Skeat 1966)

The pattern with sentence-initial negation and negative concord holds for later Middle English as well, as shown by the following examples.

- (99) ME: Ne chaste 3e nan swich mon neauer on oðerwise
 NEG chasten.IMP you any such man never in otherwise
 “Don’t ever chasten any such man otherwise.”
 (ca. 1225, *Ancrene Riwle*, Dobson 1972: 76)

- (100) ME: Ne wende 3e neauer ðe rug mine leoue sustren.
 NEG turn.IMP you never the back my dear sisters
 “You, my dear sisters, don’t you ever turn your backs.”
 (ca. 1225, *Ancrene Riwle*, Dobson 1972: 193)

Here, *ne* is clearly cliticized onto the verb as it always immediately precedes it, both when the verb precedes the subject as is the case with full-DP subjects, as in (101), and when it follows the subject when this is pronominal, as in (102) (see also van Kemenade 2000: 64).

- (101) ME: Ne he ne turned nou3t his face oway fram me
 Nor he NEG turned not his face away from me
 “Nor did he turn his face away from me.”

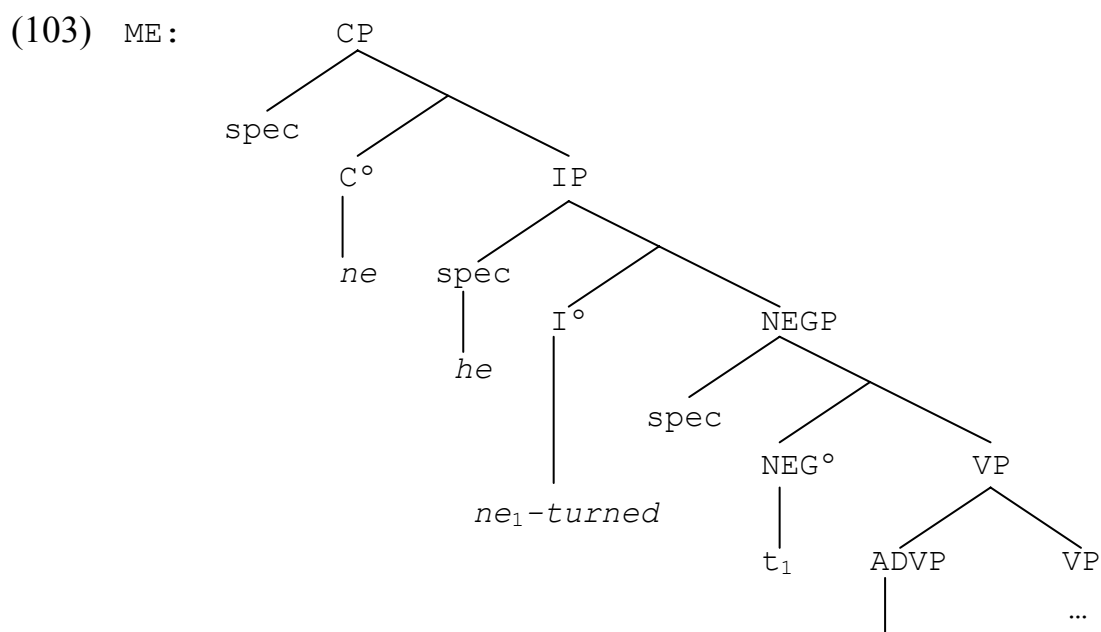
(ca. 1350, *The Earliest Complete English Prose Psalter*, Bülbring 1891: 25)

- (102) ME: Ne ne schorne nou3t myn enemis me
 Nor NEG scorn not my enemy me
 “And neither does my enemy scorn me.”

(ca. 1350, *The Earliest Complete English Prose Psalter*, Bülbring 1891: 27)

I disregard this difference in my analysis and assume the subject to be a pronoun in spec-IP.

Curiously, *ne* can also be used as a complementizer (equivalent to Modern English *nor* and Icelandic and Old Norse *né*) as in examples (101) and (102). A partial structure of (101) is given in (103):²⁵



²⁵ The NPI *nou3t* may also be adjoined to NEGP. The difference here is string-vacuous, but it would account for the differences between pronominal and full-DP subjects if we assume that pronominal subjects are in spec-AGRSP (above NEGP) and full-DP subjects in spec-TP (below NEGP), cf. Fischer et al. (2000: 126). As I disregard full-DP subjects as well as the articulated structure of the IP-domain in this paper, I also leave the issue of the exact position of NPIs aside.

In my analysis, I disregard the use of *ne* as complementizer. The diachronic stages in English are as follows:

(104) Proto English (PrE), ca. 450-800:

1. [_{CP} no₁ C° [_{IP} SUB V [_{NEGP} t₁ t_v [_{VP} ...]]]]

Old English (OE), ca. 800-1100:

2. [_{CP} ne₁ V [_{IP} SUB t_v [_{NEGP} t₁ t_v [_{VP} ...]]]]

Middle English (ME), ca. 1100-1450:

3. [_{CP} TOP₁ ne-V [_{IP} SUB t_v [_{NEGP} t_v [_{VP} na ... t_v ... t₁]]]]]

Early New English (ENE), ca. 1450-1700:

4. [_{CP} TOP₁ V [_{IP} SUB t_v [_{NEGP} not t_v [_{VP} ... t₁]]]]]

Modern English (En), ca. 1700-:

5. [_{CP} TOP₁ C° [_{IP} SUB V [_{NEGP} not t_v [_{VP} ... t₁]]]]]

4.2 An OT Analysis of English

In Proto English, negation can be topicalized without inducing inversion, as it is not a V2 language. In fact, negation has to be sentence initial which shows that OPSC must be ranked above STAY. Moving the verb to C° satisfies V2 but fatally violates the higher-ranking STAY, compare candidates (a1) and (a2). The violations of LEXTOP are not crucial because both surviving candidates in the (a) competition have one:

(105) PrE: [_{CP} no₁ C° [_{IP} SUB Verb_v [_{NEGP} t₁ t_v [_{VP} ...]]]]]

Tableau 12: Proto English, stage 1, *no*=spec-NEGP

		OP SC	TOP CRIT	LEX TOP	ST AY	V2
☞ a1	[_{CP} <u>no</u> ₁ C° [_{IP} sub V _{fin} [_{NEGP} t ₁ ...]]]]			*	*	*
a2	*[_{CP} <u>no</u> ₁ V _{fin} [_{IP} sub t _v [_{NEGP} t ₁ ...]]]]			*	**!	
a3	*[_{CP} C° [_{IP} sub V _{fin} [_{NEGP} <i>no</i> ...]]]]	*!	*			*
a4	*[_{CP} V _{fin} [_{IP} sub t _v [_{NEGP} <i>no</i> ...]]]]	*!	*		*	*
a5	*[_{CP} sub ₁ V _{fin} [_{IP} t ₁ t _v [_{NEGP} <i>no</i> ...]]]]	*!	*		**	

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		OP SC	TOP CRIT	LEX TOP	ST AY	V2
b1	*[_{CP} top ₁ C° [_{IP} sub V _{fin} [_{NEGP} no ... t ₁]]]	*!			*	*
b2	*[_{CP} top ₁ V _{fin} [_{IP} sub t _v [_{NEGP} no ... t ₁]]]	*!			**	
b3	*[_{CP} C° [_{IP} sub V _{fin} [_{NEGP} no ... top]]]	*!	*			*
b4	*[_{CP} V _{fin} [_{IP} sub t _v [_{NEGP} no ... top]]]	*!	*		*	*
☞ b5	[_{CP} no ₁ C° [_{IP} sub V _{fin} [_{NEGP} t ₁ ... top]]]		*		*	*
b6	*[_{CP} no ₁ V _{fin} [_{IP} sub t _v [_{NEGP} t ₁ ... top]]]		*		**!	

In the (b) competition, some other constituent than negation is topic, but only negation can and indeed must move to spec-CP. Moving the topic to spec-CP, as in (b1) and (b2) satisfies TOPCRIT but fatally violates the high ranking OPSC because the negative operator *no* does not c-command the entire clause in situ. In (b5) and (b6), negation has been fronted and the topic is left in situ. Thus, both candidates satisfy OPSC and violate TOPCRIT. The candidate with the fewest violations of STAY is optimal and therefore (b5) is the winner.

At the next stage, Old English is a V2 language which means that it differs from Proto English regarding the relative ranking of V2 and STAY. In Old English, STAY is ranked below V2 because movement to fill the CP domain will naturally violate STAY. As in Proto English, Old English negation must be sentence-initial. Thus, violating OPSC or V2 is fatal:

(106) OE: [_{CP} ne₁ Verb_v [_{IP} SUB t_v [_{NEGP} t₁ t_v [_{VP} ...]]]]

Tableau 13: Old English, stage 2, *no*=spec-NEGP

		OP SC	TOP CRIT	LEX TOP	V2	ST AY
a1	*[_{CP} no ₁ C° [_{IP} sub V _{fin} [_{NEGP} t ₁ ...]]]			*	*!	*
☞ a2	[_{CP} no ₁ V _{fin} [_{IP} sub t _v [_{NEGP} t ₁ ...]]]			*		**
a3	*[_{CP} C° [_{IP} sub V _{fin} [_{NEGP} no ...]]]	*!	*		*	
a4	*[_{CP} V _{fin} [_{IP} sub t _v [_{NEGP} no ...]]]	*!	*		*	*
a5	*[_{CP} sub ₁ V _{fin} [_{IP} t ₁ t _v [_{NEGP} no ...]]]	*!	*			**

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		OP SC	TOP CRIT	LEX TOP	V2	ST AY
b1	*[_{CP} top ₁ C° [_{IP} sub V _{fin} [_{NEGP} no ... t ₁]]]	*!			*	*
b2	*[_{CP} top ₁ V _{fin} [_{IP} sub t _v [_{NEGP} no ... t ₁]]]	*!				**
b3	*[_{CP} C° [_{IP} sub V _{fin} [_{NEGP} no ... top]]]	*!	*		*	
b4	*[_{CP} V _{fin} [_{IP} sub t _v [_{NEGP} no ... top]]]	*!	*		*	*
b5	*[_{CP} no ₁ C° [_{IP} sub V _{fin} [_{NEGP} t ₁ ... top]]]		*		*!	*
☞ b6	[_{CP} no ₁ V _{fin} [_{IP} sub t _v [_{NEGP} t ₁ ... top]]]		*			**

In Middle English (tableau 14 below), *ne* has been reduced to a proclitic head. The adverb *na* ‘not’ is used as a VP-adjoined NPI and is therefore not subject to OPSC. As negation is not subject to OPSC when it is realized as X°, the ranking of this constraint is not crucial and learners have no reason to rank it high (this is exactly parallel to Proto Norse 2). Thus, it is ranked lower than in the preceding stage. Furthermore, to prevent possible topicalization of the NPI *na*, LEXTOP outranks TOPCRIT. In tableau 14, I leave out the structure of NEGP and VP:

(107) ME: [_{CP} TOP₁ ne-Verb_v [_{IP} SUB t_v
 [_{NEGP} t_v [_{VP} na [_{VP} ... t_v ... t₁]]]]]]

As Middle English is still a V2 language (in the same way as the Scandinavian languages because at this stage it does not have *do*-insertion yet), the main verb moves to C° and spec-CP must be filled.²⁶

²⁶ Unlike the Scandinavian languages except Modern Danish, Old English and most likely Middle English do not have Narrative Inversion. According to Susan Pintzuk (p.c.), there are very few Old English examples of non-negative V1 and these sentences do not appear to serve to advance the narration like Scandinavian Narrative Inversion does. Instead, for narrative sequences *tha/thonne* ‘then’ is used sentence initially (in spec-CP) followed by the finite verb in C° (V2) and the (non-pronominal) subject in third position. (See footnote 24.)

Tableau 14: Middle English, stage 3, *ne*=NEG°, *na*=NPI

		LEX TOP	TOP CRIT	OP SC	V2	ST AY
a1	*[_{CP} <i>na</i> ₁ C° [_{IP} sub <i>ne</i> -V _{fin} t ₁ ...]]	*!			*	*
a2	*[_{CP} <i>na</i> ₁ <i>ne</i> -V _{fin} [_{IP} sub t _v t ₁ ...]]	*!				**
a3	*[_{CP} C° [_{IP} sub <i>ne</i> -V _{fin} <i>na</i> ...]]		*		*!	
a4	*[_{CP} <i>ne</i> -V _{fin} [_{IP} sub t _v <i>na</i> ...]]		*		*!	*
☞ a5	[_{CP} sub ₁ <i>ne</i> -V _{fin} [_{IP} t ₁ t _v <i>na</i> ...]]		*			**
b1	*[_{CP} top ₁ C° [_{IP} sub <i>ne</i> -V _{fin} <i>na</i> ... t ₁]]				*!	*
☞ b2	[_{CP} top ₁ <i>ne</i> -V _{fin} [_{IP} sub t _v <i>na</i> ... t ₁]]					**
b3	*[_{CP} C° [_{IP} sub <i>ne</i> -V _{fin} <i>na</i> ... top]]		*!		*	
b4	*[_{CP} <i>ne</i> -V _{fin} [_{IP} sub t _v <i>na</i> ... top]]		*!		*	*
b5	*[_{CP} <i>na</i> ₁ C° [_{IP} sub <i>ne</i> -V _{fin} t ₁ ... top]]		*!		*	*
b6	*[_{CP} <i>na</i> ₁ <i>ne</i> -V _{fin} [_{IP} sub t _v t ₁ ... top]]		*!			**

In the (a) competition, negation can't move to spec-NEG due to the high priority of LEXTOP and TOPCRIT is violated. As V2 must be satisfied, the subject is moved to spec-CP, being the nearest available XP able to be topicalized. The extra violation of STAY is licensed to satisfy V2.

Next, in Early New English (ENE) which is not a V2 language (cf. Fischer et al. 2000: 132), *not* is now an operator in spec-NEGP and both *ne* and the NPI *na* disappear. The negative operator cannot be topicalized.

(108) ENE: [_{CP} TOP₁ C° [_{IP} SUB Verb_v [_{NEGP} *not* t_v [_{VP} ... t₁]]]]

Tableau 15: Early New English, stage 4, *not*=spec-NEGP

		LEX TOP	TOP CRIT	OP SC	ST AY	V2
a1	*[_{CP} <i>not</i> ₁ C° [_{IP} sub V _{fin} [_{NEGP} t ₁ ...]]]	*!			*	*
a2	*[_{CP} <i>not</i> ₁ V _{fin} [_{IP} sub t _v [_{NEGP} t ₁ ...]]]	*!			**	
☞ a3	[_{CP} C° [_{IP} sub V _{fin} [_{NEGP} <i>not</i> ...]]]		*	*		*
a4	*[_{CP} V _{fin} [_{IP} sub t _v [_{NEGP} <i>not</i> ...]]]		*	*	*!	*
a5	*[_{CP} sub ₁ V _{fin} [_{IP} t ₁ t _v [_{NEGP} <i>not</i> ...]]]		*	*	*!*	

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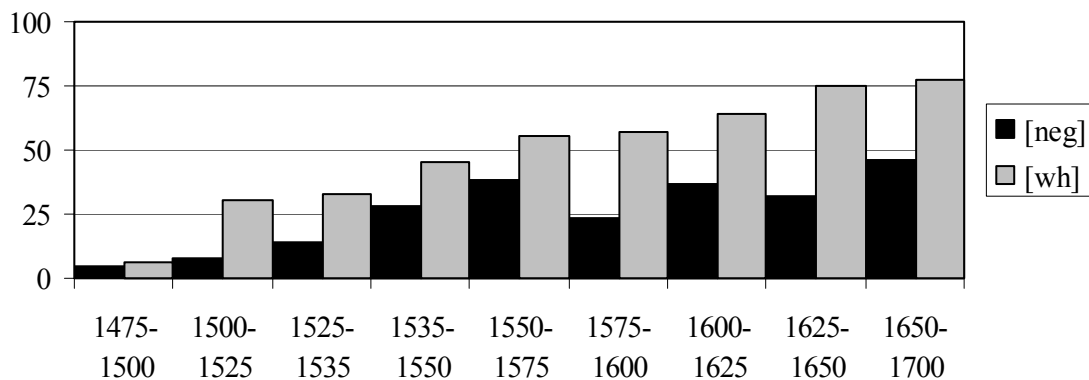
		LEX TOP	TOP CRIT	OP SC	ST AY	V2
☞ b1	[_{CP} top ₁ C° [_{IP} sub V _{fin} [_{NEGP} not ... t ₁]]]			*	*	*
b2	*[_{CP} top ₁ V _{fin} [_{IP} sub t _v [_{NEGP} not ... t ₁]]]			*	**!	
b3	*[_{CP} C° [_{IP} sub V _{fin} [_{NEGP} not ... top]]]		*!	*		*
b4	*[_{CP} V _{fin} [_{IP} sub t _v [_{NEGP} not ... top]]]		*!	*	*	*
b5	*[_{CP} not ₁ C° [_{IP} sub V _{fin} [_{NEGP} t ₁ ... top]]]		*!		*	*
b6	*[_{CP} not ₁ V _{fin} [_{IP} sub t _v [_{NEGP} t ₁ ... top]]]		*!		**	

Two things change between Middle English and Early New English. The first difference lies in the category of the negation. In Middle English, negation is realized as NEG°, while is realized as spec-NEGP in Early New English. The second difference is the ranking of STAY. In Early New English it has been promoted to outrank V2. In the (a) competition, TOPCRIT is violated in order to satisfy the higher ranked LEXTOP which rules out topicalization of the negative operator in (a1) and (b1). The winner in the (a) competition is (a3) where the entire C-domain is (phonetically) empty, because it satisfies STAY at the cost of a V2 violation. In the (b) competition, the winner is (b1) where C° is empty and the verb stays in I°, as (b1) has the fewest violations of STAY, compare (b1) and (b2).

Actually, the tableau for Early New English also holds for Modern English with one important exception: *do*-insertion. In the late seventeenth century (i.e. in the later part of the Early New English period), *do*-insertion slowly becomes more and more common, first in questions and later also with negation. This development is summed up in (109) and illustrated graphically in (110) below:

(109) The rise of *do* insertion (from Rohrbacher 1999: 166):

% <i>do</i>	1475- 1500	1500- 1525	1525- 1535	1535- 1550	1550- 1575	1575- 1600	1600- 1625	1625- 1650	1650- 1700
[WH]	6.4	30.3	33.0	45.1	55.8	57.0	64.0	75.0	77.4
[NEG]	4.8	7.8	13.7	27.9	38.0	23.8	36.7	31.7	46.0

(110) *Do*-insertion

Do-insertion is not completely established until the Modern English stage (I return to Negative Inversion in topicalization below), where movement of the lexical verb is ungrammatical.

- (111) En: a. [_{IP} SUB₁ *did*_v [_{NEGP} *not* t_v [_{VP} t₁ V ...]]]]
 b. * [_{IP} SUB₁ V_v [_{NEGP} *not* t_v [_{VP} t₁ t_v ...]]]]

As mentioned in section 3.2 above, an additional constraint is needed to punish the insertion of dummy elements in all the other languages than Modern English, namely *INSERT, repeated here from (82) above:

(112) *INSERT / *INS

Output elements must have input correspondents. During the derivation, do not insert material which is not part of the input/lexical array (cf. *the Inclusiveness Condition*, Chomsky 2001: 2).

In the earlier stages (as well as in all the Scandinavian languages) this constraint is ranked above STAY, as *do*-insertion is ungrammatical, whereas it is ranked below STAY in Modern English. Tableau 16 is a specification of tableau 15 for Modern English (I leave out OPSC, NEGLIC, LEXTOP, and V2, as they are not crucial here). Note that this holds for main verbs only, as finite auxiliaries and modals move and do not allow *do*-insertion:

Tableau 16: Modern English *do*-insertion

		TOP CRIT	STAY	*INSERT
a1	*[_{CP} C° [IP sub V _{lex} [NEGP not t _v [VP t _v]]]]	*	**!	
a2	*[_{CP} V _{lex} [IP sub t _v [NEGP not t _v [VP t _v]]]]	*	**!*	
a3	*[_{CP} sub ₁ V _{lex} [IP t ₁ t _v [NEGP not t _v [VP t _v]]]]	*	**!**	
☞ a4	[_{CP} C° [IP sub <i>do</i> _v [NEGP not t _v [VP V _{lex}]]]]	*	*	*
a5	*[_{CP} <i>do</i> _v [IP sub t _v [NEGP not t _v [VP V _{lex}]]]]	*	**!	*
a6	*[_{CP} sub ₁ <i>do</i> _v [IP t ₁ t _v [NEGP not t _v [VP V _{lex}]]]]	*	**!*	*
b1	*[_{CP} C° [IP sub V _{lex} [NEGP not ... t _v top]]]	*!	*	
b2	*[_{CP} V _{lex} [IP sub t _v [NEGP not ... t _v top]]]	*!	**	
b3	*[_{CP} top ₁ C° [IP sub V _{lex} [NEGP not ... t _v t ₁]]]		**!	
b4	*[_{CP} top ₁ V _{lex} [IP sub t _v [NEGP not ... t _v t ₁]]]		**!*	
b5	*[_{CP} C° [IP sub <i>do</i> _v [NEGP not ... V _{lex} top]]]	*!		*
b6	*[_{CP} <i>do</i> _v [IP sub t _v [NEGP not ... V _{lex} top]]]	*!	*	*
☞ b7	[_{CP} top ₁ C° [IP sub <i>do</i> _v [NEGP not ... V _{lex} t ₁]]]		*	*
b8	*[_{CP} top ₁ <i>do</i> _v [IP sub t _v [NEGP not ... V _{lex} t ₁]]]		**!	*

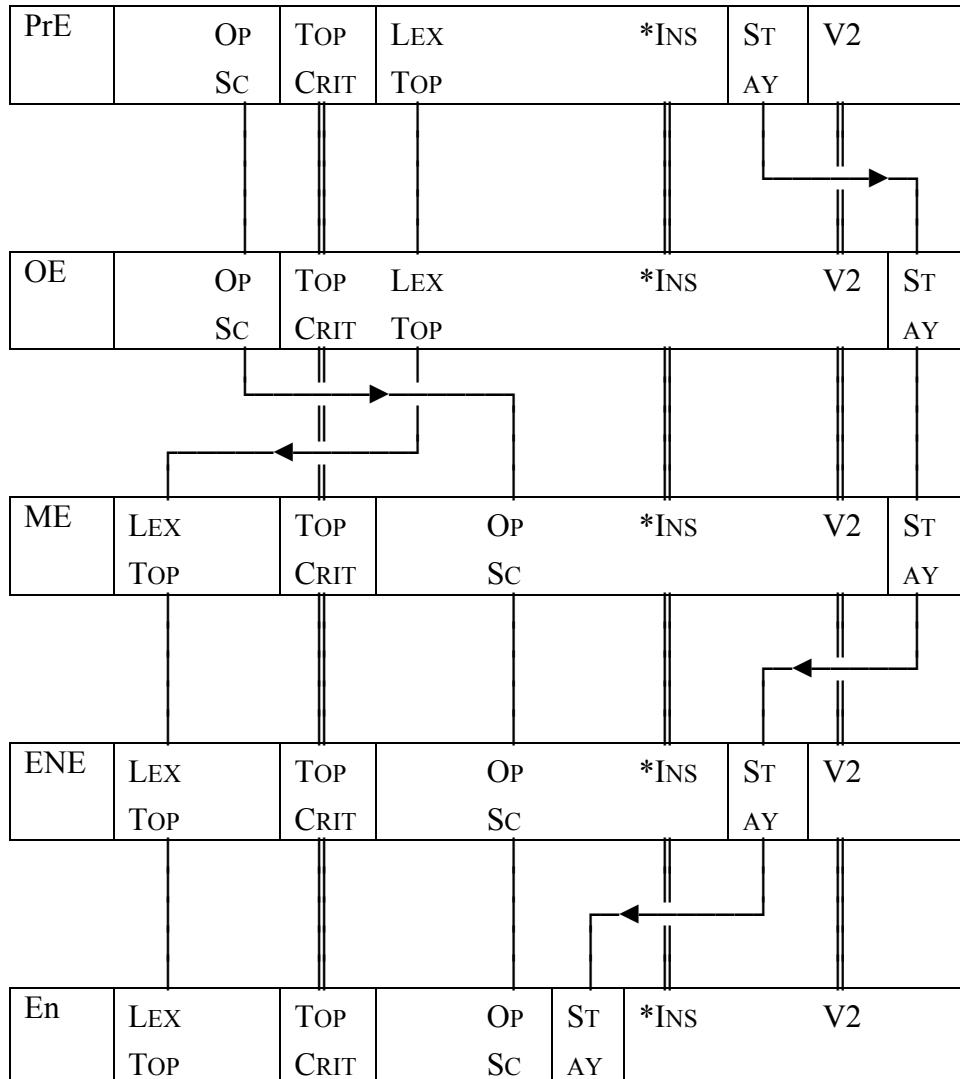
In the (a) competition, as topicalization of negation is ungrammatical, TOPCRIT is always violated. Movement of either the verb or the subject into CP leads to fatal violations of STAY. Inserting *do* violates the lower ranking *INSERT, but because *do* is inserted above VP it has fewer steps to move and hence leads to fewer violations of STAY, compare (a1)-(a3) and (a4)-(a6). In The (b) competition, the topic moves to spec-CP to satisfy TOPCRIT, compare (b1) and (b3), and (b5) and (b7). As V2 is ranked low, movement to spec-CP is not necessary and only leads to fatal violations of STAY, as in (b4) and (b8). The relevant competition is therefore the one between (b3) and (b7), i.e. between movement of the main verb and *do*-insertion, respectively. Again, inserting *do* above VP leads to fewer violations of STAY and therefore, (b7) is optimal.

The constraint hierarchies for the different stages of English are as follows:

- (113) a. PrE: OPSC » TOPCRIT » {LEXTOP, *INS} » STAY » V2
 b. OE: OPSC » {TOPCRIT, LEXTOP, *INS, V2} » STAY
 c. ME: LEXTOP » TOPCRIT » {OPSC, *INS, V2} » STAY
 d. ENE: LEXTOP » TOPCRIT » {OPSC, *INS} » STAY » V2
 e. En: LEXTOP » TOPCRIT » OPSC » STAY » {*INS, V2}

When illustrated by a transparent box diagram it becomes clear that the variation may be accounted for by minimal constraint reranking:

(114) Diachronic Change and Parametric Variation in English:



5 Modern English Negative Inversion

In English, topicalization of negative elements with sentential scope induces subject-auxiliary inversion, (115)a, whereas positive elements do not, (115)b :

(115) a. With no examples will this analysis work
(and neither will the other).
(There are no examples such that this will work.)

b. With no examples, this analysis will work
(and so will the other).
(This works even without examples.)

I take both kinds of topicalization to be movement into spec-CP.²⁷ In tableau 17, the topic is non-negative and doesn't induce inversion because STAY outranks V2:

Tableau 17: Modern English Topicalization

	TOPIC [–NEG]	OP SC	STAY	V2
☞ 1	[_{CP} top _I C ^o [_{IP} sub V _{fin} [NEGP <i>not</i> ...t _I]]]	*	*	*
2	*[_{CP} top _I V _{fin} [_{IP} sub t _v [NEGP <i>not</i> ...t _I]]]	*	**!	

²⁷ Based on evidence from Italian and French, Haegeman (1999: 333-351; 2000) argues that in English, fronting of negative constituents that induce inversion is focalisation (movement to spec-FOCP), whereas fronting of other constituents is topicalization (movement to spec-TOPP). However, that does not account for why focalisation of all other elements than negatives ones does not induce inversion:

- (i) Did you see anyone?
a. JOHN, I saw.
b. *John did I see.

Furthermore, English *not* can neither be topic nor (fronted) focus, so either way it has to be accounted for why *not*, being an operator, cannot be fronted/focalized/topicalized. Applied to V2 languages, the syntactic difference between focalization and topicalization (as proposed by Haegeman) becomes invisible.

In tableau 18, a negative constituent is topicalized and inversion is triggered. The finite auxiliary verb moves to C° to satisfy NEGLIC (repeated from (73) in section 3.2 above):

(116) **NEGLIC**

Negative operators must be licensed by being within the domain of a true negation, i.e. a negative head NEG° (cf. Negative Concord).

Tableau 18: Modern English Negative Inversion

	TOPIC [+NEG]	OP SC	NEG LIC	STAY	V2
1	*[_{CP} top _I C° [_{IP} sub V _{fin} [_{NEGP} <i>not</i> ...t _I]]]	*	*!	*	*
2	[_{CP} top _I V _{fin} [_{IP} sub t _v [_{NEGP} <i>not</i> ...t _I]]]	*		**	

Note that NEGQPs (negative quantifier phrases) in situ violate NEGCRIT (as [NEG] on NEG° is not checked) but not NEGLIC as the NEGQP is within the domain of NEG°.

- (117) En: a. I bought no shoes
 b. *I no shoes bought
 c. I did not buy any shoes

Tableau 19: English

		NEG LIC	STAY	NEG CRIT	*INS
1	[_{IP} sub I° [_{NEGP} NEG° [_{VP} V _{lex} <i>no</i>]]]			*	
2	*[_{IP} sub I° [_{NEGP} <i>no</i> NEG° [_{VP} V _{lex} t]]]		*!		
3	[_{IP} sub <i>did</i> _v [_{NEGP} <i>not</i> t _v [_{VP} V _{lex} <i>any</i>]]]		*!*		*

For a comparative analysis of NEG-shift (negative movement) and NEGQPs in Scandinavian and English, see Christensen (2003).

The effect of NEGLIC has not been visible in the previous stages of English, nor in the Scandinavian languages, due to the effect of the V2 constraint.

Because V2 is ranked above STAY in all the other languages, C° is always filled, regardless of the polarity of the topicalized element in spec-CP. In Modern English, V2 is ranked below STAY and the influence of NEGLIC is observable as Negative Inversion.

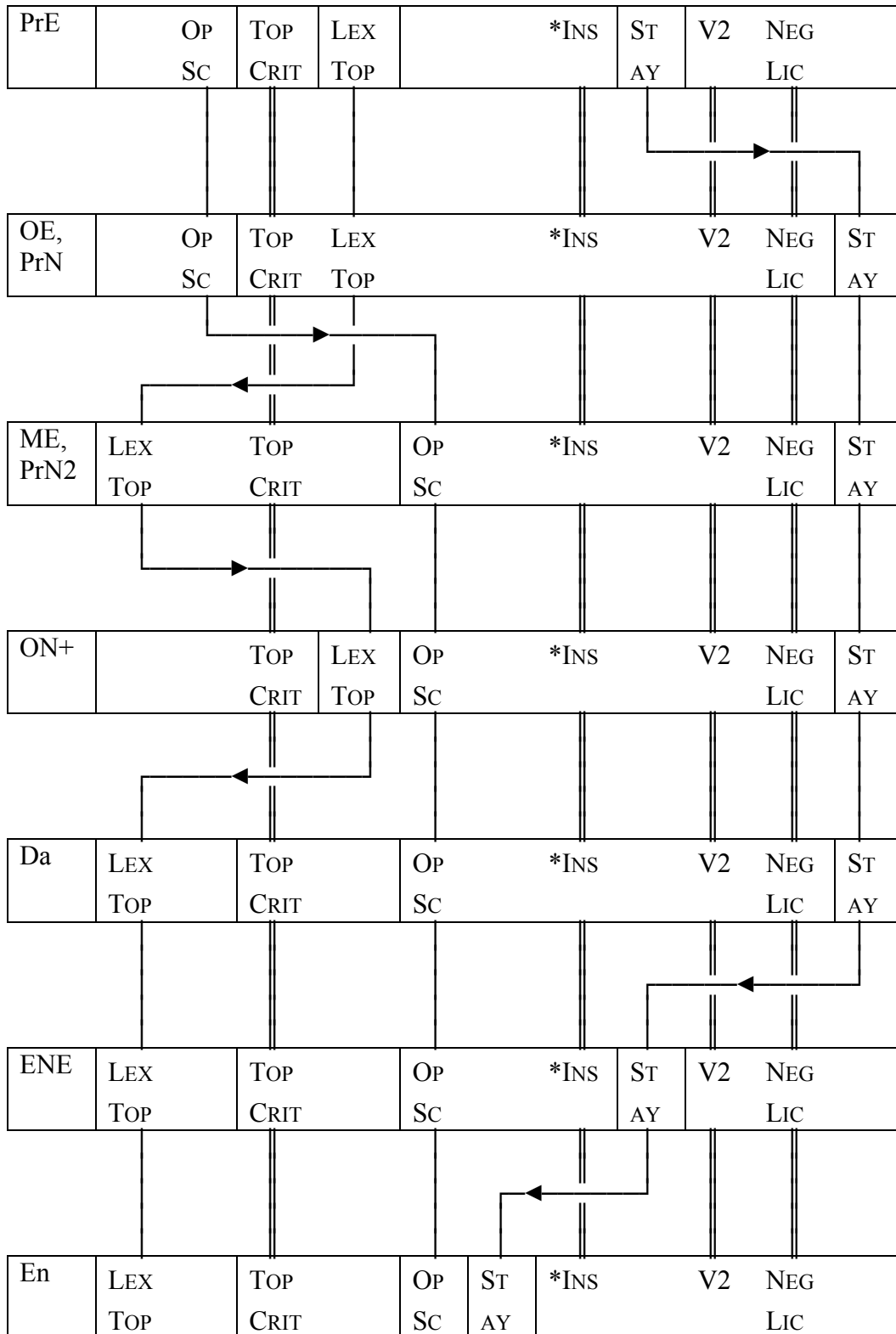
6 Conclusion

I have argued that both Danish *ikke* and English *not* are XPs even though they both resist topicalization which is possible with their lexical counterparts such as *aldrig* and *never*. This is somewhat supported by the topicalizability of negation in their closest related languages, i.e. Faroese, Icelandic, Norwegian, and Swedish, and also by the historical development of Danish and English. The earlier stages of both of these languages also allowed the negative operator to be topicalized. The one phenomenon that seems to speak against this analysis, namely *wh*-extraction from negative islands, is weakened by the fact that there appears to be two versions of negation in many of the languages, a clitic and an XP, and that both versions block extraction. The same is the case with Stylistic Fronting in Icelandic. The fact that *ikke* and *not* resist topicalization is shown to be accountable for by the high ranking of the constraint demanding that topics have lexical content, namely LEXTOP.

The analysis of the diachronic changes in the syntax of negation from Proto Norse and Proto English to Modern Danish and Modern English is two-sided. On the one hand, the cyclic change in category between X° and XP is accounted for by the generalization known as Jespersen's cycle. On the other hand, minimal constraint reranking in an OT framework assuming general violable universal constraints accounts for the syntactic distribution of negation, V2, topicalization, *do*-insertion, and Negative Inversion.

The developments of the two languages are in fact parallel: They go through the same stages. This is summarized in the following box-diagram, which again shows that the variation is indeed minimal:

(118) Parametric Variation – Summary:



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