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Synchronic and Diachronic Aspects
of Locative Inversion and Negative Inversion
in English

(英語における場所句倒置と否定倒置の共時的通時的諸相)

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SYNCHRONIC AND DIACHRONIC ASPECTS
OF LOCATIVE INVERSION AND NEGATIVE INVERSION
IN ENGLISH

by
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Abstract

This thesis investigates both synchronic and diachronic aspects of the locative inversion construction and the negative inversion construction in English, within the recent framework of the Minimalist Program.

Chapter 1 introduces two theoretical underpinnings to provide a basis for the discussion developed in the following chapters. One is the phase-based derivational model (Chomsky (2004, 2008, 2013 etc.)), where the syntactic structures of a sentence are built in units of phase and the domains of phase heads are cyclically transferred to the phonological and semantic components. The other is the split CP hypothesis (Rizzi (1997, 2001, 2004 etc.)), under which CP is decomposed into a number of distinct functional projections. It is shown that both of these ideas are supported by a range of empirical evidence as well as conceptual motivation.

Chapter 2 gives phrase-based analyses of the locative inversion constructions in Present-day English, dividing them into two types: one with an unaccusative verb and the other with an unergative verb. It is proposed, applying the idea of independent probing in Chomsky (2008), that the former type has the locative PP attracted by T and Top simultaneously at the TopP phase and the subject DP realized in [Spec, VP] as its base position. On the other hand, following up Culicover and Levine (2001), the latter type is argued to be derived from the structure where the locative PP moves only to [Spec, TopP] at the TopP phase, while the subject DP raising to [Spec, TP] undergoes heavy NP shift. Then, it is shown that the analyses based on the proposed derivations can give principled explanations to the major properties of the two types of locative inversion construction.

Chapter 3 examines the development of the locative inversion construction in the history of English, especially exploring the correlation between verbal agreement morphology and verb movement along the lines of the rich agreement hypothesis. It is claimed, extending Nawata's (2009) analysis of topic-initial constructions, that the finite verb moves through T to Fin in the derivation of the locative inversion construction in Early English, in order to get its inflectional morphemes distributed among T, Fin, and Top. Then, the allocation of verbal inflectional morphemes to distinct functional heads proves to correctly derive an appropriately inflected form of a given finite verb in Early English. For this purpose, the uninterpretable ϕ -features relating to verbal agreement morphology are argued to be assigned to higher functional heads than T carrying a tense morpheme, as long as they have their own morphological realizations. On the other hand, it is demonstrated that once those ϕ -features ceased to be morphologically realized from Late Middle English onward, it was no longer necessary for them to be assigned to distinct functional heads from T, leading to the loss of verb movement to higher functional heads than $v^{(*)}$.

Chapter 4 offers an analysis of the negative inversion construction in Present-day English in terms of cyclic Transfer. It is proposed that a sentence-negative element and T-head must fall within a single transferred domain, by combining Holmberg's (2012) idea of a polarity relation formed by the two elements with Tanaka's (2011) idea of semantic interpretation in units of transferred domain. It is shown that the analyses built upon this proposal can straightforwardly account not only for the obligatoriness of negative inversion but also for a number of detailed properties of negative preposing including its interaction with other kinds of A'-movement. Then, the proposed analysis of sentence negation is shown to be extended to non-inverted negative sentences, leading to a unified explanation for sentence negation which covers both inverted negative sentences and non-inverted negative sentences.

Chapter 5 discusses the development of negative-initial constructions including the negative inversion construction in the history of English. It is claimed that two types of the negative marker *ne* were in competition in the sense of Pintzuk (1999), thereby explaining the demise of the subject-verb inversion construction led by *ne*. The absence of negative inversion during the period of negative concord is argued to be accounted for in terms of the principle of last resort. Then, it is argued that the negative marker *not* has lost its phrasal status via structural competition, but negative adverbs such as *never* and *seldom* have retained their phrasal status as v^(*)P adjuncts. This difference is clearly reflected in their (im)possibility of fronting to sentence-initial position in Present-day English. Finally, it is shown that other instances of sentence negation also fall under the same mechanism by which the negative polarity of a negative sentence is determined.

Chapter 6 offers a grand summary of this thesis.

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Chapters 2 to 5 are revised and extended versions of the following previously or presently published papers of mine.

Chapter 2: Koike, Koji (2013) “Two Types of Locative Inversion Construction in English,” *English Linguistics* 30, 568-587.

Chapter 3: Koike, Koji (2015) “Eigoshi ni okeru Bashokutouchi Koubun no Hattatsu (The Development of the Locative Inversion Construction in the History of English),” *JELS* 32, 56-62.

Chapter 4: Koike, Koji (2016) “A Phase-based Account of Sentence Negation in English: With Special Reference to the Negative Inversion Construction,” *Studies in English Literature* 57, 59-82.

Chapter 5: Koike, Koji (in prep.) “The Development of Negative-initial Constructions in the History of English,” *English Linguistics* 33.

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Chapter 1

Introduction

1.1. General Introduction

1.1.1. An Overview of Synchronic Studies of the Two Inversion Constructions

A finite verb is linearly preceded by a subject DP in most of the Present-day English declarative sentences, as shown in (1a) and (2a). On the other hand, Present-day English also allows a subject DP to be realized after a finite verb in a number of declarative sentences like (1b) and (2b).

- (1) a. A train came to the platform.
b. To the platform came a train.

- (2) a. I have never seen such a beautiful picture.
b. Never have I seen such a beautiful picture.

Sentences like (1b) and (2b) are called the locative inversion construction (henceforth, LIC) and the negative inversion construction (henceforth, NIC), respectively, and there have been many synchronic studies that describe and explain the two inversion constructions

since the early years of generative grammar (Klima (1964), Emonds (1976), and Rochemont (1978) among many others). To mention some of the classical works, Rochemont (1978) and Emonds (1976) postulate the following transformational/stylistic rules to derive the inverted word order of the LIC and the NIC, respectively.

(3) Subject Postposing

X	NP	(AUX)	V	Y	—————→	1	∅	3	4	2	5	
1	2	3	4	5								(cf. Rochemont (1978: 38))

(4) Subject-Auxiliary Inversion

NEG	NP	AUX	X	—————→	1	3	2	4	
1	2	3	4						(cf. Emonds (1976: 22))

On the other hand, with the subsequent theoretical developments, there have been relatively recent generative studies that attempt to derive these two inversion constructions without resorting to the kind of rules specific to them as described in (3) and (4). In particular, Collins (1997) claims that the locative PP moves to [Spec, TP] to satisfy the EPP-feature on T in the derivation of the LIC, and that this movement does obey the locality condition that is also operative in the derivation of non-inverted sentences. Similarly, Haegeman (1995) argues under the general notion of feature checking that T carrying a NEG-feature raises to C in the derivation of the NIC, in order to enter into a Spec-head configuration with a negative element preposed to [Spec, CP], thus causing subject-auxiliary inversion. In the same spirit, this thesis explores the possible derivations of the LIC and the NIC in Present-day English within the general architecture of the phase-based derivational model, which are the topics to discuss in chapters 2 and 4,

respectively.

Chapter 2 proposes two types of derivation of the LIC in Present-day English. In the derivation of the LIC with an unaccusative verb, the locative PP moves to both [Spec, TP] and [Spec, TopP] simultaneously at the TopP phase under Chomsky's (2008) idea of independent probing, while the subject DP remains in [Spec, VP] in the course of the derivation. On the other hand, in the derivation of the LIC with an unergative verb, the locative PP moves only to [Spec, TopP] at the TopP phase and the subject DP raising to [Spec, TP] undergoes heavy NP shift to adjoin to the right side of TP, along the lines of Culicover and Levine (2001). Then, it is shown that the analyses based on these derivations allow us to correctly capture both the similarities and differences between the two types of LIC.

Chapter 4 offers an analysis of the NIC in Present-day English in terms of cyclic Transfer. It is argued that a sentence-negative element and T must undergo simultaneous Transfer, combining Holmberg's (2012) idea of a polarity relation formed between the two elements with Tanaka's (2011) idea of semantic interpretation proceeding by single transferred domain. Under this proposal, in the case where a sentence-negative element is preposed to [Spec, FocP], T raises obligatorily as far as Foc at the FocP phase so that they can establish their polarity relation properly within a single transferred domain, thus inducing subject-auxiliary inversion. It is shown that the analyses built upon this proposal provides us with a basis for accounting for a range of properties of the NIC including the interaction of negative preposing with other kinds of A'-movement. Then, it is demonstrated that the analysis of sentence negation in terms of cyclic Transfer can be extended to accommodate non-inverted negative sentences toward a unified explanation for sentence negation.

1.1.2. An Overview of Diachronic Studies of the Two Inversion Constructions

Inverted sentences introduced by a locative PP or a negative expression were already

attested in the earliest stage of English, as shown in (5) and (6).¹ Together with such examples from the extant texts written in Early English, a number of diachronic analyses of the two inversion constructions have been presented in the generative literature (Ohkado (1998), van Kemenade (2000), and Ingham (2007) among many others). However, on the whole, diachronic studies on the LIC differ significantly from those on the NIC regarding to what extent they have revealed their developmental paths in the history of English.

(5) On þæm morum eardiað Finnas
 on the swamp dwell Finns (coorosiu,Or_1:1.15.24.269: EOE)
 ‘Finns dwell on the swamp’

(6) ne ðearf he hiora ma geldan
 not need he of-them more pay (colawine,LawIne:43.1.120: EOE)
 ‘he need not pay more of them’

There have been only a handful of diachronic studies on the LIC (Breivik (1990), Ohkado

¹ Most of the Old, Middle, and Modern English examples cited in the thesis, especially in chapters 3 and 5, are taken from *The York-Toronto-Helsinki Parsed Corpus of Old English Prose* (YCOE), *The Second Edition of the Penn-Helsinki Parsed Corpus of Middle English* (PPCME2), *The Penn-Helsinki Parsed Corpus of Early Modern English* (PPCEME), and *The Penn Parsed Corpus of Modern British English* (PPCMBE). The periodization of these corpora is shown in (i).

- (i) Early Old English: O1 (-850), O2 (850-950)
 Late Old English: O3 (950-1050), O4 (1050-1150)
 Early Middle English: M1 (1150-1250), M2 (1250-1350)
 Late Middle English (1350-1420), M4 (1420-1500)
 Early Modern English: E1 (1500-1569), E2 (1570-1639), E3 (1640-1710)
 Late Modern English: L1 (1710-1780), L2 (1780-1850), L3 (1850-1920)

This thesis collapses O1 and O2 into Early Old English (EOE), following Pintzuk and Taylor (2006); the number of O1 texts is too small to make quantitatively reliable generalizations. Note that all the quantitative research shown in chapters 3 and 5 targets only the texts whose composition date can be identified on the basis of the above periodization. Note also that this thesis uses the term Early English occasionally to refer to both Old English and Middle English. In what follows, I will give both glosses and translations to Early English examples, and only translations to Early Modern English examples.

(1998), and Williams (2000)), in which the LIC is just briefly mentioned in relation to other kinds of construction. In particular, Williams (2000) suggests that the LIC in Early English is a variant of the existential construction in which no expletive subject is contained at all. Since the LIC in Early English has not been seriously examined in the literature, its diachronic changes remain unclear for the most part. Of course, it is conceivable that the LIC has undergone no significant changes, so that its derivation has remained constant throughout the history of English. However, whether this is the case or not should be ascertained in the light of empirical evidence, and it will turn out that the LIC in Early English has the derivation where the finite verb moves through T to Fin due to the richness of verbal agreement morphology, unlike their derivation in Present-day English.

As for inversion constructions led by a negative marker, many diachronic analyses have been proposed on the basis of a substantial number of empirical observations (van Kemenade (1997b, 2000), Ingham (2007), and Wallage (2012) among many others). Although the details of these analyses vary, they agree, relying on the seminal work of Jespersen (1917), that English negative sentences including the NIC have developed through the three stages in (7).

- (7) Stage 1: Sentence negation is expressed by the negative marker *ne* alone.
- Stage 2: *Ne* co-occurs with other negative elements such as *not*, *never*, and *nothing*, denoting single negation together.
- Stage 3: Negative elements such as *not*, *never*, and *nothing* denote sentence negation on their own.

Essentially along these lines, this thesis gives the detailed analyses of the development of negative-initial constructions including the NIC in the history of English, paying special

attention to the syntactic status of sentence-negative elements as phrases or heads. The aims of chapters 3 and 5 are to clarify the exact derivations underlying the LIC and the NIC at each stage of their development in the history of English, respectively.

Chapter 3 explicates the developmental path of the LIC in the history of English, discussing its relation with the verb-second phenomenon attested in Early English. It is claimed, extending Nawata's (2009) analysis of topic-initial verb-second constructions, that the LIC in Early English is generated by the derivation where the finite verb moves obligatorily through T to Fin in order to pick up its distinct inflectional morphemes distributed among T, Fin, and Top. This enables us to account for in a principled way some regularities found in the verbal inflectional system of Early English. Then, it is proved that after verbal agreement morphology underwent gradual leveling from Late Middle English onward, it was no longer necessary for the relevant ϕ -features to be assigned to distinct functional heads from T, thereby explaining the demise of verb movement to T as well as Fin. This is supported by the change in availability of postverbal pronominal subjects and grammatical weight of postverbal full DP subjects.

Chapter 5 presents the overall scenario for the development of negative-initial constructions including the NIC in the history of English, concentrating on the syntactic change of the negative markers *ne* and *not* from a phrase to a head. It is proposed that the Spec-type of *ne* was replaced by the head-type of *ne* by the end of Early Middle English via structural competition in the sense of Pintzuk (1999). This proposal neatly captures the gradual decline and final loss of the inversion construction led by *ne*. It is shown that the non-inverted negative-initial constructions in Middle English can be accounted for in terms of the principle of last resort. Then, it is established that the negative *not* has gone through the competition between its Spec-type and its head-type from Early Modern English onward, whereas negative adverbs like *never* and *seldom* have not undergone such

structural competition. This leads to the situation in Present-day English where the former can no longer be preposed to sentence-initial position, while the latter can still be. Finally, it is demonstrated that other instances of sentence negation also fall under the same mechanism by which the negative polarity of a negative sentence is determined, thus providing us with a fuller description of sentence negation in the history of English.

1.2. Theoretical Underpinnings

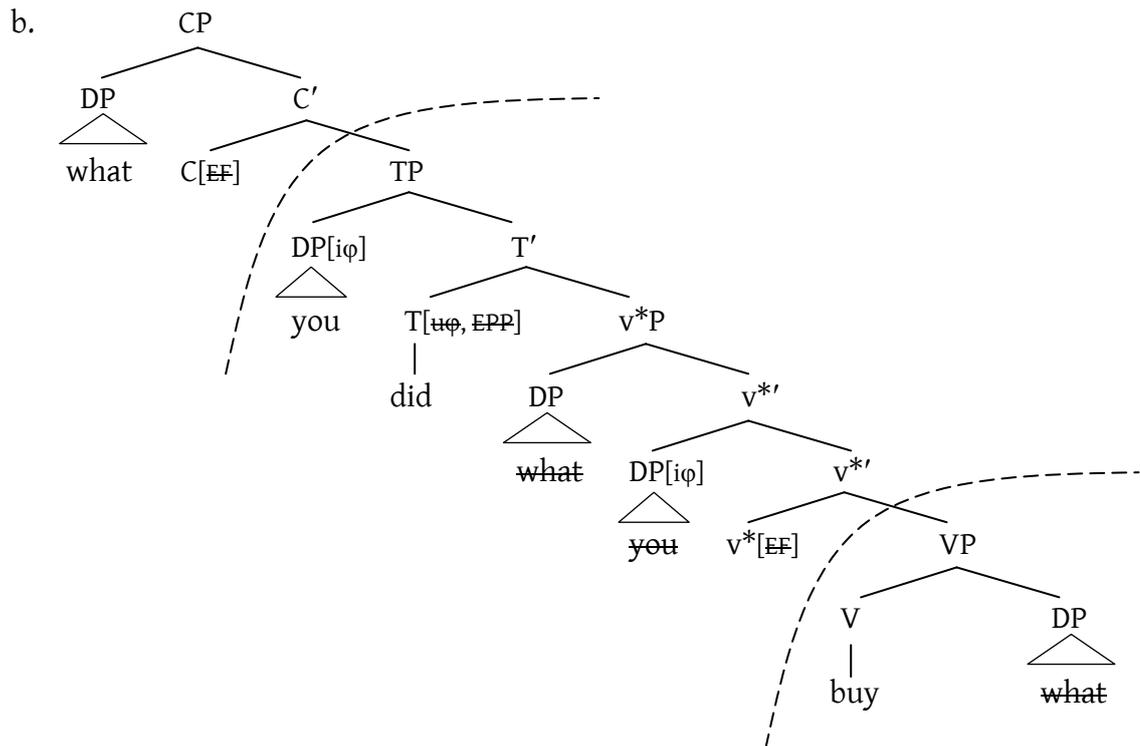
This section introduces two theoretical underpinnings to provide a basis for the discussion developed in the following chapters, specifically the phase-based derivational model and the split CP hypothesis.

1.2.1. The Phase-based Derivational Model

It has been traditionally assumed in the generative literature that the syntactic structure of a sentence is constructed at one fell swoop and the whole structure is sent off to the phonological and semantic component. On the other hand, Chomsky (2004, 2008, 2013 etc.) abandons this idea and instead proposes the phase-based derivational model, in which the syntactic structure of a sentence is built up in units of phase in a piecemeal fashion and the domains of phase heads are cyclically transferred to the phonological and semantic components. For example, the *wh*-question in (8a) is derived as shown in (8b).²

(8) a. What did you buy?

² Throughout this thesis, a boundary between the transferred domains is notated with a dotted line. Note that the operations, features, and relations irrelevant to the present discussion are omitted in (8b): for example, V-to-v* movement, uninterpretable Case-features, and an Agree relation between V and the object DP.



At the v^*P phase, the subject DP is merged in [Spec, v^*P], while the object DP is merged in the complement position of V. The edge feature on v^* attracts the object DP to the outer [Spec, v^*P]. Once all the syntactic operations within the v^*P phase have been completed, the domain of v^* , i.e. VP is transferred to the phonological and semantic components. Then, at the CP phase, the uninterpretable ϕ -features on T establish an Agree relation with the interpretable ϕ -features on the subject DP. In addition, the EPP-feature on T attracts the subject DP to [Spec, TP]. On the other hand, the edge feature on C attracts the object DP to [Spec, CP]. Once all the syntactic operations within the CP phase have been applied, the domain of C, i.e. TP is sent off to the phonological and semantic components. Finally, the remaining topmost CP is transferred to the phonological and semantic components, with a convergent result of the whole derivation. Thus, the syntactic structure of a sentence is cut into smaller chunks, so that the amount of information to deal with at each step of the derivation can be vastly reduced, leading to computational efficiency.

It is important to note that v^*P and CP constitute phases in the derivation shown in (8b). In this regard, Chomsky (2000, 2001, 2004) claims that phases are defined on the basis of semantic and phonetic integrity. From the semantic side, v^*P and CP can be viewed as propositional in nature; v^*P represents a full argument structure in which a verb phrase is predicated of an external argument, while CP represents a complete clausal complex which includes tense and illocutionary force. From the phonetic side, these two categories have a degree of phonetic independence, as is clear from verb phrase fronting, extraposition, clefts, and so on.

Pushing further the reduction of computational burden, Chomsky also proposes the phase impenetrability condition (henceforth, PIC) in (9), where the term edge refers to the specifier or adjoined position of HP.

(9) The Phase Impenetrability Condition

The domain of a phase head H is not accessible to operations outside HP; only H and its edge are accessible to such operations. (cf. Chomsky (2001: 13))

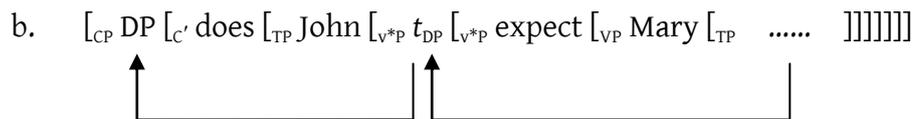
The intuition behind the PIC is that once a syntactic object has been judged to be well-formed at the end of a given phase, the computational system does not backtrack to reexamine it at the later phases. This contributes toward minimizing what must be retained in active memory at each phase, because the computational system can do without taking into account the derivational histories which were built before the ongoing phase.

Given the PIC defined in (9), a *wh*-phrase is forced to move through the edges of v^*P and CP in order to reach sentence-initial position; if it stayed within the domain of a phase head, it would undergo Transfer at the end of that phase and hence could not participate in further computations at the next phase. There are several pieces of empirical evidence for

wh-movement via the edge of v^*P , one of which is the fact in (10a) that the reflexive *himself* can be interpreted as coreferential with the subject *John*.

- (10) a. Which picture of himself_i does John_i expect Mary to buy?

(Hornstein, Nunes and Grohmann (2005: 361))



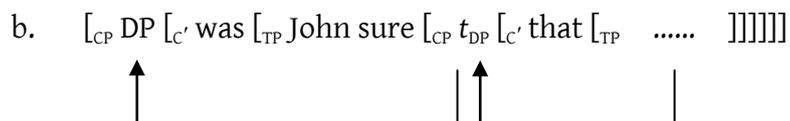
(DP: which picture of himself)

Given the standard assumption that an anaphor must be bound by its appropriate antecedent within the same TP (cf. Chomsky (1995b: Chs. 1 and 3)), the grammaticality of (10a) can be easily explained because the copy of the *wh*-phrase containing *himself* left behind at the edge of v^*P can be locally bound by its antecedent *John*, as shown in (10b).

On the other hand, some pieces of empirical evidence are also presented in support of *wh*-movement via the edge of CP. Among them is the fact that the reading where *himself* is coreferential with *John* is possible for the sentence in (11a).

- (11) a. Which picture of himself_i was John_i sure that Mary liked best?

(adapted from Radford (2004: 395))



(DP: which picture of himself)

Again, assuming with Chomsky (1995b: Chs. 1 and 3) that an anaphor must be bound by its appropriate antecedent within the same TP, the grammaticality of (11a) immediately

follows because the antecedent *John* can locally bind the copy of the *wh*-phrase containing *himself* left behind at the edge of the embedded CP, as shown in (11b).³

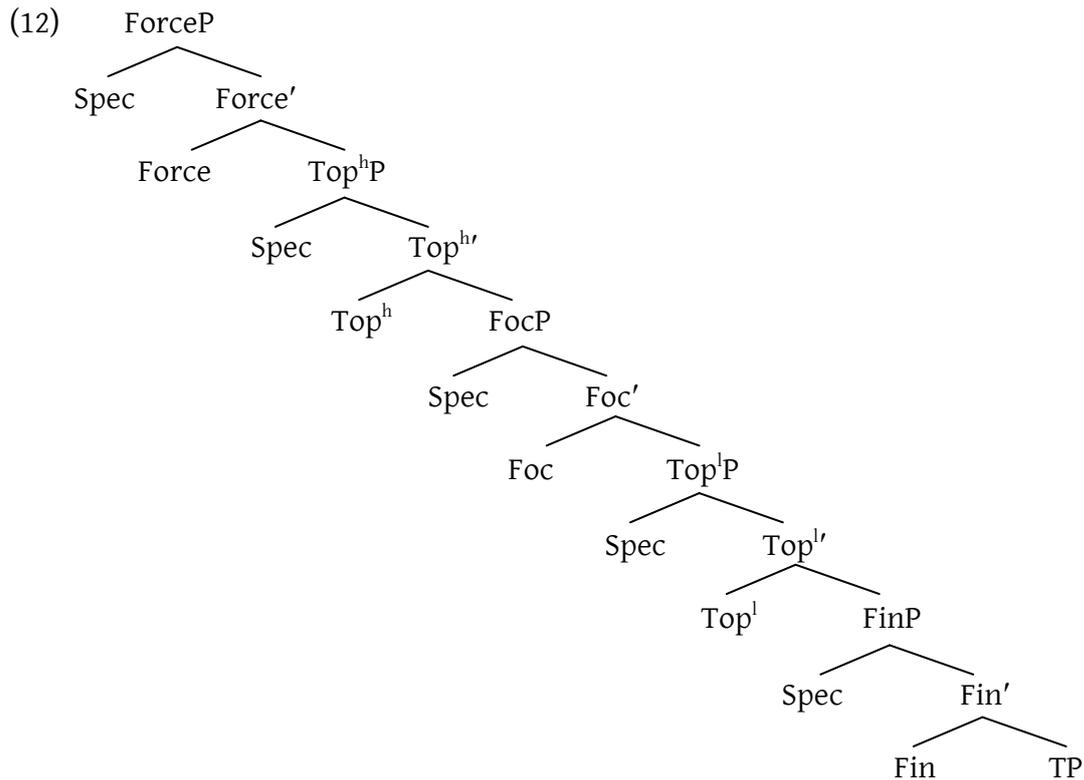
The two pieces of evidence in (10) and (11) suggest that the copies of the moved *wh*-phrase do exist at the edges of v*P and CP. In turn, this indicates within the copy theory of movement (Chomsky (1995b: Ch. 3)), according to which a moved element leaves behind a copy of itself at each step of movement, that the *wh*-phrase has moved through the edges of v*P and CP. Thus, the above facts provide empirical support for a phase-based derivation of the kind as demonstrated in (8b) where the *wh*-phrase stops at the left edges of v*P as well as CP, unlike the traditional analysis of *wh*-movement under which it moves only to the left edge of CP.

In sum, the derivation of a sentence proceeds in such a piecemeal way that syntactic structures are constructed one phase at a time. Each time a phase is completed, the domain of the phase head is handed over to the phonological and semantic components via cyclic Transfer. As a consequence, no elements within the domain of a phase head are eligible to participate in further computations at the next phase, as dictated by the PIC.

1.2.2. The Split CP Hypothesis

It has been widely accepted since the influential works by Stowell (1981) and Chomsky (1986b) that a clausal structure is capped with a functional projection labelled CP, which hosts a variety of items including a complementizer, a topicalized element, and a *wh*-phrase. On the other hand, based mainly on the facts of Italian and English, Rizzi (1997, 2001, 2004 etc.) assigns the more fine-grained hierarchical structures in (12) to the left periphery of a clause, under the name of the split CP hypothesis.

³ See Radford (2004: §10.6 and 10.7) and Hornstein, Nunes and Grohmann (2005: §10.4.4) for further evidence suggesting that a *wh*-phrase stops at the left edges of v*P and CP.



In (12), the CP layer is decomposed into a number of different functional projections, with each projection headed by a distinct functional head. At the bottom of the split CP domain is positioned FinP, whose head encodes the (non)finiteness of the clause. There is lower TopP projecting right above FinP, it hosts clitic pronouns among others, and hence it is assumed to be unavailable at least in Present-day English (see chapter 3 for relevant discussion of Early English). FocP is the locus for a focalized element including a *wh*-phrase in the direct question, and this is sandwiched between the two TopPs, the higher one of which accommodates a topicalized element in its specifier. ForceP structurally dominates all of the projections as mentioned above, and this specifies the illocutionary force of the whole clause as declarative, interrogative, or exclamative among others, by using a complementizer, a *wh*-phrase in the indirect question, or an exclamatory expression, respectively. It is natural to assume that there is a structural position dedicated to each of a complementizer, a topicalized element, a focalized element, and a (non)finite marker in

the clausal architecture, given the intuition that a clause can contain its topic and focus as well as its illocutionary force and (non)finiteness.⁴

It is important to note that ForceP must be always located in the higher position than those of other functional projections within the same clause. This can be documented by the distribution of a complementizer with respect to a topicalized element or a focalized element.⁵ A complementizer can linearly precede a topicalized element within the same embedded clause, but not vice versa, as shown by the contrast between (13a) and (13b).

- (13) a. It appears that *this book*, he read thoroughly.

(cf. Hooper and Thompson (1973: 478))

- b. *It appears *this book*, that he read thoroughly.

Similarly, the sentence in (14a) where the complementizer is followed by the focalized element is grammatical, while the sentence with their reversed word order in (14b) is ungrammatical. Note that the focalized element still cannot precede the complementizer, even when it is adjacent to the auxiliary verb, as is clear from the ungrammaticality of (14c).

⁴ Rizzi (2001) adds Int(errogative)P as the landing site for a small class of *wh*-elements, in order to capture the fact of Italian in (i) that *perché* ‘why’ does not require subject-auxiliary inversion, unlike other *wh*-elements:

- (i) Perché Gianni è venuto?
 why Gianni has left
 ‘Why has Gianni left?’

(cf. Rizzi (2001: 292))

According to Rizzi, this fact can be immediately explained if *perché* is located in [Spec, IntP] rather than [Spec, FocP]; it enters into a Spec-head configuration with Int carrying a WH-feature to satisfy the WH-criterion, even without the raising of T as far as Foc. However, this thesis continues assuming Rizzi’s (1997) version of the split CP hypothesis shown in (12), omitting IntP for the sake of simplicity of discussion; the English counterpart of *perché* does require subject-auxiliary inversion in (ii), just like other *wh*-elements:

- (ii) a. Why has Gianni left?
 b. *Why Gianni has left?

⁵ The remainder of this chapter represents a topicalized element and a focalized element in italics and boldface, respectively. Note also that higher TopP is simply referred to as TopP unless lower TopP is relevant to our discussion.

- (14) a. I am absolutely convinced that **no other colleague** would he turn to.

(Radford (2009: 280))

- b. *I am absolutely convinced **no other colleague** that would he turn to.
 c. *I am absolutely convinced **no other colleague** would that he turn to.

Given the standard assumption that the linear order of two given items is determined on the basis of an asymmetrical c-command relation between them (Kayne (1994)), the facts about the linear order in (13) and (14) lead us to conclude that the structural position for a complementizer must be higher than the landing sites for a topicalized element and a focalized element. This is exactly what we can predict under the split CP hypothesis, where ForceP is defined as the topmost functional projection at the left periphery of a clause which structurally dominates TopP and FocP as well as FinP and TP, as schematized in (12).

Turning to the hierarchical order of TopP and FocP, a topicalized element must precede a *wh*-phrase as a focalized element in their linear order in cases where topicalization co-occurs with focalization within the same clause, as illustrated in (15). Again, notice that the *wh*-phrase cannot precede the topicalized element, regardless of whether or not it is adjacent to the auxiliary verb, as shown by the ungrammaticality of (15b) and (15c).

- (15) a. *During the holidays*, **what** will you do? (Haegeman and Guéron (1999: 336))
 b. ?***What**, *during the holidays*, will you do?
 c. ***What** will, *during the holidays*, you do?

Given this fact, the same lines of reasoning prompt us to argue that there must be a structural position for a topicalized element at the left periphery of a clause which is higher

than that for a focalized element. Again, this is clearly described under the split CP hypothesis, where TopP is placed in the second highest position within the hierarchical structures of the left periphery so that it towers over FocP as well as FinP and TP, as shown in (12).

What remains to be examined in the light of empirical evidence is the relative structural position of FinP. According to the original proposal by Rizzi, Fin is the position occupied by the prepositional particle *di* 'of' in Italian, which introduces a control infinitival clause. The infinitival *for* in Present-day English is taken to serve much the same function as *di* (see Rizzi (1997) for this suggestion). Importantly, *for* introducing an infinitival clause with an overt subject can be linearly preceded by a focalized element in the context like (16), but the former cannot be linearly followed by latter, as is shown by the (un)grammaticality of (16a) and (16b).

(16) Speaker A: What was the advice given by the police to the general public?

- Speaker B:
- a. **Under no circumstances** for anyone to approach the escape convicts. (Radford (2004: 334))
 - b. *For **under no circumstances** anyone to approach the escape convicts.
 - c. ***Under no circumstances** anyone to for approach the escape convicts.

The facts in (16a) and (16b), coupled with those in (14) and (15), suggest that FinP must be located in the lower position than that of FocP, which is in turn structurally lower than TopP and ForceP. This amounts to saying that FinP is the lowest projection among the functional projections at the left periphery of a clause. Notice also that the infinitival *for*

must be merged outside TP, judging from its linear precedence relations in (16a) and (16c) with the overt subject of the infinitival clause in [Spec, TP] and the infinitival marker *to* in T. So, it can be safely concluded that FinP takes up its structural position between FocP and TP, as clearly represented in (12).⁶ Thus, the fine structures of the left periphery which are sketched in (12) can be justified on a range of empirical grounds.

It should be noticed that there would be nothing to rule out ungrammatical sentences like (13b), (14b, c), (15b, c), and (16b), under the traditional CP recursion analysis shown in (17).

$$(17) \quad [_{CP} \quad [_{C'} C [_{CP} \quad [_{C'} C [_{TP} \quad \dots \quad]]]]]$$

To better understand this, let us reconsider the above case in (13) where a complementizer co-occurs with a topicalized element in terms of the CP recursion analysis along (17). Under the CP recursion analysis, it should be possible in principle for a complementizer and a topicalized element to be merged in the lower CP and the higher CP, respectively, so that sentences like (13b) could be generated, contrary to fact. In contrast, they cannot be derived under the split CP hypothesis, because a complementizer and a topicalized element must be merged in Force and [Spec, TopP] as their appropriate structural positions, respectively, with the result that the former precedes the latter in their linear order, but not vice versa. The same lines of argument hold true for the above cases in (14b, c), (15b, c), and (16b), as can be easily verified.

⁶ The non-adjacent relation between *for* and *anyone* arguably contributes to the strong ungrammaticality of (16b) and (16c) (see Chomsky and Lasnik (1977) for the adjacency condition on Case assignment). It is important to note that even when the infinitival *for* and an overt subject of the infinitival clause are adjacent to each other, *for* still cannot precede a focalized element, as is clear from the degraded acceptability of (ia). Likewise, the infinitival *for* adjacent to the overt subject cannot be linearly preceded by the infinitival marker *to*, as shown in (ib).

- (i) a. ?*For no one **under any circumstances** to approach the escape convicts.
 b. ***Under no circumstances** to for anyone approach the escape convicts.

Before closing the discussion of the split CP hypothesis, the important assumption should be mentioned about the different status between ForceP and FinP on the one hand and TopP and FocP on the other hand. According to Rizzi, ForceP and FinP are always present in the structures of all non-truncated clauses except infinitival complement clauses of raising predicates (see subsection 1.2.3 below for discussion of control infinitival clauses). This is grounded on the intuition that every finite clause has its own illocutionary force and finiteness, even when they are not morphologically realized. On the other hand, TopP and FocP are structurally present in root clauses if and only if some element undergoes topicalization or focalization. In other words, both of them are absent in the structures of clauses in which neither topicalization nor focalization is involved. This can be reliably attributed to the general principle of economy of representation (Grimshaw (1994), Chomsky (1995b: Ch. 2), and Bošković (1997) among others), according to which superfluous projections are not allowed in structural descriptions.

To sum up, a CP layer is divided into a number of distinct functional projections, each of which is headed by a different functional head. They are stacked up in their designated hierarchical order, building up the fine-grained hierarchical structures at the left periphery of a clause. ForceP and FinP are involved in the syntactic structures of almost all clauses, while TopP and FocP show up only in the syntactic structures of clauses involving topicalization and focalization, respectively.

1.2.3. The Phasehood of Functional Categories under the Split CP Hypothesis

Given the discussion in the two immediately preceding subsections, the question immediately arises as to which of the functional projections at the left periphery of a clause should constitute phases. The phasehood of a given functional projection has been often associated with the island effect that it induces in the literature (Kanno (2008), Boeckx

(2012), and Jiménez-Fernández (2012) among others); a functional projection headed by a phase head H is taken to constitute a syntactic island, in that after all the syntactic operations within HP, no elements within the domain of H can be extracted, in accord with the PIC. In the light of this syntactic diagnosis as well as conceptual grounds, we will now examine whether or not the functional projections in question constitute phases.

First, let us consider the presence or absence of the phasal status of FinP. FinP seems to represent neither predication relations nor propositional contents. In particular, the infinitival *for* in Fin never establishes any predication relation with its infinitival complement clause. Moreover, verbs in English *for*-infinitival clauses do not show the full tense inflectional paradigms and this suggests that FinP does not denote a proposition including tense (see Herbeck (2014) for similar discussion).⁷ It is important to notice that a propositional flavor of infinitival clauses stems from *v**P embedded in them, rather than infinitival clauses themselves. In addition, the non-phasal status of FinP can be substantiated by the fact that a *wh*-phrase can be extracted out of a control infinitival clause, as illustrated in (18a).

(18) a. **What kind of dancer** do you want to be? (Postal (1998: 28))

b. $[\text{ForceP} [\text{FocP} \text{DP} [\text{Foc}' \text{do} [\text{FinP} [\text{TP} \text{you} [\text{v}^* \text{P} t_{\text{DP}} [\text{v}^* \text{P}' \text{want} [\text{FinP} [\text{TP} \text{to be } t_{\text{DP}}]]]]]]]]]]]$

 (DP: what kind of dancer)

Assuming with Barrie (2007) that control infinitival clauses are FinP, the absence of island effects in (18a) suggests that Fin is not a phase head which renders its domain impenetrable

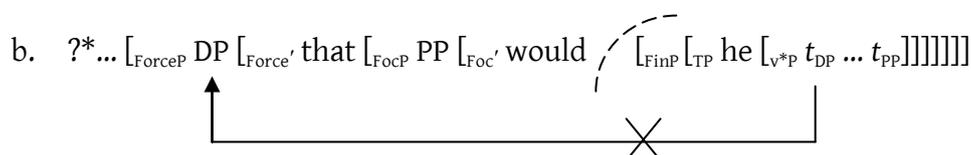
⁷ The infinitival clause can express an event which has not yet taken place, which is the irrealis mood rather than the future tense.

to any c-commanding probe. Crucially, there arises no violation of the PIC when the *wh*-phrase moves across the infinitival FinP boundary in (18b).⁸

Turning our attention to the presence or absence of the phasehood of FocP, a clause led by a focalized element constitutes an island, out of which a *wh*-phrase cannot be extracted, as shown in (19a).

- (19) a. ?***What** did he say that **under no circumstances** would he do?

(Rizzi and Roberts (1996: 109))



(DP: what, PP: under circumstances)

This fact can be straightforwardly accounted for if Foc is qualified as a phase head. As soon as all the syntactic operations with the FocP phase are applied, the domain of Foc, i.e. FinP is transferred to the phonological and semantic components, as shown in (19b). Therefore, it is impossible for the edge feature on Force to probe and attract the *wh*-phrase contained in FinP without violating the PIC. It should be noted that the *wh*-phrase cannot

⁸ Even if FinP constituted a phase, a legitimate derivation would remain in which the extracted *wh*-phrase would move to [Spec, FinP] as an escape hatch, so that it could move out of the control infinitival clause without violating the PIC. A key to solving this problem is the idea in Rizzi (1997) that topicalization in English involves a null operator occupying [Spec, FinP] (see also Kempchinsky (2013) for arguments against multiple specifiers of FinP). If this is correct, it will exclude the possibility of a topicalized element moving through [Spec, FinP], as shown in (ia) with its structure in (ib). Importantly, if Fin were to be a phase head, its domain containing *this book* would be inaccessible to operations outside FinP, which would lead us to the incorrect prediction that sentences like (ia) should be ungrammatical.

- (i) a. *This book*, I bought.



(DP: this book)

In addition, there is another piece of empirical evidence for the non-phasal status of FinP; a control infinitival clause cannot be topicalized, as observed in (ii). This suggests the absence of phonetic independence with FinP.

- (ii) *For Bob to win, I arranged.

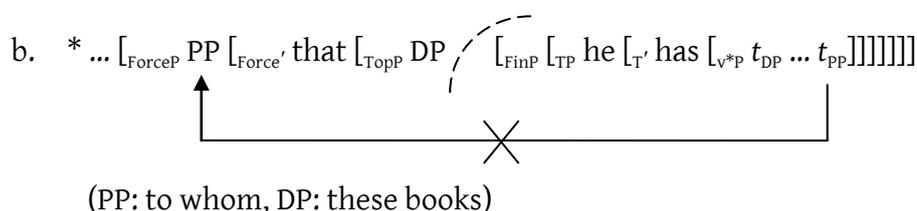
(Postal (1974: 169))

evacuate into the left edge of FocP, because FocP allows only one specifier position (Stoyanova (2008)), which has already been filled with the focalized element in the derivation in (19b). From a conceptual perspective, we can find a propositional aspect of FocP especially when it accommodates a negative expression in its specifier; it encodes propositional negation in the sense of Bulter (2004), in that the negative phrase in [Spec, FocP] serves as a negative operator taking scope over the event structure that is represented by the complement of Foc.⁹

Similarly, syntactic island effects are observed in the clauses involving topicalization, as illustrated in (20a), where the *wh*-phrase *to whom* cannot undergo the *wh*-movement across the topicalized element *these books* to the matrix clause.

- (20) a. ***To whom** do you think that *these books*, he has shown?

(cf. Haegeman (2010: 638))



⁹ The phasal status of non-negative FocP might be controversial, because it is not so obvious whether or not it structurally represents a predication/proposition in some form. See Carsten (2004) for the analysis that focalization entails an open-proposition whose variable is instantiated by a focalized element. Turning to the island effect induced by focalization of a non-negative element, *who* cannot move across *that book* (which is a contrastive focus) in (i) (but see Culicover (1991) for different acceptability judgments of such sentences; see also footnote 52 in chapter 4 for relevant discussion).

- (i) ***Who** does Bill think that **THAT BOOK**, John gave to? (Tanigawa (2011: 74))

Likewise, no element can be topicalized across a *wh*-phrase in matrix *wh*-questions like (ii). Note that the topicalized element in (ii) is an argument, and therefore it cannot be base-generated in sentence-initial position, as Haegeman (2000a) proposes for scene-setting adjuncts like *during the holidays* in (15a) in the text (see Haegeman and Guéron (1999) for detailed discussion of (in)compatibility of topicalization with *wh*-movement).

- (ii) **These steps* **what** did you use to sweep with? (Emonds (1976: 42))

In addition, if Douglas (2016) is correct in assuming that only phase edges can serve as criterial positions, the phasehood of FocP can be justified on the basis of the FOCUS-criterion (Brody (1990), Haegeman (1995), and Rizzi (1997) among others).

Such topic island effects can be deduced from the PIC, by relying on the crucial assumption that TopP constitutes a phase. The edge feature on Force cannot probe and attract the *wh*-phrase within FinP, which has already been transferred to the phonological and semantic components upon the completion of the TopP phase, as shown in (20b). Again, notice that the topicalized element has already occupied an escape hatch of TopP and this forces the *wh*-phrase to stay within FinP at the end of the TopP phase (see Paul (2010) for cross-linguistic evidence against multiple specifiers of TopP). In terms of the conceptual characterization of phase, TopP bears some resemblance to v^*P in their predicational nature; TopP embodies a sort of predication which consists of a topic and a comment on it (Maeda (2012)). This gives conceptual motivation to the above assumption that TopP as well as v^*P constitutes a phase.

Finally, let us see if Force is eligible as a phase head on the basis of both conceptual and empirical grounds. Uncontroversially, ForceP can be viewed as propositional in its nature; it consists of a complete proposition with a specified illocutionary force. If ForceP is privileged to constitute a phase, it should exhibit an island effect especially when its escape hatch is stuffed up with some element. This immediately proves to be the case in so-called *wh*-island effects as illustrated in (21a).

(21) a. **?*Which book** do you wonder to whom John gave? (Müller (2011: 49))

b. **?* ...** [_{v*P} DP [_{v*P} wonder [_{ForceP} PP [_{FinP} [_{TP} John [_{v*P} t_{DP} ... t_{PP}]]]]]]]

(DP: which book, PP: to whom)

After the *wh*-phrase *to whom* moves to [Spec, ForceP], the domain of Force, i.e. FinP is transferred to the phonological and semantic components, which renders it impossible for

the edge feature on the matrix v^* to probe and attract the *wh*-phrase *which book* within FinP, in accord with the PIC, as shown in (21b). Once again, notice that there remains no way for the extracted *wh*-phrase *which book* to avoid violating the PIC by stopping at the edge of ForceP on its way, given the assumption that ForceP is equipped with only a single specifier (Manetta (2011)).¹⁰

In sum, it has been argued that Force, Top, Foc are phase heads which trigger cyclic Transfer of their domains to the phonological and semantic components, but Fin is not. This allows us to account for the presence/absence of the island effects exhibited by functional projections headed by them in a principled way. Importantly, this is the conclusion also suggested by Douglas (2016) independently of the context of syntactic island effects, particularly in terms of criterial freezing effects at the left edges of phases.

¹⁰ One might account for the ungrammaticality of (21a) in terms of relativized minimality (Rizzi (2004)), according to which a given element cannot move across another element of the same class. Under this account, it would not matter whether Force is a phase head or not. However, with recourse only to the notion of relativized minimality, we would fail to capture the fact in (i) that an embedded interrogative clause also constitutes an island for extraction of a topicalized element, which belongs to a different class from that of a *wh*-phrase. This fact can be easily explained in the same way as (21), by relying on the assumption that ForceP is a phase. Thus, it can be safely concluded that Force is a phase head which renders its domain inaccessible to any higher probe.

(i) **This book*, I wonder who read. (Chomsky (1977: 91))

Chapter 2

A Synchronic Aspect of the Locative Inversion Constructions

2.1. Introductory Remarks

There have been many synchronic studies on the LIC with an unaccusative verb as exemplified in (22) (Coopmans (1989), Bresnan (1994), and Doggett (2004) among others). On the basis of their close empirical observations, the syntactic and semantic properties of this type of LIC have been revealed to a considerable extent. In particular, there is a consensus among several researchers including Bresnan (1994) and Nishihara (1999) that the postverbal subject DP may be relatively light, and the sentence-initial locative PP exhibits both subjecthood and topichood. Above all, the dual status of the latter has been a topic of great interest and also a matter of some puzzlement in previous studies.

- (22) a. On the stage appeared a man. (Coopmans (1989: 743))
 b. Onto the ground had fallen a few leaves. (Bresnan (1994: 78))
 c. Down the hill rolled Mary. (Doggett (2004: 22))

On the other hand, there have been only a few synchronic studies on the LIC with an unergative verb as illustrated in (23) (Levin and Rappaport Hovav (1995), Culicover and Levine (2001), and Kuno and Takami (2007)). On the whole, this type of LIC has not been so seriously discussed because of what is called an unaccusativity requirement (Coopmans (1989) and Hoekstra and Mulder (1990)), according to which only unaccusative verbs including passive verbs can occur in the LICs. However, among only a handful of previous studies, Culicover and Levine (2001) point to the fact that the postverbal subject DP must be heavy in the sense of heavy NP shift (henceforth, HNPS), and the sentence-initial locative PP shows only topichood, but not subjecthood.

- (23) a. On the third floor worked two young women called Maryanne Thompson and Ava Brent, who ran the radio library and print room.

(Levin and Rappaport Hovav (1995: 225))

- b. In the room slept fitfully the students in the class who had heard about the social psych experiment that we were about to perpetrate.

(Culicover and Levine (2001: 293))

- c. Around the fire chattered and sang many girls and boys wearing their native costumes.

(Kuno and Takami (2007: 275))

Thus, the LICs in Present-day English are roughly divided into two types: one with an unaccusative verb and the other with an unergative verb. This thesis will refer to them as the unaccusative LIC and the unergative LIC, respectively. This chapter aims to clarify the derivations underlying the two types of LIC in Present-day English, give principled explanations to their major properties, and show that the proposed analyses are more plausible than the previous analyses of the LICs.

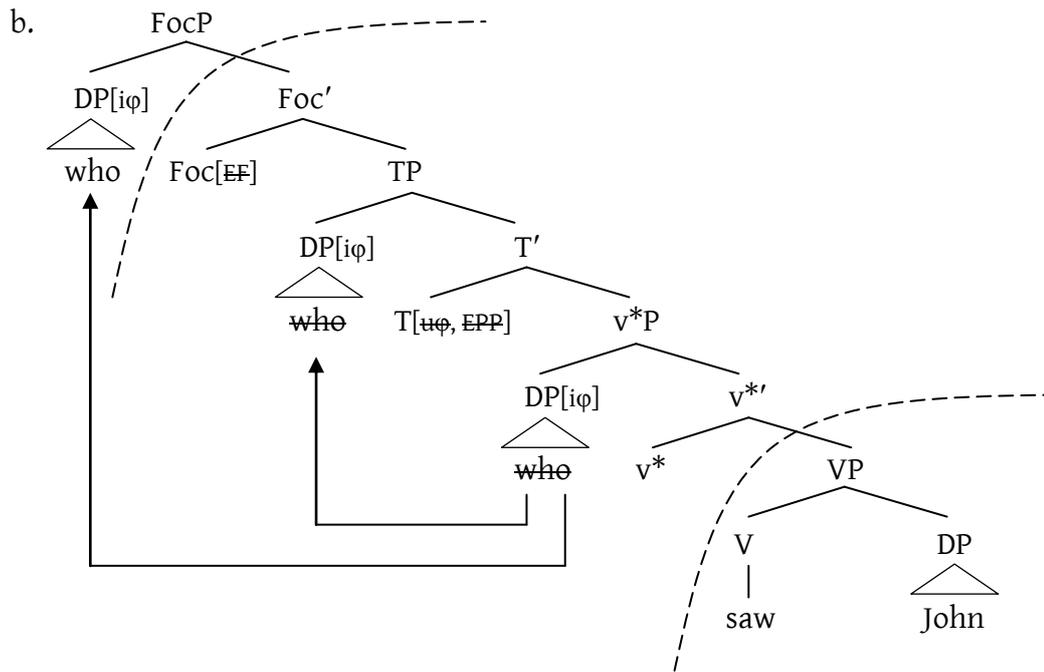
The organization of this chapter is as follows. Section 2.2 introduces the idea of independent probing as advocated by Chomsky (2008). Section 2.3 discusses the derivation of the unaccusative LIC and argues that the locative PP moves to both [Spec, TP] and [Spec, TopP] simultaneously at the TopP phase, while the subject DP stays in [Spec, VP]. Section 2.4 elaborates on the derivation of the unergative LIC along the lines of Culicover and Levine (2001) and proposes that the locative PP moves only to [Spec, TopP] and the subject DP undergoes HNPS at the TopP phase. Section 2.5 critically reviews Mikami (2010) and Kitada (2011) among the relatively recent studies on the LIC, pointing out their insufficiencies. Section 2.6 offers concluding remarks of this chapter.

2.2. Theoretical Background

Working within the phase-based derivational model, Chomsky (2008) argues that different syntactic heads within a single phase can probe simultaneously, so that operations triggered by them can apply in parallel with each other. This stands in sharp contrast to the classic strictly cyclic bottom-up derivational model, under which an operation by a head must always apply before an operation by a head that is merged later. The parallel applicability of operations within a phase is illustrated by the movement that the *wh*-phrase *who* undergoes in (24). Note that his analysis assuming single-layered CP is adapted here to the split CP analysis employed throughout this thesis.¹¹

(24) a. Who saw John?

¹¹ On the following pages of this chapter, the operations, features, and projections irrelevant to our discussion are omitted; for example, V-to-v^(*) movement, uninterpretable Case-features, and FinP/ForceP.



At the v^*P phase, the subject DP is merged in $[\text{Spec}, v^*P]$ while the object DP is merged in the complement position of V. After these merger operations are completed, the domain of v^* , i.e. VP is shipped off to the phonological and semantic components via cyclic Transfer. Then, at the FocP phase, the uninterpretable ϕ -features on T probe and enter into an Agree relation with their interpretable counterparts on the subject DP in $[\text{Spec}, v^*P]$, and the EPP-feature on T probes and attracts it to from $[\text{Spec}, v^*P]$ to $[\text{Spec}, TP]$. At the same time, the edge feature on Foc probes and attracts the subject DP from $[\text{Spec}, v^*P]$ to $[\text{Spec}, \text{FocP}]$. Thus, the two operations by T and Foc within the FocP phase, which are A-movement and A'-movement, respectively, apply in parallel with and independently of each other. Once all the operations within the FocP phase have been applied, the domain of Foc, i.e. TP is handed over to the phonological and semantic components. Finally, the remaining topmost syntactic structure is transferred to the phonological and semantic components, with the judgment of the whole derivation as convergent.

What should be noticed here is that the derivation in (24b) does not involve the movement of *who* from [Spec, TP] to [Spec, FocP]. This immediately proves to be desirable, given the fact that a preverbal subject position, unlike a postverbal object position, generally constitutes an opaque domain for extraction, as illustrated in (25) by the subject-object asymmetry with respect to sub-extraction.

- (25) a. *Of which car did [_{TP} the driver $t_{\text{of which car}}$ cause a scandal]?
- b. Of which car did [_{TP} they find the driver $t_{\text{of which car}}$]? (Chomsky (2008: 147))

These facts have led a number of researchers including Chomsky (2008) to conclude that a preverbal subject position, i.e. [Spec, TP] of a finite clause induces so-called freezing effects: once a given element has moved to [Spec, TP], it becomes frozen in that position and hence unavailable for further movement (see Rizzi (2015a, b) for similar discussion of the ban on full-extraction of subjects). Therefore, a subject DP cannot move through [Spec, TP] to anywhere in the finite clause in a successive cyclic fashion. Crucially, the subject DP successfully circumvents the freezing effect under the derivation in (24b), where it moves from [Spec, v*P] to both [Spec, TP] and [Spec, FocP] simultaneously at the FocP phase, leading to the grammaticality of (24a).¹²

¹² Note that the derivation based on parallel movement is blocked in (25a) by what Gallego and Uriagereka (2007) call the edge condition, according to which sub-extraction is barred out of a constituent at the edge of a phase because of a sort of locality effect. In the case of (25a), the subject DP is merged in [Spec, v*P] at the edge of v*P phase, from which the *wh*-phrase cannot move to [Spec, FocP] without violating the edge condition, as shown in (i).

- (i) [_{FocP} PP [_{Foc'} did [_{TP} DP [_{v*P} t_{DP} [_{v*} cause a scandal]]]]]
-
- (PP: of which car, DP: the driver of which car)

On the other hand, since the object DP in (25b) is merged in the complement position of V, which is not the phasal edge, it is still possible for the *wh*-phrase to move from there to the outer [Spec, v*P] and further to [Spec, FocP], as shown in (ii).

- (ii) [_{FocP} PP [_{Foc'} did [_{TP} they [_{v*P} t_{PP} [_{v*} find the driver t_{PP}]]]]]
-
- (PP: of which car)

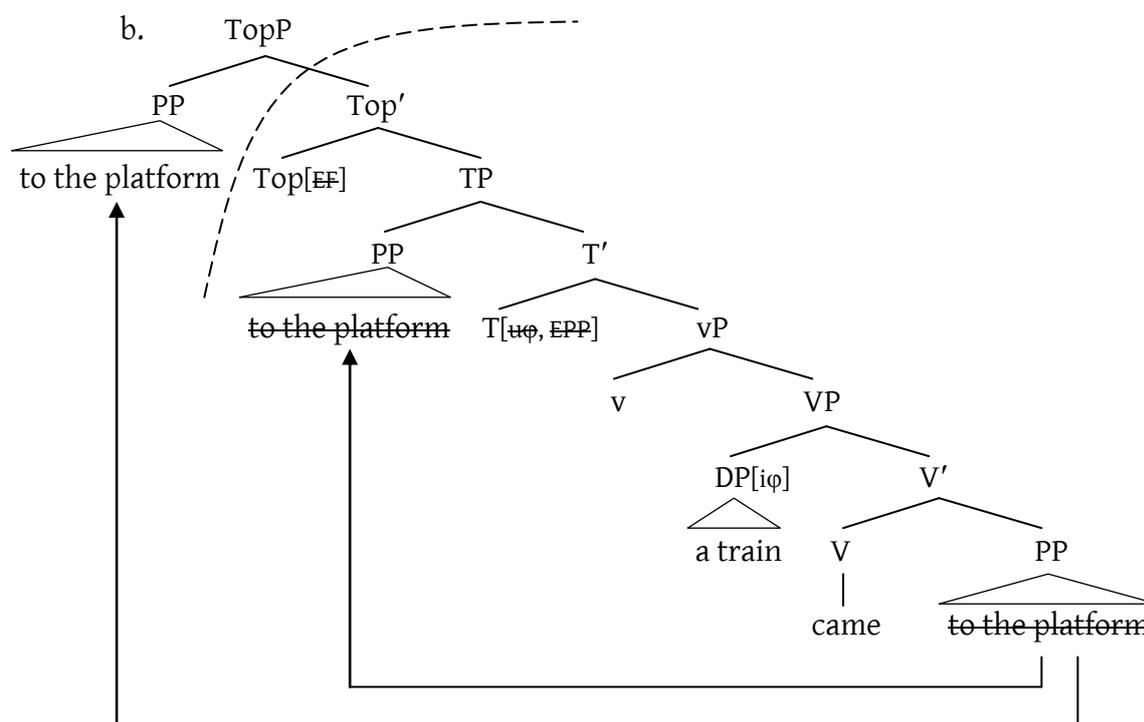
To sum up, it has been argued under the phase-based derivational model that not only does the syntactic derivation of a sentence proceed by phase, but also syntactic operations by separate heads within the same phase can apply in parallel with and independently of each other. This sort of derivation will be called independent probing (cf. Radford (2009)) in this thesis.

2.3. The Unaccusative LIC in Present-day English

2.3.1. The Syntactic Structure of the Unaccusative LIC

This thesis proposes that the unaccusative LIC is derived as shown in (26).¹³

(26) a. To the platform came to a train.



¹³ Throughout this chapter, TopP refers to higher TopP under the split CP hypothesis (see subsection 1.2.2).

At the TopP phase, the subject DP is merged in [Spec, VP], and the locative PP is merged in the complement position of V. According to the idea of independent probing, the operations by T and Top apply in parallel with and independently of each other. The uninterpretable ϕ -features on T probe and enter into an Agree relation with the interpretable ϕ -features borne by the subject DP in [Spec, VP]. In addition, the EPP-feature on T probes and attracts the locative PP from the complement position of V to [Spec, TP].¹⁴ In parallel with these operations triggered by T, the edge feature on Top probes and attracts the locative PP from the complement position of V to [Spec, TopP]. Once all the operations within the TopP phase have been applied, the domain of Top, i.e. TP is transferred to the phonological and semantic components. Finally, the remaining structures undergo cyclic Transfer to the phonological and semantic components at the end of the derivation, which leads to the convergence of the whole derivation.

One might wonder whether the movement of the locative PP to [Spec, TopP] is necessary at all, because the word order of the unaccusative LIC could be derived without it (see Collins (1997) for the analysis that the locative PP moves only to [Spec, TP]). Within the recent minimalist framework (Chomsky (2008)), A'-movement is triggered by an edge feature without Agree, and the interpretive effect associated with it is determined by its final landing site. Hence, the locative PP must move to [Spec, TopP] to be interpreted as a topic. Apart from this conceptual argument, there is also empirical evidence for postulating the movement of the locative PP to [Spec, TopP], as we will see in the next subsection.

¹⁴ This thesis assumes that the locative PP can move across the subject DP to satisfy the EPP-feature on T in the unaccusative LIC. See Collins (1997) for an analysis overcoming this locality problem in terms of the notion of equidistance: both the subject DP and the locative PP are in the same minimal domain of V and hence can be equally accessed from T.

Incidentally, if the EPP-feature on T attracts the subject DP to [Spec, TP], the derivation also converges, deriving the non-inverted sentence like (i).

(i) To the platform a train came.

It is important to notice that the analysis in (26b) does not assume successive cyclic movement of the locative PP from the complement position of V to [Spec, TP] and then to [Spec, TopP]. That kind of movement is what Nishihara (1999) postulates, and any analysis assuming such movement is problematic, given the fact in (27) that local topicalization of subjects is generally impossible (cf. Lasnik and Saito (1992) and Agbayani (2000)).

(27) *John thinks that Bill, t_{Bill} likes Mary. (Agbayani (2000: 704))

Again, this fact suggests that once a phrase has reached [Spec, TP], it becomes frozen in that position and hence it cannot undergo further movement including topicalization. In the face of these facts, we can no longer maintain successive cyclic movement of the locative PP through [Spec, TP] to [Spec, TopP] of the kind as Nishihara proposes under the strictly cyclic bottom-up derivational model. On the other hand, the phase-based derivational model allows for an alternative derivation in (26b) where the locative PP moves from its base position to both [Spec, TP] and [Spec, TopP] simultaneously under independent probing by T and Top.¹⁵

The next subsection shows how the proposed analysis accounts for the major syntactic and semantic properties of the unaccusative LIC including the dual properties of the

¹⁵ Within the minimalist framework adopted here, there are two potential derivations of local topicalization of subjects, both of which must be ruled out; otherwise, the sentence like (27) could be generated. First, the derivation in which a subject DP undergoes successive cyclic movement to [Spec, TP] and then to [Spec, TopP] is impossible, if Chomsky (2008) is correct in assuming that an A-chain becomes invisible to further computations when its uninterpretable Case-feature is valued by T. Second, one might ask whether a subject DP can move to [Spec, TP] and [Spec, TopP] simultaneously under independent probing by T and Top. However, it is generally assumed that a subject DP in preverbal position, namely in [Spec, TP], is an unmarked topic of a sentence; it denote an entity which the rest of the sentence is predicated of (cf. Lambrecht (1994)). Hence, it is apparently redundant for it to move to [Spec, TopP] in addition to [Spec, TP]. This is consistent with the idea that optional operations including topicalization can apply only if they have an effect on outcome (Reinhart (1995), Fox (2000), and Chomsky (2001)). On the other hand, a locative PP, which is not an unmarked topic of a sentence, must move to [Spec, TopP] to be interpreted as a topic, so that it can move to [Spec, TP] and [Spec, TopP] simultaneously, as shown in (26).

sentence-initial locative PP.

2.3.2. Explaining the Properties of the Unaccusative LIC

First, let us consider the properties of the postverbal subject DP. It is not the locative PP but the postverbal subject DP that agrees with the finite verb, as shown in (28). This is straightforward under the present analysis, because it enters into an Agree relation with T in situ, and hence *be* must be inflected as *were* in (28).

(28) In the swamp *were*/**was* found two children. (Bresnan (1994: 95))

Moreover, it is observed from the contrast between (29) and (30) that the postverbal subject DP cannot control PRO in adjunct clauses, while the preverbal subject DP can. This thesis assumes that adjunct clauses with PRO controlled by matrix subjects are adjoined to the right side of $v^{(*)}P$ (Nissebaum (2000) and Hornstein and Nunes (2002)).

(29) a. *Near the oasis lay [two sheiks]_i without PRO_i talking. (Postal (1977: 150))

b. *_{[_{TOPP} PP [_{TP} t_{PP} [_{VP} [_{VP} lay DP_i t_{PP}]] without PRO_i talking]]]}

(PP: near the oasis, DP: two sheiks)

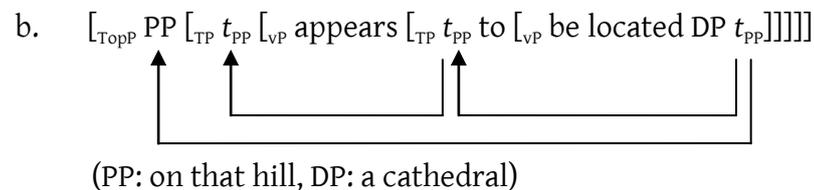
(30) [Two sheiks]_i lay near the oasis without PRO_i talking. (Nishihara (1999: 393))

Given that obligatory controlled PRO must be c-commanded by its antecedent in an A-position (cf. Williams (1980) and Safir (2004)), the ungrammaticality of (29a) follows because the subject DP *two sheiks*, which remains in [Spec, VP] as its base position, cannot c-command PRO in the adjunct clause in the proposed structure of the unaccusative LIC, as

shown in (29b).¹⁶

Next, consider the properties of the sentence-initial locative PP. As mentioned above, it has been observed in the literature that it exhibits both subjecthood and topichood (Bresnan (1994), Nishihara (1999), and Kitada (2011) among others). One of evidence for its subjecthood is that it can undergo raising when the unaccusative LIC is embedded under raising predicate such as *appear*, as shown in (31a) with its structure in (31b) under the present analysis.

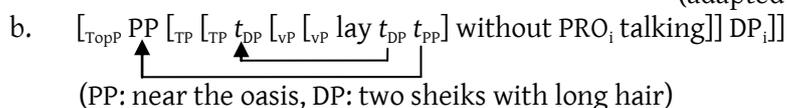
(31) a. On that hill appears to be located a cathedral. (Bresnan (1994: 96))



The EPP-feature on the embedded T attracts the locative PP to the embedded [Spec, TP], while the edge feature on Top attracts it to [Spec, TopP] under independent probing by the

¹⁶ The subject DP in the unaccusative LIC can control PRO in adjunct clauses if it undergoes HNPS, as illustrated in (ia) with its structure in (ib).

(i) a. Near the oasis lay, without PRO_i talking, [two sheiks with long hair].
(adapted from Coopmans (1989: 732))



In (ib), the subject DP moves to [Spec, TP] and then undergoes HNPS to adjoin to the right side of TP, while the locative PP moves only to [Spec, TopP] at the TopP phase. In this case, PRO in the adjunct clause can be properly c-commanded by the copy of the subject DP occupying [Spec, TP], thereby accounting for the grammaticality of (ia). The same sort of derivation with HNPS is what underlies the unergative LIC, as we will see in section 2.4. If the discussion so far is on the right track, the unaccusative LIC with a heavy subject DP will have two possible derivations: one based on HNPS and the other based on independent probing (see Culicover and Levine (2001: 294fn11) for a similar conclusion). The possibility of the latter is supported by the fact in (ii) that the unaccusative LIC with a heavy subject DP can be embedded under raising predicates, which indicates that the locative PP moves to [Spec, TP] as well as [Spec, TopP] and the subject DP stays in its base position, as will be soon discussed in the text.

(ii) In these villages are likely to be found the best examples of this cuisine.
(Bresnan (1994: 96))

two heads. Then, the EPP-feature on the matrix T attracts it from the embedded [Spec, TP] to the matrix [Spec, TP]. Since all the uninterpretable features including the EPP-features have been now deleted, the derivation converges, giving rise to the sentence in (31a). This lends support to the present analysis of the unaccusative LIC; the A-movement of the locative PP triggered by the local T feeds another instance of A-movement, in exactly the same way as the derivation of typical cases of raising such as *John seems to be honest*.

Another piece of evidence for the subjecthood of the sentence-initial locative PP is that it does not exhibit so-called weak cross-over effects, as illustrated in (32a). This fact can also be correctly predicted under the present analysis in (32b).

(32) a. In every dog_i's cage hung its_i collar. (Culicover and Levine (2001: 290))

b. $[\text{TopP PP} [\text{TP } t_{\text{PP}} [\text{VP hung DP } t_{\text{PP}}]]]$

(PP: in every dog's cage, DP: its collar)

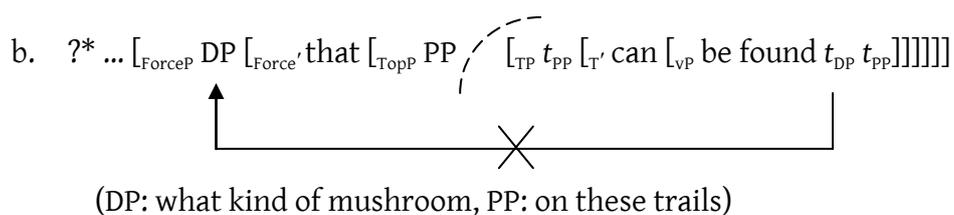
Given the standard assumption that a bound variable pronoun must be A-bound by its antecedent (cf. Reinhart (1983)), this sentence is grammatical because the locative PP undergoes A-movement to [Spec, TP] as well as A'-movement to [Spec, TopP], so that it can serve as an appropriate antecedent of the bound variable pronoun within the postverbal subject DP. Note that *every dog* does not c-command *its* in (32b) under the standard definition of c-command, but this problem can be immediately overcome by adopting the notion of almost c-command in Hornstein (1995), in terms of which a pronoun X may be bound by its antecedent Y if the projection dominating Y c-commands X. Accordingly, *its* can be properly bound by *every dog*, because the former is c-commanded by the locative PP that dominates the latter.

Turning now to the topichood of the sentence-initial locative PP, it typically denotes information which has already been mentioned in the preceding context, as exemplified in (33). This is the general property that distinguishes a topic denoting old information from a focus denoting new information (Birner and Ward (1998) and Mikami (2010)). This is straightforward under the present analysis, according to which the locative PP moves to [Spec, TopP], so that it will be interpreted as a topic of the sentence.

- (33) Harry wears a silver ring which he bought in Egypt, and on it are engraved three pyramids. (adapted from Levin and Rapaport Hovav (1995: 248))

In addition, it is worth noting that the sentence-initial locative PP blocks A'-movement of the subject DP, exhibiting so-called topic island effects, as shown in (34a) with its structure in (34b) under the present analysis.

- (34) a. ?*What kind of mushroom do you think that on these trails can be found?
(adapted from Bresnan (1994: 87))



Once the derivation has completed the TopP phase, the domain of Top, i.e. TP is transferred to the phonological and semantic components and hence becomes inaccessible to operations outside TopP, in accordance with the PIC repeated in (35). Therefore, the edge feature on Force cannot probe and attract the subject DP across the locative PP in [Spec, TopP] without violating the PIC, as shown in (34b).

(35) The Phase Impenetrability Condition

The domain of a phase head H is not accessible to operations outside HP; only H and its edge are accessible to such operations. (cf. Chomsky (2001: 13))

Another property of the sentence-initial locative PP that aligns it with topichood is that it cannot occur in ECM infinitival clauses, just like the topicalized element *to Mary* in (37).

(36) *I expect (for) on this wall to be hung a picture.

(adapted from Bresnan (1994: 108))

(37) *John believes (for) to Mary, Sam to have given a book. (Nishihara (1999: 389))

Given the standard assumption that ECM infinitival clauses are TP (Bošković (1997), Chomsky (2001), and Narita (2014)), the ungrammaticality of (36) can be immediately accounted for because they do not provide an appropriate landing site for the movement of the locative PP, which is a topic and must move to [Spec, TopP] under the present analysis.

This section has proposed the derivation of the unaccusative LIC in which the subject DP remains within a VP-internal position and the locative PP moves simultaneously to [Spec, TP] and [Spec, TopP] under independent probing by T and Top at the TopP phase. This enables us to correctly capture, among other properties, the subjecthood and topichood of the locative PP, which have long resisted satisfactory explanations (see section 2.5 below for a critical review of previous studies).¹⁷

¹⁷ Although motion verbs are usually classified as unergatives, the LIC based on them patterns with the unaccusative LIC: it need not have a heavy subject DP as in (i), and it can be embedded under raising predicates as in (ii).

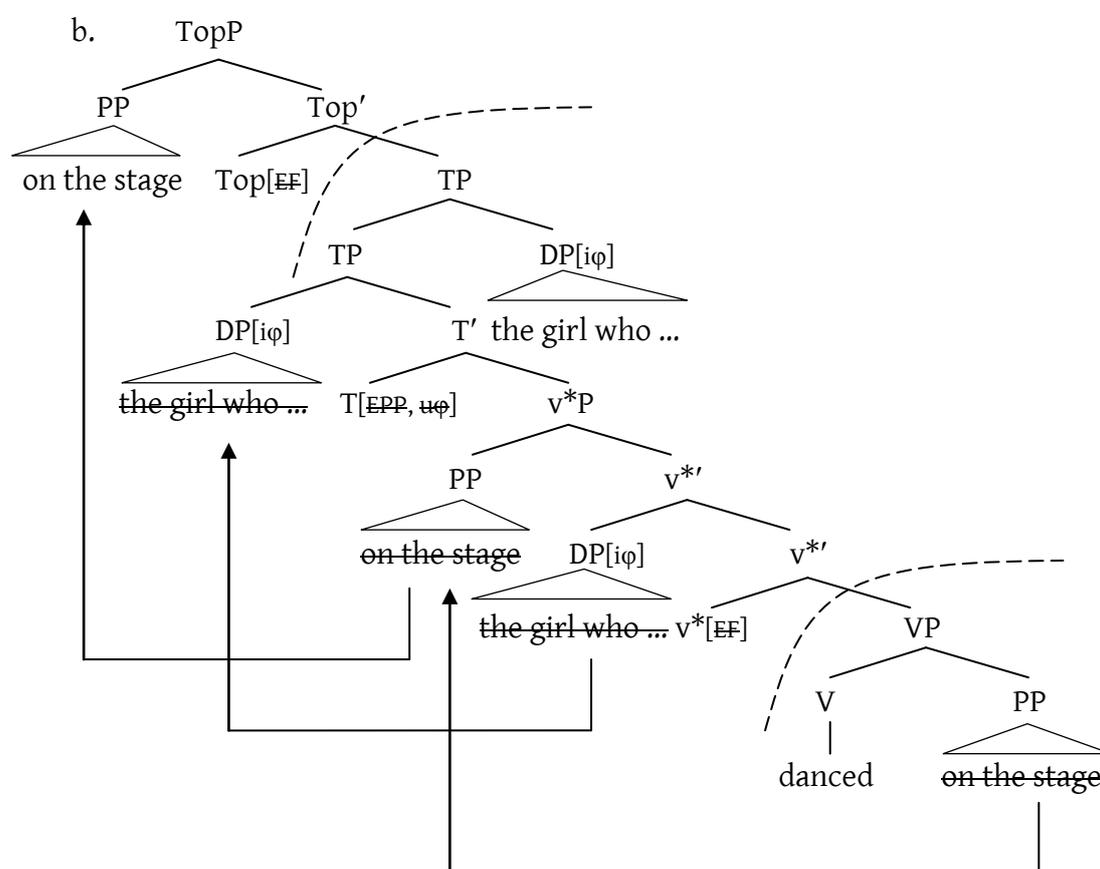
- (i) Out of the barn ran a horse. (Hoekstra and Mulder (1990: 31))
 (ii) Into every man's seems to have intruded a burglar. (Kitada (2011: 94))

2.4. The Unergative LIC in Present-day English

2.4.1. The Syntactic Structure of the Unergative LIC

This thesis argues that the unergative LIC is derived as shown in (38), which is basically along the lines of Culicover and Levine (2001) but adapted to the phase-based derivational model adopted here.

(38) a. On the stage danced the girl who played Joan of Arc in the school festival.



It has been argued in a number of previous studies that motion verbs behave like unaccusatives especially when they are combined with a directional PP (Coopmans (1989), Hoekstra and Mulder (1990), and Kuwabara (1995) among others). One piece of supporting evidence for their unaccusativization is the fact in (iii) that they cannot occur with agent-oriented adverbs such as *voluntarily* and *deliberately* when they appear in the LIC (see Kuwabara (1995) for further empirical evidence).

(iii) *Out of the room walked John voluntarily/deliberately. (Kuwabara (1995: 97))

Given the assumption that an agent-oriented adverb is licensed by an agent argument within the same clause (cf. Roberts (1987)), this fact strongly suggests that motion verbs which appear in the LIC do not involve external arguments at all, just like unaccusatives. Based on these facts, it is reasonable to assume with Culicover and Levine (2001) that the LIC based on motion verbs has the same syntactic structure as that of the unaccusative LIC.

At the v^*P phase, the subject DP is merged in [Spec, v^*P], while the locative PP is merged in the complement position of V. The edge feature on v^* probes and attracts the locative PP from the complement position of V to the outer [Spec, v^*P]. Upon the completion of the v^*P phase, the domain of v^* , i.e. VP is transferred to the phonological and semantic components. Then, at the TopP phase, the uninterpretable ϕ -features on T probe and establish an Agree relation with the interpretable ϕ -features carried by the subject DP in [Spec, v^*P], and the EPP-feature on T probes and attracts it from [Spec, v^*P] to [Spec, TP]. Then, HNPS applies to the subject DP in [Spec, TP] to adjoin it to the right side of TP.¹⁸ In addition to these operations by T, the edge feature on Top probes and attracts the locative PP from the outer [Spec, v^*P] to [Spec, TopP]. As soon as all the operations within the TopP phase are completed, the domain of Top, i.e. TP is sent off to the phonological and semantic components. Finally, the remaining topmost structures undergo cyclic Transfer to the phonological and semantic components at the end of the derivation, with the result of convergence of the whole derivation.¹⁹

¹⁸ HNPS is an optional operation, so the non-inverted sentence in (i) is derived when it does not apply to the subject DP.

(i) On the stage, the girl who played Joan of Arc in the school festival danced.

Incidentally, the applicability of HNPS to the subject DP in (38) depends on the presence of the topicalized locative PP; the subject DP cannot undergo HNPS unless the locative PP is topicalized, as is clear from the ungrammaticality of (ii).

(ii) *Danced on the stage the girl who played Joan of Arc in the school festival.

One promising approach to this dependency is proposed by Rizzi and Shlonsky (2006). The gist of their analysis is that the subject criterion, which requires that a functional head Subj above T be locally c-commanded by a nominal element, can be satisfied by a locative PP (more strictly, nominal Fin which Agrees with it) instead of a subject DP. Given this strategy, under the derivation where the locative PP satisfies the subject criterion on its way to sentence-initial position, the subject DP is immune to criterial freezing effects, so that it can undergo HNPS, leading to the grammaticality of (38a). On the other hand, under the derivation which does not involve topicalization of the locative PP, there is no choice but for the subject DP to satisfy the subject criterion, which makes it impossible for it to undergo HNPS because of the criterial freezing, thereby explaining the ungrammaticality of (ii).

¹⁹ In fact, the phase-based derivational model provides the unergative LIC with the two possible derivations that differs with respect to the order of A-movement and A'-movement: one in which T probes before Top and the other in which T and Top probe simultaneously. Importantly, either derivation leads to a convergent result, unlike in the case of the unaccusative LIC. See Chomsky (2008) for the original proposal that A-movement and A'-movement within the same phase may, in principle, apply in any order, as long as the derivation yields a convergent outcome.

It should be noticed that the syntactic structure in (38b) is the only way to derive the unergative LIC, given the standard assumption that unergative sentences involve v*P phases (Chomsky (2000, 2001)). Unlike in the case of the unaccusative LIC, the EPP-feature on T can only be satisfied by the subject DP in the derivation of the unergative LIC; since the locative PP has moved to the outer [Spec, v*P] as an A'-position, it cannot move further to [Spec, TP] to satisfy the EPP-feature on T without violating the improper movement constraint (Ura (1993)), which prohibits an element which has moved to an A'-position from undergoing A-movement. Then, the subject DP must move rightward from [Spec, TP] in order to generate the linear order in which it follows the unergative verb. It is natural to assume that this rightward movement is HNPS, which is attested elsewhere in English.

The next subsection demonstrates that the proposed analysis can straightforwardly account for the major properties of the unergative LIC including the heaviness of the postverbal subject DP and the absence of subjecthood with the sentence-initial locative PP.

2.4.2. Explaining the Properties of the Unergative LIC

First, consider the properties of the postverbal subject DP. As already mentioned in section 2.1, Culicover and Levine (2001) observes that it must be relatively heavy in that it requires phonological stress or modification for the unergative LIC to be acceptable, as illustrated in (39).²⁰ This fact is consistent with the present analysis, according to which

²⁰ The notion of heaviness has been defined in terms of various kinds of measure including the string length (Hawkins (1990)), the structural complexity (Chomsky (1975)), and the phonological weight (Zec and Inkelas (1990)). See Wasow (1997) for an overview and a critical review of previous studies on grammatical weight. Since it goes beyond the scope of this thesis to discuss each of the previously proposed criteria of heaviness in detail, I will agree here with Culicover and Levine (2001) that HNPS requires at least either phonological stress or modification; an element which has neither of them cannot undergo HNPS, even when it denotes new information, as is clear from the following contrast.

- (i) a. *?In the room slept fitfully students.
- b. In the room students slept fitfully.

See also Arnold et al. (2000) for comprehensive discussion that the notion of heaviness should be distinguished from the notion of newness.

the subject DP undergoes HNPS to adjoin to the right side of TP.

- (39) a. *In the room slept fitfully Robin.
 b. Remember Robin? Well, in the room slept fitfully ... ROBIN!
 c. In the room slept fitfully the students in the class who had heard about the social psych experiment that we were about to perpetrate.

(Culicover and Levine (2001: 293))

Moreover, it can be seen from (40) and (41) that the postverbal subject DP can control PRO in adjunct clauses in the unergative LIC, just as the preverbal subject DP can. This fact can receive a straightforward explanation under the present analysis in (40b).

- (40) a. At the supermarket worked, without PRO_i being near anyone, [a woman wearing a green cap]_i.
 b. [_{TopP} PP [_{TP} [_{TP} t_{DP} [_{V*P} [_{V*P} ...]] without PRO_i being near anyone]] DP_i]]
 (PP: at the supermarket, DP: a woman wearing a green cap)

- (41) At the supermarket [a woman wearing a green cap]_i worked, without PRO_i being near anyone.

The sentence in (40a) is grammatical because the subject DP undergoes A-movement to [Spec, TP], from which it c-commands and hence controls PRO in the adjunct clause, as represented in (40b).

Next, let us examine the properties of the sentence-initial locative PP. Interestingly, it cannot undergo raising from infinitival complements, as illustrated in (42a) with its

structure in (42b). In this respects, the unergative LIC behaves differently from the unaccusative LIC as discussed in (31).

(42) a. *At the corner seemed to smoke a man wearing a red headband and dark sunglasses.

b. * $[_{TopP} PP [_{TP} t_{PP} [_{vP} seemed [_{TP} [_{TP} t_{DP} to [_{v*P} t_{PP} [_{v*'} \dots]]]] DP]]]]]$



(PP: at the corner, DP: a man wearing a red headband and dark sunglasses)

In the infinitival complement of (42b), the edge feature on v^* probes and attracts the locative PP to the outer [Spec, v^*P], while the EPP-feature on T probes and attracts the subject DP to [Spec, TP]. Then, the subject DP undergoes HNPS to adjoin to the right side of the infinitival TP.²¹ If the locative PP underwent raising from the embedded [Spec, v^*P] to the matrix [Spec, TP] as in (42b), such movement would result in a violation of the improper movement constraint. Of course, if it moved from the embedded [Spec, v^*P] only to [Spec, TopP], the EPP-feature on the matrix T could not be satisfied, causing the derivation to crash. Thus, there is no grammatical way to derive the linear order of (42a).

Another evidence for the absence of subjecthood with the sentence-initial locative PP is that it exhibits weak cross-over effects, as shown in (43a). Again, this contrasts sharply with the case of the unaccusative LIC as observed in (32).

²¹ Note that HNPS of the subject DP applies at the level of the infinitival TP under the derivation in (42b). Given that HNPS of a subject DP applies in the TP domain (Culicover and Levine (2001)), the requirement that operations must apply as early as possible (Pesetsky (1991)) will force the derivation in (42b) and block the derivation where the subject DP undergoes HNPS at the level of the matrix TP after reaching the matrix [Spec, TP].

(43) a. ?*In every shop_i smoked its_i owner wearing a red T-shirt.

b. ?*[_{TopP} PP [_{TP} [_{TP} t_{DP} [_{v*P} t_{PP} [_{v*'} t_{DP} [_{v*'} smoked t_{PP}]]]]] DP]]

(PP: in every shop, DP: its owner wearing a red T-shirt)

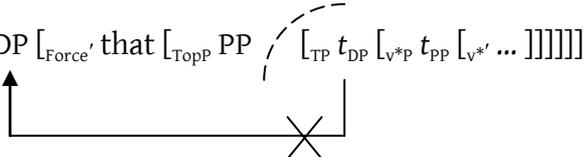
Since the locative PP undergoes only A'-movement to the outer [Spec, v*P] and then to [Spec, TopP], it cannot serve as an appropriate antecedent of the bound variable pronoun contained within the subject DP, which needs to be A-bound, as shown in (43b), leading to the ungrammaticality of (43a).

On the other hand, it should be noted that the sentence-initial locative PP exhibits topichood in the unergative LIC. This is clearly understood from the fact in (44) that it typically refers to information which has been previously mentioned in the discourse. This is clear under the present analysis, according to which the locative PP moves to [Spec, TopP] to be interpreted as a topic of the sentence.

(44) Abbey saw near the farmhouse half-a-dozen donkeys with bunches of flowers in their bridles, and around them chattered as many girls with a red handkerchief tied across their shoulders.

(adapted from Levin and Rappaport Hovav (1995: 224))

Additionally, the sentence-initial locative PP exhibits the topic island effects in that it prevents the subject DP from undergoing A'-movement, as shown in (45a) with its structure in (45b) under the present analysis.

- (45) a. *Who do you think that in the classroom slept?
 b. * ... [_{ForceP} DP [_{Force'} that [_{TopP} PP [_{TP} t_{DP} [_{v*P} t_{PP} [_{v*'} ...]]]]]]]

 (DP: who, PP: in the classroom)

Once the derivation has built the TopP phase, the domain of Top, i.e. TP is sent off to the phonological and semantic components and hence all the elements contained within it become unavailable for further operations, in accordance with the PIC. Therefore, the edge feature on Force cannot probe and attract the subject DP within TP without violating the PIC, as shown in (45b). Still another indication of the topichood of the sentence-initial locative PP is that it cannot appear in ECM infinitival clauses, as is clear from the ungrammaticality of (46).

- (46) *I expect at the corner to smoke a man wearing a red headband and dark sunglasses.

This fact immediately follows from the present analysis, because the locative PP cannot find its appropriate landing site in ECM infinitival clauses, which are TP and hence do not involve TopP.

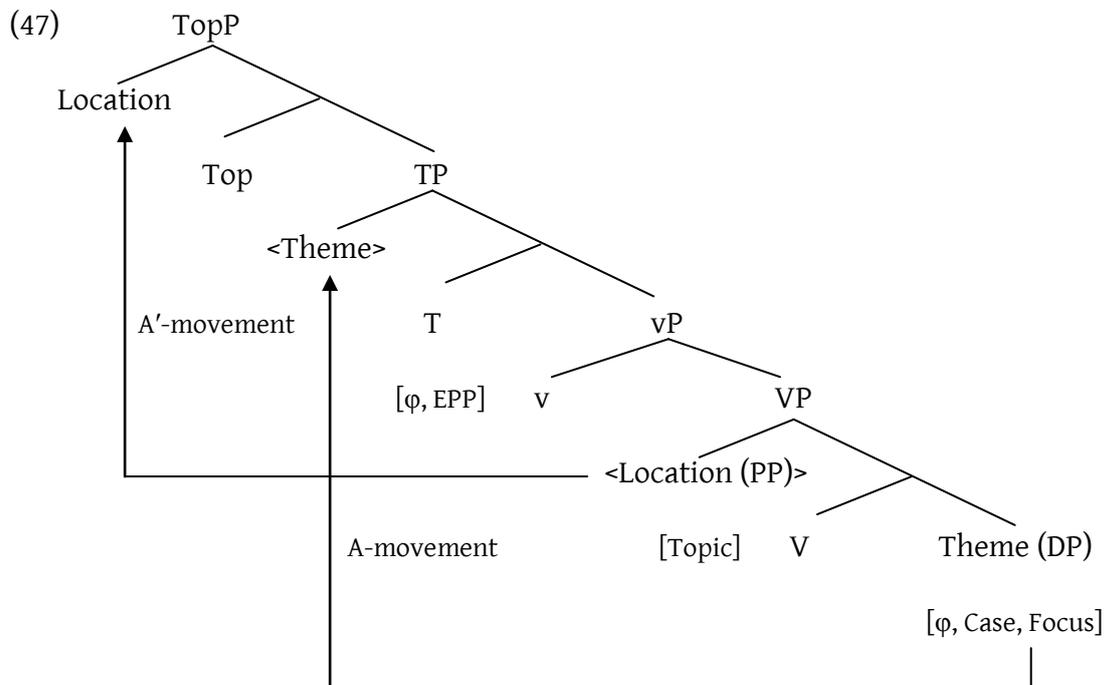
This section has made a proposal about the derivation of the unergative LIC where the subject DP undergoes HNPS to adjoin to the right side of TP, and the locative PP moves only to [Spec, TopP], but not to [Spec, TP], at the TopP phase. This analysis straightforwardly accounts for a number of properties of the unergative LIC, especially the heaviness of the postverbal subject DP and the lack of subjecthood of the sentence-initial locative PP, with respect to which it diverges from the unaccusative LIC.

The next section overviews two previous analyses of the LIC and then presents a number of empirical arguments against them, while showing that they can be correctly captured under the analysis proposed in this thesis.

2.5. Previous Studies

2.5.1. Mikami (2010)

Mikami (2010) proposes that the following syntactic structure underlies the unaccusative LIC.



(based on Mikami (2010: 313))

The subject DP and the locative PP are merged in the complement position of V and [Spec, VP], respectively.²² As soon as T is merged, T probes and enters into an Agree relation

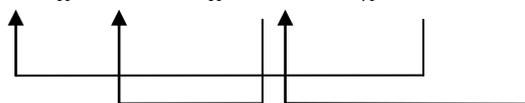
²² Note that the analysis in (47) postulates that the locative PP is base-generated higher than the subject DP. In this respect, it differs from the analysis advanced in section 2.3, where the reverse hierarchical order between the two elements are assumed on the basis of Hale and Keyser's (1993)

with the subject DP, which in turn moves to [Spec, TP] in order to satisfy the EPP-feature on T. When Top is merged, the locative PP, which is assigned a topic feature, moves to [Spec, TopP]. After these operations, the whole resulting structure is handed over to the phonological component (as well as the semantic component), where the higher copy of the subject DP in [Spec, TP] is deleted and its lower copy in the complement position of V is pronounced with phonological stress and interpreted as a focus of the sentence. This results in the realization of the subject DP in postverbal position.

Mikami assumes that the locative PP has only topichood, and he explains in terms of the pronunciation of the lower copy the following example of raising which other researchers regards as its subjecthood.

(48) a. On that hill appears to be located a cathedral.

b. [_{TopP} Loc [_{TP} <The> ... [_{TP} <The> ... [_{VP} <Loc> [V The]]]]]



(Loc: Location PP, The: Theme DP)

(Mikami (2010: 317))

In (48b), the subject DP moves to the matrix [Spec, TP] through the embedded [Spec, TP], while the locative PP moves to [Spec, TopP]. Subsequently, only the lowest copy of the subject DP is pronounced and its other copies are deleted in the phonological component, yielding the surface form of (48) without recourse to A-movement of the locative PP (see Mikami (2010: 317ff) for similar discussion of the absence of weak cross-over effects in the

analysis (see also Larson (1988), Chomsky (1995b), and Nishihara (1999) among many others). Note also that the analysis in section 2.3 would remain unchanged for the most part, even if the subject DP were base-generated in the lower position than that of the locative PP; the derivation based on independent probing by T and Top could also converge in that case. Specifically, T could establish an Agree relation with the subject DP across the locative PP, because the latter does not have matching ϕ -features to induce intervention effects at all. Moreover, the parallel movement of the locative PP to [Spec, TP] and [Spec, TopP] would pose no problems with respect to locality, because there would be no potential interveners blocking such movement.

unaccusative LIC).

However, there remain some serious problems with Mikami's analysis. First, it does not provide any explanations for the basic fact that the pronunciation of the subject DP in its base position is disallowed without the sentence-initial locative PP. Of course, it might be possible to assume that it depends on topicalization of the locative PP, but that would amount to an ad hoc stipulation which lacks explanatory force. Therefore, sentences like (49a) could be generated under his analysis, with the EPP-feature on T satisfied by the subject DP moving to [Spec, TP] and its lower copy pronounced in its base position. In contrast, the analysis in this thesis gives a simple explanation to the ungrammaticality of (49a); if the locative PP were to remain in its base position, the EPP-feature on T would not be satisfied, which would cause the derivation to crash, as shown in (49b) as its structure under the present analysis. Note that the absence of topicalization of the locative PP does not induce any kind of syntactic violation, given that an edge feature is automatically deleted at the time of Transfer (Chomsky (2007)).

- (49) a. *Rolle {down the hill the baby carriage/the baby carriage down the hill}.
- b. * $[_{TopP} Top[EF] [_{TP} T[EPP] [_{VP} rolled the baby carriage down the hill]]]$

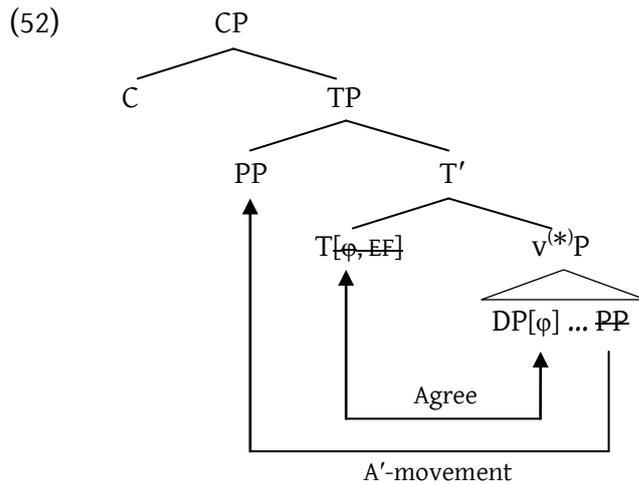
Second, Mikami's analysis fails to capture the fact that the sentence-initial locative PP, just like a preverbal subject DP, obeys the parallel constraint on across-the-board extraction (Bresnan (1994)), according to which a subject gap within one conjunct cannot occur with a nonsubject gap within the other conjunct. This is illustrated with DP-extraction in (50) and PP-extraction in (51).

- (50) a. She's someone that ____ loves cooking and ____ hates jogging.
(Subj-Subj)
- b. She's someone that cooking amuses ____ and jogging bores ____.
(Nonsubj-Nonsubj)
- c. *She's someone that cooking amuses ____ and ____ hates jogging.
(Nonsubj-Subj)
(Postal (2004: 20))
- (51) a. That's the old graveyard, in which ____ is buried a pirate and ____ is
likely to be buried a treasure. (Subj-Subj)
- b. That's the old graveyard, in which workers are digging ____ and a treasure
is likely to be buried ____.
(Nonsubj-Nonsubj)
- c. *That's the old graveyard, in which workers are digging ____ and ____ is
likely to be buried a treasure. (Nonsubj-Subj)
(Postal (2004: 20))

Crucially, (51c) would be predicted to be as grammatical as (51b) under his analysis, according to which they should have the same structure in which the locative PP leaves a gap in nonsubject position in each conjunct, except that the subject DP *a treasure* is pronounced in preverbal or postverbal position. On the other hand, the analysis in this thesis can correctly exclude the sentence in (51c) as a violation of the parallelism constraint; the first conjunct has a gap in nonsubject position, while the second conjunct has a gap in subject position.

2.5.2. Kitada (2011)

Kitada (2011) argues that the edge feature can be inherited from C to T when the ϕ -features on T do not trigger A-movement of the agreeing DP. According to him, this is what happens in the derivation of the LIC.



(based on Kitada (2011: 93))

In (52), the edge feature, together with the ϕ -features, is inherited from C to T, following the idea of feature inheritance in Chomsky (2007, 2008). Then, the uninterpretable ϕ -features on T establish an Agree relation with its interpretable counterparts on the subject DP without inducing A-movement. On the other hand, the inherited edge feature on T triggers A'-movement of the locative PP to [Spec, TP]. With all the uninterpretable features deleted, the derivation converges. Thus, although the LIC has the locative PP in [Spec, TP], it has undergone A'-movement under probing by the edge feature, which derives its dual properties as a subject and as a topic.

The absence of weak cross-over effects repeated in (53), which has led other researchers to conclude that the sentence-initial locative PP has undergone A-movement, is explained without A-movement under Kitada's analysis. According to Kitada, the locative PP can be base-generated in a higher position than that of the subject DP, as we saw in Mikami (2010).

This makes the derivation possible in which the locative PP containing *every dog* undergoes A'-movement without crossing over the bound variable pronoun contained in the subject DP, so that no weak cross-over effect occurs.

- (53) In every dog_i's cage hung its_i collar. (Culicover and Levine (2001: 290))

This argument is independently supported by the fact in (54) that the *wh*-movement of *out of which* does not cause a strong violation of superiority, which indicates that the locative PP is base-generated higher than the subject DP, so that the former *wh*-phrase can reach sentence-initial position without moving across the latter *wh*-phrase.

- (54) (?)Out of which room came who? (Kitada (2011: 94))

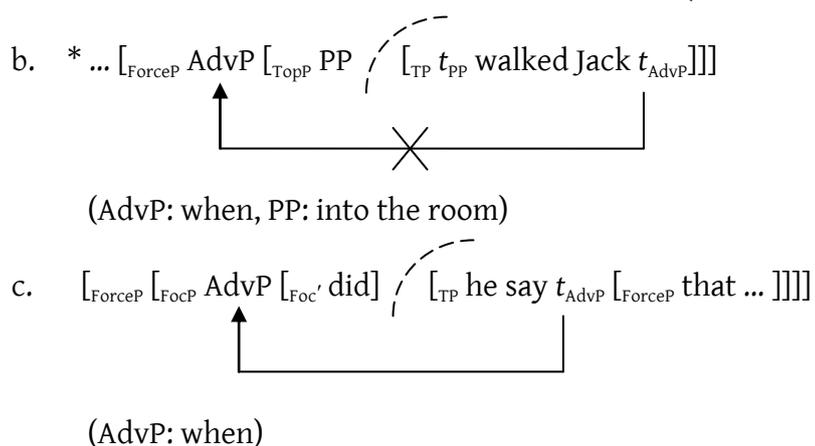
However, some problems with Kitada's analysis are raised. First, since he assumes that topicalization to the CP domain is not involved in the derivation of the LIC, it is difficult to account for the fact that locative inversion patterns with topicalization in that it can occur in the complement clause of an assertive predicate, but not in that of a non-assertive predicate, as shown in (55) and (56). Given that the feature inheritance mechanism applies in every finite clause (Chomsky (2007, 2008)), the derivation with A'-movement to [Spec, TP] triggered by the inherited edge feature should be available in both the embedded clauses in (56a) and (56b). On the other hand, assuming that TopP is projected only in an assertive clause (Haegeman (2004, 2010)), the contrast in (56) immediately follows from the analysis in this thesis because the locative PP must undergo topicalization to [Spec, TopP].

- (55) a. Bill says that such books he only reads at home.
 b. *Bill asked if such books he only reads at home. (Nishihara (1999: 389))

- (56) a. John says that near his house lies a buried treasure.
 b. *John asks if near his house lies a buried treasure. (Nishihara (1999: 389))

Second, Kitada's analysis fails to accommodate the fact in (57a) that the sentence-initial *wh*-adjunct can only be construed as modifying the matrix clause, but not the embedded clause. Under his analysis, the locative PP does not occupy [Spec, CP], and hence the *wh*-adjunct which is base-generated within the embedded clause could reach the matrix [Spec, CP] by passing through the embedded [Spec, CP], so that it could be interpreted as an adjunct of the embedded clause, just as the sentence-initial *wh*-adjunct in non-inverted sentences like (58) can be.

- (57) a. When did he say that into the room walked Jack?
 (Rizzi and Shlonsky (2006: 344))



- (58) When did he say that Jack walked into the room?

(Rizzi and Shlonsky (2006: 344))

In contrast, this fact can be accounted for in a straightforward manner under the analysis in this thesis. Under the derivation in (57b) with *when* base-generated as an adjunct of the embedded clause, once the embedded TP has been transferred at the end of the TopP phase, the edge feature on the embedded Force can no longer have access to the *wh*-adjunct within it, according to the PIC. On the other hand, under the derivation in (57c) where *when* is base-generated as an adjunct of the matrix clause, the edge feature on the matrix Foc can have access to it within the matrix TP, which will not be transferred until all the syntactic operations within the FocP phase are completed. Thus, since the derivation in (57c) is the only convergent one to generate the surface form of (57a), it follows that the *wh*-adjunct is only construed as modifying the matrix clause.

In sum, this section has overviewed Mikami (2010) and Kitada (2011), who assume the non-parallel movement of the locative PP to [Spec, TopP] or [Spec, TP], respectively, and presented a number of facts which are difficult to account for under their analyses. In contrast, it has been shown that these facts are accounted for straightforwardly under the analysis in this thesis, thus providing its advantages over the previous analysis by the two authors.

2.6. Concluding Remarks

This chapter has offered phase-based analyses of the LICs in Present-day English, classifying them into the unaccusative LIC and the unergative LIC. Under the derivation of the unaccusative LIC, the subject DP remains in its base position throughout the course of the derivation, while the locative PP undergoes both A-movement to [Spec, TP] and A'-movement to [Spec, TopP] simultaneously at the TopP phase. This derives, among other, the dual status of the sentence-initial locative PP as a subject and a topic. On the other hand, under the derivation of the unergative LIC, the subject DP raises to [Spec, TP]

and then undergoes HNPS to be realized in postverbal position, while the locative PP moves only to [Spec, TopP] at the TopP phase. This explains, among other properties, the heaviness of the postverbal subject DP and the presence of topichood and absence of subjecthood with the sentence-initial locative PP. Thus, these proposed analyses have provided a basis for our understanding of both the similarities and differences between the two types of LIC in Present-day English.

Chapter 3

A Diachronic Aspect of the Locative Inversion Constructions

3.1. Introductory Remarks

One striking difference between Early English topic-initial sentences and their Modern English counterparts is the structural position of the finite verb. It has been widely accepted since van Kemenade (1987) that the finite verb moves obligatorily through T to C in Early English sentences introduced by a topic element, as shown in (59).

$$(59) \quad [_{CP} XP_{topic} [_{C'} C [_{TP} DP_{subj} [_{T'} T [_{VP} \dots V_{finite} \dots]]]]]]$$

Thus, the finite verb is almost always realized in second position within a main clause as a result of V-to-T-to-C movement, and therefore a group of related phenomena are often called verb-second (Fischer et al. (2000: 104ff)).

Turning to inversion constructions led by a locative PP, it turns out that the finite verb has moved out of the $v^{(*)}P$ domain within which it is base-generated, just as in other

topic-initial constructions. This is clearly shown by the fact in (60) that it occurs before *næfre* or *not* marking the left edge of the $v^{(*)}P$ domain. Note that the preverbal negator *ne* procliticizes to the following finite verb, so that they can be viewed as a single constituent occupying second position within these sentences (see chapter 5 for more detailed analyses of negative markers in Early English).

- (60) a. On Egypta lande ne cymð næfre nan winter, ne renscuras
 On Egypt's land not comes never no winter nor rain-showers
 (cotempo,ÆTemp:4.53.185: 03)

'No winter or rain shower ever comes on the land of Egypt'

- b. In þat abbeye ne entreth not no flye ne todes ne ewtes ...
 in that abbey not enters not no flies nor toads nor newts
 (CMMANDEV,40.1002: M3)

'No fly, toad, or newt enters into that abbey'

The simple question immediately arises as to why the finite verb raises obligatorily to higher functional heads than $v^{(*)}$ in topic-initial constructions including the LIC in Early English. On the other hand, it should also be noted that the finite verb ceased to undergo T-to-C movement in topic-initial constructions around the 14th century, with the result that it began to be canonically realized after the subject DP, as observed by many researchers including Speyer (2010). Therefore, there must be a satisfactory explanation of why the LIC is still available as a main verb inversion construction even after the general loss of verb-second, i.e. obligatory V-movement through T to C. This chapter aims to provide straightforward accounts especially for these two questions, by examining the development of the LIC in the context of the verb-second phenomenon.

This chapter is organized as follows. Section 3.2 explicates how the verb-second effect on topic-initial constructions including the LIC is derived, following up Nawata (2009) who attributes verb movement to the CP domain to relatively rich verbal agreement morphology. Section 3.3 presents the quantitative data regarding the distribution of the LIC in Early English, confirming that it was already attested in the earliest period of English. Section 3.4 proposes the derivations underlying the LICs in Early English, making a distinction between the structural positions of the postverbal subject as well as between the unaccusative and unergative verbs. Section 3.5 examines the gradual decline of verb movement from Late Middle English onward and its empirical consequences for the LICs. Section 3.6 offers a critical review of Ohkado (1998), pointing out theoretical and empirical problems with his analysis. Section 3.7 gives concluding remarks of this chapter.

3.2. The Rich Agreement Hypothesis

3.2.1. Deriving the Verb-Second Effect on Topic-initial Constructions

There is some agreement in the literature that the availability of V-movement to higher functional heads than $v^{(*)}$ in a language is systematically related to the presence of rich verbal agreement morphology with that language. This relationship is often called the rich agreement hypothesis (henceforth, RAH), and a great deal of evidence for the RAH has been presented by a number of diachronic studies as well as synchronic studies (Roberts (1993), Holmberg and Platzack (1995), Bobaljik (2002b), and Nawata (2009) among many others). The richness of verbal morphology in question is defined as (61), according to Bobaljik (2002b).

- (61) Verbal inflection is rich iff finite verbs may bear multiple distinct inflectional morphemes. (Bobaljik (2002b: 134))

This definition says that a verbal inflectional system where a tense morpheme and an agreement morpheme are overtly realized simultaneously on a single finite verb is judged to be rich enough to trigger V-movement to higher functional heads than $v^{(*)}$.

In the light of the definition of richness in (61), Early English was characterized by much richer verbal inflection than that of Present-day English. The typical verbal inflectional paradigm in Early English is shown in (62), which is in turn summarized as (63) in the form of correspondence rules.

(62) Verbal inflectional paradigm in Early English

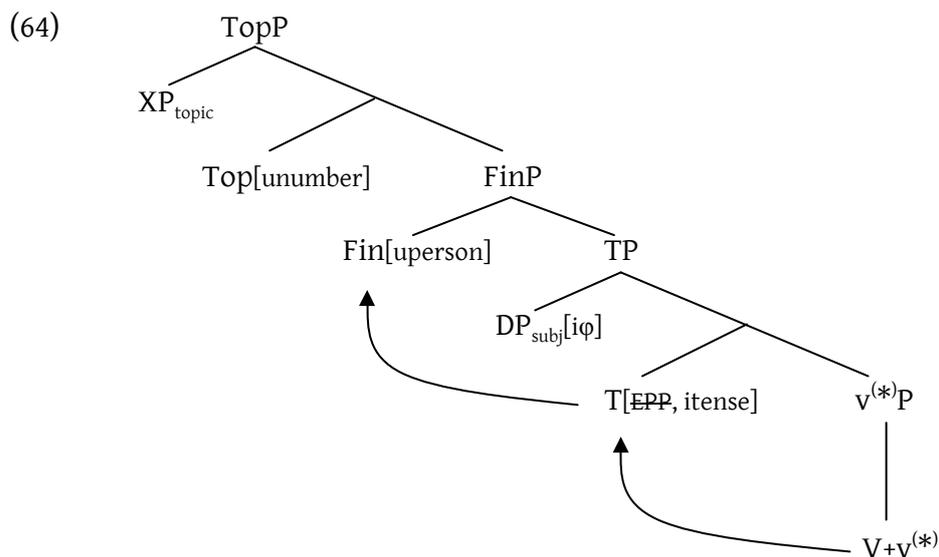
	present		past	
	singular	plural	singular	plural
1	-e	-en	-de	-den
2	-st	-en	-dst	-den
3	-th	-en	-de	-den

(Nawata (2009: 269))

- (63) a. /-∅/ ↔ [present]
 b. /-d/ ↔ [past]
 c. /-e/ ↔ [1st person]
 d. /-st/ ↔ [2nd person]
 e. /-th/ ↔ [3rd person]/[present]
 f. /-e/ ↔ [3rd person]/[past]
 g. /-en/ ↔ [plural]
- (Nawata (2009: 270))

We can see that finite verbs in Early English had the person and number agreement

morphemes that were distinct from the tense morpheme. Crucially, each of them could co-occur with the tense morpheme, as in *-de*, *-dst*, and *-den*. Hence, we will expect under the RAH that Early English featured V-movement to higher functional heads than $v^{(*)}$. Indeed, Nawata (2009) argues that the finite verb raises obligatorily as far as Fin in Early English topic-initial sentences, under the assumption that the uninterpretable person and number agreement features are located on Fin and Top in the split CP system, respectively.²³ According to his analysis, Early English sentences introduced by a topic element are derived as shown in (64).



(adapted from Nawata (2009: 271))

The subject DP and the topic XP move to [Spec, TP] and [Spec, TopP], respectively. On the other hand, the uninterpretable person and number agreement features on Fin and Top are

²³ To be more precise, Nawata (2009) claims that the number agreement feature is always located on lower Top in topic-initial constructions in Early English. However, this thesis will assume that it is assigned to higher Top at least in the derivation of the LIC with a full DP subject, under the assumption that lower TopP is only projected in the derivation with a clitic pronoun. One of the advantages of this trivial revision is to regard [Spec, Top¹P] as a position dedicated to hosting clitic pronouns and provide a straightforward explanation for the loss of lower TopP in the history of English, as will be discussed later in detail. On the following pages of this chapter, higher TopP will be simply represented as TopP unless lower TopP is relevant to our discussion.

valued via their Agree relations with their interpretable counterparts borne by the subject DP. Then, they are morphologically realized on Fin and Top with their appropriate forms, respectively, while the interpretable tense feature is morphologically realized on T. Given the standard assumption that affixation applies between the two structurally adjacent heads, as in the case of affix hopping from T to $v^{(*)}$, the verbal complex consisting of V and $v^{(*)}$ raises obligatorily through T to Fin.²⁴ If not so, one or more of inflectional morphemes would be left unattached to V as their appropriate host, causing the derivation to crash because of a violation of the stranded affix filter in (65).²⁵

(65) The Stranded Affix Filter

A morphologically realized affix must be a syntactic dependent of a morphologically realized category, at surface structure. (Lasnik (1981: 164))

Thus, the typical word order of Early English topic-initial sentences is derived where the finite verb is realized in second position with the topic element preceding it.

Note that in (64), V-movement from Fin to Top is preempted by morphological merger of Top onto Fin (see Nawata (2009: fn14) for arguments that when both head movement and

²⁴ The definition of structural adjacency is given in (i).

(i) A head X is structurally adjacent to a head Y if X c-commands Y and there is no head Z that is c-commanded by X and c-commands Y. (Fuß (2014: 62))

According to (i), a head X is structurally adjacent to the head Y of its complement.

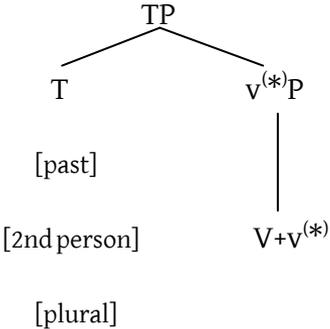
Incidentally, affix hopping is recast as morphological merger in a number of current studies including Nawata (2009). This chapter will occasionally use the term morphological merger instead of affix hopping.

²⁵ Note that a finite verb raises to Fin even when the uninterpretable number agreement feature on Top is valued as singular and is not morphologically realized. In this regard, Nawata (2009: fn17) suggests that a finite verb cannot anticipate in the syntactic component what inflectional form will be assigned to it in the phonological component. If this is right, it must undergo syntactic head movement through $v^{(*)}$ and T to Fin so that the derivation can converge without violating the stranded affix filter in either case of (i) where the number agreement feature is valued as plural and will be assigned its morphological form *-en* or (ii) where it is valued as singular and will not be assigned any morphological form.

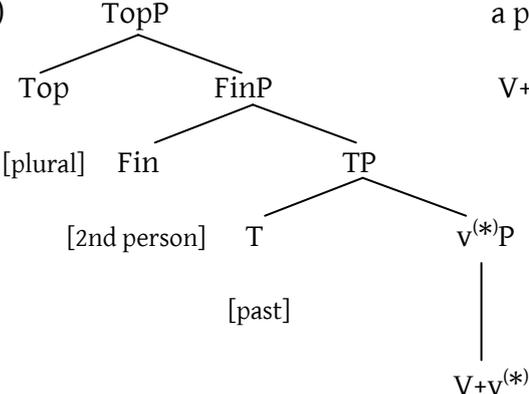
morphological merger can satisfy the stranded affix filter without violating the adjacency requirement, the latter is preferred over the former). This is presumably because morphological merger is more economical in that it can attach the number agreement morpheme on Top to V raised to Fin in situ, namely without verb movement. Notice also that unraised V cannot be amalgamated with Top in their base positions via morphological merger, since they are not structurally adjacent to each other in that there are intervening functional heads $v^{(*)}$, T, and Fin between them. Thus, all V needs to do in (64) is to move up to Fin.

It is worthwhile to note that the analysis in (64) can correctly capture the two important regularities of the verbal inflectional paradigm in (62). One is that the past tense morpheme *-d* is realized before the person and number agreement morphemes *-e*, *-st*, and *-en*; after the tense morpheme on T attaches to V via $v^{(*)}$ -to-T movement, the person and number agreement morphemes on Fin and Top attach to V via T-to-Fin movement and morphological merger of Top onto Fin, respectively. The other is that morphological realization of the person agreement feature is blocked by that of the number agreement feature in the case where the latter is valued as plural (for example, in the case of [past, 2nd person, plural], a finite verb is realized with *-den* rather than *-dst*); under the assumption that a finite verb can accommodate at most two morphemes, the plural agreement feature overwrites the person agreement feature occupying the outer one of the two verbal inflectional slots, in order to avoid a violation of the stranded affix filter (see Nawata (2009) for more detailed discussion within the framework of Distributed Morphology). On the other hand, such an overwriting operation does not apply in the case where the number agreement feature is valued as [singular], because it does not have any morphological form and hence there arises no violation of the stranded affix filter, which by definition applies only to morphologically realized affixes (see (65)). Thus, the possible inflectional forms of

a finite verb are limited to the ones that were actually attested in (62). To put it in a more intuitive way, if all the relevant features were located on T, a finite verb could in principle be realized with six morphological forms, as illustrated below with the case of [past, 2nd person, plural]. Note that in (66a-f), the second attached morpheme is overwritten by the third attached morpheme, as mentioned above.

- (66)
- 
- possible verbal inflectional forms
- a. V+past+2nd person+plural → V+den
 - b. V+past+plural+2nd person → *V+dst
 - c. V+2nd person+past+plural → *V+sten
 - d. V+2nd person+plural+past → *V+std
 - e. V+plural+past+2nd person → *V+enst
 - f. V+plural+2nd person+past → *V+end

In contrast, if the tense, person agreement, and number agreement morphemes are allocated to T, Fin, and Top, respectively, only one appropriately inflected finite verb can be derived via stepwise $v^{(*)}$ -to-T-to-Fin movement and subsequent morphological merger of Top onto Fin, as shown in (67).

- (67)
- 
- a possible verbal inflectional form
- V+past+2nd person+plural → V+den

Thus, the uninterpretable person and number agreement features must be assigned to the two distinct functional heads right above T bearing the interpretable tense feature, respectively.²⁶ To put it in terms of language acquisition, language acquirers allocate the person and number agreement features to Fin and Top, respectively, in topic-initial sentences if they detect the above two regularities of verbal inflection in the utterances that they heard.

To sum up, the uninterpretable person and number agreement features are allocated to Fin and Top, respectively, in the case of topic-initial sentences, as long as they are realized as distinct inflectional morphemes. This triggers obligatory V-movement through $v^{(*)}$ and T to Fin, thereby deriving the verb-second effect on topic-initial constructions in Early English.²⁷

²⁶ One might wonder whether or not the uninterpretable person and number agreement features could be located on Top and Force, respectively, as in (ia), or on Fin and Force, respectively, as in (ib), because the relevant regularities of verbal inflection can be correctly predicted in either case, as can be easily verified.

- (i) a. $[_{\text{ForceP}} \text{Force}[_{\text{unnumber}}] [_{\text{TopP}} \text{Top}[_{\text{uperson}}] [_{\text{FinP}} \text{Fin} [_{\text{TP}} \text{DP}_{\text{subj}} \text{T}[_{\text{itense}}] \dots]]]]]$
 b. $[_{\text{ForceP}} \text{Force}[_{\text{unnumber}}] [_{\text{TopP}} \text{Top} [_{\text{FinP}} \text{Fin}[_{\text{uperson}}] [_{\text{TP}} \text{DP}_{\text{subj}} \text{T}[_{\text{itense}}] \dots]]]]]$

But notice that both of these derivations inevitably crash under the phase-based derivational model adopted in this thesis; once all the operations within the TopP phase have been applied, the domain of Top, i.e. FinP containing the subject DP undergoes cyclic Transfer, with the result that the uninterpretable number agreement feature on Force will be left unvalued at ForceP phase.

²⁷ An apparent counterexample is subordinate clauses with verb-final word order like (ia), in that they have been standardly analyzed in terms of V-movement only to T of head-final TP, but not to Fin, despite the fact that they exhibited as rich verbal inflection as main clauses did. An alternative analysis is proposed by Nawata (2009), according to which verb-final sentences such as (ia) are derived by $v^{(*)}$ -to-T-to-Fin movement followed by the remnant movement of TP to [Spec, Top¹P] à la Kayne (1994), as shown in (ib).

- (i) a. ... þanne þat folc godes word ʒierneliche listede
 when that folk God's word earnestly heard
 '... when that folk heard the word of God earnestly'
 (CMTRINIT, 163.2185 / cf. Kroch and Taylor (2000: 142))
 b. $[_{\text{ForceP}} \text{þanne} [_{\text{TopIP}} [_{\text{TP}} \text{þat folc } t_{\text{T}} [_{\text{V}^* \text{P}} t_{\text{V}^*} [_{\text{VP}} t_{\text{listede}} \text{ godes word } \dots]]]]] [_{\text{FinP}} \text{listede } t_{\text{TP}}]]]$

However, it is unclear whether there is any empirical advantage of this analysis over the traditional analysis. Note that the (im)plausibility of the analysis in (ib) does not affect the discussion of the LIC in the remainder of this chapter; it occurred only in main clauses, as will be shown in the next subsection. See footnotes 61 and 76 in chapter 5 for analyses of other verb-second constructions in Early English that is compatible with the theoretical assumptions made in this subsection.

3.2.2. Applying the RAH to the LICs in Early English

In order to discuss the development of the LICs in the context of verb-second, it should be ascertained in the light of empirical evidence that they fall under the RAH of the sort as elaborated in the immediately preceding subsection. This subsection aims to show that the LICs in Early English have essentially the same derivation as that of the standard topic-initial construction in (64), except that the postverbal subject DP may be realized in a different syntactic position. More specifically, it is shown that the locative PP undergoes topicalization targeting [Spec, TopP], while the finite verb raises obligatorily through $v^{(*)}$ and T to Fin.

Let us first examine the properties of the sentence-initial locative PP. Its topichood is revealed by the fact that it typically represented information as already mentioned in the preceding context. In (68), the sentence-initial locative PP *onmiddan ðam werode* ‘in the middle of the troop’ refers back to the object DP *micel heofonlic werod* ‘a great heavenly troop’ in the immediately preceding sentence.

- (68) Ða on þære ðriddan nihte ðæs fæstenes geseah se biscop micel heofonlic
 then on the third night of-the fast saw the bishop great heavenly
 werod on ælcere healfe þæs temples, & onmiddan ðam werode
 troop on each side of-the temple and in the middle of the troop
 sæt seo heofonlice cwen Maria
 sat the heavenly queen Mary

(cocathom1,ÆCHom_I,_30:437.231.6032-6033: 03)

‘Then, the bishop saw a great heavenly troop on each side of the temple on the third night of the fast, and the heavenly queen Mary sat in the middle of the troop’

Another piece of evidence suggesting the status of the sentence-initial locative PP as a topic is that the LIC occurred only in main clauses, but not in subordinate clauses that are not complements of assertive predicates, as shown by the data in (69) from YCOE and PPCME2.²⁸

(69) The number of the LIC in main and subordinate clauses in Old and Middle English texts

	cocathom	cowsgosp	CMANCRIW	CMMANDEV	CMGREGOR
main	40	12	14	55	10
subordinate	0	0	0	0	0
%main/sub	100/0	100/0	100/0	100/0	100/0

Assuming with Pintzuk (1999) that patterns with a rate of less than 1% are judged to be ungrammatical, we can conclude that the LIC could appear in main clauses, but they could not appear in subordinate clauses that are not complements of assertive predicates, as is clear from the figures of (69). This result indicates that the syntactic structure of the LIC in Early English involves TopP, under the assumption that topicalization is one of the root

²⁸ The investigation is restricted to those texts listed in (69) whose total word counts are more than 25,000 words, with the aim of making quantitatively reliable generalizations. Note that embedded inverted sentences led by a relativized locative PP like (i) are excluded from the figures of (69), because they involve relativization rather than topicalization of the locative PP.

(i) ... þone neahmunt, in þam stod unmætre mycelnesse wudu
 the neighboring mountain in which stood of-great size tree
 (cogregdC,GDPref_and_4_[C]:23.293.12.4339: O4)

‘... the neighboring mountain, in which a tree of great size stood’

Note also that the clausal complements of assertive predicates are counted as main clauses rather than subordinate clauses in (69); they behaved like main clauses in that they generally permitted topicalization to occur within them (cf. van Bergen (2003: §5.3)), which suggests the presence of TopP in them. In fact, the LIC was sporadically attested in the clausal complements of assertive predicates, as exemplified in (ii).

(ii) ... hie wiston þæt on hire eardode se heofonlica cyning
 they knew that in her dwelled the heavenly king
 (coblick,HomU_18_[BlHom_1]:11.148.135: O3)

‘... they knew that the heavenly king dwelled in her’

phenomena in the sense of Hooper and Thompson (1973) (see Fischer et al. (2000: Ch. 4) for the relevant observation that verb-second with topicalization was generally not attested in Early English non-root clauses, suggesting the absence of TopP in them).

Let us next consider the structural position of the finite verb which is inverted with the subject DP. While certain adverbs and negative markers have long been used as diagnostic elements for $v^{(*)}$ -to-T movement since Pollock (1989), as mentioned at the beginning of this chapter, syntactic diagnoses of T-to-Fin movement have not been well established until relatively recently. In particular, Haeberli and Ihsane (2016) assume, relying on the work of van Kemenade (2011), that adverbs such as *þa* and *þonne* were used as discourse particles and positioned between FinP and TP in the split CP system. Crucially, the finite verb sporadically preceded these diagnostic adverbs, as shown in (70). This fact suggests that it has moved across them and raised up to a higher functional head than T.

- (70) On þære halgan stowe stent þonne þæt deofolgyld
 on that holy place stands then the idol

(coaelhom,ÆHom_19:300.2836: O3))

‘Then, the idol stands on that holy place’

Note that even if *þonne* is used as a temporal adverb in (70), it still constitutes evidence for the presence of V-movement out of TP; it is base-generated within the TP domain, according to the hierarchical analysis of adverbs by Cinque (1999). On the other hand, it should be confirmed that the raised finite verb ends up in Fin, without moving any further. In this connection, it is worth noting that a pronominal subject was always placed before a finite verb in Old English topic-initial sentences led by a locative PP, as shown by the result

of the investigation based on YCOE in (71) with one of the attested examples in (72).²⁹

- (71) The number of preverbal or postverbal pronominal subjects in locative-initial unaccusative/unergative constructions

	EOE	O3	O4
Preverbal	10	18	8
Postverbal	0	0	0
%Pre/Post	100/0	100/0	100/0

- (72) To wuda we gað mid urum freondum
to woodland we go with our friends (cocura,CP:21.167.4.1133: EOE)
‘We go to the woodland with our friends’

It has been widely accepted in the literature that a pronominal subject in Old English was a clitic, and therefore it must be on the immediate left side of a finite verb in topic-initial constructions (van Kemenade (1987), Pintzuk (1999), and Fischer et al. (2000) among others). A possible analysis of the distribution of pronominal subjects in Old English is that they move to [Spec, Top¹P] under probing by the edge feature on lower Top, procliticizing to finite verbs raised to Fin, as represented in (73).

- (73) $[_{\text{Top}^1\text{P}} \text{PP} [_{\text{Top}^1\text{P}} \text{DP} [_{\text{FinP}} [_{\text{Fin}'} \text{Vf} [_{\text{TP}} t_{\text{DP}} [_{\text{VP}} t_{\text{DP}} t_{\text{PP}}]]]]]]$
-

²⁹ Only indicative sentences with an unaccusative or unergative verb are counted in (71). See footnote 30 below for discussion of subjunctive or imperative sentences led by a locative PP.

Note that the analysis in (73) generates the word order of (72), circumventing successfully the freezing effect occurring in [Spec, TP] (see section 2.2); the pronominal subject DP moves from its base position to both [Spec, TP] and [Spec, Top¹P] simultaneously at the higher TopP phase, based on the idea of independent probing in section 2.2 of chapter 2. The analysis in (73) seems intuitively natural in that pronominal subjects, being typically interpreted as old information and hence a kind of a topic, undergo topicalization targeting [Spec, Top¹P] (see Nawata (2009) for this suggestion). The word order of (72), coupled with that of (70), indicates that the finite verb has moved as far as a functional head that is higher than TP and lower than lower TopP, namely Fin in the split CP system. This turns out to be desirable in that the LIC in Early English did obey the RAH in the sense understood in subsection 3.2.1, because the finite verb had distinct person and number agreement morphemes, as shown in (74).

- (74) a. To sume men cumeð ure louerd ihesu crist
to some men comes our lord Jesus Christ (CMTRINIT,27.340: M1)
‘Our lord Jesus Christ comes to some men’
- b. & bi þatt allterr stodenn a33 þatt follkess halizdomess
and by that altar stood always that folk’s relics
(CMORM,I,33.370: M1)
‘and the relics of that folk always stood by that altar’

In sum, this section has examined the details of V-movement in Early English topic-initial sentences including the LIC, along the lines of the RAH. It has been argued, relying on Nawata’s (2009) analysis of verb-second, that the finite verb moves obligatorily through T to Fin in order to accommodate all its inflectional morphemes distributed among

T, Fin, and Top via stepwise head movement and subsequent morphological merger, with the result that it is realized with only one appropriately inflected form. Then, it has been confirmed that the derivation of the LIC in Early English involves V-movement to Fin as well as topicalization targeting [Spec, TopP].

3.3. Quantitative Data of the LIC in Old and Middle English

I have investigated the distribution of the LIC in Old and Middle English, by collecting the relevant examples from YCOE and PPCME2. The result of this investigation is summarized in (75) with its graphed form in (76).³⁰

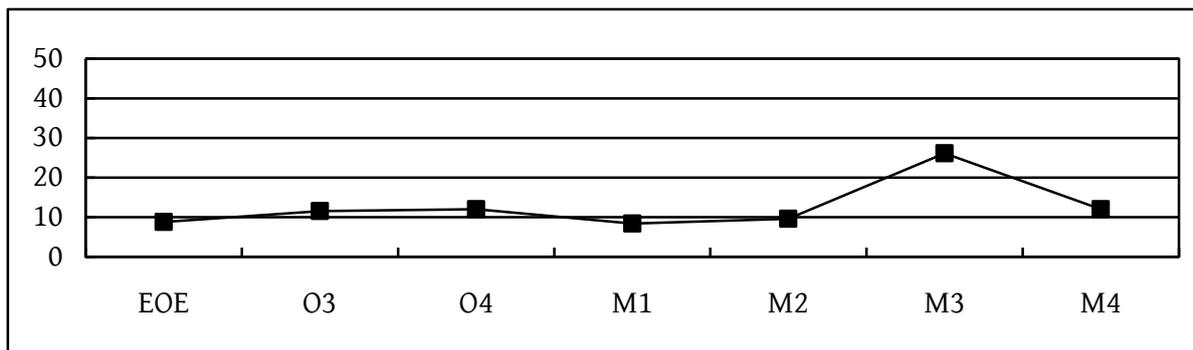
(75) The frequency of the locative inversion construction (per 100,000 words)

EOE	O3	O4	M1	M2	M3	M4
8.8	11.5	12.0	8.4	9.6	26.1	12.0

³⁰ The investigation in (75) excludes subjunctive or imperative sentences, because they invert the pronominal subject and the finite verb, as shown in (i). This indicates that these sentence types have a different syntactic structure in which the finite verb moves to a higher functional head than lower TopP hosting the pronominal subject. Therefore, this chapter confines the discussion to indicative locative-initial sentences where the moved finite verb ends up in Fin (see the discussion of (72) above).

- (i) a. oððon on earde forfaran hig mid ealle
 or in land die they with all (colaw2cn, LawIICn:4a.14: O3)
 'or they should die altogether in the land'
- b. ac to Fasiacen & Porre þæm cyninge eft gehworf þu
 but to Fasiacen and Porus the king again turn you
 (coalex, Alex:40.10.521: O3)
 'but turn back to Fasiacen and King Porus'

(76) The frequency of the locative inversion construction (per 100,000 words)



It can be seen that the LIC was already observed in the earliest period of English and it was attested with a certain frequency until the end of the Middle English period, without any interruption. Note that the high frequency in M3 is due to a certain author's special preference for the LIC; among the total of 105 examples in M3, 55 examples are from an unknown writer's *Mandeville's Travels*. Below are examples from each period.

(77) a. & on easthealfe & on suphealfe þæs landes liþ garsecg
 and on east-side and on south-side of-that land lies ocean
 (coorosiu,Or_1:1.11.20.164: EOE)

'and the ocean lies on the east side and the south side of that land'

b. betwux us & eow is gefæstnod micel þrosm
 between us and you is fixed great void
 (cocathom1,ÆCHom_I,_23:368.84.4596: O3)

'a great void is fixed between us and you'

c. On þisum þrim stelum stynt se cynestol
 on these three pillars stands the throne
 (colsigewZ, ÆLet_4_[SigewardZ]:1217.598: O4)

'The throne stands on these three pillars'

- (78) a. at tесе fif gaten fareð in deaðes writhe
 at these five gates comes in death's author (CMTRINIT,191.2649: M1)
 'the author of death (= the devil) comes in at these five gates'
- b. Ine þise zeue wordes is beloke alle heznesse and alle perfeccion
 in these seven sayings is included all highness and all perfection
 of grace and of uirtue of zoþe blyssedhede
 of grace and of virtue of true blissfulness (CMAYENBI,97.1888: M2)
 'All highness and all perfection of grace and of virtue of true blissfulness are
 included in these seven sayings'
- c. And in the cytee of Tyre regned Agenore the fader of Dydo
 and in the city of Tyre reigned Agenore the father of Dydo
 (CMMANDEV,18.433: M3)
 'And Agenore, the father of Dydo, reigned in the city of Tyre'
- d. And on the ryght syde sate the lady of Mercy
 and on the right side sat the lady of Mercy
 (CMGREGOR,174.1070: M4)
 'And the lady of Mercy sat on the right side'

Note that in (75) and (76), we collapse the data for the unaccusative LIC and the unergative LIC, without making a distinction between them. For one thing, the unergative LIC somehow occurred with much lower frequency than the unaccusative LIC in each period, and no quantitatively reliable results can be obtained by counting up the former separately from the latter. For example, there are no more than 4 examples of the unergative LIC found in O3, compared with 77 examples of the unaccusative LIC including those with a passive verb. For another, a number of Early English intransitive verbs were ambiguous

between unaccusatives and unergatives. For instance, *awacnian* has a range of meanings including *to awaken, arise, spring from, and vegetate*.³¹ On the other hand, it should be stressed that both types of LIC were already attested in the earliest period of English, as shown in (79). In other words, neither of them came into being at some point in the history of English for some reason.

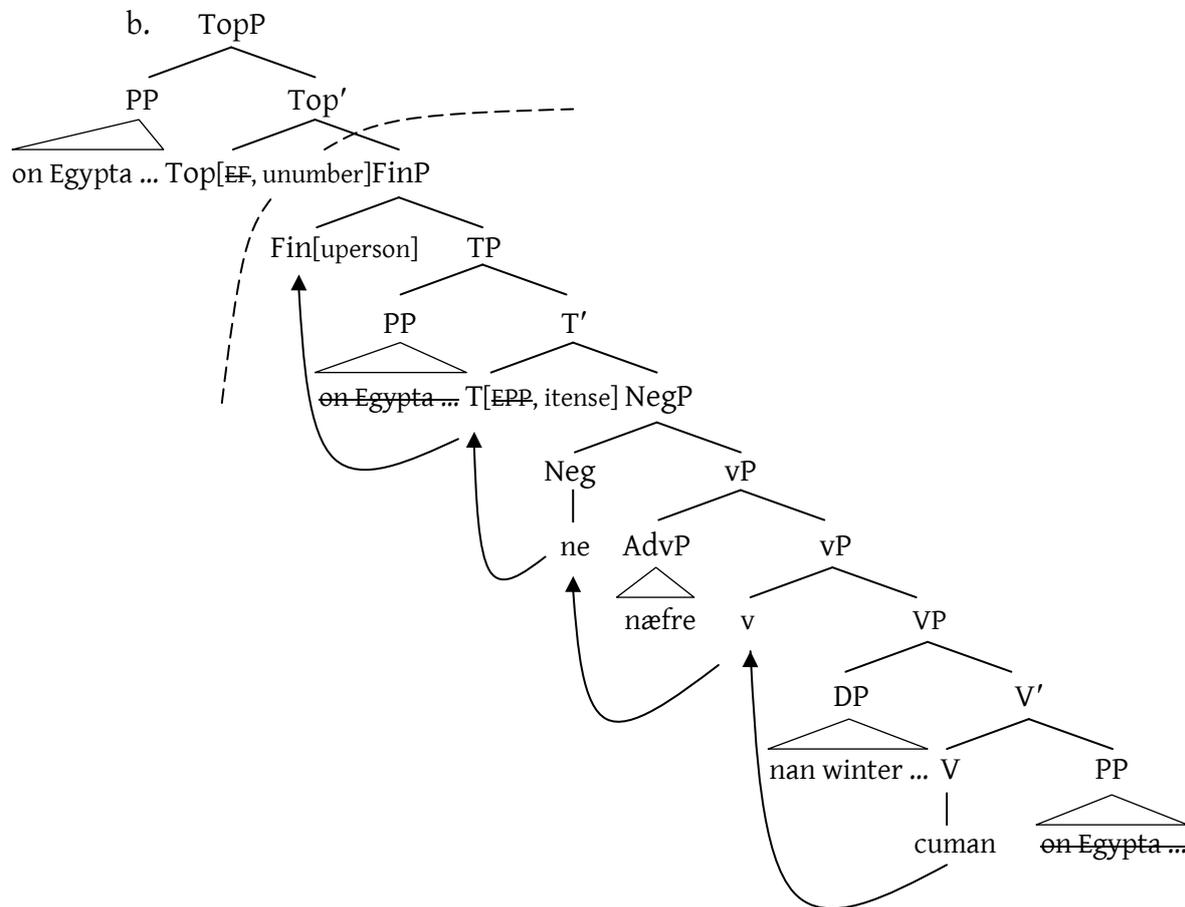
- (79) a. Of ðære eorðan cymeð ðæt fleax, ðæt bið hwites hiwes
 from that country comes the flax that is of-white color
 (cocura,CP:14.87.19.565: EOE)
 ‘The flax that is of white color comes from that country’
- b. On ðæm selfan hrægle, ðe he on his breostum wæg, wæs eac awriten
 on the same dress that he on his breast wore was also written
 ða naman ðara twelf heahfædera
 the names of-the twelve patriarchs (cocura,CP:13.77.15.512: EOE)
 ‘The names of the twelve patriarchs were also written on the same dress
 that he wore on his breast’
- c. On þysse dune ufanweardre bæd Sanctus Albanus fram Gode ...
 on this hill topmost prayed Saint Alban for God
 (cobede,Bede_1:7.38.30.323: EOE)
 ‘Saint Alban prayed on the top of this hill for God ...’

Before going into further details of the LICs in Early English, it should be noted that the whole path of their development cannot be neatly captured, just in terms of the standard

³¹ Putting aside such verbs, this chapter assumes with van Gelderen (2011) that Perlmutter’s (1978) unaccusative/unergative classification in Present-day English holds for Early English intransitives as well.

- (81) a. On Egypta lande ne cymð næfre nan winter, ne renscuras
 On Egypt's land not comes never no winter nor rain-showers

(cotempo,ÆTemp:4.53.185:03)



At the TopP phase, the uninterpretable person and number agreement features on Fin and Top are valued by the interpretable counterparts carried by the subject DP in [Spec, VP]. On the other hand, the locative PP moves from its base position to both [Spec, TP] and [Spec, TopP] simultaneously under independent probing by the EPP-feature on T and the edge feature on Top (but see the discussion of (84) below, which suggests the possibility that [Spec, TP] may be unoccupied). Then, V raises obligatorily through the intermediate heads to Fin so that it can properly accommodate the tense morpheme realized on T and the agreement morphemes realized on Fin and Top via head movement through T to Fin

and morphological merger of Top onto Fin. Finally, cyclic Transfer applies to the domain of Top, i.e. FinP and then to the remaining TopP, generating the verb-second sentence whose initial position is occupied by the locative PP.

The analysis in (81) is shown to be empirically adequate, based on the data from Early English. First, consider the structural position of the postverbal subject DP. A piece of evidence suggesting its realization within VP/vP is that it could appear between a passive participle and an adjunct phrase, as exemplified in (82).

- (82) On þyssere andwerdan gelaðunge sind gemengde yfele & gode swa swa
 on this present church are mingled evil and good just as
 clæne corn mid fulum coccele
 clean corn with unclean cockle (cocathom1,ÆCHom_I,_35:480.122.7002: O3)
 ‘Evil and good are mingled on this present church, just as clean corn (is mingled)
 with unclean cockle’

Given that the passive participle and the adjunct phrase occupy v and adjoin to the right side of VP/vP, respectively, the surface positioning of the subject DP between them in (82) indicates that it remains in [Spec, VP] as its base position, without undergoing any leftward or rightward movement across them. A similar conclusion is reached by a number of researchers who account for sentences with a postverbal subject DP attested elsewhere in Early English. In particular, van Kemanade (1997a) observes that overt raising of a nominative subject to [Spec, TP] was not obligatory in Early English sentences like (83) with a certain class of predicates including passive, unaccusative, and mutative verbs (see also Ohkado (1998), Tanaka (2002), and Warner (2007) for further examples). Note that the standard verb-second derivation cannot be assigned to (83) in which the postverbal subject

DP and the topicalized adjunct PP move to [Spec, TP] and [Spec, TopP], respectively, because TopP is unavailable in subordinate clauses that are not complements of assertive predicates (see the discussion of (69) above). Thus, it can be safely concluded that a subject DP could stay within VP/vP in Early English unaccusative sentences including the unaccusative LIC.

- (83) þonne ðurh gode bodunge aspringað clæne geðohtas on mode ðæra
 when through good preaching spring pure thoughts in mind of-the
 hlystendra
 listeners
 ‘when pure thoughts spring up in mind of the listeners through good preaching’
 (ÆCHom I, 362. 17-18 / cf. Ohkado (1998: 69))

Turning now to the sentence-initial locative PP, it is expected to exhibit subjecthood in addition to topichood as already mentioned in subsection 3.2.2. One piece of corroborative evidence is the fact that it could co-occur with a premodal. This is shown by the result of the investigation employing YCOE, PPCME2, and PPCME in (84), followed by one of the attested examples in (85). Note that a small number of the unaccusative LICs with a premodal in M3 and M4 are judged to be grammatical, because they were attested with the rate of more than 1% in these periods (without a premodal vs. with a premodal = 96.2 vs. 3.8 (M3), 95.8 vs. 3.2 (M4)).

- (84) The number of the unaccusative LIC with a premodal

EOE	O3	O4	M1	M2	M3	M4
0	0	0	0	0	4	2

- (85) for in this plate shollen ben perced alle the centris of this equatorie
 for in this plate shall be pierced all the center-points of this equatorie
 (CMEQUATO,18.15: M3)
 ‘for all the center points of this aquatorie shall be pierced in this plate’

In this connection, many researchers have traditionally assumed, relying on the work of Lightfoot (1979), that English modals were lexical verbs before the establishment of their status as a modal auxiliary around the 16th century, as is clear from the well-known fact that they could take direct object DP (see Lightfoot (1979: Ch. 2)). Among them, Roberts (1993) analyzes premodals taking verbal complements, especially unaccusative predicates, as a raising verb with defective TP complement (see also Roberts and Roussou (2003) and Biberauer and Roberts (2010)). Given this assumption, the same lines of reasoning as in the unaccusative LIC in Present-day English (see the discussion of (31) in chapter 2) lead us to conclude that the locative PP has undergone successive-cyclic A-movement through the embedded [Spec, TP] to the matrix [Spec, TP] in the derivation of (85). On the other hand, it should be noticed that the LIC with a premodal began to be attested in the Late Middle English period, as shown by the result in (84). A plausible hypothesis is that the sentence-initial locative PP did not establish its status as a syntactic subject until the 15th century. This ties in well with proposals made elsewhere. In particular, Tanaka (2002) claims, extending Alexiadou and Anagnostopoulou’s (1998) analysis of Present-day Greek and Spanish to Early English, that the EPP-feature on T can be satisfied by V-to-T movement of a finite verb with rich agreement morphemes, so that no element may occupy [Spec, TP] in Early English unaccusative sentences. Behind this analysis is the basic idea that rich verbal agreement morphemes behave like a pronominal clitic and hence have a D-feature to satisfy the EPP-feature. Accordingly, the EPP-feature on T is satisfied by obligatory raising

of a richly inflected finite verb through T to Fin (more strictly, via the resulting local head-head relation within the verbal complex in Fin), which renders A-movement of the locative PP to [Spec, TP] unnecessary, as represented in (86). This explains the absence of the LIC with a premodal in the Old English and Early Middle English periods, when v-to-T movement was still productive.³³

$$(86) \quad [{}_{\text{TopP}} \text{PP} [{}_{\text{FinP}} [{}_{\text{Fin}'} \text{V}+\text{v}+\text{T}_{[\text{EPP}]}+\text{Fin} [{}_{\text{TP}} \text{---} t_{\text{T}} [{}_{\text{vP}} t_{\text{v}} [{}_{\text{VP}} t_{\text{V}} t_{\text{PP}}]]]]]]]]$$

On the other hand, once the finite verb generally ceased to raise to T from the 15th century onward, as will be discussed later, the locative PP came to move obligatorily to [Spec, TP] in order to instead satisfy the EPP-feature on T, giving rise to sentences like (85) from Late Middle English onward. Crucially, the emergence of the unaccusative LIC with a premodal roughly coincides with the beginning of the decline of v^(*)-to-T movement (see Haeberli and Ihsane (2016) for the quantitative data showing that the decline of V-movement to T already started in the middle of the 15th century).

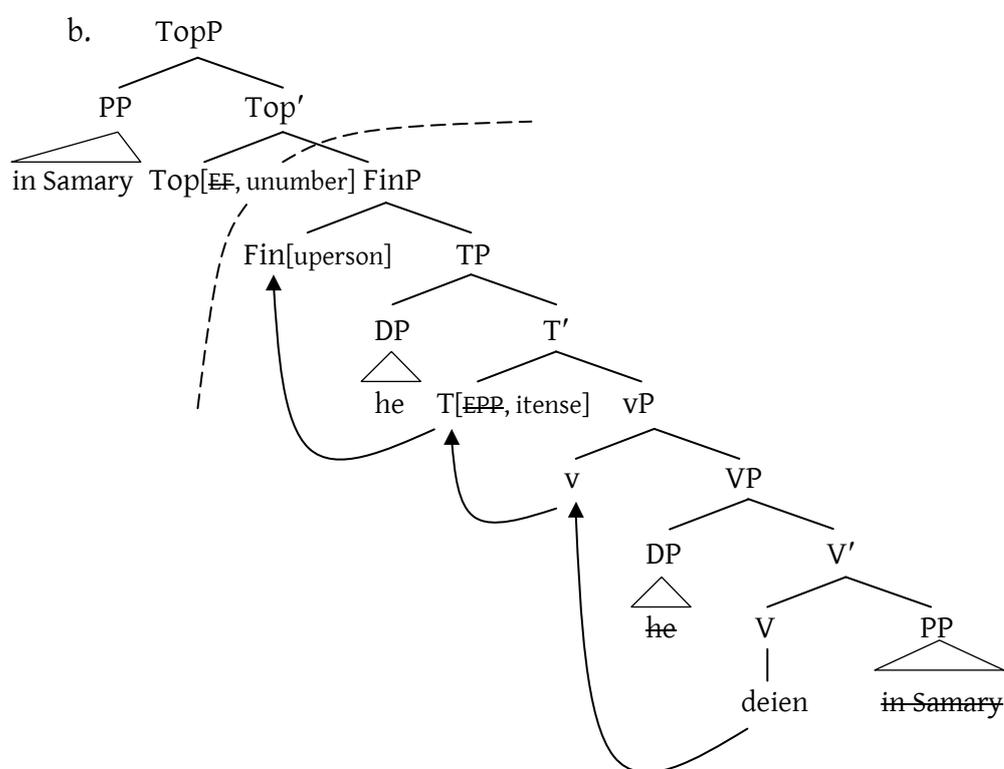
3.4.1.2. The Unaccusative LIC with a vP-external Subject DP

Given the discussion in section 3.2 that the finite verb raises obligatorily through T to Fin, this opens up the possibility that the derivation where the subject DP surfaces in [Spec,

³³ One might object that the derivation based on A-movement of the locative PP should be available from the earliest period of English onward, because it would lead to a convergent result, with the EPP-feature on T satisfied by the locative PP moving to [Spec, TP]. A key to responding to such an objection is the so-called Fox-Reinhart intuition regarding optionality, in terms of which optional operations are allowed only when they give rise to an interpretation that would not otherwise be available (see footnote 15 in chapter 2). Given that A-movement of the locative PP to [Spec, TP] has no interpretive effect, it is banned under the above condition. In contrast, A-movement of a subject DP to [Spec, TP] gives rise to an interpretation that it is understood as a presupposed topic element, unlike a VP/vP-internal subject DP as a focus element (see Diesing (1992), Saccon (1993), and Tanaka (2002)). Thus, a subject DP may raise to [Spec, TP] under probing by the EPP-feature on T, even when a richly inflected finite verb undergoes V-movement through T to Fin.

TP] can generate subject-verb inversion sentences led by a locative PP, along the lines of the standard analysis of topic-initial constructions. This is illustrated by the derivation of the unaccusative LIC in (87a), as shown in (87b).

- (87) a. In Samary deied he
 in Samaria died he (CMCAPCHR,34.71: M4)
 ‘He died in Samaria’



At the TopP phase, the subject DP is attracted to [Spec, TP] by the EPP-feature on T, while the locative PP is attracted to [Spec, TopP] by the edge feature on Top. On the other hand, the uninterpretable agreement features on Fin and Top are valued via their Agree relations with their interpretable counterparts on the subject DP, and they are morphologically realized on Fin and Top, respectively, while the interpretable tense feature is morphologically realized on T. This triggers V-movement through v and T to Fin and

morphological merger of Top onto Fin. Since all the uninterpretable features and the verbal inflectional morphemes have been valued and attached to V, respectively, the derivation converges. Finally, the domain of Top, i.e. FinP and the remaining TopP are sequentially transferred to the phonological and semantic components. Thus, the verb-second sentence with the locative PP in sentence-initial position is derived.

In (87b), the subject DP moves out of vP to [Spec, TP], so that it is realized in that structural position.³⁴ The availability of this sort of derivation is suggested by the fact that a pronominal subject DP could occur in postverbal position of Late Middle English sentences introduced by a locative PP. This is shown by the search result of YCOE and PPCME2 in (88) followed by one of the attested example in (89). Again, we judge the relevant examples attested in M3 and M4 to be grammatical, based on the assumption that the threshold of grammaticality is 1% (with a full DP subject vs. with a pronominal subject = 98.1 vs. 1.9 (M3), 95.8 vs. 4.2 (M4)).

(88) The number of the unaccusative LIC with a pronominal subject

EOE	O3	O4	M1	M2	M3	M4
0	0	0	0	0	2	2

³⁴ The subject DP raising to [Spec, TP] may be postposed via optional HNPS when it is a full DP taking some modifier. This is illustrated in (i), where the postverbal subject DP linearly follows the adverbial clause introduced by *ase*.

- (i) Ine þise zeue wordes byeþ besset ase ziggeþ þe halzen al þe summe of þe newe
 in these seven sayings is contained as says the saint all the sum of the new
 laze þet is þe laze of loue and of zuetnesse
 law that is the law of love and of sweetness (CMAYENBI,97.1891: M2)
 ‘All of the new law that is about love and sweetness is contained in these seven sayings, as
 the saint says’

Assuming with Pintzuk and Kroch (1989) that HNPS was already available in Early English, this word order can be generated via HNPS of the subject DP across the adverbial clause presumably adjoining to the right side of vP.

- (89) In hiȝe halle of hevene com he nevere ...
 in large house of heaven came he never (CMPOLYCH,VI,185.1324: M3)
 ‘He never came into a large house of heaven ...’

This thesis assumes, applying Diesing’s (1992) analysis of Present-day German and English to Early English, that a subject DP remaining within VP/vP is mapped onto the nuclear scope of the sentence, so that it is interpreted as a focus of the sentence. If this is correct, pronominal subjects, which typically denote old information, must escape the VP/vP domain within which they are base-generated in order to be defocused. This analysis is supported by the distribution of pronominal subjects with respect to vP-left-adjoined adverbs in (90), where all the relevant unaccusative sentences including those with a passive verb in YCOE, PPCME2, and PPCEME have been searched out. The vP-left-adjoined adverbs used in (90) consists of *næfre* ‘never’, *seldum* ‘seldom’, *oft* ‘often’, *alwey* ‘always’, and their morphological variants. The reason for targeting sentences with these adverbs is that their base position has remained relatively constant throughout the history of English; that is why some of them have been traditionally used as diagnostics marking the left edge of v^(*)P, especially in the context of V-movement to T (Kroch (1989), Vikner (1997), and Biberauer and Roberts (2010) among others).³⁵

³⁵ Early English main clauses with these adverbs in preverbal position as in (i) are excluded from the figures of (90), because they have arguably moved to the CP domain and therefore cannot be used as diagnostics for subject raising to [Spec, TP]. Early Modern English main clauses with them in initial position are also not included for the same reason.

- (i) Oft he fylp on fyr & gelomlice on wæter
 often he falls into fire and frequently into water (cowsgosp,Mt_[WSCp]:17.15.1148: O3)
 ‘He often falls into the fire or into the water’

It is plausible to assume that the absence of pronominal subjects following those diagnostic adverbs in Old English and Early Middle English is due to the fact that they moved obligatorily to [Spec, Top¹P] for cliticization rather than for defocalization. If this is the case, relevant for the present discussion will be the data in (90) from Late Middle English and Early Modern English, by which time pronominal subjects ceased to move to [Spec, Top¹P] because of the loss of their status as a clitic, as will be discussed in the text.

- (90) The number of pronominal subjects preceding or following vP-left-adjoined adverbs in unaccusative sentences

	EOE	O3	O4	M1	M2	M3	M4	E1	E2	E3
precede	29	30	16	29	3	35	40	28	48	51
follow	0	0	0	0	0	0	0	0	0	0
%pre/fol	100/0	100/0	100/0	100/0	100/0	100/0	100/0	100/0	100/0	100/0

Once again, judging patterns with a rate of less than 1% to be ungrammatical, we can conclude that pronominal subjects moved obligatorily out of VP/vP in unaccusative sentences. It is important to notice that they always preceded the diagnostic adverbs even after they lost their status as a clitic around the 14th century. This lends support to the present analysis, according to which it is impossible for pronominal subjects to stay within the VP/vP domain and appear after vP-left-adjoined adverbs, regardless of whether they retained or lost their status as a clitic. Moreover, it is impossible that the subject DP in (89) has moved rightward from [Spec, TP], because pronouns are resistant to rightward movement such as extraposition and HNPS, due to their informational status and phonologically light weight (cf. Pintzuk (1999), Koopman (2005), and Los (2015) among others). Thus, it can be safely concluded that the derivation with the subject DP surfacing in [Spec, TP] underlies the unaccusative LIC like (89).³⁶ On the other hand, it is worthwhile to note that it was in the Late Middle English period that the unaccusative LIC with a postverbal pronominal subject began to be attested; recall that pronominal subjects always

³⁶ One might wonder whether sentences like (89) should be called the LIC, because their postverbal subject DP does not have the discourse function of presentational focus, as in Present-day English (cf. Bolinger (1977)). However, as will be shown in section 3.5, the comparative examination of locative-initial sentences with a vP-internal subject like (81) and those with a vP-external subject like (87) facilitates an explicit understanding of the reason why the former show subject-verb inversion even after the general loss of verb-second, while the latter do not. Note that this is simply a matter of terminology. Readers who feel that it is a mistake to call them the LIC should feel free to substitute their own favorite term.

occurred in preverbal position in Old English locative-initial sentences, in order to procliticize to finite verbs (see the discussion of (72) above). This implies that they began to lose their status as a clitic around the 14th century (cf. van Kemenade (1987, 1997a) and Tanaka (2000)). A plausible analysis is that they ceased to move to [Spec, Top¹P] because of the loss of their clitic status, with the result of the emergence of the LIC with a pronominal subject DP, as shown in (91).

$$(91) \quad [_{\text{Top}^1\text{P}} \text{PP} [_{\text{Top}^1\text{P}} \text{---} [_{\text{FinP}} [_{\text{Fin}'} \text{Vf} [_{\text{TP}} \text{DP} [_{\text{V}^1\text{P}} t_{\text{DP}} t_{\text{PP}}]]]]]]]]$$

A desirable consequence of this analysis is the disappearance of lower Top from the clausal architecture of English. Since lower TopP was a position dedicated to hosting pronouns as clitics, it no longer needed to project in any derivation after the demise of their movement to [Spec, Top¹P] for cliticization.³⁷ This has led to the situation in Present-day English where lower Top is absent from the inventory of available functional categories (see Cowper and Hall (2013) for the suggestion that different stages of the same language may differ with respect to their repertory of functional categories).

3.4.2. The Derivations of the Unergative LIC

As mentioned in section 3.3, the unergative LIC was attested with much lower frequency,

³⁷ Some researchers including Nawata (2009) assume that lower TopP also accommodates full DP subjects especially in Early English subject-initial sentences. If this is the case, there must be an explanation of why their movement to [Spec, Top¹P] was lost. A possible account associates this with the decline of V-movement. Specifically, once V ceased to undergo T-to-Fin movement around the 14th century, as will be shown later, the movement of a subject DP to [Spec, Top¹P] had no effect on the resultant word order. Then, the general preference for a simpler structure (cf. Robert (2007: 233-235)) prompted language acquirers to reanalyze the subject-initial sentences previously derived via (ia) as (ib). Thus, lower TopP was no longer needed in the derivation of sentences with a full DP subject as well as those with a pronominal subject, with the result that it disappeared from the clausal architecture.

(i) a. $[_{\text{ForceP}} [_{\text{Top}^1\text{P}} \text{DP} [_{\text{FinP}} [_{\text{Fin}'} \text{Vf} [_{\text{TP}} t_{\text{DP}} [_{\text{V}^1\text{P}} \dots]]]]]]$
 b. $[_{\text{ForceP}} [_{\text{FinP}} [_{\text{TP}} \text{DP} [_{\text{T}'} \text{Vf} [_{\text{V}^1\text{P}} \dots]]]]]]$

and therefore we cannot base our discussion of its derivations on as enough quantitative data as we have presented for the unaccusative LIC in subsection 3.4.1. However, since this type of LIC can be found in a number of Early English texts written by different authors, as shown in (92), it seems reasonable to assume that it was established as a grammatical construction in the relevant periods. This subsection examines the derivations underlying the unergative LIC in Early English.

- (92) a. On ðære sæ swuncon Cristes leorningnihtas on nihtlicum rewetted
 on that sea toiled Christ's disciples on nightly rowing
 (cocathom2,ÆCHom_II,_28:224.89.4966: O3)
 'Christ's disciples toiled on a nightly rowing on that sea'
- b. And on Wiht gehergode Wulfhere Pending
 and on Wight harried Wulfhere Pending
 (cochronE,ChronE_[Plummer]:661.3.497: O4)
 'and Wulfhere Pending harried on the island of Wight'
- c. & in þat chapell syngen prestes yndyenes þat is to seye prestes of
 and in that chapel sing priests Indian that is to say priests of
 ynde
 India (CMMANDEV,52.1290: M3)
 'and Indian priests, that is to say, priests of India sing in that chapel'
- d. In Ynglond regned þis tyme Ethelthredus, þe broþir of Edward Martir
 in England reigned this time Ethelred the brother of Edward Martyr
 (CMCAPCHR,96.1961: M4)
 'Ethelred, the brother of Edward Martyr, reigned in England in this period'

3.4.2.1. The Unergative LIC with a v*P-external Subject DP

Given the fact in (93) that the finite unergative verb exhibited as rich agreement morphology as the finite unaccusative verb that we have seen in (74), it is natural to assume that it raises obligatorily through T to Fin, under the mechanism of V-movement underlying the RAH as elaborated in subsection 3.2.1.

- (93) a. and on him rixleð lichamliche wil; also eldrene man on his burh
and on it reigns carnal will as ealdor man on his borough
(CMTRINIT,55.751: M1)

‘and carnal will reigns in it (= the body) as an ealdorman over his borough’

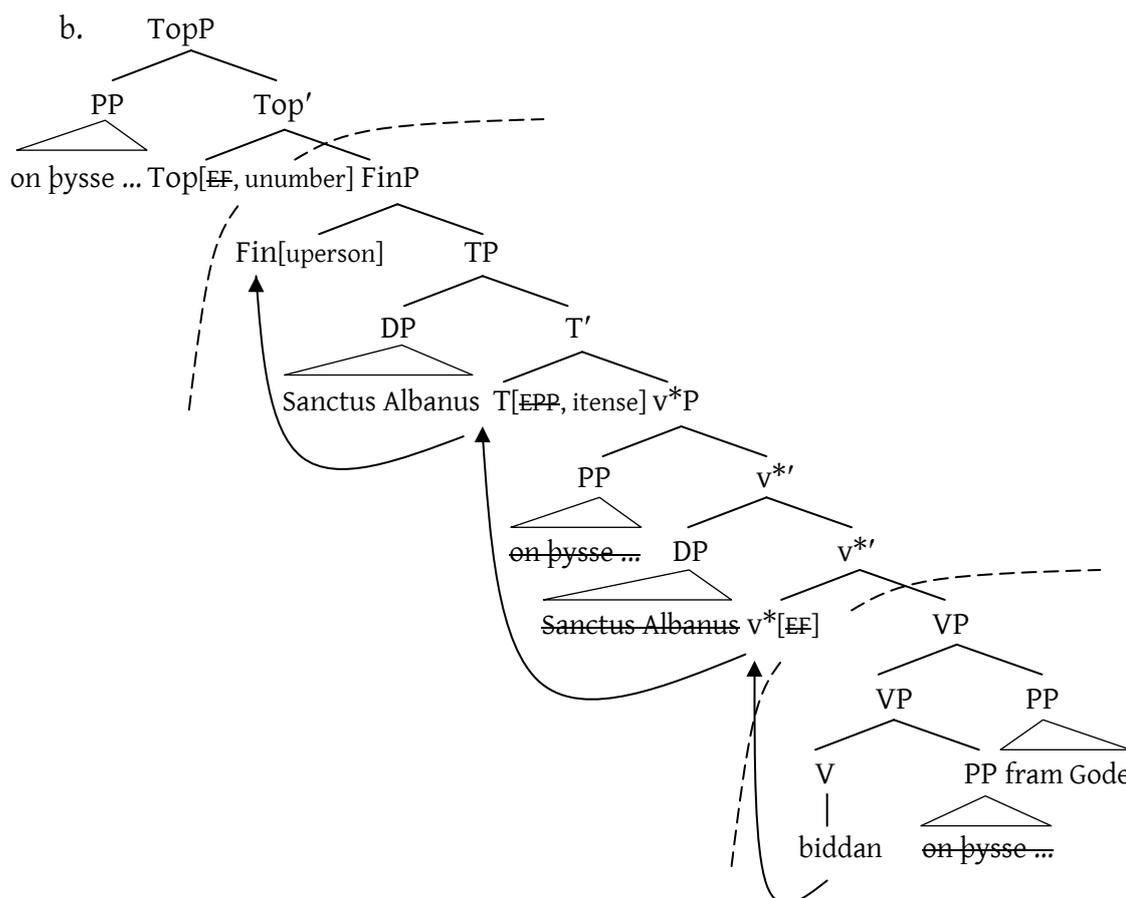
- b. & in þat chapell syngen prestes yndyenes þat is to seye prestes of
and in that chapel sing priests Indian that is to say priests of
ynde
India (CMMANDEV,52.1290: M3)

‘and Indian priests, that is to say, priests of India sing in that chapel’

Just as in the unaccusative LIC with a vP-external subject DP, this V-movement allows the subject DP occupying [Spec, TP] to be realized after the finite unergative verb. Along these lines of reasoning, this thesis claims that the unergative LIC in (94a) is generated by the derivation shown in (94b).

- (94) a. On þysse dune ufanweardre bæd Sanctus Albanus fram Gode ...
on this hill topmost prayed Saint Alban for God
(cobede,Bede_1:7.38.30.323: EOE)

‘Saint Alban prayed on the top of this hill for God ...’



At the v^*P phase, the locative PP is attracted to the outer [Spec, v^*P] by the edge feature on v^* , while V is raised to v^* . Once these operations have been applied, the domain of v^* , i.e. VP is sent off to the phonological and semantic components. At the TopP phase, the subject DP and the locative PP move to [Spec, TP] and [Spec, TopP] to satisfy the EPP-feature on T and the edge feature on Top, respectively. On the other hand, the uninterpretable person and number agreement features on Fin and Top enter into an Agree relation with the interpretable agreement features on the subject DP, by virtue of which their appropriate morphological forms are determined. Then, the verbal complex consisting of V and v^* raises obligatorily through T to Fin, so as not to strand the tense morpheme realized on T and the agreement morphemes realized on Fin and Top. Finally, the domain of Top, i.e. FinP and the remaining TopP are sequentially transferred to the phonological

and semantic components, thus yielding the subject-verb inversion sentence led by the locative PP.

It is important to point out that the subject DP must raise to [Spec, TP] in (94), since this is the only XP element to satisfy the EPP-feature on T in a legitimate way; if the locative PP moved from the outer [Spec, v*P] to [Spec, TP], the improper movement constraint would be violated, causing the derivation to crash (see subsection 2.4.1 for the same discussion of the unergative LIC in Present-day English).³⁸ The obligatoriness of A-movement of an external subject DP as argued here should be justified on empirical grounds. This thesis has investigated the distribution of full DP subjects with respect to v*P-left-adjoined adverbs in unergative sentences. The result of this investigation is summarized in (95), where the four adverbs of negation or frequency mentioned above are again used as diagnostic elements for subject raising to [Spec, TP] (see the discussion of (90) above).³⁹

³⁸ One might object, building upon the analysis by Alexiadou and Anagnostopoulou (1998) (see subsection 3.4.1.1), that V-movement of a finite unergative verb to T serves to satisfy the EPP-feature on T, because it carried as rich agreement morphemes as a finite unaccusative verb did. If this is the case, we need to postulate some other motivation for obligatory A-movement of a subject DP in unergative sentences. It has been claimed in a number of studies that the subject raising in question is motivated not only by a purely formal requirement by an EPP-feature but also by a semantic effect associated with it (Saccon (1993), Cardinaletti (1997), and Tanaka (2002)). Among them, Tanaka (2002) postulates a subject-of-predication feature on T (more strictly, v* which raises up to T), which feeds the semantic interpretation in which a raised DP in its specifier is understood as a subject of the predicate that is expressed by its complement v*(*)P. He goes on to suggest that this feature is obligatorily assigned to T in the derivations of unergative sentences as well as transitive sentences, while it is optionally assigned to T in the derivations of unaccusative sentences. This will account for the obligatoriness/optionality of A-movement of a subject DP in unergative/unaccusative sentences in Early English.

³⁹ Pronominal subjects are excluded from the figures of (95), because their impossibility of occurrence after the v*P-left-adjoined adverbs should be attributed to their special status as a clitic moving obligatorily to [Spec, Top¹P] (see the discussion of (72) and (73) above). Thus, in order to establish the obligatoriness of A-movement in question, we have to show that even full DP subjects cannot stay in [Spec, v*P] in unergative sentences. Note that sentences with the diagnostic adverbs preceding finite verbs are not included, because they have presumably moved to the CP domain and hence we cannot judge whether the subject DP following them to have raised to [Spec, TP] or remain in [Spec, v*P].

- (95) The number of full DP subjects preceding or following v*P-left-adjoined adverbs in unergative sentences

	EOE	O3	O4	M1	M2	M3	M4
precede	8	31	14	7	4	30	15
follow	0	1	0	0	0	0	0
%pre/fol	100/0	96.9/3.1	100/0	100/0	100/0	100/0	100/0

Only in the *ne*-initial sentence in (96a) could the subject DP follow the diagnostic adverbs in unergative sentences. What we want to stress here is that this does not necessarily undermine the above claim that an external subject DP moves obligatorily to [Spec, TP]. Van Kemenade (2011) suggests that the negator *not* in V-to-T-to-C movement contexts could be merged in a higher position than [Spec, TP]. Then, it seems natural to assume that the same holds for the negative adverb *næfre*, as shown in (96b) (see Frisch (1997) for a similar analysis of *næfre* as a sentence adverb base-generated within the IP/TP domain; see also chapter 5 for more detailed discussion of the *ne*-initial construction). Note that even when *næfre* adjoins to the left side of TP, a subject DP preceding it can still be judged to have moved from [Spec, v*P].

- (96) a. *ne spræc næfre nan man swa þes man sprycþ*
 not spoke never no man as this man speaks

(cowsgosp,Jn_[WSCp]:7.46.6351: O3)

‘no man ever spoke like this man’

- b. $[_{\text{FocP}} \text{ne} [_{\text{Foc}'} \text{spræc} [_{\text{FinP}} t_{\text{Fin}} [_{\text{TP}} \text{næfre} [_{\text{TP}} \text{nan man } t_{\text{T}} [_{\text{v}^*\text{P}} t_{\text{nan man}} t_{\text{spræc+v}^*} \dots]]]]]]]]$

If this analysis is correct, it can reconcile the existence of the example in (96a) with the

above claim that an external subject DP must evacuate [Spec, v*P] as its base position. Thus, we can safely conclude that a subject DP raises obligatorily to [Spec, TP] in Early English unergative sentences.

Paying attention to the string length of the postverbal subject DP, it did not require modifiers that make it the longest constituent within the sentence, as in Present-day English (see subsection 2.4.2 of chapter 2; see also the next subsection for detailed discussion of measures of grammatical weight that are available for our analysis of the extant Early English texts). This is exemplified in (97), where the postverbal subject DP involves no modifiers except obligatory determiners including definite/indefinite articles and possessive pronouns.

- (97) a. And vpon þat Roche preched oure lord often tyme to the peple
and upon that rock preached our lord often time to the people
(CMMANDEV,57.1396: M3)
'And our lord often preached to the people on that rock'
- b. In þat see rowed oure lord often tyme
in that sea rowed our lord often time (CMMANDEV,78.1965: M3)
'Our lord often rowed on that sea'

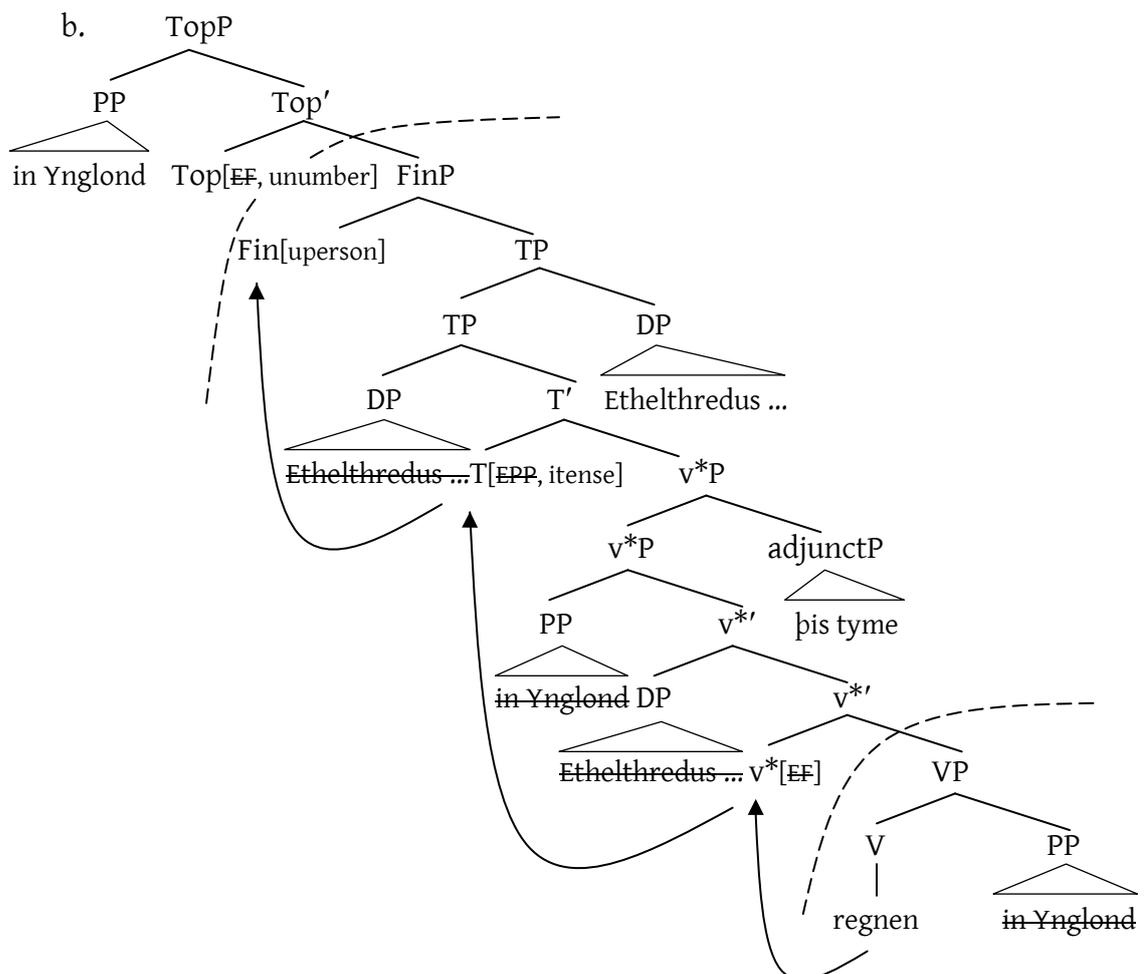
This is the fact that we expect if the finite unergative verb raises obligatorily as far as Fin, according to the present analysis; the verb raising to Fin enables the raised subject DP to surface in postverbal position, even without undergoing HNPS. That the subject DP stays in [Spec, TP] without moving rightward in (97) is suggested by the fact that it linearly precedes the v*P-internal materials *often time* and *to the peple*; if it were postposed via HNPS, it would appear in sentence-final position.

3.4.2.2. The Unergative LIC with a Rightward-moved Subject DP

This thesis argues that the unergative LIC with a rightward-moved subject DP has the same syntactic structure as that of its Present-day English counterpart, except that the finite verb raises obligatorily through T to Fin, along the lines of the RAH in the sense understood in subsection 3.2.1. For example, the unergative LIC in (98a) is derived from the structure shown in (98b).

- (98) a. In Ynglond regned þis tyme Ethelthredus, þe broþir of Edward Martir
 in England reigned this time Ethelred the brother of Edward Martyr
 (CMCAPCHR,96.1961: M4)

‘Ethelred, the brother of Edward Martyr, reigned in England in this period’



At the v^*P phase, the locative PP moves to the outer [Spec, v^*P] under probing by the edge feature on v^* . After all the syntactic operations including verb raising to v^* within the v^*P phase are completed, cyclic Transfer applies to the domain of v^* , i.e. VP. At the TopP phase, the subject DP raises to [Spec, TP] under probing by the EPP-feature on T and then undergoes HNPS to adjoin to the right side of TP, with the result of its realization in sentence-final position. On the other hand, the locative PP further moves to [Spec, TopP] under probing by the edge feature on Top. The uninterpretable person and number agreement features on Fin and Top are valued via their Agree relations with their interpretable counterparts on the subject DP. They are morphologically realized on Fin and Top, respectively, while the interpretable tense feature is morphologically realized on T. This triggers obligatory v^* -to-T-to-Fin movement and morphological merger of Top onto Fin. Since all the uninterpretable features and the verbal inflectional morphemes have now been valued and attached to V, respectively, the derivation converges. Finally, cyclic Transfer applies to the domain of Top, i.e. FinP and then to the remaining TopP, thus deriving the locative-initial sentence whose subject DP is postposed to sentence-final position.

Let us examine in more detail the nature of rightward movement of the subject DP in (98). Pintzuk and Kroch (1989) claim, based on the empirical data from *Beowulf*, that there were at least two kinds of rightward movement already attested in the earliest period of English: one is HNPS and the other is extraposition. According to them, these are defined as the postposing process of NP/DP and PP, respectively. Therefore, it is reasonable to assume that the rightward displacement of a subject DP in question is HNPS, which is attested elsewhere in Early English as well as Present-day English. If this is the case, it is expected that the postposed subject DP must be heavy in the sense of HNPS. Indeed, Warner (2007) proves that grammatical weight was operative in the surface positioning of a

subject DP with respect to the other constituents within an Early English sentence. He goes on to establish that the heavier a subject DP was, the more frequently it was postposed to sentence-final position, in line with what Quirk et al. (1972) dub the principle of end weight, i.e. the general tendency to reserve sentence-final position for more complex parts of a sentence. Then, important for the present discussion is in terms of what the grammatical weight of each constituent can be measured. Chapter 2 has assumed with Culicover and Levine (2001) that the applicability of HNPS to a given nominal is conditioned by the presence of phonological stress or some modifiers with it. However, it seems impossible to reliably reconstruct phonological properties in the extant Early English texts except in a number of poetic texts with particular metrical patterns such as *Beowulf* (cf. Pintzuk and Kroch (1989)). Therefore, what remains available for the present purpose is the presence/absence of modification, more strictly the relative constituent length depending on it. Of course, it might be the case that other factors such as information status played some role in the ordering of constituents within a sentence (cf. Roberts (1997a: 412)). However, the discourse-new status is not a sufficient condition for HNPS, as mentioned in chapter 2 (see footnote 20 in chapter 2; see also Akasaka and Tateishi (2001)). Thus, this chapter will adopt the number of words as a proxy for grammatical weight, which is the common ground shared by Warner (2007), Walkden (2014), and Taylor and Pintzuk (2015). We will only count open-class words, while excluding articles, demonstratives, and possessive pronouns; if all words were included in the count, definite DP would be unfairly judged to be heavier than indefinite DP, simply due to the fact that Early English often drops indefinite articles (cf. Taylor and Pintzuk (2015)). With this in mind, let us consider the grammatical weight of the postposed subject DP of the unergative LIC as repeated in (99).

- (99) In Ynglond regned þis tyme Ethelthredus, þe broþir of Edward Martir
 in England reigned this time Ethelred the brother of Edward Martyr
 (CMCAPCHR,96.1961: M4)
 ‘Ethelred, the brother of Edward Martyr, reigned in England in this period’

We can clearly understand that the sentence-final subject DP is longer and hence heavier than any other constituent within the sentence. This fact follows naturally from the nature of HNPS under the present analysis, according to which the subject DP has undergone HNPS to be postposed to sentence-final position.⁴⁰

In sum, it has been proposed that the unaccusative and unergative LICs have a number of derivations in Early English which differ with respect to the syntactic position where the subject DP is realized. Then, it has been shown that the proposed derivations are justified

⁴⁰ (99) is the only attested example of the unergative LIC with a subject DP which moves rightward across the VP/v*P-internal materials. One might feel it difficult to conclude that the postposed subject was restricted to heavy NP/DP in the sense of HNPS, based only on the existence of this example. However, the postposing process of an external subject DP was also attested in other texts, as shown in (i). Crucially, the sentence-final subject DP can be judged to be the heaviest constituent within the sentence.

- (i) Æfter Agustini fligde in biscophade Laurentius, þone he forðon
 after Augustine pursued in bishopric Lawrence whom he for-this-reason
 bi him lifigendum gehalgode ...
 in him living consecrated (cobede,Bede_2:4.106.17.1001: EOE)
 ‘Lawrence, whom he (=Augustine) had consecrated for this reason while he was alive,
 succeeded Augustine as bishop.

The same restriction holds for almost all of the attested examples of the unaccusative LIC with a rightward-moved subject DP (see footnote 34 for relevant discussion). Thus, it can be safely concluded that the rightward movement in question was HNPS. On the other hand, van Kemenade (1987: 41) suggests the possibility that the phenomenon of rightward movement (in her terms, extraposition) started off as the postposing of heavy constituents and was extended later to include light constituents. However, if light NP shift were implemented as an available option in Early English, the theoretical issue would remain as to why it is no longer available in Present-day English, as is clear from the ungrammaticality of (iib). Note that this ungrammaticality is not due to the absence of focushood with the postposed light NP, since it serves an answer to the *wh*-question.

- (ii) Speaker A: What did you give to your son?
 Speaker B: a. I gave books to my son.
 b. *I gave to my son books. (Akasaka and Tateishi (2001: 27))

This chapter assumes, following Pintzuk and Kroch (1989), that the postposing of NP/DP in Early English is analyzed as HNPS, which has undoubtedly survived into Present-day English.

by some empirical facts including the rise of the postverbal pronominal subject, the distribution of the subject DP with respect to certain adverbs, and the grammatical weight of the postverbal subject, which have not heretofore been discussed in the literature on the development of the LIC (see section 3.6 for a critical review of the previous study).

3.5. The Decline of Verb Movement from Late Middle English onward

This section is devoted to examining how the loss of relatively rich verbal agreement morphology triggered the loss of V-movement to higher functional heads than $v^{(*)}$, following up the analysis of the RAH in terms of the agreement features assigned to distinct functional heads. Then, it is shown that the decline of V-movement had a number of empirical consequences for diachronic changes of the unaccusative and unergative LICs.

3.5.1. The Demise of T-to-Fin Movement

It has been observed in the literature that verbal agreement morphology underwent gradual leveling from Late Middle English onward (Fischer et al. (2000), Lass (2006), and Nawata (2009) among many others). The typical verbal inflectional paradigm around the 15th century is shown in (100), with the relevant correspondence rules summarized as (101).

(100) Verbal inflectional paradigm in Late Middle English

	present		past	
	singular	plural	singular	plural
1	-e	-e	-de	-de
2	-st	-e	-dst	-de
3	-th	-e	-de	-de

(Nawata (2009: 272))

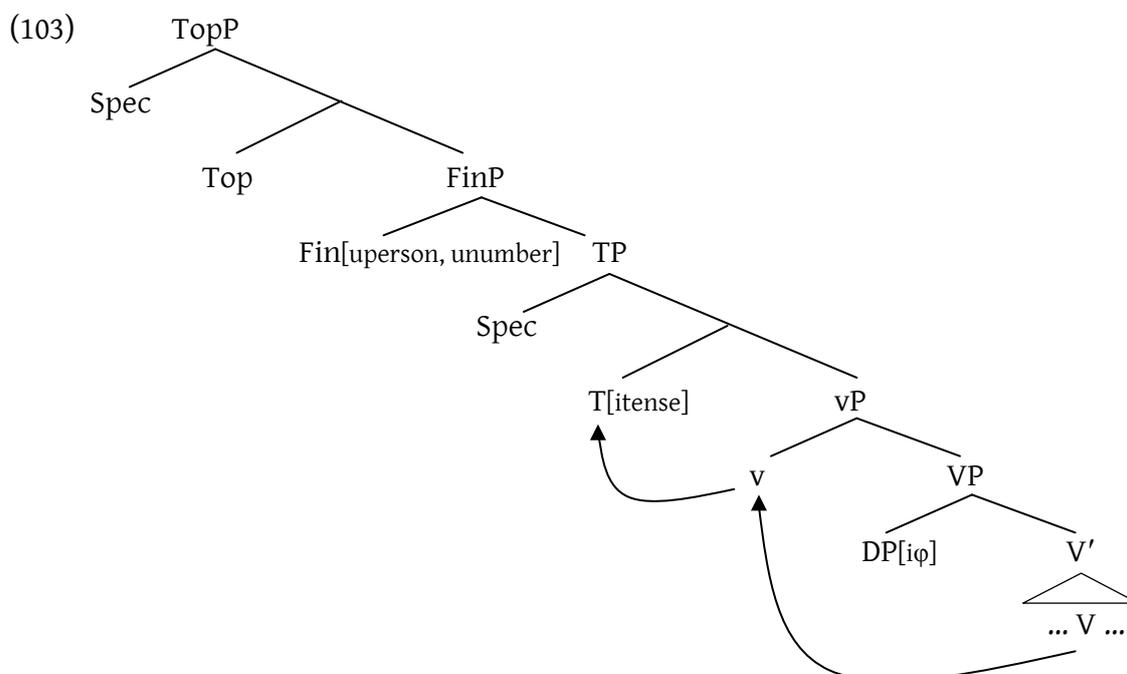
- (101) a. /-∅/ ↔ [present]
 b. /-d/ ↔ [past]
 c. /-e/ ↔ [1st person]
 d. /-st/ ↔ [2nd person]
 e. /-th/ ↔ [3rd person]/[present]
 f. /-e/ ↔ [3rd person]/[past]
 g. /-e/ ↔ [plural] (cf. Nawata (2009: 272))

We can see that the plural agreement morpheme *-en* declined to its reduced form *-e*. As a result, it is no longer a morpheme that exclusively expresses plural agreement, in that the same form *-e* is realized in the case of singular agreement (for example, in the case of [present/past, 1st person, singular] or [past, 3rd person, singular]). Then, it is reasonable to assume with Nawata (2009) that the relevant correspondence rules should be simplified as (102), where *-st* and *-th* are the agreement morphemes specified for [present/past, 2nd person, singular] and [present, 3rd person, singular], respectively, while *-e* is the agreement morpheme specified for the other cases.

- (102) a. /-∅/ ↔ [present]
 b. /-d/ ↔ [past]
 c. /-st/ ↔ [2nd person, singular]
 d. /-th/ ↔ [3rd person, singular]/[present]
 e. /-e/ ↔ elsewhere (cf. Nawata (2009: 273))

It is important to notice that the number agreement feature is never morphologically realized independently of the person agreement feature as well as the tense feature. Rather, the number and person agreement features are always realized as a single morpheme together. In particular, the singular agreement feature is realized as *-e*, *-st*, or *-th* (present tense)/*-e* (past tense) in combination with the 1st, 2nd, or 3rd person agreement feature, respectively. Similarly, the plural agreement feature, coupled with the 1st, 2nd, or 3rd person agreement feature, is realized as *-e*. That being so, it is natural to assume that the person and number agreement features were allocated to the same functional head after they came to be realized as a single morpheme with the loss of the distinctive plural morpheme *-en* from the 14th to the 16th century (cf. Lass (2006)). On the other hand, it is important to stress that the 2nd person singular agreement morpheme *-st* is still distinct from the tense morpheme, because it occurs regardless of whether the value of the tense feature is present or past (see the verbal inflectional paradigm in (100)). Again, given that only one verbal inflectional morpheme can be realized on a single functional head (see the discussion of (66) and (67) above), this suggests that these agreement features must be located on a distinct functional head from T. All these considerations lead us to conclude that the uninterpretable person and number agreement features are assigned to a single functional head just above T realizing the interpretable

tense feature, namely Fin.⁴¹ This is shown in (103), with the case of topic-initial unaccusative sentences in the relevant period. Note that topicalization to [Spec, TopP] and subject raising to [Spec, TP] are omitted here for ease of exposition.



At the TopP phase, the uninterpretable agreement features on Fin enter into an Agree relation with the interpretable agreement features borne by the subject DP. They are realized on Fin as a single agreement morpheme, while the interpretable tense feature is realized on T as the tense morpheme. Then, V raises obligatorily through v to T, picking up the tense morpheme on T. Now, given that morphological merger preempts head movement, V, which has now reached T, accommodates the agreement morpheme on Fin

⁴¹ One might wonder whether the person and number agreement features could be allocated to Top, as shown in (i), in which case we could explain as successfully as in (103) the fact about (100) that the past tense morpheme *-d* is followed by the agreement morphemes *-e* or *-st*, but not vice versa. This thesis assumes, based on the general preference for a simpler structure (cf. Roberts (2007: 233-235)), that the derivation in (i) is blocked by the alternative in (103), which is simpler in that it dispenses with V-movement from T to Fin.

(i) [_{TopP} Top[uperson, unnumber] [_{FinP} Fin [_{TP} DP_{subj} T[itense] ...]]]

via morphological merger of Fin onto T under structural adjacency.

It is worth noting that once the number agreement feature comes to be assigned to Fin together with the person agreement feature, verb raising from T to Fin and morphological merger of Top onto Fin are no longer necessary for the derivation to converge. Therefore, those operations are blocked under the principle of last resort (cf. Chomsky (1995b)), according to which an operation may apply only if the derivation would otherwise crash. Thus, once the number agreement feature lost its own morphological realization from the 14th to the 16th century, the finite main verb ceased to raise to Fin (see Nawata (2009) for the statistical data showing the relationship between the availability of T-to-Fin movement and the presence of the plural agreement morpheme *-en*).

The loss of verb raising to Fin had a number of important empirical consequences for the LICs in the relevant period. To better understand this, let us consider in order the three types of derivation as summarized below with their syntactic structures immediately after the loss of T-to-Fin movement.

- (104) a. The unaccusative/unergative LIC with a $v^{(*)}P$ -external subject DP

$$[_{\text{TopP}} \text{PP} [_{\text{FinP}} [_{\text{TP}} \text{DP Vf} [_{v^{(*)}P} \dots]]]]$$
- b. The unaccusative LIC with a vP -internal subject DP

$$[_{\text{TopP}} \text{PP} [_{\text{FinP}} [_{\text{TP}} t_{\text{PP}} \text{Vf} [_{vP} [_{vP} \dots \text{DP} \dots]]]]]]$$
- c. The unaccusative/unergative LIC with a rightward-moved subject DP

$$[_{\text{TopP}} \text{PP} [_{\text{TP}} [_{\text{TP}} t_{\text{DP}} \text{Vf} [_{v^{(*)}P} \dots]]] \text{DP}]]$$

Casting a spotlight on (104a), it can no longer generate subject-verb inversion word order. In this connection, it is worthwhile to recall that a pronominal subject raising to [Spec, TP] could occur in postverbal position in this type of derivation by virtue of V-movement across

it during the Late Middle English period (see section 3.4.1.2). However, as far as we can tell, (105) is the last example of the LIC with a postverbal pronominal subject, and such examples are not found thereafter.

- (105) In Samary deied he
in Samaria died he (CMCAPCHR,34.71: M4)
‘He died in Samaria’

On the other hand, pronominal subjects were productively attested in preverbal position in Early Modern English sentences led by a locative PP, as shown by the result of the investigation on the basis of PPCME2 and PPCME in (106), with one of the attested examples in (107). These facts can be easily explained if we assume that the finite verb did not undergo V-movement to Fin across the pronominal subject in [Spec, TP] in topic-initial constructions from Early Modern English onward.

- (106) The number of preverbal or postverbal pronominal subjects in locative-initial unaccusative/unergative constructions

	M1	M2	M3	M4	E1	E2	E3
Preverbal	20	3	13	8	48	36	30
Postverbal	0	0	2	2	0	0	0
%Pre/Post	100/0	100/0	86.7/13.3	80/20	100/0	100/0	100/0

- (107) and into the land of Canaan they came (AUTHOLD-E2-H,12,1G.581: E2)
‘and they came into the land of Canaan’

Thus, it can be safely concluded that the derivation with the subject DP surfacing in [Spec, TP] came to generate non-inverted sentences after the loss of verb raising to Fin (see Speyer (2010: 65) for the quantitative data showing that subject-verb inversion in sentences with a topicalized PP declined from Late Middle English onward, which roughly coincides with the corrosion of V-movement to Fin as argued here). The same conclusion is justified by the fact of Present-day English that pronominal subjects can no longer occur in postverbal position (except in their deictic use), as is clear from the ungrammaticality of (108). Since the postverbal pronominal subject DP stays within VP/vP, this derivation is excluded under the mapping hypothesis of the kind as argued by Diesing (1992) (see the discussion of (89) above), thereby explaining the ungrammaticality of this sentence.

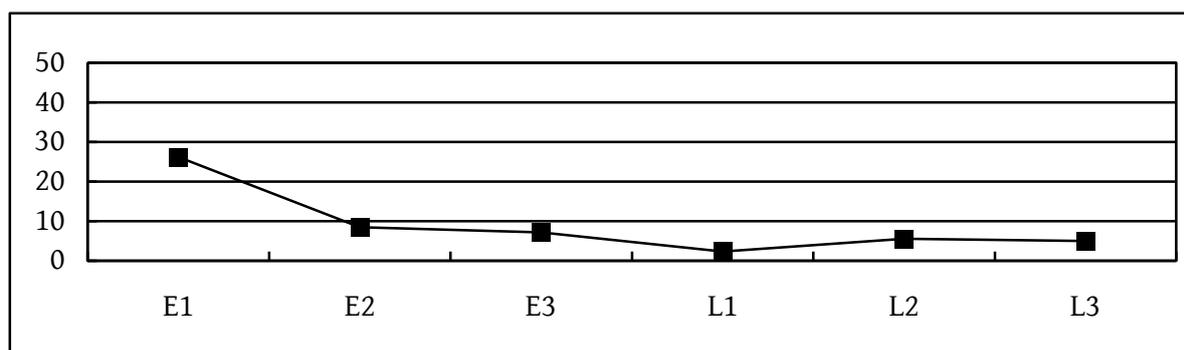
(108) *Rose_i? Among the guests of honor was sitting she_i/her_i. (Bresnan (1994: 86))

Turning to (104b) and (104c), they can still generate subject-verb inversion word order, even after the loss of T-to-Fin movement as well as $v^{(*)}$ -to-T movement (see the next subsection for the exact mechanism by which the loss of the 2nd person singular agreement morpheme *-st* triggered the loss of $v^{(*)}$ -to-T movement). Importantly, this gives a simple explanation of the puzzling fact that the LIC is still available as a main verb inversion construction even after the general loss of verb-second, i.e. V-movement through T to Fin; these derivations can generate the word order of the LIC without resorting to V-movement to Fin as well as T and they have been available up to the present. In fact, the LIC still continued to be attested from Early Modern English onward. This is shown by the data in (109) from PPCEME and PPCMBE, which is in turn graphed in (110).

(109) The frequency of the locative inversion construction (per 100, 000 words)

E1	E2	E3	L1	L2	L3
26.2	8.5	7.2	2.3	5.6	5.0

(110) The frequency of the locative inversion construction (per 100, 000 words)



It can be seen that the LIC is found with a certain frequency even in the Late Modern English period, by which time V-movement to Fin is assumed to have been lost completely. Among the total of 48 examples attested in E1, 25 examples are from Vicary's *The Anatomie of the Bodie of Man* or Torkington's *Ye Oldest Diarie of Englysshe Travel*, which suggests certain authors' special preference for the LIC, leading to their higher frequency than is expected. It is worth noting that the LIC occurred less frequently in Modern English than in Early English (compare with the figures of (75) above). This could be attributed to the fact that the derivation in (104a) ceased to generate subject-verb inversion sentences from the 14th century onward, under the assumption that the frequencies of the remaining two types of derivation have remained constant throughout the history of English (see Speyer (2010: 59) for the empirical data showing that the rate of PP topicalization stays stable and does not show any decline in the history of English). Below are examples from each period.

- (111) a. At the west ende of this tounlet rennith Loden a praty ryver
 (LELAND-E1-P2,109.121: E1)
 ‘Loddon, a beautiful river, runs at the west end of this town’
- b. In this circle are set downe the foure quarters of the world, as East, West,
 North and South
 (BLUNDEV-E2-H,154V_misnumbered_as_151V.142: E2)
 ‘The four quarters of the world are set down in this circle as East, West,
 North, and South ...’
- c. At St. James's church preached Dr. Burnet (EVELYN-E3-H,901.125: E3)
 ‘Dr. Burnet preached at St. James’s church’
- (112) a. Over this (= my shoes of white kid leather) hangs my smock, of a fine white
 silk gauze, edged with embroidery (MONTAGU-1718,119.481: L1)
- b. On each side of this central mass are deposited huge folia of granite
 (RUSKIN-1835,1,15.393: L2)
- c. From this union arose a mixed race, which the Portuguese firmly
 perpetuated (READE-1863,227.671: L3)

A closer examination of the found examples reveals that the unaccusative LIC sometimes contains a relatively light subject DP, as shown in (113a), while the unergative LIC almost always involves a relatively heavy subject DP, as shown in (113b). To be more specific, 30 examples among the total 103 unaccusative LICs attested in the Modern English periods have a full DP subject consisting of three words or less, while 4 examples among the total 7 unergative LICs found in the same periods possess a full DP subject that is the longest and

hence heaviest constituent within each sentence.⁴²

- (113) a. and in the yle callyd Shefelaria Dwellyd Hercules
(TORKINGT-E1-H,61.368: E1)
 ‘and Hercules dwelled in the isle called Shefelaria
- b. and at the end of the tabull dynyd my lade Elisabeth and my lade Anne of
 Cleyff (MACHYN-E1-H,46.177: E1)
 ‘and my lady Elisabeth and my lady Anne of Cleves dined at the end of the
 table’

This contrast immediately follows from the present analysis; from Early Modern English onward, the derivation without HNPS as well as the one with it has been available to generate the surface form of the unaccusative LIC, whereas the derivation with HNPS has been the only way to generate the surface form of the unergative LIC. This fits in with Culicover and Levine’s (2001) observation of Present-day English that the unaccusative LIC tolerates relatively light subjects as well as heavy subjects, while the unergative LIC requires heavy subjects in the sense of HNPS, as is clearly shown by the contrast between the unaccusative LIC in (114a, b) and the unergative LIC in (114c, d).

⁴² Only Evelyn’s *Dairy of John Evelyn* in (i) still shows a substantial number of the unergative LICs with a light subject DP in the 17th century.

- (i) At St. Martines preached Dr. Tenison (EVELYN-E3-H,904.183: E3)
 ‘Dr.Tenison preached at St. Martine’s (church)’

However, it seems reasonable to assume that examples like (i) were relics of the earlier grammar with verb raising to Fin, because this text exhibits archaic verb-initial constructions like (ii), in which the finite verb has moved across the external subject DP reaching [Spec, TP] and raised as far as Fin.

- (ii) Preached Dr. Hutchins on his former Text (EVELYN-E3-P2,885.190: E3)
 ‘Dr. Hutchins preached on his former text’

- (114) a. To the platform came a train.
 b. Near the oasis lay, without talking, two sheiks with long hair.
 c. ?*In the room slept fitfully students.
 d. On the stage danced the girl who played Joan of Arc in the school festival.

The next subsection demonstrates how further leveling of verbal inflectional endings caused the loss of $v^{(*)}$ -to-T movement, with the aim of providing the overall picture for the decline of V-movement in the history of English.

3.5.2. The Demise of $v^{(*)}$ -to-T Movement

Verbal agreement morphology underwent further leveling from Early Modern English onward (cf. Görlach (1991), Vikner (1997), and Roberts (2007) among many others). In particular, the use of the 2nd person singular agreement morpheme *-st* began to decline around the 15th century and it was almost completely lost by the end of the 17th century (cf. Görlach (1991)). (115) shows the typical verbal inflectional paradigm around the 16th century, while (116) represents the relevant correspondence rules.

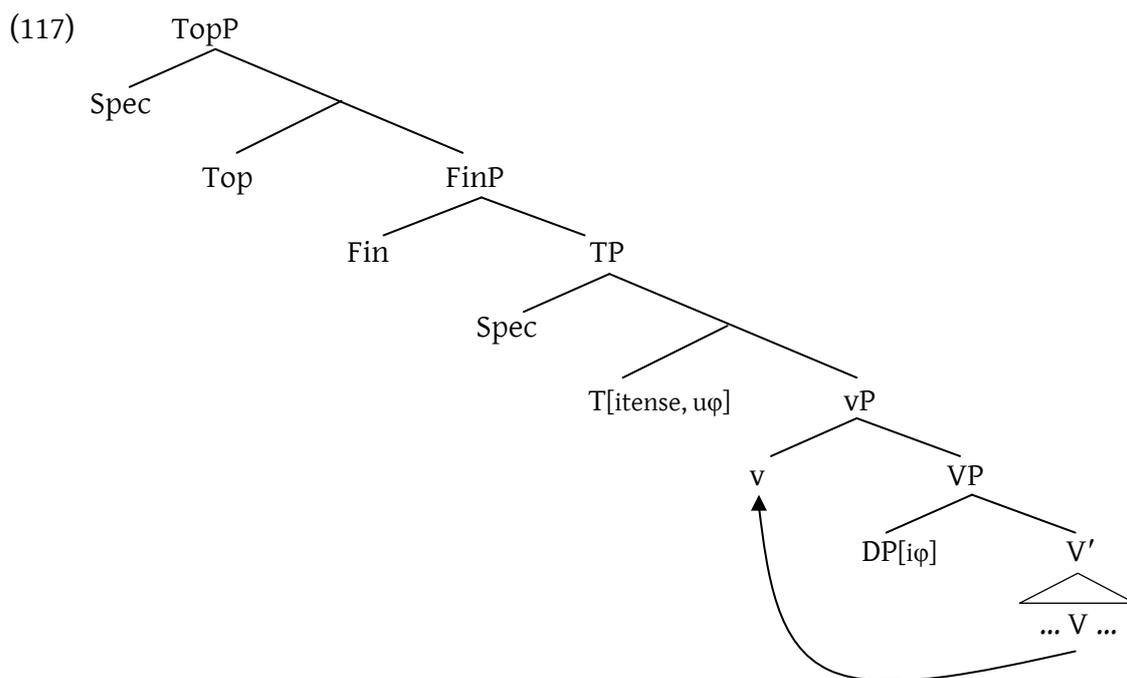
(115) Verbal inflectional paradigm in Early Modern English

	present		past	
	singular	plural	singular	plural
1	-∅	-∅	-ed	-ed
2	-∅	-∅	-ed	-ed
3	-th/-s	-∅	-ed	-ed

(adapted from Ukaji (2000: 216))

- (116) a. /-∅/ ←→ [present]
 b. /-ed/ ←→ [past]
 c. /-th, -s/ ←→ [3rd person, singular]/[present]

It can be seen that verbal inflectional endings underwent additional morphological changes, especially due to the influence from the northern dialects. Specifically, the inflectional morpheme *-th* was gradually replaced by its alternative form *-s* which was originally used in the northern dialects, with the result that the former completely fell out of use by the end of the 18th century (cf. Ukaji (2000: 218)). Besides, the inflectional morpheme *-ed* came to be used as a standard past tense morpheme. It should be stressed that the person and number agreement features are no longer morphologically realized independently of the tense feature. Rather, they are either realized as a single morpheme together with the tense feature or not morphologically realized at all. In particular, the 3rd person singular agreement features are realized as *-th/-s* by combining with the present tense feature. In other cases, they are not assigned any morphological form, so that the present or past tense feature is solely realized as *-∅* or *-ed*, respectively. Given that these agreement features are realized as a single morpheme together with the tense feature whenever they have a morphological realization, it is natural to assume that they are assigned to a single functional head carrying the interpretable tense feature, namely T, as shown in (117), where the relevant uninterpretable agreement features are collectively notated as φ . Again, this is illustrated here with the case of topic-initial unaccusative sentences, omitting topicalization to [Spec, TopP] and subject raising to [Spec, TP].



At the TopP phase, the uninterpretable ϕ -features on T are valued via an Agree relation with the interpretable ϕ -features borne by the subject DP. These are morphologically realized on T as a single morpheme together with the interpretable tense feature, or they are not morphologically realized at all, with the interpretable tense feature solely realized on T as the tense morpheme. On the other hand, V raises obligatorily to v so that it can accommodate its inflectional morpheme realized on T via morphological merger of T onto v under structural adjacency. Now that the verbal inflectional morpheme has been attached to V as its appropriate host, the derivation converges.

It is important to note that once the uninterpretable ϕ -features are located on T, verb raising to T followed by morphological merger of Fin onto T is blocked by the principle of last resort; even without it, the derivation would lead to a convergent result. Note also that v-to-T movement is preempted by morphological merger of T onto v, according to the general preference for morphological merger over verb movement. In short, all V can and must do in (117) is to move as far as v. Thus, at the same time when the agreement

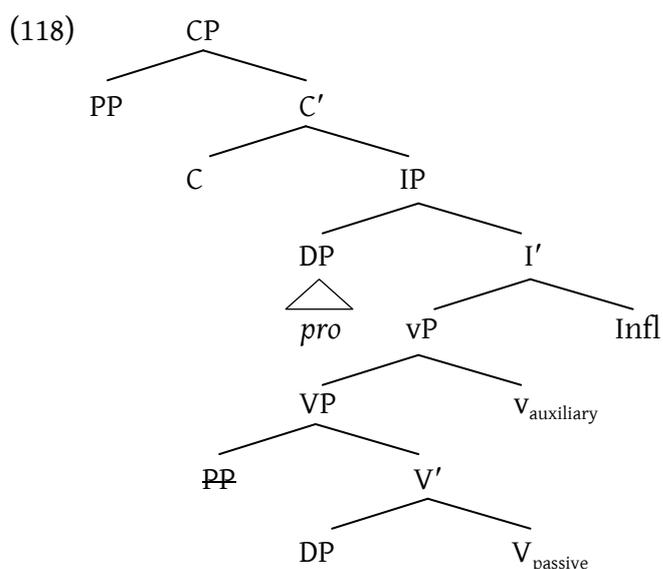
morpheme *-st* was lost from the 15th to the 17th century, the finite main verb ceased to raise to T (see Vikner (1997), Warner (1997), and Roberts (2007) for empirical evidence for the relationship between the availability of $v^{(*)}$ -to-T movement and the presence of the agreement morpheme *-st*). This is just what is stated by the strong, i.e. bidirectional version of the RAH (cf. Koenenman and Zeijlstra (2014)), according to which the absence of rich verbal agreement morphology in a language entails the unavailability of V-movement to T in that language.⁴³ This has led to the system of verb raising in Present-day English where V moves obligatorily as far as $v^{(*)}$.

To sum up, this section has explored the relationship between the loss of relatively rich verbal agreement morphology and the decline of verb movement, essentially along the lines of the RAH. It has been demonstrated that once the person and number agreement features ceased to be realized independently, they were no longer assigned to distinct functional heads, leading to the loss of $v^{(*)}$ -to-T-to-Fin movement. On the other hand, it has been shown that the comparative examination of the derivations of the LIC in the context of the decline of verb movement provides a clear understanding of the reason why it is still available as a main verb inversion construction even after the general loss of verb-second.

⁴³ A number of languages and dialects including Faroese, Kronoby Swedish, and Regional Northern Norwegian have been standardly analyzed as having V-movement to T, despite the fact that they lack rich verbal agreement morphology. Indeed, these facts lead Thráinsson (2003) to claim that the RAH should be formulated in a weak, i.e. unidirectional way: the presence of rich verbal agreement morphology entails the presence of V-movement to T, but not vice versa. Thus, these languages and dialects seem to be counterexamples to the present analysis implicitly assuming the strong version of the RAH, according to which the uninterpretable agreement features can be assigned to Fin and trigger V-movement to T in a language, if and only if that language has the verbal inflectional system where the agreement features are morphologically realized independently of the tense feature. But Koenenman and Zeijlstra (2014) argue that what seems like V-to-T movement in these languages and dialects is actually derived by flexible adjunction of a sentence adverb or V-to-C movement of a finite verb. If their analysis is correct, it follows that they do comply with the strong version of the RAH.

3.6. Previous Study

Ohkado (1998) examines the syntactic structure of the LIC with a passive verb in Old and Middle English, essentially within the framework of the Government and Binding Theory. Ohkado argues that the Old English passive LIC is derived as shown in (118), under the assumption that VP, vP, and IP all have head-final structures.



(based on Ohkado (1998: 63))

In (118), the locative PP undergoes topicalization targeting [Spec, CP]. On the other hand, the auxiliary verb moves up to C via Infl, along the lines of the standard analysis of verb-second in topic-initial constructions. Then, the subject DP is postposed from the complement position of V via NP extraposition. This results in the realization of the subject DP after the passive participle. Ohkado assumes that the Middle English passive LIC has much the same structure as (118), except that VP, vP, and IP are head-initial while the subject DP is realized in its base position on the right side of V.

It is important to note that the subject DP never raises to [Spec, IP] as the canonical subject position. That structural position is occupied instead by the null expletive subject

pro, which is licensed via lexical government by the Infl-head with a lexical property. On the other hand, given that nominative Case can be assigned via Spec-head agreement or government, the theoretical issue arises as to how the postverbal subject DP receives nominative Case from Infl. In order to overcome this issue, Ohkado implements the Government Transparency Corollary in (119), which enables Infl to govern the subject DP that is governed by the incorporated *v* (more strictly, *V* with which *v* acts as one category; see Ohkado (1998: 64)) in their base positions, thereby assigning nominative Case to it.

(119) The Government Transparency Corollary

A lexical category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position.

(Baker (1988: 64))

However, Ohkado's analysis has both theoretical and empirical problems. First, since the notion of government has already been abandoned, his explanation of Case assignment in terms of it can no longer be maintained. In contrast, within the minimalist framework adopted in this thesis, a subject DP has its uninterpretable Case-feature valued as the by-product of Agree with respect to ϕ -features, even when it is not in a Spec-head or government relation with the Case assigner (cf. Chomsky (2000, 2001)). This will account for the assignment of nominative Case to the postverbal subject DP. Second, given the plausible assumption that null expletives differ from overt expletives only in the absence of phonetic features with them, his analysis would incorrectly predict that the passive LIC should exhibit the definiteness effect, as is usually observed in the expletive-associate construction. In fact, it allowed definite or specific nominals to appear in postverbal subject position, as exemplified in (120) (see Williams (2000) and Tanaka (2002) for a similar

observation). The investigation based on YCOE and PPCME2 found as many as 30 examples of the passive LIC with a definite or specific subject DP.

- (120) a. on þam scrine wæs gehealden se heofonlica mete and Aarones gyrd,
 in the shrine was kept the heavenly food and Aaron's rod
 þæs æreston bisceopes, and Moyses tabulan
 the first bishop's and Moses' table
 (coaelhom,ÆHom_22:214.3399: O3)
 'the heavenly food, the first bishop Aaron's rod, and Moses' table were kept
 in the shrine'
- b. In the mount Syon weren buried kyng Daud & kyng Salomon &
 in the mount Sion were buried king David and king Solomon and
 many othere kynges ...
 many other kings (CMMANDEV,61.1513: M3)
 'King David, King Solomon, and many other kings were buried in the
 mount Sion ...'

This fact suggests that the passive LIC do not involve expletive subjects at all. Since the analysis in this thesis does not postulate any form of expletive subject in the derivations of the LIC, it predicts that the definiteness restriction associated with an expletive is never imposed on the postverbal subject DP, capturing the existence of examples like (120).

To sum up, this section has offered a critical review of Ohkado (1998), claiming that his analysis is faced with both theoretical and empirical problems. In contrast, it has been shown that the analysis in this thesis does not run into those problems, thus providing its theoretical and empirical advantages over his analysis.

3.7. Concluding Remarks

This chapter has investigated the development of the LIC in the history of English, especially in the context of the verb-second phenomenon. It has been argued, extending Nawata's (2009) analysis of verb-second, that the finite verb raises obligatorily as far as Fin in the Early English LIC in order to accommodate its agreement morphemes realized on higher functional heads than T. This obligatory verb raising, in combination with optional subject raising in unaccusative sentences or optional subject postposing in unergative sentences, enabled a certain range of possible derivations to generate subject-verb inversion sentences introduced by a locative PP. Moreover, it has been demonstrated that once the person and number agreement features gradually lost their own morphological realization from Late Middle English onward, they came to be assigned to T together with the tense feature. This renders verb movement to T as well as Fin unnecessary and hence impossible under the principle of last resort, explaining the decline of verb movement. Then, it has been shown that these proposals can be justified by diachronic changes in availability of postverbal pronominal subjects and grammatical weight of postverbal full DP subjects.

Chapter 4

A Synchronic Aspect of the Negative Inversion Constructions

4.1. Introductory Remarks

It is a well-known fact of Present-day English that a preposed sentence-negative element triggers subject-auxiliary inversion, as illustrated in (121). This phenomenon is termed negative inversion and there have been a number of synchronic studies on the NIC in the generative literature (Nakamura (1994), Haegeman (1995), and Haegeman and Guéron (1999) among others). It has been generally agreed that the sentence-initial negative element has undergone focalization, with the resulting interpretation in which the negative meaning of the sentence is focalized and hence emphasized.

- (121) a. Nothing did he see yesterday. (Nakamura (1994: 158))
 b. On no account will he go there. (Haegeman (1995: 287))
 c. Never would I talk to his sister about this.
 (Haegeman and Guéron (1999: 224))

On the other hand, there is some disagreement as to the theoretical details about how negative preposing induces subject-auxiliary inversion. In particular, Haegeman (1995) advocates what is called the NEG-criterion, which requires that a sentence-negative element and a syntactic head with a NEG-feature be in a Spec-head configuration at surface structure. In contrast, Sobin (2003) attempts to derive the NIC without postulating the NEG-criterion or its counterpart and claims that the subject and the auxiliary are base-generated in their inverted word order. However, it turns out that both of their analyses are faced with some theoretical or empirical problems that severely undermine their plausibility, as will be discussed in the next section. The first half of this chapter aims to clarify the basic mechanism underlying negative inversion and provide principle explanations for the major properties of the NIC in Present-day English, within the current framework of the Minimalist Program.

On the other hand, it should be noted that a sentence-negative element can also appear in sentence-medial or sentence-final position, in which case subject-auxiliary inversion does not apply at least in the declarative context, as exemplified in (122). It is important to stress that any analysis of sentence negation has to accommodate such non-inverted negative sentences as well; otherwise, it would ultimately amount to an ad hoc account that holds only for inverted negative sentences. The second half of this chapter aims to examine the derivations of non-inverted negative sentences like (122), with the aim of providing a unified explanation of sentence negation.

- (122) a. He saw nothing yesterday. (Nakamura (1994: 158))
 b. He will go there on no account. (Haegeman (1995: 287))
 c. I would never talk to his sister about this.

(Haegeman and Guéron (1999: 224))

The organization of this chapter is as follows. Section 4.2 reviews Haegeman (1995) and Sobin (2003) among previous studies on the NIC and points out a number of problems with their analyses. Section 4.3 introduces two theoretical assumptions which provide a basis for the proposal in this chapter: one is that a sentence-negative element forms a polarity relation with T carrying a polarity feature (Holmberg (2012)) and the other is that a single transferred domain corresponds to the unit for some computations in the semantic component (Takana (2011)). Then, it is proposed, combining the two assumptions, that a sentence-negative element and T-head must fall within a single transferred domain. Section 4.4 demonstrates how this proposal derives the major properties of the NIC including the obligatoriness of negative inversion. Section 4.5 shows that the proposed analysis of sentence negation can be extended to accommodate non-inverted negative sentences. Section 4.6 gives concluding remarks of this chapter.

4.2. Previous Studies

4.2.1. Haegeman (1995)

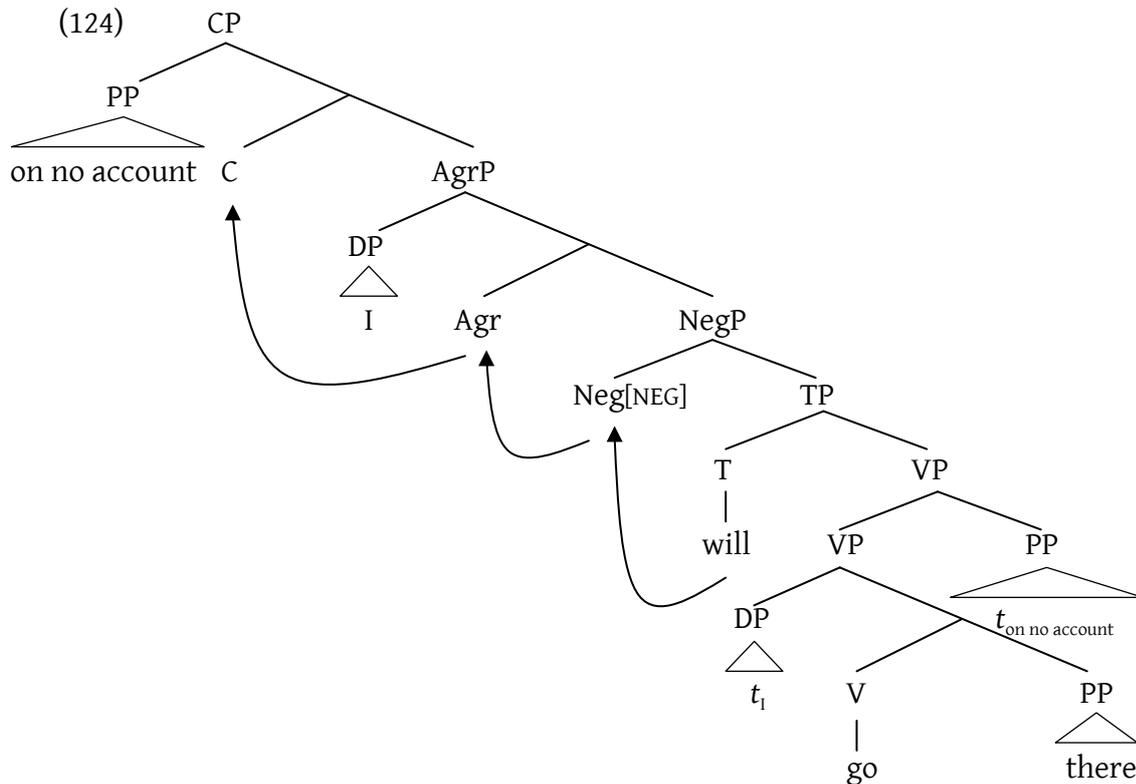
Working essentially within the framework of Government and Binding Theory, Haegeman (1995) offers a comprehensive syntactic analysis of sentence negation. Specifically, Haegeman advocates the NEG-criterion in (123), with the proviso that it applies at surface structure.

(123) NEG-criterion

- a. A NEG-operator must be in a Spec-head configuration with an X^0 [NEG].
- b. An X^0 [NEG] must be in a Spec-head configuration with a NEG-operator.

(Haegeman (1995: 106))

This requires that a sentence-negative element in an A'-position and a syntactic head with a NEG-feature result in a Spec-head configuration with each other at the level of surface structure. Under this idea, the NIC is generated as shown in (124).



(based on Haegeman (1995: 180-183))

The subject DP base-generated in [Spec, VP] moves to [Spec, AgrP], while the auxiliary verb base-generated in T moves through Neg to Agr. Once the sentence-negative PP is preposed to [Spec, CP] as an A'-position, the complex head into which Neg with a NEG-feature incorporates must raise further to C in order to enter into a Spec-head configuration with it, in accordance with the NEG-criterion. Thus, the linear order is generated in which the subject and the auxiliary are inverted with each other while the sentence-negative PP occupies sentence-initial position.

Haegeman extends the above analysis based on the NEG-criterion to non-inverted negative sentences. According to her analysis, negative sentences with the preverbal negative marker *not* have the syntactic structure as represented in (125). Since the negative marker *not* in [Spec, NegP] and Neg with a NEG-feature are in a Spec-head configuration with each other, this derivation satisfies the NEG-criterion, leading to the grammaticality of (125).

(125) $[_{CP} [_{AgrP} \text{John} [_{NegP} \text{not} [_{Neg'} \text{Neg}[\text{NEG}] [_{TP} [_{T'} \text{does} [_{VP} \text{eat chocolate}]]]]]]]]]$

(based on Haegeman (1995: 180))

Further, Haegeman claims that negative sentences with a sentence-negative element in postverbal position are accounted for in much the same way as (125), by postulating the additional device of the null expletive operator.

(126) $[_{CP} [_{AgrP} \text{he} [_{NegP} \text{OP}_i [_{Neg'} \text{Neg}[\text{NEG}] [_{TP} [_{VP} \text{ate nothing}_i]]]]]]]$

(based on Haegeman (1995: 186))

According to her, the null expletive operator, being a non-overt category, has to be identified via coindexation with an overt negative operator. In (126), it is coindexed with the postverbal object *nothing*, by virtue of which the former instead of the latter serves to create the Spec-head configuration required by the NEG-criterion. Thus, Haegeman demonstrates that the analysis based on the NEG-criterion can accommodate not only the NIC but also non-inverted negative sentences.

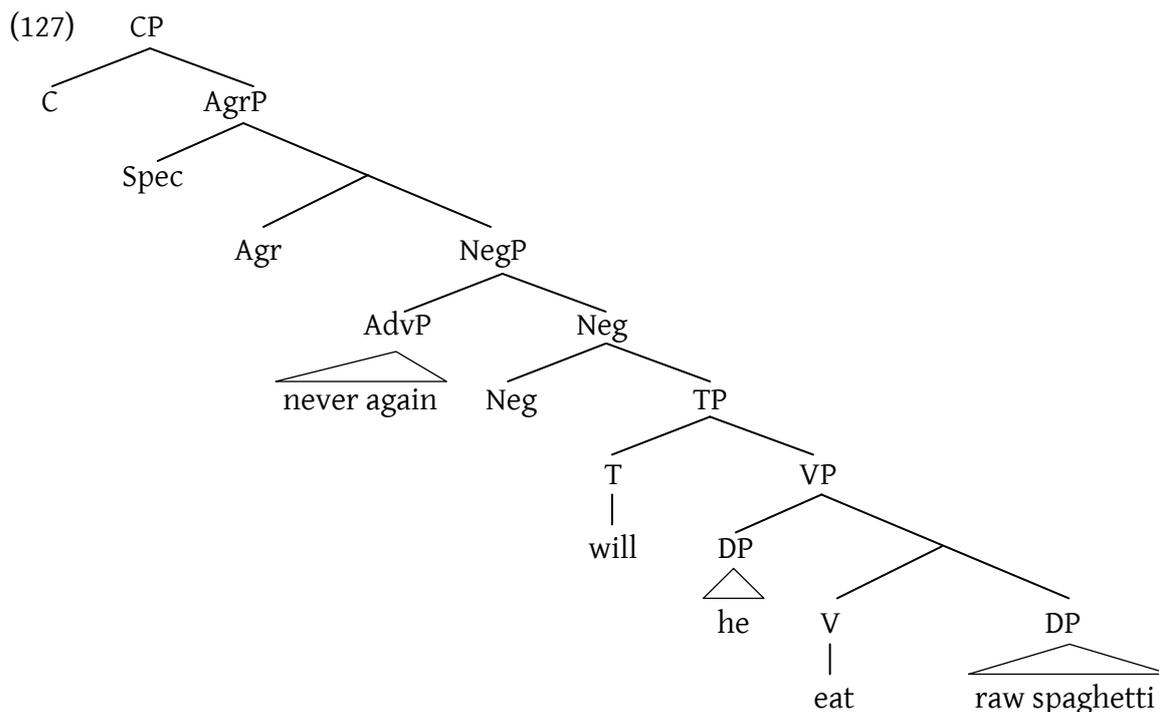
However, there are some theoretical problems with Haegeman's analysis. First and most importantly, the NEG-criterion in itself seems to go no further than rephrasing the

obligatoriness of negative inversion from the structural viewpoint, and therefore the fundamental question remains unexplained why the relevant two elements must be in a Spec-head configuration with each other to begin with.⁴⁴ Second, a closer examination reveals that her analysis based on the NEG-criterion does not work well for negative sentences with *not* like (125). The auxiliary verb *does*, which is base-generated in T, must move through Neg to Agr in order to be realized before the negative marker *not*. As a result, the negative marker *not* in [Spec, NegP] and Neg raised to Agr would not result in a Spec-head configuration at the level of surface structure. Alternatively, if T moved directly to Agr by skipping Neg, such movement would lead to a violation of the head movement constraint (Travis (1984)), which dictates that a moved head can only move locally into the next higher c-commanding head. Thus, it remains unclear how her analysis provides a unified explanation covering both the NIC like (124) and the non-inverted negative sentence like (125). Third, the NEG-criterion is defined as applying at surface structure, but the representational levels of deep structure or surface structure have already been abandoned within the current framework of the Minimalist Program (Chomsky (1995b: Ch. 3)).

⁴⁴ Haegeman (1995: 94) suggests the possibility that the NEG-criterion could be reduced to feature checking with respect to NEG-features (see also Haegeman (2000b: fn2) for similar suggestion). However, the notion of feature checking has been replaced in more recent work by feature valuation via Agree. Importantly, Agree may or may not be accompanied by movement of the goal to the specifier position of the probe's projection (Chomsky (2007: 23)). This implies that a sentence-negative element and a syntactic head with a NEG-feature could in principle establish an Agree relation with each other, even when they were not in a Spec-head configuration. Moreover, given the assumption that uninterpretable features must be valued as early as possible (cf. Pesetsky and Torrego (2001)), a sentence-negative element and a syntactic head with a NEG-feature would be forced to enter into an Agree relation in their base positions rather than their surface positions. Thus, feature valuation via Agree does not provide any general grounds for the NEG-criterion.

4.2.2. Sobin (2003)

Sobin (2003) proposes the following syntactic structure of the NIC within the early version of the Minimalist Program, without postulating any movement operations to the CP or AgrP domains.



(based on Sobin (2003: 195))

NegP is positioned between AgrP and TP, as in Haegeman's (1995) analysis, and its specifier position is occupied by the sentence-negative AdvP. On the other hand, the subject DP and the auxiliary verb remain in [Spec, VP] and T, respectively, in the course of the derivation, with the result that they are realized in their base positions. Thus, the subject-auxiliary inversion sentence introduced by the sentence-negative element is generated.

Notice that [Spec, AgrP] as the canonical subject position is left empty in the derivation

of the NIC in (127). In this regard, Sobin assumes, following Roberts and Roussou (2002), that the requirement for a filled specifier by the EPP-feature is obviated in the derivation of residual verb-second constructions including the NIC. This renders the movement of the subject DP to [Spec, AgrP] unnecessary and allows it to be realized in [Spec, VP] as its base position. In contrast, in other syntactic contexts, the subject DP moves obligatorily to [Spec, AgrP] in order to satisfy the requirement by the EPP-feature. Sobin does not explicitly represent the detailed structure of non-inverted negative sentences, but it is implied that it is roughly (128). This will account for the existence of non-inverted negative sentences.

(128) $[_{CP} [_{AgrP} \text{he} [_{Agr'} \text{will} [_{NegP} \text{never again} [_{TP} t_{\text{will}} [_{VP} t_{\text{he}} \text{eat raw spaghetti}]]]]]]]]]$

However, some empirical problems with Sobin's analysis are raised. First, since he assumes that the derivation of the NIC does not involve negative preposing to the CP domain, it is difficult to provide a satisfactory explanation for the fact that negative preposing parallels argument fronting to the CP domain in that it can occur in main clauses, but not in subordinate clauses that are not complements of assertive predicates, as shown in (129) and (130).⁴⁵

⁴⁵ Sobin (2003) suggests that the ungrammaticality of sentences like (129b) is due to the fact that the subordinate clause containing the NIC is not positioned in sentence-final position as the so-called new information area. However, this analysis fails to capture the following contrast in grammaticality between (ia) and (ib), which shows that the NIC can be embedded under an assertive predicate whereas it cannot be under a non-assertive predicate, despite the fact that the subordinate clause containing it occurs in sentence-final position in both of these two sentences.

- (i) a. I exclaimed that never in my life had I seen such a crowd. (Hooper and Thompson (1973: 474))
 b. *It's likely that seldom did he drive that car. (Hooper and Thompson (1973: 479))

- (129) a. Under no conditions may they leave the area.
 b. *If under no conditions may they leave the area, how can they pay their debt? (Emonds (1976: 29))

- (130) a. This handout I have finished.
 b. *Until this handout I have finished, I won't take time off. (Haegeman (2012: 155))

Second, under the standard assumption that the expletive *there* is inserted to satisfy the EPP-feature (Chomsky (1995b: 273)), his analysis incorrectly predicts that *there*-insertion is never invoked in the derivation of the NIC that is exempt from the requirement by the EPP-feature. In fact, the expletive *there* can appear in the NIC, as exemplified in (131).

- (131) At no time will there be any rain even there. (Klima (1964: 306))

Third, his analysis fails to accommodate the fact in (132) and (133) that the subject DP of the NIC can control PRO in adjunct clauses, just like the subject DP of non-inverted negative sentences. Given that obligatorily controlled PRO must be c-commanded by its antecedent in an A-position (cf. Williams (1980) and Safir (2004)), his analysis wrongly predicts (132) to be ungrammatical, because the subject DP staying in [Spec, VP] cannot properly c-command PRO in the adjunct clause adjoining to the right side of VP, unlike the subject DP occupying [Spec, AgrP] in (133). One might think that the adjunct clause led by *without* would adjoin to the right side of V', and PRO contained in it could be properly c-commanded by the subject DP in [Spec, VP], leading to the grammaticality of (132). But this analysis is problematic because adjunction to an intermediate projection is generally forbidden

(Chomsky (1995b: 78)). This rules out the possibility of the adjunct clause adjoining to the right side of V' as an intermediate projection.

(132) Never can you_i enter the museum without PRO_i paying the entrance fee.

(133) You_i can never enter the museum without PRO_i paying the entrance fee.

In sum, this section has critically reviewed Haegeman (1995) and Sobin (2003), both of whose analyses have a number of theoretical or empirical problems, and they cast doubt on their analyses of sentence negation including negative inversion. The remainder of this chapter offers an alternative analysis of sentence negation which overcomes those problems, relying on certain assumptions made available within the current framework of the Minimalist Program.

4.3. Theoretical Assumptions

4.3.1. A Polarity Relation between a Sentence-negative Element and T-head

Holmberg (2012) works out the mechanism by which the polarity of a sentence is determined. According to Holmberg, every finite clause has an open polarity feature assigned to the highest head in the IP/TP-domain and the polarity feature is specified as negative or affirmative in the course of the derivation, depending on the presence or absence of a sentence-negative element within the sentence. To better understand this, let us consider the negative and affirmative sentences in (134a) and (135a) with their derivations in (134b) and (135b).

- (134) a. John is not coming.
 b. $[_{TP} \text{John } [_T [\text{Pol}] \text{is}] [\text{not} [\text{NEG}] [_{VP} \text{coming}]]]]$
 $\quad \quad \quad \boxed{}$
 $\rightarrow [_{TP} \text{John } [_T [\text{NEG}] \text{is}] [\text{not} [\text{NEG}] [_{VP} \text{coming}]]]]$

(adapted from Holmberg (2012: 10))

- (135) a. John is coming.
 b. $[_{TP} \text{John } [_T [\text{Pol}] \text{is}] [_{VP} \text{coming}]]]$
 $\rightarrow [_{TP} \text{John } [_T [\text{AFF}] \text{is}] [_{VP} \text{coming}]]]$

(adapted from Holmberg (2010: 10))

In (134b), the open polarity feature on T enters into a polarity relation with the negative feature borne by the sentence-negative element, so that the former is specified as negative by sharing a negative feature with the latter. In contrast, if the derivation does not contain any sentence-negative element, as shown in (135b), the open polarity feature on T is specified as affirmative by default.⁴⁶

One of the questions that arise under the above analysis is what sort of semantic interpretation is derived on the basis of the polarity relation between the relevant two elements. Although Holmberg is not completely explicit in this regard, he states in his subsequent work that the negative marker *not* in (134) takes scope over the IP/TP whose

⁴⁶ To be more precise, Holmberg (2012) suggests the possibility that the polarity relation in question is established via Agree in the syntactic component. More specifically, the unvalued polarity feature on T acts as a probe which enters into an Agree relation with the valued negative feature on the negative element in its search domain. However, as already discussed in footnote 44 in subsection 4.2.1, the obligatoriness of negative inversion cannot be reduced to Agree with respect to NEG-features. For this reason, this chapter will hypothesize, revising Holmberg's analysis of sentential polarity, that a polarity feature and a negative feature are semantic features rather than syntactic features, and that the polarity relation between the two features carried by T and a sentence-negative element, respectively, is computed in the semantic component rather than the syntactic component.

head forms a polarity relation with it (see Holmberg (2013, 2014)). Then, the immediate question is how this is to be formalized. One possible analysis is that some features are shared by a head and a phrase headed by it (cf. Pollard and Sag (1994) and Brody (2003)). More specifically, once the polarity feature on T has been specified as negative via its polarity relation with a sentence-negative element, it is shared between T and TP, as shown in (136).

(136) $[_{TP}[NEG] \text{John } [_T[NEG] \text{is}][[_{VP} \text{not}[NEG][_{VP} \text{coming}]]]]$

As a result, the sentence-negative element and TP share the same negative feature, thereby ensuring the scope relation between them; that a sentence-negative element marks the polarity of TP as negative amounts to meaning that the former takes scope over the latter. Based on the discussion so far, the establishment of a polarity relation between a sentence-negative element and T can be viewed as a prerequisite for the determination of the scope of sentence negation; if T does not establish any polarity relation with a sentence-negative element, TP headed by it will not obtain a negative feature and hence the scope of sentence negation cannot be determined, due to the absence of a negative feature shared by the sentence-negative element and TP. One might wonder why it is T, but not TP, that establishes a polarity relation with a sentence-negative element. This can be reliably attributed to the fact that it is T that bears an open polarity feature, with which the negative feature carried by a sentence-negative element enters into a polarity relation, as mentioned above. The idea that a syntactic head determines the polarity of a whole sentence traces back to the influential work of Laka (1990), who proposes that the syntactic head Σ encodes the polarity of the whole sentence containing it. It is worthwhile to note here Laka's observation that the affirmative polarity is expressed by the auxiliary *do* in

emphatic sentences, as illustrated in (137).

(137) John does arrive. (Laka (1990: 90))

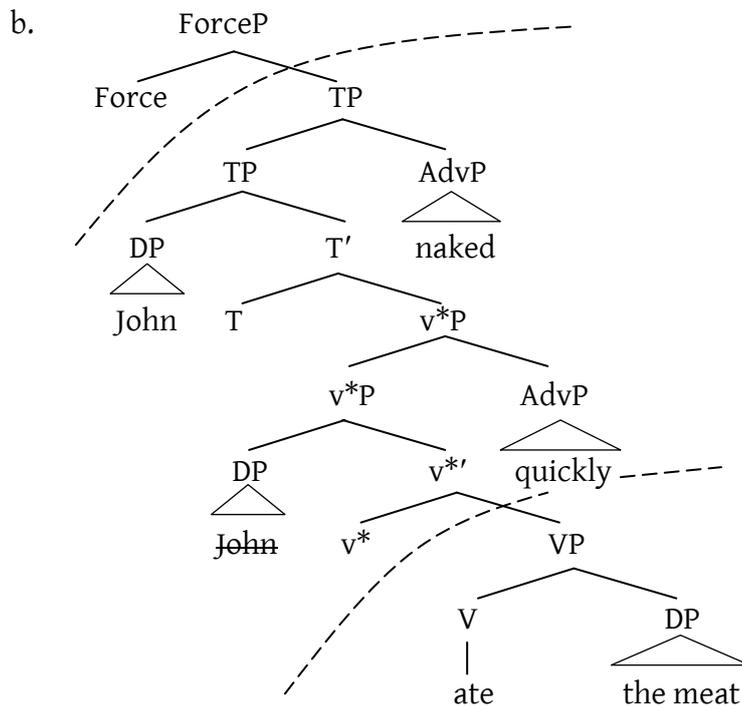
Putting theoretical details aside, this fact suggests that the relevant polarity feature is located on the syntactic head in which the auxiliary verb is normally base-generated, namely T within the clausal architecture adopted in this thesis.

Thus, it has been established, following up Holmberg (2012), that a sentence-negative element and T form a polarity relation, which provides a requisite basis for determining the scope of sentence negation.

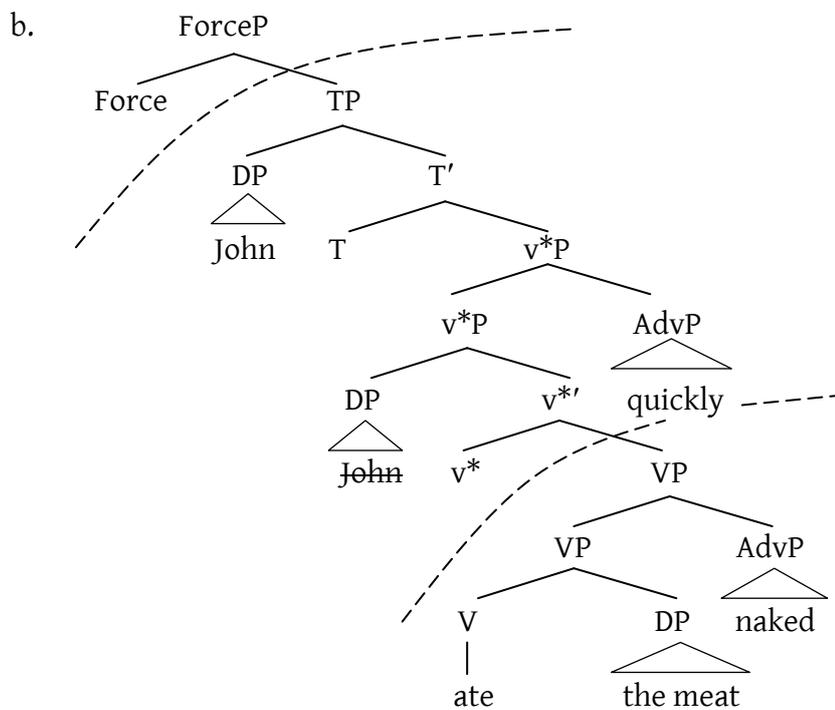
4.3.2. Semantic Interpretation in Units of Transferred Domain

Adopting the phase-based derivational model, Tanaka (2011) provides some illuminative insights into how the semantic component deals with the information that is cyclically shipped from the syntactic component. Specifically, Tanaka argues that the semantic computation of modification relation proceeds by the domain of a phase head, i.e. a transferred domain. Behind this argument is the reasoning that if a phase head triggers Transfer of its domain to the semantic component, the domain that is transferred feeds semantic interpretation and hence semantic processes apply to this domain. According to Tanaka, this is illustrated by, among others, secondary predicates modifying subjects like (138a) and (139a). Note that his analysis in terms of single-layered CP is adapted here to the split CP analysis adopted throughout this thesis, with FinP omitted in (138b) and (139b) as their structures.

(138) a. John ate the meat quickly naked. (Tanaka (2011: 199))



(139) a. *John ate the meat naked quickly. (Tanaka (2011: 199))



In (138b), both of the subject DP and the subject-oriented secondary predicate fall within the domain of Force, so that the modification relation between them can be established properly within that transferred domain in the semantic component. Therefore, the derivation leads to a convergent result, thus accounting for the grammaticality of (138a). In contrast, the subject DP in (139b) does not belong to the domain of v^* in which the subject-oriented secondary predicate is included. As a result, they fail to form their modification relation within a single transferred domain in the semantic component, causing the derivation to crash. This accounts for the ungrammaticality of (139a). Tanaka (2011) demonstrates that the same lines of explanation hold for extraposition from NP/DP as well as object-oriented secondary predicates.

We have just seen that the idea of semantic computation in units of transferred domain is empirically justified by the basic facts regarding modification relations. This idea is also defended on conceptual grounds, particularly based on considerations of computational efficiency. First, as soon as the semantic component receives a transferred domain from the syntactic component, the relevant semantic computation can be carried out within that domain, without waiting for the remaining structure of the sentence to reach the semantic component. Thus, the semantic component can deal with the information from the syntactic component without delay, leading to computational efficiency. Second, where some semantic deviance is detected at the early stage of a derivation, the derivation can be cancelled at that derivational step. Therefore, it is not required to proceed unnecessarily with the derivation that is doomed until it is fully completed, thereby vastly reducing computational burden. Third, since the relevant semantic computation takes into account only elements within a single transferred domain, the amount of information to deal with at each Transfer can be minimized, which leads to the reduction of computational complexity. Of course, in order to derive the semantic interpretation of a whole sentence,

the computational system need bring together all the transferred domains that it has thus far inspected in the derivation. But notice that the system need not reinspect the transferred domains that it has once judged to be well-formed with respect to the relevant semantic relation. Thus, the last task that the semantic component has to perform is to derive the meaning of a whole sentence compositionally from the meanings of the transferred domains as its parts.

Thus, it can be concluded on the basis of conceptual motivation as well as empirical evidence that at least some semantic computations proceed by the transferred domain that is cyclically shipped off to the semantic component.

4.3.3. An Alternative Analysis of Sentence Negation

The two immediately preceding subsections have shown that a sentence-negative element forms a polarity relation with T-head in the semantic component, where semantic interpretation generally proceeds in units of single transferred domain. Against this background, this thesis makes the following assumption.

- (140) The polarity relation is formed within a single transferred domain.

If both a sentence-negative element and T-head fall within a single transferred domain, the polarity relation between them can be formed in accordance with (140) and hence the scope of sentence negation can be identified by virtue of the presence of a negative feature shared by the sentence-negative element and TP headed by the T-head. This leads to a convergent derivation that satisfies the principle of full interpretation (Chomsky (1986a)), which requires that every element in a sentence be given appropriate interpretation. In contrast, if a sentence-negative element and T-head belong to different transferred

domains, they cannot form a polarity relation with each other under (140) that is a prerequisite for the determination of the scope of sentence negation. Hence, this derivation is ruled out by the principle of full interpretation, because of the failure to identify the scope of sentence negation. Thus, it is concluded that a sentence-negative element and T-head must coexist within a single transferred domain.

Before going into the details of negative inversion, it should be noted that only the highest copy of a sentence-negative element participates in the relevant computation of sentence negation, while its lower copies do not. It has been agreed in the literature that A'-properties including a scope property are generally determined by the final landing site (Rizzi (2006), Chomsky (2008), and Shlonsky and Rizzi (2015) among others). This idea is justified independently of sentence negation. In the case of *wh*-questions, a *wh*-phrase is interpreted as taking scope over the clause containing its final landing site. For example, consider direct and indirect questions such as *In which Texas city did they think JFK was assassinated?* and *They wondered in which Texas city JFK was assassinated.*, in which the *wh*-phrases take scope over the whole sentence and the embedded clause, respectively. Moreover, there is a piece of empirical evidence for the determination of the scope of sentence negation in surface position. A negative subject DP resists reconstruction with respect to its scope relation with a raising predicate, as shown in (141a) with its structure in (141b). More specifically, this sentence has a reading where negation takes wide scope over *certain*, but it does not have a reading where negation is reconstructed under the scope of *certain*. The absence of the latter reading is notated here by the symbol #.⁴⁷

⁴⁷ A non-negative subject DP can undergo reconstruction with respect to its scope relation with a raising predicate. This is clear from the fact that the existential quantifier in (ia) has either wide or narrow scope with respect to the raising predicate. This is explained by assuming that the subject DP in (ib) can either be interpreted in the matrix [Spec, TP] or reconstructed into the infinitival [Spec, TP] with respect to its scope interpretation.

(i) a. Some politician is likely to address John's constituency.
(some > likely, likely > some; Lasnik (1999: 205))

- (141) a. No one is certain to solve the problem.

(neg > certain, #certain > neg; Lasnik (1999: 205))

(not paraphrasable as ‘It is certain that no one will solve the problem.’)

- b. [_{TP} DP is certain [_{TP} t_{DP} to [_{v*P} t_{DP} solve the problem]]]

(DP: no one)

This fact suggests that the sentence-negative element is interpreted in its final landing site with respect to its scope relation with TP: it takes scope over the matrix TP, but not the embedded TP. In turn, this indicates under the mechanism for determining the scope of sentence negation as outlined in (136) that the highest copy of a sentence-negative element, but not its lower copies, establishes a polarity relation with T in its local domain. Based on these considerations, this thesis postulates that the highest member of the chain formed by a moved sentence-negative element carries the relevant negative feature along with it.

In sum, it has been proposed that a sentence-negative element and T-head must fall within a single transferred domain. This is what we can obtain as the consequence of combining the idea of a polarity relation formed by a sentence-negative element and T-head with the idea of semantic interpretation proceeding by single transferred domain.

The next section shows how the proposed analysis of sentence negation can account for some major properties of the NIC including the obligatoriness of negative inversion.

-
- (paraphrasable as ‘It is likely that some politician will address John’s constituency.’)
 b. [_{TP} DP is likely [_{TP} t_{DP} [_{v*P} t_{DP} address John’s constituency]]]
 (DP: some politician)

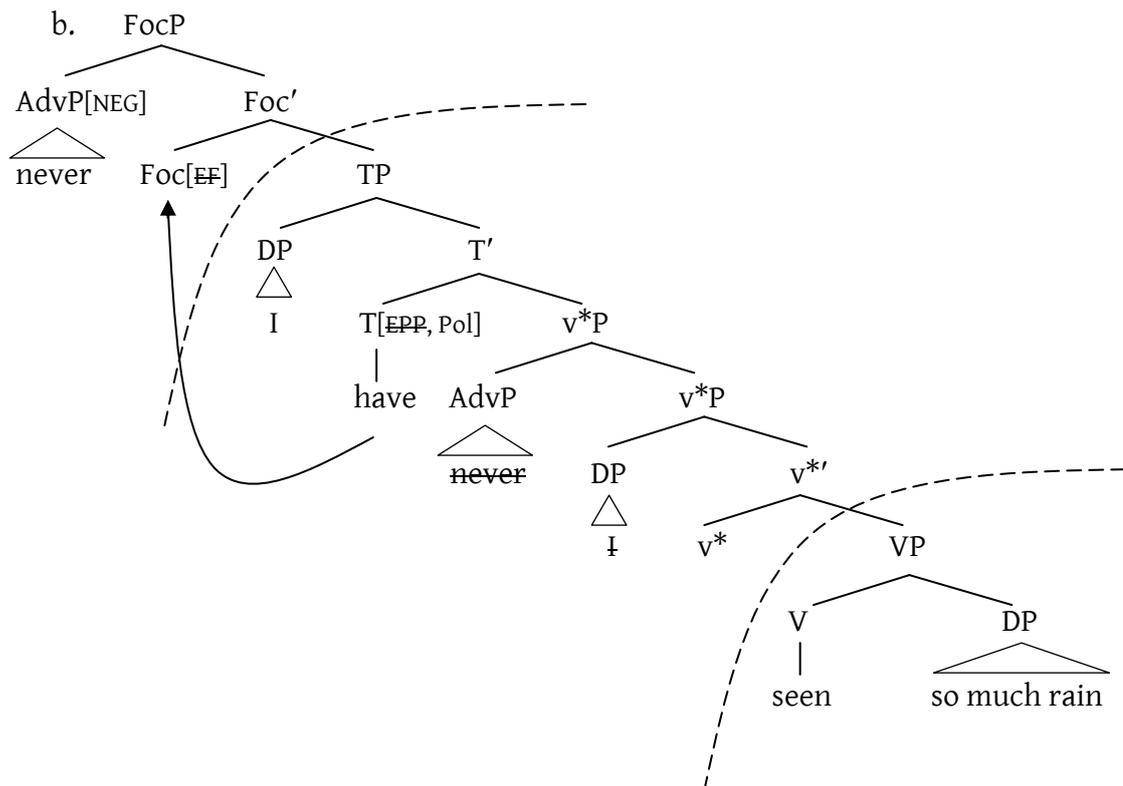
This fact implies that the absence of a reading where negation is reconstructed under the scope of the raising predicate in (141) cannot be reduced to the idea of the absence of reconstruction effects with A-chains.

4.4. The NIC in Present-day English

4.4.1. The Syntactic Structure of the NIC

This thesis argues that the NIC in (142a) has the syntactic structure in (142b).⁴⁸

(142) a. Never have I seen so much rain.



At the v^*P phase, the subject DP is merged in [Spec, v^*P], while the object DP is merged in the complement position of V. Once all the syntactic operations within the v^*P phase have been applied, the domain of v^* , i.e. VP is sent off to the phonological and semantic components. At the FocP phase, the subject DP moves from [Spec, v^*P] to [Spec, TP] under probing by the EPP-feature on T. On the other hand, the negative AdvP moves

⁴⁸ On the following pages of this chapter, V-to- $v^{(*)}$ movement, an Agree relation between T and a subject DP, and FinP/ForceP in the split CP domain are omitted unless they are of immediate importance to the present discussion. This chapter follows Lechner (2006) and Roberts (2010) in assuming that head movement applies in the syntactic component and feeds the computation in the semantic component.

from the left-adjoined position of v^*P to [Spec, FocP] along with its negative feature under probing by the edge feature on Foc. Then, T with a polarity feature raises obligatorily as far as Foc so that it can establish a polarity relation with the negative AdvP moved to [Spec, FocP] within a single transferred domain.⁴⁹ After these operations apply, the domain of Foc, i.e. TP and the remaining FocP are sequentially transferred to the phonological and semantic components, with the result that the scope of sentence negation can be successfully determined owing to the presence of their polarity relation.⁵⁰ Thus, the surface form is generated in which the sentence-negative element occupies sentence-initial position while the subject and the auxiliary are inverted.

In contrast, if T stayed in its base position, it would undergo Transfer in a different transferred domain from that of the negative AdvP occupying [Spec, FocP]. Then, the negative AdvP could not find T-head with which it should enter into a polarity relation within the same transferred domain and hence the scope of sentence negation could not be determined. This would cause the derivation to crash, as clearly shown by the ungrammaticality of (143).

(143) *Never I have seen so much rain.

⁴⁹ One might wonder how the syntactic derivation can know about the requirements imposed by the semantic computation, within the standard architecture for generative grammar where the syntactic component is followed by the phonological and semantic components. One solution is that the information about a polarity relation is featuralized, as we have so far assumed. As already mentioned in subsection 4.3.1, a sentence-negative element and T, along with a negative feature and a polarity feature, respectively, enter the syntactic derivation. This enables the syntactic component to decide whether or not it need raise T to Foc in order to transfer the relevant two elements simultaneously.

⁵⁰ The question that may arise here is what happens when the semantic component receives TP whose head has moved out. It might be suggested that the semantic component can postpone the decision about the polarity of the TP until the next Transfer, at which time its head and the highest copy of the negative AdvP reach the semantic component.

Thus, the present analysis derives the obligatoriness of negative inversion successfully from the above assumption that the polarity relation is formed within a single transferred domain; if a sentence-negative element is preposed to [Spec, FocP], T must move across the subject DP and raise as far as Foc so as to establish a polarity relation with it within a single transferred domain, causing subject-auxiliary inversion.

The next subsection shows that the analyses based on the proposed syntactic structure can provide straightforward explanations for a number of properties of the NIC including the interaction of negative preposing with other kinds of A'-movement.

4.4.2. Explaining the Properties of the NIC

4.4.2.1. Basic Properties

First, the NIC involves a sentence-negative element that functions as a focus of the sentence. This is supported by the fact in (144) that it can serve as an answer to an interrogative sentence, which is the general property that distinguishes a focus denoting new information from a topic denoting old information (Rochemont (1986) and Culicover (1991)). This follows naturally from the present analysis, according to which the sentence-negative element moves to [Spec, FocP] and hence it will be interpreted as a focus of the sentence.

(144) Speaker A: Did you see anyone?

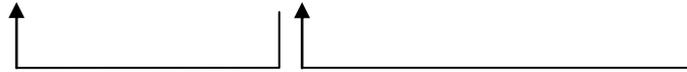
Speaker B: No, not a single person did I see. (Culicover (1991: 30))

Second, it is observed from (145) that the preposed sentence-negative element gives rise to so-called weak cross-over effects.

- (145) a. *No book_i would I expect its_i author to praise publicly.

(Koizumi (1995: 143))

- b. *_[FocP] DP _[Foc'] would _[TP] I _[v*P] t_{DP} _[VP] its author _[V'] expect _[TP ... t_{DP} ...]]



(DP: no book)

Given that a bound variable pronoun must be A-bound by its antecedent (cf. Reinhart (1983)), the ungrammaticality of (145a) immediately follows because the subject DP of the infinitive containing the bound variable (which has moved to the matrix [Spec, VP]; see Chomsky (2008)) cannot be A-bound at any points of the derivation by its antecedent negative DP, which undergoes A'-movement through the outer [Spec, v*P] to [Spec, FocP], as shown in (145b).

Third, it has been pointed out since the 1970s that negative preposing is generally one of the root phenomena (Hooper and Thompson (1973) and Emonds (1976)). Therefore, it can occur in root clauses like (146), but it cannot occur in non-root clauses like (147).

- (146) a. Under no conditions may they leave the area.

- b. I exclaimed that never in my life had I seen such a crowd.

(Hooper and Thompson (1973: 474))

- (147) a. *If under no conditions may they leave the area, how can they pay their debt?

(Emonds (1976: 29))

- b. *It's likely that seldom did he drive that car.

(Hooper and Thompson (1973: 479))

4.4.2.2. The Interaction of Negative Preposing with Other Kinds of A'-movement

First, let us consider how negative preposing interacts with *wh*-movement. Negative preposing is incompatible with *wh*-movement in a matrix clause, regardless of whether the *wh*-phrase is an argument as in (149) or an adjunct as in (150). Assuming with Rizzi (1997) that the landing site of a *wh*-phrase in direct questions is [Spec, FocP], the *wh*-phrase and the sentence-negative element compete for the same structural position, yielding the ungrammaticality of these sentences.

(149) a. *Which book under no circumstances would you read?

b. *Under no circumstances which book would you read?

(Haegeman and Guéron (1999: 226))

(150) a. *Why under no circumstances would you go there?

b. *Under no circumstances why would you go there?

(Haegeman and Guéron (1999: 226))

Turning to the cases where negative preposing occurs in embedded clauses, the clause introduced by the sentence-negative element constitutes a syntactic island, from which an argument cannot be extracted via *wh*-movement, either in direct questions as in (151a) or indirect questions as in (152a).

(151) a. ?*What did he say that under no circumstances would he do?

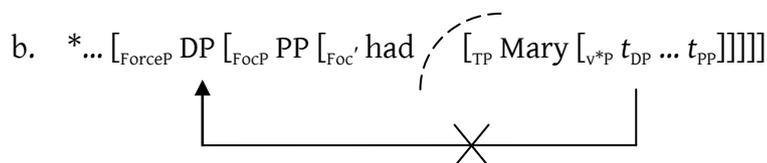
(Nakamura (1994: 165))

b. ?*... [_{ForceP} DP [_{Force'} that [_{FocP} PP [_{Foc'} did [_{TP} he [_{v*P} t_{DP} ... t_{PP}]]]]]]]]

(DP: what, PP: under no circumstances)

- (152) a. *John asked me who at no time had Mary taken money from.

(Nakamura (1994: 163))



(DP: who, PP: at no time)

At the FocP phase, the edge feature on Foc probes and attracts the negative PP to [Spec, FocP], while T raises as far as Foc. Once all the operations within the FocP phase have been completed, the domain of Foc, i.e. TP is transferred to the phonological and semantic components and hence becomes inaccessible to operations outside FocP, according to the PIC as repeated in (153). Therefore, the edge feature on Force cannot probe and attract the *wh*-phrase in the outer [Spec, v*P] without violating the PIC, as shown in (151b) and (152b).⁵²

⁵² Some researchers including Culicover (1991) observes that *wh*-movement across a preposed sentence-negative element is possible, as illustrated in (i). For this reason, Nakamura (1994) suggests that there is some variation with respect to the island effects induced by negative preposing among speakers of English.

(i) Which books did Lee say that only with great difficulty can she carry. (Culicover (1991: 5))
It might be suggested that there is micro-parametric variation with respect to the timing when cyclic Transfer applies to the domain of Foc. More specifically, for speakers who accept (i), the derivation would be available in which the domains of Foc and Force are not successively transferred until all the operations within the embedded clause headed by Force have been completed. This would allow the *wh*-phrase in (i) to move out of the domain of Foc. The possibility of this kind of derivation is independently motivated by the fact that speakers who accept (i) also tolerate other A'-movement across a preposed sentence-negative element, as exemplified in (ii) by relativization co-occurring with negative preposing. The grammaticality of (ii) is again based on Culicover's judgment.

(ii) These are the books which only with great difficulty can Lee carry. (Culicover (1991: 6))
Given that a relative pronoun moves to [Spec, ForceP] (Rizzi (1997)), this sentence could be accounted for on a par with (i) under the above analysis. On the other hand, see Emonds (1976: 29) for the observation that negative preposing is a root phenomenon and therefore it cannot occur within relative clauses like (ii).

(153) The Phase Impenetrability Condition

The domain of a phase head H is not accessible to operations outside HP; only H and its edge are accessible to such operations. (cf. Chomsky (2001: 13))

On the other hand, it is interesting to note that negative preposing is compatible with *wh*-movement of an adjunct in embedded clauses, as exemplified in (154a).

(154) a. Lee wonders why under no circumstances at all would Robin volunteer.

(Radford (2009: 283))

- b. ... [_{ForceP} why [_{FocP} PP [_{Foc'} would [_{TP} Robin [_{v*P} volunteer *t*_{PP}]]]]]]
 (PP: under no circumstances at all)

This thesis assumes, following up Rizzi (1990) and Culicover (1991), that *why* can be directly merged in [Spec, ForceP], given that it is an adjunct and hence need not be merged within *v*^(*)P as the thematic domain. Then, it is no surprise that this sentence is grammatical because there is no *wh*-movement across the preposed sentence-negative element, as shown in (154b). It is important to note in (154) that what Lee wants to know is the reason for Robin not volunteering. In other words, *why* is interpreted outside the scope of negation. This lends support to the above assumption that *why* is base-generated outside TP, which is the scope of sentence negation according to the present analysis.⁵³

⁵³ In contrast, a preposed sentence-negative element exhibits an island effect when a *wh*-adjunct moves across it. This is illustrated by the fact in (i) that the sentence-initial *wh*-phrase *how* can be only construed as an adjunct of the matrix clause, but not of the embedded clause.

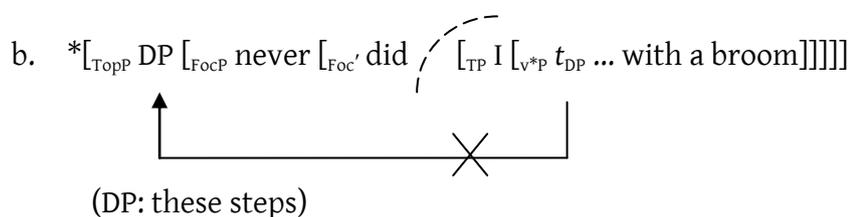
- (i) a. How did you say that on no account would they travel to France?

(Haegeman (2000b: 37))

- b. *... [_{ForceP} how [_{Force'} that [_{FocP} on no account [_{Foc'} would [_{TP} ... *t*_{how}]]]]]]
 c. [_{ForceP} [_{FocP} how [_{Foc'} did [_{TP} you [_{v*P} say *t*_{how} [_{ForceP}]]]]]]]

Next, let us consider the interaction of negative preposing with topicalization. It is shown in (155a) that negative preposing cannot co-occur with topicalization of an argument. Once the derivation has completed the FocP phase, the domain of Foc, i.e. TP is sent off to the phonological and semantic components. Therefore, the edge feature on Top, which is merged above FocP, cannot probe and attract the topic DP within TP without violating the PIC, as represented in (155b).

(155) a. *These steps never did I sweep with a broom. (Emonds (1976: 41))



On the other hand, it is noteworthy that a preposed sentence-negative element can co-occur with a topicalized sentential adjunct, as illustrated in (156a). This thesis assumes that such a sentential adjunct can be base-generated as a scene-setting phrase in sentence-initial position, which is presumably [Spec, TopP] under the split CP analysis adopted here (see Haegeman (2000a) for a similar analysis in terms of what she calls scene-setting projection). Then, the grammaticality of (156a) is accounted for because it does not involve extraction across the fronted sentence-negative element, as shown in (156b).

In (ib), the edge feature on the embedded Force cannot probe and attract the *wh*-phrase within the embedded TP, which has already been transferred at the embedded FocP phase. Note that if *how* were a manner adjunct modifying the embedded clause, it would ask about the way to travel to France and the whole embedded clause containing it would be negated by the negative PP. To put it in another way, *how* would be interpreted inside the scope of negation. Hence, it should be base-generated within TP as the scope of sentence negation. On the other hand, in (ic), the edge feature on the matrix Foc can have access to the *wh*-phrase base-generated within the matrix TP, which will not be transferred until all the syntactic operations within the matrix FocP phase have been completed. Thus, the derivation in (ic) is the only legitimate way to generate the surface form of (ia) and therefore the *wh*-phrase can only modify the matrix clause.

- (156) a. During the vacation, on no account would I go into the office.
 (Haegeman (2000a: 133))
- b. $[_{TopP} \text{ during the vacation } [_{FocP} \text{ PP } [_{Foc'} \text{ would } [_{TP} \text{ I go ... } t_{PP}]]]]$
 (PP: on no account)

To sum up, this section has offered an analysis of negative inversion based on the assumption that the polarity relation is formed within a single transferred domain. According to it, if a sentence-negative element is preposed to [Spec, FocP], T with a polarity feature must raise as far as Foc, inducing subject-auxiliary inversion. Then, it has been shown that the analyses built upon the proposed syntactic structure can correctly capture a number of properties of the NIC including its co-occurrence restrictions with other kinds of A'-movement.

4.5. Extension to Non-inverted Negative Sentences

As mentioned at the beginning of this chapter, sentence-negative elements can also appear in other syntactic positions than the left periphery of a clause. It is worthwhile to note here that negative sentences with a sentence-negative element in those positions behave very much like the NIC with respect to the tag-question diagnosis of sentence negation, as shown below.

- (157) Under no circumstances will she return here, will she?
 (Quirk et al. (1985: 779))
- (158) a. Writers will never accept suggestions, will they? (Klima (1964: 263))
 b. John cannot speak Spanish, can he? (Nakamura (2009: 15))

(159) a. No one talked to the police about any crime, did they?

(De Clercq, Haegeman and Lohndal (2012: 21))

b. He had no patience, did he?

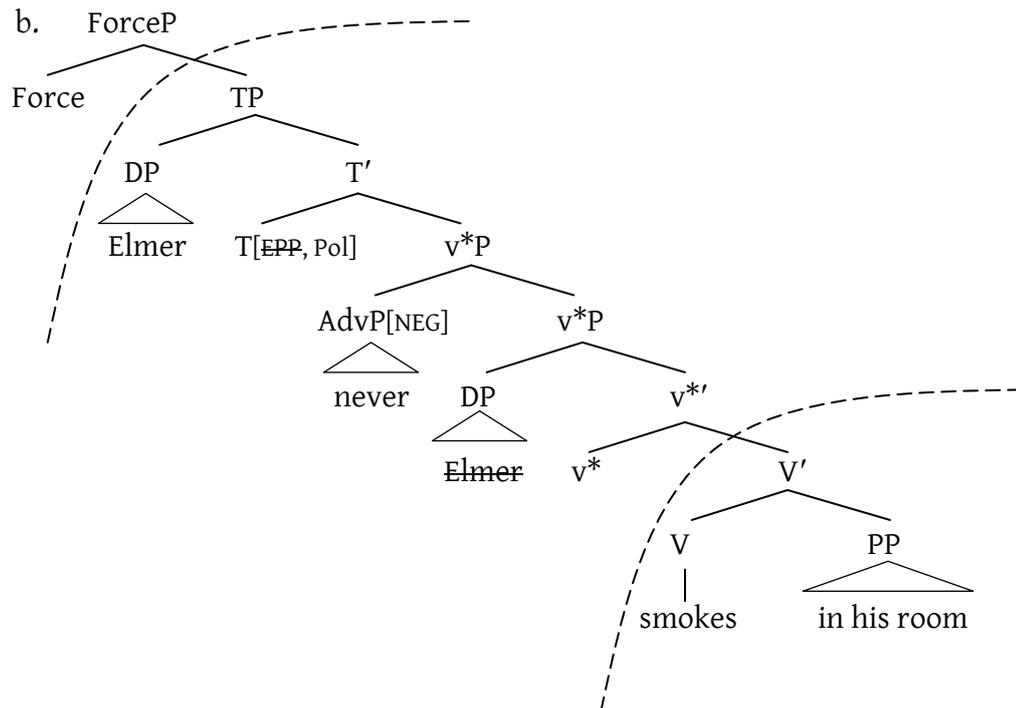
(Huddleston (1984: 420))

Given the standard assumption that tag questions typically have the opposite polarity from that of main clauses preceding them (cf. Klima (1964)), this fact indicates that these negative expressions also entail sentence negation (see Klima (1964) and Huddleston (1984: Ch. 13) for further evidence showing that sentences like (158) and (159) express sentence negation). Therefore, there is no doubt that they are involved in the computation of the scope of sentence negation. This section attempts to extend the analysis of sentence negation proposed in the previous section to non-inverted negative sentences, with the aim of providing a unified explanation of sentence negation.

4.5.1. Negative Sentences with a Negative Adjunct

The negative sentence with a negative adjunct in (160a) is analyzed as having the syntactic structure in (160b), under the analysis of sentence negation in this thesis.

(160) a. Elmer never smokes in his room.



At the v^*P phase, the subject DP and the locative PP are merged in [Spec, v^*P] and the complement position of V, respectively. Once these operations have been completed, cyclic Transfer applies to the domain of v^* , i.e. VP. At the ForceP phase, the subject DP raises to [Spec, TP] to satisfy the EPP-feature on T, while the negative AdvP stays in the left-adjoined position of v^*P . Importantly, both of the negative AdvP with a negative feature and T with a polarity feature fall within the same transferred domain, as it stands. Therefore, it is unnecessary for the latter to undergo head movement to the CP domain and hence such movement is blocked by the principle of last resort (cf. Chomsky (1995b)), according to which a step in a derivation is legitimate only if it is necessary for convergence. As a result, these two elements within TP undergo simultaneous Transfer at the end of the ForceP phase and hence the scope of sentence negation can be properly determined on the basis of their polarity relation within a single transferred domain. Finally, cyclic Transfer applies to the remaining ForceP, with the whole derivation judged to be convergent. Thus,

the surface form is generated in which the subject precedes the finite verb.⁵⁴

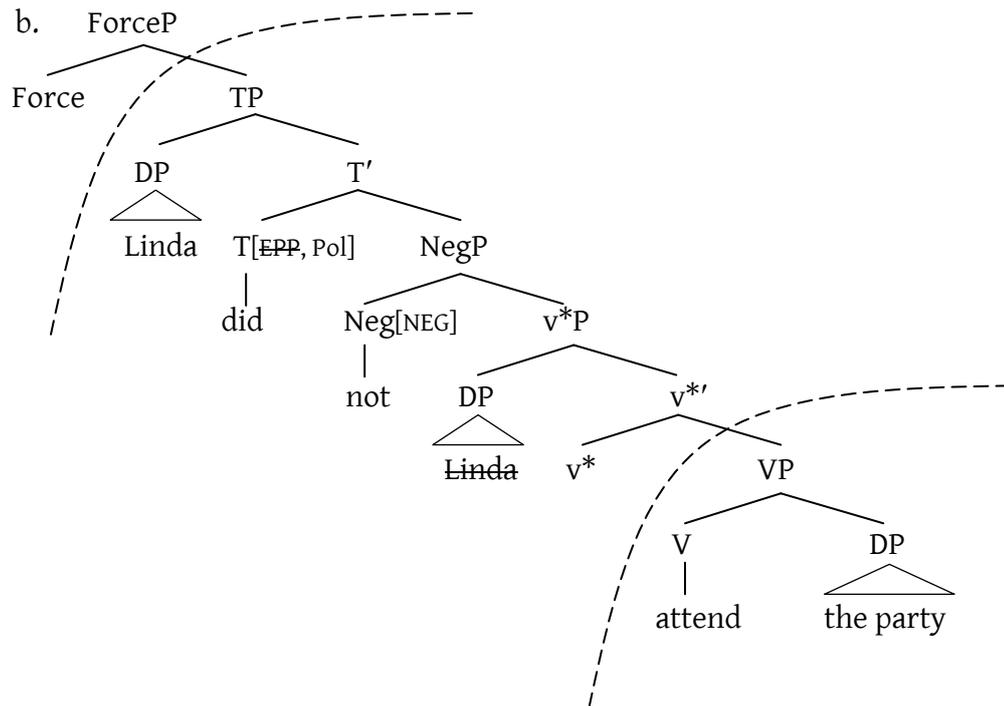
The same lines of explanation hold for the negative sentence with *not* in (161a), except that its syntactic structure contains NegP (see Pollock (1989), Bobaljik (2002a), and Hornstein (2009) for the empirical evidence indicating that sentences with *not* involve NegP, in contrast to those with *never*; see also section 5.5 of chapter 5 for more detailed discussion of the syntactic status of *not*). This chapter follows Potsdam (1997) in assuming that the preverbal negative marker *not* is merged in the head of NegP at least in Present-day English. Then, *not* in Neg and T in its base position together undergo Transfer at the ForceP phase, so that TP headed by the latter can be properly interpreted as the scope of the former, as shown in (161b). What should be stressed here is that it is intuitively natural to assume that both of (160a) and (161a) fall under the same mechanism by which the scope of sentence negation is determined, because both of them entail sentence negation (see the discussion of (158) above).

- (161) a. Linda did not attend the party.

⁵⁴ Subject-auxiliary inversion is allowed to apply in the interrogative context even if the sentence contains a sentence-negative element in medial position, as is suggested by the grammaticality of (ia). But note that this is caused by a factor independent of the determination of the scope of sentence negation.

- (i) a. Why does Mary never drink coffee?
 b. [_{FocP} why [_{Foc'} does[Pol] [_{TP} Mary [_{T'} does[Pol][_{v*P} never[NEG][_{v*P} drink coffee]]]]]]

Since it goes beyond the scope of this thesis to work out the exact mechanism by which subject-auxiliary inversion is induced in interrogative sentences, it suffices here to assume with Rizzi (1997) that a *wh*-phrase (which may be null in the case of yes/no-questions; see Grimshaw (1997)) in [Spec, FocP] requires T to raise as far as Foc. Then, the immediate question is how the scope of sentence negation is determined in (i), where T, which has now reached Foc, belongs to a different transferred domain from that of the negative AdvP adjoining to *v*P*. It might be suggested that a copy of T in its base position can enter into a polarity relation with the negative AdvP, as shown in (ib), given the assumption that head movement leaves behind a copy of a moved head (cf. Roberts (1997b), Lechner (2006), and Grebenyova (2012)). On the other hand, note that subject-auxiliary inversion is still forbidden to apply in the declarative context because the derivation does not involve a *wh*-phrase merged in [Spec, FocP], which renders it unnecessary and hence impossible under the principle of last resort for T to raise as far as Foc.

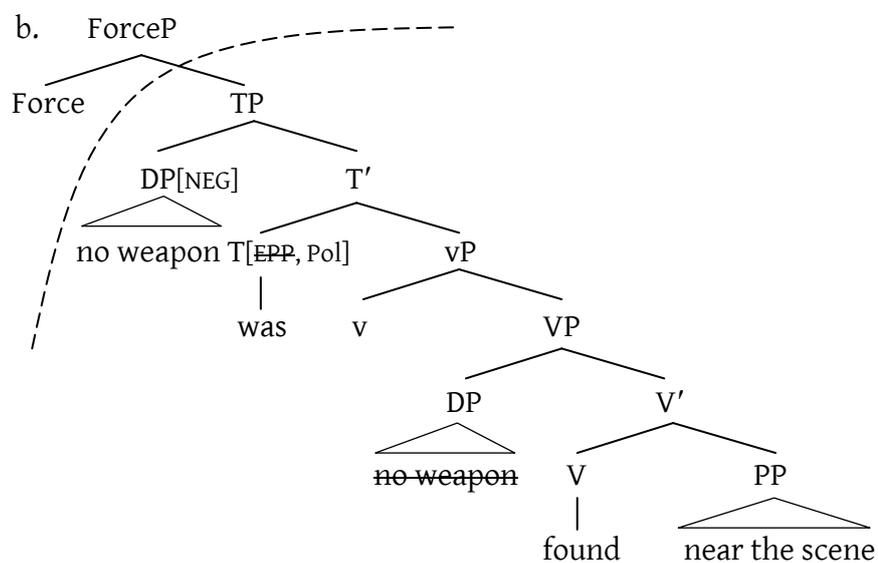


4.5.2. Negative Sentences with a Negative Argument

4.5.2.1. Negative Subjects

The negative sentence with a negative subject in (162a) also fall under the analysis of sentence negation in this thesis, as is clear from its syntactic structure in (162b).

(162) a. No weapon was found near the scene.



At the ForceP phase, the negative subject DP is merged in [Spec, VP], while the locative PP is merged in the complement position of V. Then, the negative subject DP moves to [Spec, TP] in order to satisfy the EPP-feature on T. At this point, the negative subject DP reaching [Spec, TP] and T staying in its base position are contained in a single transferred domain without raising of the latter to the CP domain, and hence such head movement is blocked under the principle of last resort. As soon as all the syntactic operations within the ForceP phase are applied, the domain of Force, i.e. TP is transferred to the phonological and semantic components, with the result that the whole TP can be interpreted as the scope of sentence negation, owing to the establishment of the polarity relation between the relevant two elements within that domain. Finally, the topmost ForceP is transferred to the phonological and semantic components at the end of the derivation, which leads to the convergence of the whole derivation. Thus, the surface form is derived in which the subject and the finite verb are not inverted.

4.5.2.2. Negative Objects

An apparent counterexample to the analysis of sentence negation in this thesis is a negative sentence with a negative object like (163). If the negative object DP stayed in the complement position of V as its base position, it would be transferred at the v*P phase, separately from T-head transferred at the ForceP phase. Hence, the derivation would be ruled out because of the failure to establish the polarity relation between them and determine the scope of sentence negation, contrary to the fact that such sentences are undoubtedly grammatical. However, on closer examination, it turns out that they actually do not constitute a counterexample.

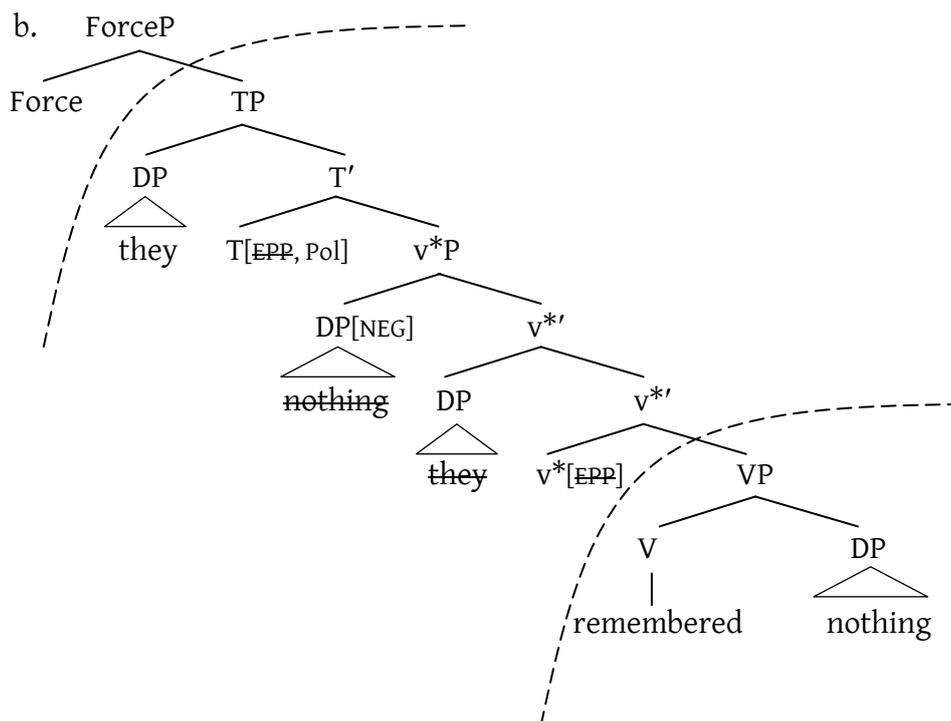
(163) They remembered nothing.

It has been claimed in the literature that quantificational objects including negative objects must evacuate from its base position (Heim and Kratzer (1998), Fox (2000), and Akahane (2008) among others). In particular, Fox (2000) argues that a quantificational object undergoes obligatory quantifier raising to the left-adjoined position of VP/v*P, in order to avoid a type mismatch in the sense of Heim and Kratzer (1998). Similarly, Akahane (2008) contends that a quantificational object raises obligatorily to the left edge of v*P under probing by the quantificational feature on v*. What should be mentioned here is that most of the researchers who resort to such movement of a quantificational object assume that it involves so-called covert movement at the level of logical form as the semantic representation of a whole sentence. But the notion of logical form has already been abandoned within the current framework of the Minimalist Program (Chomsky (2004: 107)); under the phase-based derivational model, the syntactic component sends the relevant information to the semantic component piece by piece, without waiting for the semantic representation of a whole sentence to be completed. Then, the question immediately arises as to how what they called covert movement can be recast within the recent minimalist framework adopted in this thesis. One promising candidate is the pronunciation of the lower copy of a moved element (cf. Pesetsky (1997), Nunes (1999), and Bošković (2001) among others). Under this idea, if an element undergoes movement in the syntactic component, it leaves behind its copy in its base position, based on the copy theory of movement. Subsequently, when the relevant syntactic structure is mapped to the phonological component, there occurs a choice concerning which copy of the moved element should be pronounced. More precisely, the lower copy can be pronounced instead of the higher copy if and only if pronouncing the higher copy would lead to some phonological violation, provided that the violation can be avoided by pronouncing the lower copy (cf. Bobaljik (2002a), Bošković (2002), and Bošković and Nunes (2007) among

others).

With these in mind, let us reexamine the negative sentence repeated in (164a) with its syntactic structure shown in (164b).

(164) a. They remembered nothing.



At the v^*P phase, the subject DP and the negative object DP are merged in [Spec, v^*P] and the complement position of V, respectively. The negative object DP moves to the outer [Spec, v^*P] under probing by the EPP-feature on v^* .⁵⁵ Once all the operations within the

⁵⁵ This follows up Chomsky's (2000) analysis of object shift, according to which the phase head v^* is optionally assigned an EPP-feature. There is a piece of evidence indicating that the negative object DP undergoes A-movement triggered by the EPP-feature on v^* . The moved negative object DP does not exhibit so-called weak cross-over effects, as shown in (ia).

(i) a. The DA discredited no suspect_i during his_i trial. (Lasnik (2001: 104))

b. [_{ForceP} [_{TP} The DA [_{v*P} DP [_{VP} [_{VP} discredited DP] during his trial]]]]

(DP: no suspect)

Given that a bound variable pronoun must be A-bound by its antecedent (cf. Reinhart (1983)), the grammaticality of (ia) is accounted for because the negative object DP goes through A-movement to the outer [Spec, v^*P], so that it can serve as an appropriate antecedent of the bound variable pronoun in the adverbial adjunct adjoining to VP, as shown in (ib).

v*P phase have been applied, the domain of v*, i.e. VP is sent off to the phonological and semantic components. At this point, the lower copy of the moved negative object DP is overtly spelled out, while the phonological features of its higher copy are stripped away. At the ForceP phase, the subject DP raises to [Spec, TP] under probing by the EPP-feature on T.⁵⁶ After this operation, the domain of Force, i.e. TP, which now contains both the moved negative object DP and T-head, is transferred to the phonological and semantic components, with the result that the scope of sentence negation can be successfully determined on the basis of their polarity relation. Finally, the remaining ForceP is shipped off to the phonological and semantic components, generating the surface form where the negative object DP is realized in postverbal position.

It is important to articulate the reason why the higher copy of the moved negative object DP in the outer [Spec, v*P] cannot be pronounced. One possibility is that the pronunciation of its higher copy would get in the way of affix hopping (see Bošković and Nunes (2007) for a similar analysis of covert object shift in Scandinavian). If it were to be pronounced in the left edge of v*P, it would intervene between the verbal affix on T and the verbal stem raised to v*, violating the phonological adjacency requirement between them. In contrast, such a violation can be avoided if its higher copy is phonologically deleted and instead its lower copy is pronounced. Another possibility is that the pronunciation of its higher copy would result in a violation of the distinctness condition in Richards (2010). Richards argues that the syntactic structure which contains two nodes of the same syntactic category in a single transferred domain cannot be linearized in the phonological

⁵⁶ One might suspect that A-movement of the subject DP in question would result in a violation of locality because it clearly moves across the object DP in the outer [Spec, v*P]. However, since the two elements are in the same minimal domain of v*, they are equidistant from T. Moreover, given the assumption that movement operations require pied-piping the phonological features of a moved element (cf. Chomsky (2001)), it is impossible for the object DP lacking its phonological features to undergo further movement. Thus, the subject DP is the only candidate to undergo raising to [Spec, TP] and hence it must move there.

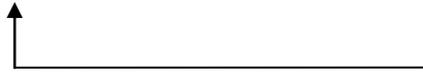
component, under the hypothesis that the linearization process has no way of distinguishing between these two instances of the same category (see Richards (2010: 5) for the suggestion that the statement such as <DP, ..., DP> is regarded as a self-contradictory instruction saying that a DP precedes itself). In the case at hand, if the higher copy of the moved negative object DP were to be overtly spelled out, the two DPs consisting of the subject DP in [Spec, TP] and the object DP in the outer [Spec, v*P] would co-exist in the domain of Force, leading to a violation of the distinctness condition on linearization. In contrast, if its higher copy is phonologically deleted and hence it is not overtly spelled out, such a violation can be avoided. While it seems that each of these two analyses has its own advantages and disadvantages, either analysis provides theoretical motivation for the impossibility of pronouncing the moved negative object DP in the left edge of v*P. On the other hand, it should be noted that the pronunciation of the lower copy is sanctioned only when the pronunciation of the higher copy is prohibited by some phonological requirement, as mentioned above. To put it another way, if pronouncing the higher copy induces no phonological violation, it is pronounced preferentially over the lower copy. This excludes completely the possibility that a sentence-negative element and T move covertly to [Spec, FocP] and Foc, respectively.

It has just been argued that a negative object DP moves obligatorily to the left edge of v*P in the syntactic component, while it is pronounced in its base position in the phonological component. This immediately turns out to be empirically adequate on independent grounds. A postverbal negative object DP can license a negative polarity item in the adverbial adjunct presumably adjoining to the right side of VP, as illustrated in (165a).

(165) a. The DA cross-examined none of the witnesses during any of the trials.

(Lasnik (2001: 104))

b. ... [_{v*P} DP [_{v*' v*} [_{VP} [_{VP} cross-examined DP] during any of the trials]]]



(DP: none of the witnesses)

Given the standard assumption that negative polarity items must be licensed by c-commanding affective constituents including negatives (cf. Klima (1964)), this grammaticality follows naturally from the present analysis, according to which the negative object DP moves covertly to the left edge of v*P, from which it can properly c-command the negative polarity item contained in the adverbial adjunct, as shown in (165b) as the relevant structure. On the other hand, it should be confirmed that the postverbal negative object DP has not moved as far as the CP domain; if it moved covertly to [Spec, FocP], it would undergo Transfer separately from T in its base position, leading to the wrong prediction that non-inverted negative sentences with a negative object DP in postverbal position should be ungrammatical. A piece of evidence comes from the fact that a postverbal negative object DP cannot license a negative polarity item in subject position, as exemplified in (166a).

(166) a. *Anyone ate nothing. (Cormack and Smith (2000: 403))

b. *... [_{TP} anyone [_{v*P} DP [_{v*' v*} [_{VP} ate DP]]]]]



(DP: nothing)

This ungrammaticality is correctly captured by the present analysis, according to which the

negative polarity item in [Spec, TP] cannot be properly c-commanded by the negative object DP as its licenser, which stays within the v*P domain, as represented in (166b) as the relevant structure.⁵⁷ Thus, it can be safely concluded that a negative object DP that is realized in postverbal position has not undergone movement to the CP domain in its covert form as well as its overt form. Then, the fact in (166), coupled with that in (165), indicates that the postverbal negative object DP has moved to the structural position that is lower than TP and higher than VP, namely v*P within the clausal architecture adopted in this thesis.

To sum up this section, it has been demonstrated that the analysis of sentence negation provided for the NIC can be extended to accommodate non-inverted negative sentences. This enables us to account for a range of negative sentences in a unified way, regardless of whether the sentence-negative element is realized in sentence-initial, sentence-medial, or sentence-final position.

4.6. Concluding Remarks

This chapter has examined the derivation underlying the NIC in Present-day English, essentially within the phase-based derivational model. It has been proposed that a sentence-negative element with a negative feature and T-head with a polarity feature must fall within a single transferred domain, combining Holmberg's (2012) idea of a polarity relation between the two elements with Tanaka's (2011) of semantic interpretation in units of single transferred domain. Under this proposal, once a sentence-negative element is preposed to [Spec, FocP], T raises obligatorily as far as Foc so as to establish a polarity

⁵⁷ If the negative object DP is preposed to sentence-initial position, it can license the negative polarity item in subject position, as illustrated in (i). This is because the negative object DP reaching [Spec, FocP] can c-command the negative polarity item occupying [Spec, TP].

(i) Nothing did anyone eat. (Cormack and Smith (2000: 403))

relation with it within a single transferred domain, resulting in subject-auxiliary inversion. The proposed derivation gives a basis for explaining not only the basic properties of the NIC but also the co-occurrence restrictions of negative preposing with other kinds of A'-movement. Then, it has been demonstrated that the analysis of sentence negation provided for the NIC can be extended to accommodate a range of non-inverted negative sentences. To the extent that the analysis can also successfully account for these non-inverted negative sentences, it provides us with a unified explanation of sentence negation covering both the NICs and non-inverted negative sentences.

Chapter 5

A Diachronic Aspect of the Negative Inversion Constructions

5.1. Introductory Remarks

Sentence negation has developed through a number of stages in the history of English, and there have been many diachronic studies on its syntactic changes in the literature (Frisch (1997), van Kemenade (2000), and Ingham (2007) among many others). Some of them draw on the linguistic cycle proposed by Jespersen (1917), which is called Jespersen's Cycle. According to it, the historical changes of negative markers are summarized in (167).

(167)	Stage 1: Ic ne secge.	(ca. 450~1400)
	Stage 2: I ne seye not.	(ca. 1100~1500)
	Stage 3: I say not.	(ca. 1400~1700)

At Stage 1, sentence negation was expressed by the preverbal negative marker *ne* alone. At Stage 2, once *ne* as the primary negator had undergone phonological weakening, it began to be accompanied by *not* as the secondary negator. It should be noted that *ne* and *not*

denote single negation together rather than cancel each other out, so this phenomenon is often called negative concord. At Stage 3, *ne* was lost by morphological erosion and instead *not* came to express sentence negation on its own.

This chapter investigates the syntactic changes of negative-initial constructions including the NIC in the history of English, along the three stages of Jespersen's Cycle. Sentences introduced by a sentence-negative element were already attested in Early English, but they strikingly differed from negative sentences in Present-day English in three respects. First, the negative marker *ne* could occupy sentence-initial position at Stage 1, as illustrated in (168a). Given the fact in (168b) that Present-day English disallows the negative marker *not* to be fronted to sentence-initial position, this difference is noteworthy. However, the *ne*-initial construction was somehow lost around the 13th century, as will be shown later.

- (168) a. Ne onceow heo weres gemanan
 not knew she of-man society

(cocathom1,ÆCHom_I,_2:196.197.449: 03)

'She did not know a society of man'

- b. *Not have I read that stupid book. (Christensen (2003: 2))

Second, negative inversion was normally not triggered by a preposed negative argument/adjunct at Stage 2, as shown in (169a). In contrast, negative inversion is obligatory in the counterpart of Present-day English, as shown by the contrast in grammaticality between (169b) and (169c), and hence the absence of negative inversion at Stage 2 has been a matter of some debate in previous studies (Fischer (1992), Nevalainen (1997), and Ingham (2007)).

- (169) a. and no þing þai ne sparede
 and no thing they not spared (CMBRUT3,45.1352: M3)
 ‘and they did not spare nothing’
- b. *Nothing they spared.
- c. Nothing did they spare.

Third, negative sentences introduced by *not* were sporadically attested in early periods of Stage 3, as exemplified in (170a). On the other hand, this type of NIC is no longer available in Present-day English, as is clear from the ungrammaticality of (170b). This proves to be of great interest, given the fact that negative adverbs such as *never* can still occupy sentence-initial position.

- (170) a. Nat may the woful spirit in myn herte Declare o point of alle my
 not can the woeful spirit in my heart declare one bit of all my
 sorwes smerte
 sorrows painful (ca. 1385, Chaucer CT.Kn. A.2765: MED)
- b. *Not will I read that nonsense. (Christensen (2003: 13))

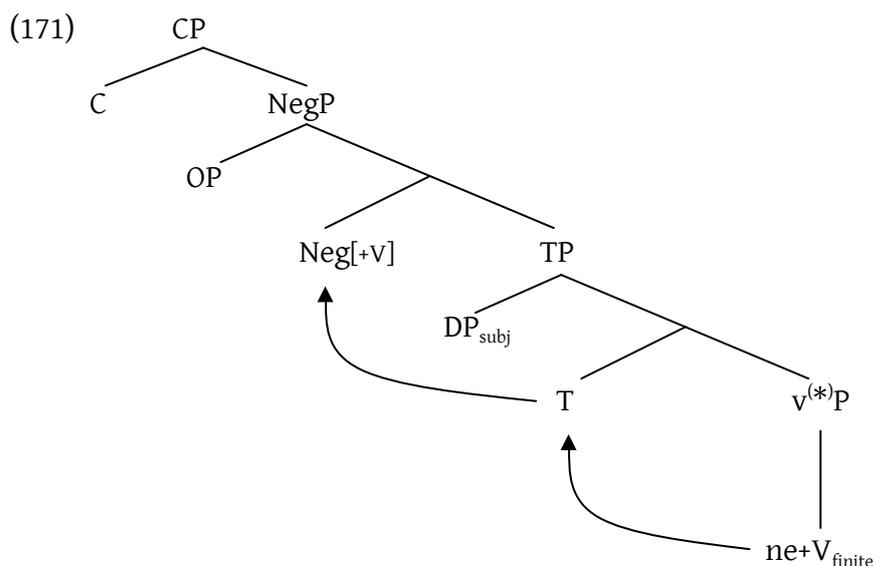
This chapter attempts to provide principled explanations especially for the following three questions: (i) Why did the *ne*-initial construction exist only for a certain period of Stage 1? (ii) What was the cause of the absence of negative inversion at Stage 2? (iii) How did the *not*-initial construction become obsolete at Stage 3?

This chapter is organized as follows. Section 5.2 begins with a critical review of Ingham (2007) among previous studies on the diachrony of negative-initial constructions. Section 5.3 examines the *ne*-initial construction in Old English and Early Middle English. It

is proposed that two types of *ne* were in competition in the sense of Pintzuk (1999), thereby explaining the gradual decline and final loss of the *ne*-initial construction. Section 5.4 elaborates on the non-inverted negative-initial construction in Middle English and accounts for the absence of negative inversion during that period, particularly based on the principle of last resort. Section 5.5 is devoted to investigating the NICs including the *not*-initial construction from Late Middle English onward and argues that the negative marker *not* has undergone structural competition, while negative adverbs such as *never* have not. This provides a wedge toward accounting for their (im)possibility of fronting to sentence-initial position in Present-day English. Section 5.6 briefly mentions other instances of sentence negation in Early and Modern English including sentences with *ne* or *not* in sentence-medial position, toward a fuller description of sentence negation in the history of English. Section 5.7 offers concluding remarks of this chapter.

5.2. Previous Study

Ingham (2007) claims that Old English and Early Middle English merge NegP in either of two structural positions, i.e. the lower one just below TP or the higher one just above TP, and that the higher NegP plays a crucial role in deriving the *ne*-initial construction, as shown in (171).

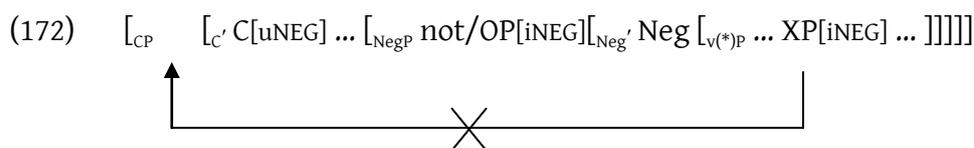


(adapted from Ingham (2007: 376))

In (171), NegP is located between CP and TP, [Spec, NegP] is filled by the null operator, and Neg is assigned a V-feature requiring a verbal element to raise overtly. On the other hand, the preverbal negative marker *ne* is base-generated in V as a complex verbal head consisting of *ne* and V. The complex *ne+V* moves through $v^{(*)}$ and T to Neg under attraction by the V-feature on Neg, so that it serves to identify the null operator in their Spec-head configuration. Thus, the subject-verb inversion sentence introduced by *ne* is derived.

Under Ingham's analysis, the demise of the *ne*-initial construction is attributed to the loss of the higher NegP in the Late Middle English period. More specifically, as the postverbal negative marker *not*, which is base-generated within the lower NegP, was established as a sentence negator, NegP came to be predominantly merged below TP. Once NegP ceased to be merged above TP, the derivation built upon the higher NegP in (171) was no longer available, leading to the loss of the *ne*-initial construction.

Ingham goes on to argue that the absence of the NIC during the period of negative concord is straightforwardly accounted for in terms of the lower NegP. Late Middle English locates NegP between TP and $v^{(*)}P$, and [Spec, NegP] is occupied by the overt operator *not* in sentences with *not* or the null operator in sentences without *not*, as shown in (172). Then, the overt or null operator in [Spec, NegP] blocks the movement of the negative argument/adjunct XP to [Spec, CP] under attraction by the uninterpretable NEG-feature on C, based on the minimality condition (Rizzi (1990)), which dictates that a probe attract the nearest appropriate constituent as its goal. Since the negative argument/adjunct XP base-generated within $v^{(*)}P$ could not be fronted to sentence-initial position, it follows that the NIC led by it was never generated during the relevant period.



(adapted from (Ingham (2007: 381))

However, it turns out that Ingham's analysis is faced with two empirical problems. First, since his analysis does not postulate any movement to the CP domain, it makes the wrong prediction that the *ne*-initial construction should be available in subordinate clauses that are not complements of assertive predicates. In fact, it shows a strong tendency to occur in main clauses, as is clear from the data in (173) from YCOE and PPCME2.⁵⁸

⁵⁸ The investigation is restricted to those texts listed in (173) whose total word counts are more than 25,000 words, with the aim of making quantitatively reliable generalizations. Assuming with Salvesen and Walkden (2014) that Hooper and Thompson's (1973) distinction between root and non-root clauses in Present-day English holds for Early English, the clausal complements of assertive predicates are counted as main clauses rather than subordinate clauses in (173). In fact, the *ne*-initial construction was attested in the clausal complement of an assertive predicate like (i).

(i) & ∅ seide hire sikerliche þt ne schulde ha lihtliche wilni na wunne;
and (Africanus) said her assuredly that not should she easily desire no joy
(CMJULIA,99.67: M1)
'and Africanus assuredly said to her that she should not easily desire any joy'

Assuming with Pintzuk (1999) that patterns with a rate of less than 1% are judged to be ungrammatical, we can conclude that the *ne*-initial construction could only appear in main clauses, but not in subordinate clauses that are not complements of assertive predicates.

(173) The number of the *ne*-initial construction in main and subordinate clauses in Old English and Early Middle English texts

	cocura	coaelhom	cocathom	cogregdC	CMEARLPS
main	30	38	214	27	15
subordinate	0	0	2	0	0
%main/sub	100/0	100/0	99.1/0.9	100/0	100/0

Second, his analysis fails to capture the fact that fronting a negative argument/adjunct to sentence-initial position was possible during the period of negative concord, though it never induced subject-verb inversion. Since Ingham assumes that the movement of a negative argument/adjunct to [Spec, CP] results in a violation of minimality during the relevant period, it seems difficult to accommodate negative-initial sentences like (174a, b).

- (174) a. and no þing þai ne sparede
 and no thing they not spared (CMBRUT3,45.1352: M3)
 ‘and they did not spare nothing’
- b. but by no meanes she would not confesse the same
 but by no means she would not confess the same
 ‘but she would not confess the same by any means’

(ORIGIN2,287.030.461 / cf. Wallage (2012: 21))

In sum, this section has offered a critical review of Ingham (2007) among relatively recent studies on the diachrony of negative-initial constructions, pointing out its empirical insufficiencies. The remainder of this chapter gives an alternative analysis of the development of negative-initial constructions including the NIC in the history of English.

5.3. The *Ne*-initial Construction in Old English and Early Middle English

5.3.1. The Derivation of the *Ne*-initial Construction

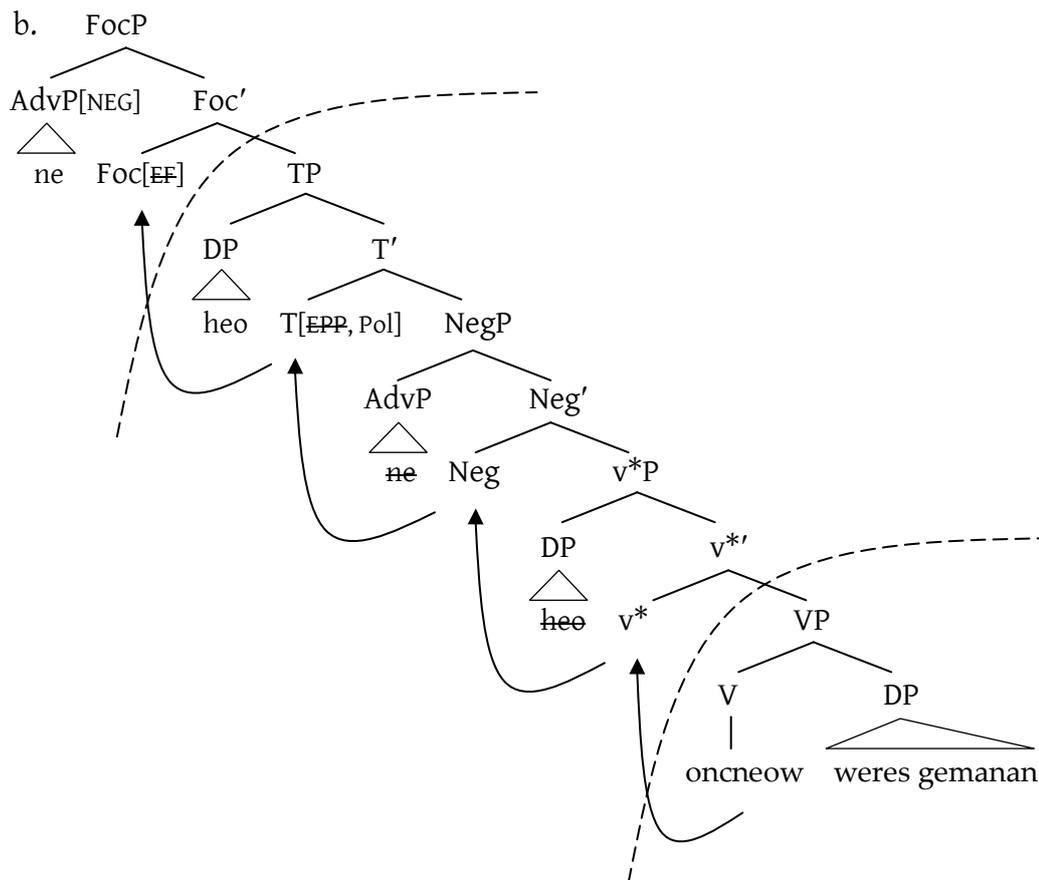
This thesis proposes that the *ne*-initial construction in (175a) has the syntactic structure in (175b), which is basically along the lines of van Kemenade (1997b, 2000) but adapted to the split CP analysis employed throughout this thesis.⁵⁹

(175) a. Ne oncneow heo weres gemanan
 not knew she of-man society

(cocathom1,ÆCHom_I,_2:196.197.449: 03)

‘She did not know a society of man’

⁵⁹ On the following pages of this chapter, the formal features and functional projections irrelevant for the present discussion are omitted; for example, the uninterpretable and interpretable ϕ -features on T/V and a subject/object DP, respectively, and FinP/ForceP in the split CP domain. This chapter assumes with Roberts (1997a) that VP, $v^{(*)}$ P, and TP are uniformly head-initial in Early English, just as in Present-day English.



At the v^*P phase, the subject DP and the object DP are merged in [Spec, v^*P] and the complement position of V, respectively. Once all the operations including verb raising to v^* within v^*P phase have been applied, the domain of v^* , i.e. VP is transferred to the phonological and semantic components. At the FocP phase, the subject DP moves to [Spec, TP] under probing by the EPP-feature on T, while the negative marker *ne* base-generated in [Spec, NegP] moves to [Spec, FocP] under probing by the edge feature on Foc.⁶⁰ Then, the

⁶⁰ Van Kemenade (2000) suggests that the sentence-initial negative marker *ne* is syntactically a topic of the sentence. However, it is not so clear what sort of semantic interpretation is derived by topicalization of *ne*, given that a topicalized element typically reintroduces as a topic of the sentence the information already mentioned in the preceding context. Instead, this chapter assumes with Kiparsky (1995) that *ne* undergoes focalization in the derivation of the *ne*-initial construction, which feeds the semantic interpretation in which the negative meaning of the sentence is focalized and hence emphasized. Incidentally, the fact that the *ne*-initial construction only occurred in root clauses, but not in non-root clauses, is easily explained under the present analysis in terms of focalization of *ne*. This thesis assumes, extending Haegeman's (2006) analysis of Present-day English to Early English, that root clauses involve a full-fledged CP domain with FocP as well as TopP, while non-root clauses contain a truncated CP domain without them. Then, root clauses can provide a focus position for the negative marker *ne*, while non-root clauses cannot.

verbal complex consisting of V and v* moves through Neg to T, given that overt verb movement had been available until the 17 century due to the richness of verbal agreement morphology (see Vikner (1997), Warner (1997), and Roberts (2007); see also chapter 3). This thesis argues that the polarity of Early English sentences is determined by the same mechanism as that of Present-day English, as repeated here as (176) (see section 4.3 of chapter 4 for justification of this idea).

(176) The polarity relation is formed within a single transferred domain.

Then, T carrying a polarity feature, into which V, v*, and Neg incorporate, further raises obligatorily as far as Foc so that it can form a polarity relation with the negative marker *ne* in [Spec, FocP] bearing a negative feature under (176). Finally, the domain of Foc, i.e. TP and the remaining FocP are sequentially transferred to the phonological and semantic components, thus generating the verb-second sentence whose initial position is occupied by the negative marker *ne*.⁶¹

⁶¹ Some researchers including Hulk and van Kemenade (1997) suggest that pronominal subjects in Old English and Early Middle English move to the specifier position of a functional projection higher than TP. Along these lines, chapter 3 has claimed that a pronominal subject raises obligatorily to [Spec, Top¹P] before the 14th century, as illustrated by the movement that the pronominal subject *heo* undergoes in (i) (see subsection 3.2.2).

(i) [_{FocP} *ne* [_{Foc'} Foc / [_{Top¹P} *heo* [_{Top¹} Top¹ [_{TP} *t_{heo}* V+v*+Neg+T...]]]]]]

Note that the analysis in the text remains unchanged for the most part, even if the Top¹P analysis of pronominal subjects is adopted. T must move through Top¹ and eventually to Foc so as to undergo simultaneous Transfer with the negative marker in [Spec, FocP]. It is worthwhile to stress here that inversion in the *ne*-initial construction differs from that in the topic-initial construction, in that the pronominal subject and the finite verb were obligatorily inverted in the former, but not in the latter (see Fischer et al. (2000: 106ff)). This fact suggests that the finite verb in the *ne*-initial construction moves obligatorily to a syntactic head higher than Top¹P hosting the pronominal subject, namely Foc under the present analysis. See van Kemenade (1987: Ch. 4) for the analysis that pronominal subjects are proclitic on the finite verb in the topic-initial construction, whereas they are enclitic on the finite verb in the *ne*-initial construction.

Chapter 3 has also argued that the finite verb moves obligatorily as far as Fin in the derivation of the topic-initial construction, in order to accommodate the person and number agreement morphemes realized on the two distinct functional heads right above T carrying the tense

It has been generally observed in the literature that *ne* was a proclitic, and therefore it must be on the immediate left side of a finite verb (van Kemenade (1987), Traugott (1992), and Ohkado (1996) among others). In (175b), the negative marker *ne* in [Spec, FocP] can procliticize to the finite verb raised to Foc in the phonological component (see van Kemenade (2000) for the details of this phonological cliticization). On the other hand, where *ne* stays in [Spec, NegP], it could not procliticize to the finite verb raised to T. This thesis assumes, following up Pintzuk's (1999) phrasal affix analysis of adverbs such as *swa* and *þa*, that in such cases, *ne* moves to attach to the subject in [Spec, TP] in the syntactic component and later it procliticizes to the finite verb in T in the phonological component, as shown in (177). This explains the fact that *ne* appeared on the immediate left side of a finite verb even when it is not fronted to sentence-initial position, as in subject-initial sentences like *Ic ne secge* (see subsection 5.3.3 below for the discussion that an alternative derivation became available after the 10th century in which the finite verb picks up *ne* base-generated in the head of NegP on its way to T).



morpheme (see subsection 3.2.1). Given the fact that finite verbs in the *ne*-initial construction exhibited as rich verbal inflection as those in the topic-initial construction did, it is reasonable to assume that the same holds for the derivation of the *ne*-initial construction, as shown in (ii).

- (ii) $[_{\text{FocP}} \text{ne} [_{\text{Foc}'} \text{Foc} \text{ } \widehat{[_{\text{Top}^{\text{P}}}} \text{heo} [_{\text{Top}^{\text{P}}'} \text{Top}^{\text{P}}]_{[\text{unnumber}]} [_{\text{FinP}} \text{Fin}[_{\text{uperson}}] [_{\text{TP}} \text{t}_{\text{heo}} \text{V}+\text{v}^*+\text{Neg}+\text{T}[\text{itense}] \dots]]]]]]]$

Note that this is also compatible with the analysis in the text. The finite verb raises through T and Fin to Top^{P} , picking up its inflectional morphemes realized on T, Fin, and Top^{P} . Then, it must move further to Foc so that it can undergo simultaneous Transfer with the negative marker in [Spec, FocP]. Since all the verbal inflectional morphemes have been attached to V and the two elements that form a polarity relation has fallen within a single transferred domain, the derivation converges. On the following pages of this chapter, the movement of a pronominal subject to [Spec, Top^{P}] and the verb raising to Fin and then to Top^{P} are omitted for the sake of simplicity of discussion.

Note that the negative marker *ne* occupies [Spec, FocP] in (175b), along the lines of the verb-second analysis of the *ne*-initial construction by van Kemenade (1997b, 2000). Instead, one might analyze the *ne*-initial construction as the so-called verb-first construction, which was sporadically attested especially in Old English. One possible analysis of the verb-first construction under the split CP hypothesis is shown in (178), where [Spec, FocP] is left unoccupied while *ne* is positioned in Foc together with the raised finite verb (see Ohkado (2004) for the empirical evidence that the finite verb in the verb-first construction linearly precedes the pronominal subject, which suggests that it has moved to a syntactic head higher than Top¹P).

(178) [_{FocP} [_{Foc'} *ne*+V_{finite} [_{TP}]]]

However, there are two pieces of empirical evidence against the verb-first analysis of the *ne*-initial construction. First, the kinds of finite verbs in the verb-first construction were restricted to the copulas *beon* and *wesan* and the perfective auxiliary verb *habban* (Denison (1987)), while various kinds of finite verbs were attested in the *ne*-initial construction, as exemplified in (179).

(179) a. & ne mæg se man eþelice eþian
and not can the man easily breathe

(colaece,Lch_II_[1]:4.4.2.477: EOE)

‘and the man cannot easily breathe’

b. Ne forgif e ic eow swa swa ðes middaneard forgifð
not forgive I you so as this world forgives

(coaelhom,ÆHom_10:127.1469: O3)

- c. ne eodon hi swa feor up
not went they so far up

(cochronE,ChronE_[Plummer]:1001.12.1622: 04)

‘they did not go up so far’

Second, the verb-first construction occurred with very low frequency except in a small number of texts including Bede’s *History of the English Church* (Calle-Martín and Miranda-García (2010)), but the *ne*-initial construction was attested with much higher frequency. This is clear from the result of the investigation on the basis of YCOE, as summarized in (180).⁶²

(180) The frequency of the verb-first construction and the *ne*-initial construction in Old English texts (per 100, 000 words)

	cocura	coaelhom	cowsgosp	cogregdC	cowulf
verb-first	1.5	3.2	9.8	4.4	7.0
<i>ne</i> -initial	43.6	60.6	87.2	29.5	48.7

These two discrepancies lead us to conclude that the *ne*-initial construction is not an instance of the verb-first construction. In contrast, they are immediately accounted for if the *ne*-initial construction is analyzed as one of the verb-second constructions, as proposed in (175b); there should be no restrictions on the kinds of finite verbs, as in other

⁶² The investigation in (180) excludes Ælfric’s *Catholic Homilies*, which shows the author’s special preference for the *ne*-initial construction, as will be mentioned in the next subsection. This makes it difficult to compare the frequency of the *ne*-initial construction with that of the verb-first construction in this text under fair conditions. Note that the data of the verb-first construction only consists of indicative affirmative declarative sentences (see Calle-Martín and Miranda-García (2010)). Similarly, only indicative negative declarative sentences with no material preceding *ne* are counted as the *ne*-initial construction (see footnote 63 for relevant discussion).

verb-second constructions including those introduced by a *wh*-phrase or a short adverbial like *þa*. The higher frequency of the *ne*-initial construction is not surprising, given the fact that the verb-second word order was the most frequent pattern in main clauses of Old English (Bean (1983: 68)). On these empirical grounds, the *ne*-initial construction should be analyzed as the verb-second construction where [Spec, FocP] is occupied by the negative marker *ne* as the first constituent and the finite verb as the second constituent moves as far as Foc.

5.3.2. The Decline and Loss of the *Ne*-initial Construction

This thesis has employed YCOE and PPCME2 to investigate the distribution of the *ne*-initial construction in Old and Middle English. The result of this investigation is summarized in (181), which is in turn graphed as (182).⁶³

(181) The frequency of the *ne*-initial construction (per 100,000 words)

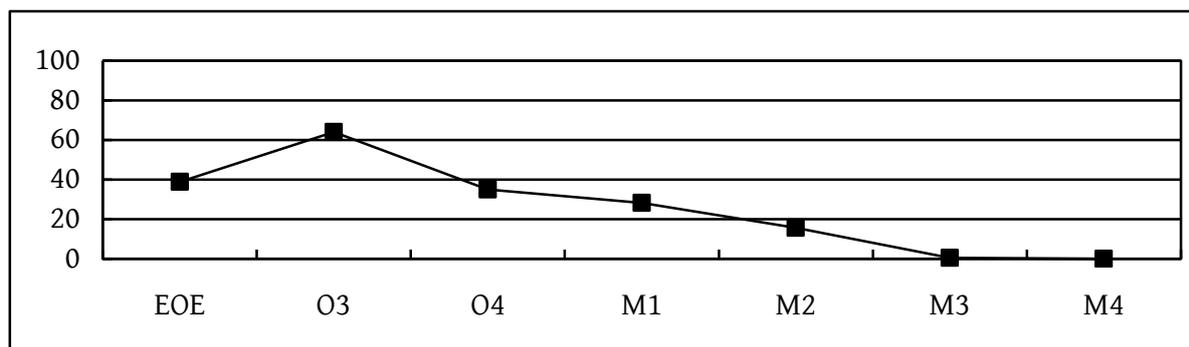
EOE	O3	O4	M1	M2	M3	M4
38.8	64.1	35.0	28.2	15.6	0.5	0

⁶³ Subjunctive or imperative sentences are not included in the figures of (181), because they show inversion of the subject and the verb, even without the sentence-initial negative marker *ne*, as shown in (i). This indicates that inversion in these sentence types has nothing to do with the fronting of *ne*. Therefore, this chapter confines the discussion to indicative sentences.

- (i) a. Lufian we urne Sceppend
 love we our creator (coblick,HomU_18_[BlHom_1]:5.51.50: O3)
 'We shall love our creator'
- b. Agylts ðu Drihtne ðas ðincg ...
 return you God these things (cootest,Deut:32.6.5044: O3)
 'Return these things to God ...'

Note also that the investigation in (181) only counts examples with *ne* as an adverb, excluding examples where *ne* is a conjunction used before non-verbal elements (Mitchell (1985: §1602)).

(182) The frequency of the *ne*-initial construction (per 100,000 words)



We can see that the *ne*-initial construction was observed in Old English with a certain frequency, but it gradually declined from Early Middle English onward, with the result that it was lost before the turn of Late Middle English. Note that among the total of 451 examples attested in O3, 214 examples are from Ælfric's *Catholic Homilies I and II*, which suggests a certain author's special preference for the *ne*-initial construction, leading to its higher frequency than is expected. Here are examples from each period.⁶⁴

- (183) a. *ne bið he lengra ðonne syfan elna lang*
 not is he longer than seven ells long

(coorosiu,Or_1:1.15.2.248: EOE)

'he is not taller than seven ells'

- b. *Næs he æþelboren*

not-was he of-gentle-birth (cocathom1,ÆCHom_I,_5:219.62.948: O3)

'He was not of gentle birth'

⁶⁴ The examples in (184b, c) exhibit negative concord. Given the analysis in (175b), under which [Spec, NegP] is filled with the primary negator *ne*, the question immediately arises where the secondary negator *not* is externally merged. This chapter assumes with Ingham (2007) that Early Middle English had an option of adjoining *not* to $v^{(*)}P$, as shown in (i).

(i) [_{NegP} *ne* [_{Neg'} Neg [_{$v^{(*)}P$} *not* [_{$v^{(*)}P$} ]]]]

Putting aside such examples during the transitional period, the secondary negator *not* came to be merged in [Spec, NegP] after the complete establishment of negative concord in Late Middle English, as we will see in section 5.4.

- c. and ne miht þu me beswican
and not could you me deceive

(comargaC,LS_14_[MargaretCCCC_303]:7.8.101: O4)

‘and you could not deceive me’

- (184) a. Ne scalt þu ʒelden vuel onʒein uuel nuða
not shall you repay evil for evil now (CMLAMBX1,15.180: M1)
‘You shall not repay evil for evil now’

- b. and ne wil ʒe nouʒt couaite rauyns
and not will you not covet spoils (CMEARLPS,72.3180: M2)
‘and you will not covet spoils at all’

- c. Ne dowte we not how byleue may now be lesse and now be more
not doubt we not how belief may now be less and now be more
(CMWYCSER,370.2583: M3)
‘We do not doubt how belief may now be less and now be more at all’

Some additional comments are in order with regard to the result in (181), in order to clarify the exact time when the *ne*-initial construction died out. I should be noted that there are 15 examples of the *ne*-initial construction found in M2, but all of them are from *The Earliest Complete English Prose Psalter*, a word-for-word translation from French and Latin psalters by an unknown writer in the early 14th century (Nevanlinna et al. (1993: 38)). Moreover, a translated text is often influenced by its source language, so it would be difficult to conclude that the *ne*-initial construction were still productive in M2. Therefore, it seems plausible that the *ne*-initial construction became almost obsolete in the 13th century, which is the conclusion also reached by Ingham (2005a) and Wallage (2012).

construction.⁶⁵

(186) The Uniformity Condition on Chains

Only a head can be adjoined to a head; only a maximal projection can be merged as a specifier. (Matushansky (2006: 72))

It has just been proposed that there were two types of *ne* in Late Old English and Early Middle English. This is corroborated by the examples in (187a) and (188a).

(187) a. Ne gehyrð Farao inc ...

not listens Pharaoh you (cootest, Exod:11.9.2821: 03)

‘Pharaoh does not listen to you ...’

b. [_{FocP} ne [_{Foc'} gehyrð [_{FinP} t_{Fin} [_{TP} Farao t_T [_{NegP} t_{ne} [_{Neg'} t_{Neg} [_{v*P} t_{v*} [_{VP} t_{gehyrð} inc ...]]]]]]]]]]

Assuming with Elenbaas and van Kemenade (2014) that only a phrase can be fronted to sentence-initial position, the negative sentence in (187a) is derived from the structure in which the negative marker *ne* as AdvP is base-generated in [Spec, NegP], as shown in (187b). On the other hand, the head-type of *ne* is illustrated by the example in (188a), whose

⁶⁵ One might wonder whether the notion of projection levels such as minimal, intermediate, or maximal projection is still available within the current framework of the Minimalist Program. Chomsky (1995a) suggests under the idea of bare phrase structure that they are reformulated as the relational properties of categories rather than the notational properties of syntactic trees. In particular, the three projection levels are defined as (i).

- (i) a. A minimal projection is a lexical item selected from the lexicon.
 b. A maximal projection is a lexical item that doesn't project any further.
 c. An intermediate projection is a lexical item whose status is neither minimal nor maximal. (cf. Boeckx (2008: 75))

Along these lines, this thesis assumes that minimal projections, namely heads, can be distinguished from maximal projections, namely phrases.

is important to note that topic-initial negative sentences like (188a) were productively attested from O3 onward (see van Kemenade (1997b, 2000) for an original rough observation), as shown by the investigation in (189) based on YCOE and PPCME2.⁶⁷

(189) The frequency of the topic-initial negative sentence (per 100, 000 words)

EOE	O3	O4	M1	M2	M3	M4
0.3	4.7	4.7	11.4	5.3	1.7	0.7

This result supports the assumption embodied in (185) that the head-type of *ne* began to emerge as a robust grammatical option around the 10th century. Note that the frequency in (189) decreases from M2 onward. This is probably due to the decline of the negative marker *ne* itself, as discussed just below.

It should be stressed that the loss of the *ne*-initial construction cannot be attributed to the decline of the negative marker *ne*; the former gradually declined from M1 onward and they were lost around the 13th century (see (181) and (182)), while the latter underwent a sharp decline after 1400 but it was still attested until the 15th century (see Iyeyri (2007)). This fact suggests that the loss of the *ne*-initial construction was not caused by the decline of *ne* (see Ingham (2005b, 2007), who draws the same conclusion by investigating some prose texts of the late 14th century where the *ne*-initial construction is no longer found, while the negative marker *ne* is robustly retained).

⁶⁷ Sentences led by a topicalized adverbial adjunct are excluded from the figures of (188), because they could also be generated from the derivation built upon the Spec-type of *ne* without violating the PIC, given that adverbial adjuncts can be base-generated in [Spec, TopP] (see the discussion of (156) in chapter 4). Since we cannot judge whether they illustrate the Spec-type or the head-type of *ne*, we do not count negative sentences with a topicalized adverbial adjunct, following van Kemenade (2000).

5.3.3. More on the Grammatical Competition between the Two Types of *Ne*

The immediately preceding subsection has proposed that the two types of the negative marker *ne* were in competition with each other and shown that this proposal is justified on the basis of some pieces of empirical evidence. This subsection addresses the remaining theoretical issues with the present analysis in terms of grammatical competition.

A question that arises under the present analysis is how the head-type of *ne* was introduced into the grammar of English. One possibility would be through reanalysis under structural ambiguity (Harris and Campbell (1995)). It is worthwhile to notice here that negative sentences with *ne* in sentence-medial position like *Ic ne secge* are structurally ambiguous in that they have two possible derivations; one is that the Spec-type of *ne* moves to adjoin to the subject DP in [Spec, TP] and the other is that the finite verb picks up the head-type of *ne* on its way to T. Then, it seems reasonable to assume that negative sentences like *Ic ne secge*, which were previously derived from (190a) in which *ne* is base-generated in [Spec, NegP], were reanalyzed as (190b) where it is base-generated in Neg in favor of a simpler structure, giving rise to the new head-type of *ne*.

- (190) a. $[_{TP} Ic ne [_{T'} secge [_{NegP} t_{ne} [_{Neg'} t_{Neg} [_{V^*P} \dots]]]]] \longrightarrow$
 b. $[_{TP} Ic [_{T'} ne+secge [_{NegP} [_{Neg'} t_{ne} [_{V^*P} \dots]]]]]$

The next question is what triggered the reanalysis in (190). Given the assumption that phonological deficiency is a universal property of functional heads (Fuß (2005: 41)), it might be suggested that phonological reduction of *ne* contributed to its reanalysis as a head of NegP. See Fulk (1992: 127-129) for the observation that the contracted form *n-* became frequently attested in Late Old English, which roughly coincides with the emergence of the head-type of *ne* as argued here. On the other hand, the *ne*-initial construction, which was

still productive in Late Old English, could only be derived with the Spec-type of *ne* in [Spec, FocP], as we saw in (175), even after the head-type of *ne* became available. This would have led to the situation where both types of *ne* were in use from the 10th to the 12th century.

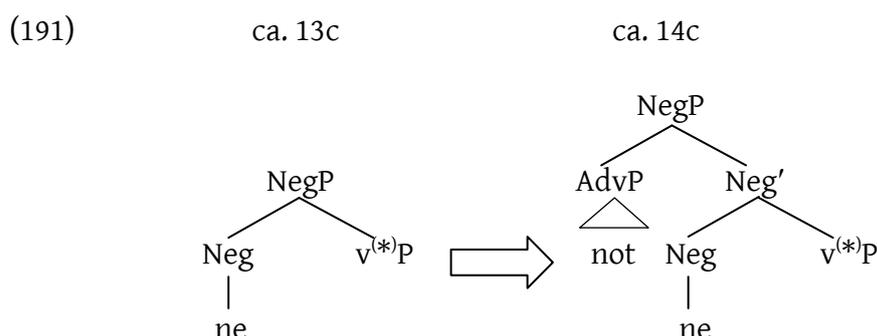
Another question that the present analysis raises is why the two types of *ne* did not continue coexisting in harmony. This was probably because they were syntactic alternants with exactly the same semantic and functional effects (see Kroch (1994) for the idea of syntactic doublets). Since the availability of the two types of *ne* as such was obviously redundant, they competed in usage until the head-type won over the Spec-type. Importantly, as the Spec-type of *ne* went out of use, the frequency of the *ne*-initial construction built upon it decreased, as suggested by the quantitative data in (181) and (182). This would have made it difficult for language acquirers to detect positive evidence for the Spec-type of *ne* in the utterances that they heard, which was the situation around the 13th century.

Incidentally, the same lines of argument hold for the grammatical competition between the Spec-type and the head-type of *not* that we will see in section 5.5 below. Specifically, the latter type emerged through reanalysis of sentences like *I say not*, which was presumably due to phonological reduction of *not*. The reason why the two types of *not* entered into competition was that they were syntactic doublets in the sense of Kroch (1994).

To sum up, as long as the Spec-type of *ne* was available, it could be fronted to [Spec, FocP], giving rise to the *ne*-initial construction. However, once it was driven out by the head-type of *ne* which yields a simpler phrase structure, it could no longer move to [Spec, FocP]. As a result of this competition, the *ne*-initial construction gradually declined and eventually disappeared around the 13th century.

5.4. The Non-inverted Negative-initial Construction in Middle English

As mentioned in section 5.1, once the primary negator *ne* had undergone phonological weakening, the secondary negator *not* was introduced in order to reinforce it, yielding negative concord. In particular, Ingham (2006) observes that from the early 14th century onward, *ne* increasingly tended to be accompanied by *not*, as schematized in (191).⁶⁸



One of the puzzles about negative concord is the fact that negative inversion was normally not triggered by a preposed negative argument/adjunct, as exemplified in (192).

(192) a. nænne he ne fordemde

none he not judged

(aelive,ÆLS_[Martin]:302.6153 / Wallage (2012: 13))

‘he did not judge anything’

b. ne leazinges ne ualsnesse me ne ssel zigge uor nenne man

neither lies nor falseness man not shall tell for no man

(CMAYENBI,256.2375: M2)

⁶⁸ Note that examples of negative concord were actually attested before the 14th century, when the secondary negator was adjoined to *v(*)P* rather than merged in [Spec, *NegP*] (see footnote 64). See Frisch (1997) for the observation that it was from 1290 to 1360 that the use of *ne ... not* began to outnumber that of *ne* alone.

‘one shall not tell either lies or falseness for anyone’

- c. and no þing þai ne sparede
and no thing they not spared (CMBRUT3,45.1352: M3)

‘and they did not spare nothing’

- d. and in no maner a wyse he ne might se that blessyd sacrament
and in no kind a way he not might see that blessed sacrament
(CMGREGOR,234.2508: M4)

‘and he might not see that blessed sacrament in any kind of way’

A key to solving the puzzle is the status of negative elements occurring with *ne*. It has been argued in the literature that they were emphatic elements to intensify the primary negator (Kallel (2011: §2.3.2), Fulk (2012: §124), and Willis, Lucas and Breitbarth (2013) among others). This is defended by two pieces of empirical evidence. First, it was essentially optional for the primary negator *ne* to be accompanied by other negative elements, as shown in (193).

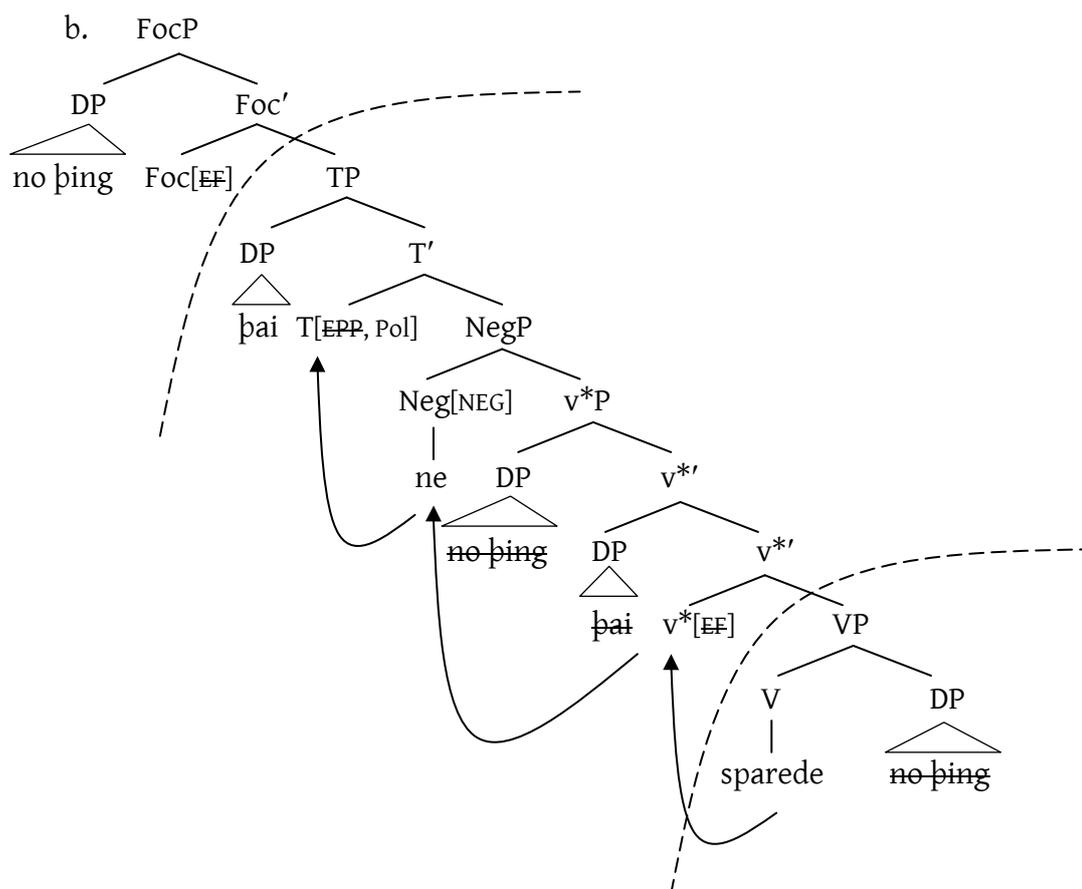
- (193) a. hi ne ssolle na3t þeruore hit ofhealde
they not shall not therefore it retain (CMAYENBI,38.645: M2)
‘therefore, they shall not retain it at all’
- b. and hi ne conne sterue
and they not can die (CMAYENBI,71.1361: M2)
‘and they cannot die’

It is important to note that both of (193a) and (193b) are negative sentences, regardless of the presence or absence of the secondary negator. This fact implies that negative

elements occurring with *ne* did not participate in the determination of the negative polarity of a sentence; rather, it was induced by *ne* alone. Second, negative arguments/adjuncts almost always occurred with *ne* before the corrosion of negative concord (Fischer (1992) and Wallage (2012)). This means that they could not form a negative sentence by themselves, suggesting their emphatic status. Thus, they behaved as if they were negative polarity items such as *anyone* and *anything*, in that they must be licensed by the primary negator *ne* in the same sentence (see Herburger and Mauck (2013) for a similar analysis of *never* occurring with *ne*.) Given these considerations, it is reasonable to assume that it is the primary negator *ne* that takes the helm to determine the negative polarity of a sentence, which in turn suggests under the proposed mechanism for determining a polarity of a sentence that it is the primary negator *ne* that enters into a polarity relation with T (see subsection 4.3.1 of chapter 4 for relevant discussion).

Against this background, this thesis argues that the non-inverted negative-initial sentence in (194a) is derived as shown in (194b).

- (194) a. and no þing þai ne sparede
 and no thing they not spared (CMBRUT3,45.1352: M3)
 ‘and they did not spare nothing’



At the v^*P phase, the object DP moves to the outer $[\text{Spec}, v^*P]$ under probing by the edge feature on v^* , while V undergoes head movement to v^* . After these operations, cyclic Transfer applies to the domain of v^* , i.e. VP. At the FocP phase, the subject DP moves to $[\text{Spec}, TP]$ under probing by the EPP-feature on T and the object DP moves to $[\text{Spec}, \text{FocP}]$ under probing by the edge feature on Foc. On the other hand, the verbal complex consisting of V and v^* moves through Neg to T, combining with the primary negator *ne* in Neg and its inflectional affix on T. Crucially, *ne* with a negative feature, which has now reached T, and T with a polarity feature are included within the same transferred domain, as it stands. Therefore, it is unnecessary for T to move as far as Foc, and such movement is blocked by the principle of last resort (Chomsky (1995b)), according to which an operation may apply only if it is necessary for convergence. Consequently, these two elements undergo simultaneous Transfer at the end of the FocP phase, and hence the polarity

relation between them can be properly established within a single transferred domain. Finally, cyclic Transfer applies to the remaining FocP, thus deriving the negative-initial sentence where the subject and the finite verb are not inverted.

Note that the movement of the object DP to [Spec, FocP] is never blocked by the primary negator *ne* base-generated in Neg, under the hypothesis that A'-movement is triggered by an edge feature without Agree; the edge feature on a phase head can seek any goal within its search domain, because probing by the edge feature does not involve feature matching (Chomsky (2008: 151)). For example, consider topicalization of DP, in which case the edge feature on Top can probe any DP within its domain and attract it to its specifier position.

It has been a long-standing puzzle why negative inversion was not observed during the period of negative concord (Fischer (1992), Nevalanen (1997), and Ingham (2007)), for which the present analysis can provide a straightforward explanation. The primary negator *ne* as the head of NegP simply cannot be preposed to [Spec, FocP]. Moreover, even when other negative elements are fronted to [Spec, FocP], head movement to Foc is blocked under the principle of last resort, as just mentioned. Thus, there is no grammatical way to derive the NIC and hence it follows that no instances of negative inversion were attested during the period of negative concord.⁶⁹

⁶⁹ A handful of inverted sentences led by a preposed negative argument/adjunct were found especially in the Late Middle English period, as illustrated in (i).

- (i) and nothyng ne shal they fynden in hir handes of al hir tresor
 and nothing not shall they find in their hands of all their treasure
 (CMCTPARS,292.C1.155: M3)

'and they shall not find any of their treasure in their hands'

One possible analysis assumes, following up Haeberli and Ihsane's (2016) analysis of subject-verb inversion in non-V-to-T-to-C movement contexts, that the pronominal subject stays in [Spec, TP], whereas the finite verb raises as far as Fin, resulting in subject-verb inversion, as shown in (ii). The analysis in (ii) is consistent with the observation in chapter 3 that pronominal subjects ceased to move to [Spec, Top¹P] from the 14th century onward, while verb raising to Fin was productive until the 16th century (see subsections 3.4.1.2 and 3.5.1).

- (ii) [_{FocP} nothing [_{FinP} [_{Fin'} ne_[NEG]+shal [_{TP} they t_T [_{NegP} [_{Neg'} t_{ne} [_{V*P} ...]]]]]]]]]

Another possible analysis concedes, following up Wallage (2012), that a negative argument/adjunct instead of *ne* bears a negative feature in the derivation of inverted negative-initial sentences. Then, T raises obligatorily as far as Foc so as to fall within the same transferred domain as that of the

Incidentally, the same lines of analysis hold for non-inverted negative-initial sentences like (195) where *not* functions as the primary negator, except that it is the primary negator *not* that forms a polarity relation with T. More specifically, *not* in [Spec, NegP] and T in its base position together undergo Transfer at the end of the FocP phase, as shown in (196) as the underlying structure of (195a). Note that *would* in (196) is analyzed as a premodal taking defective TP complement (see subsection 3.4.1.1 of chapter 3).

- (195) a. but by no meanes she would not confesse the same
 but by no means she would not confess the same
 ‘but she would not confess the same by any means’

(ORIGIN2,287.030.461 / cf. Wallage (2012: 21))

- b. but in no caas of the world a man sholde nat doon outrage ne
 but in no case of the world a man should not do outrages nor
 excesse for to vengen hym
 excess for to revenge himself (CMCTMELI,232.C1.579: M3)
 ‘but one should not commit outrages or excess to revenge himself in any
 case’

- (196) $[_{FocP} \text{ by no meanes } t_{\text{by no meanes}}] [_{TP} \text{ she } [_T \text{ Pol}] \text{ would}] [_{NegP} \text{ not} [_{Neg'} t_{Neg} [_{VP} t_{would} [_{TP} \text{ confesse the same}]]]]]$

negative object with a negative feature in [Spec, FocP], causing subject-verb inversion, as shown in (iii). One advantage of the analysis in (iii) is that it can provide a more gradual developmental scenario for the historical changes of negative markers: *ne* retained the negative property in early periods of Stage 2, just as in Stage 1. On the other hand, other negative elements gained the negative property in late periods of Stage 2, just as in Stage 3. See Wallage (2012) for the quantitative data of inverted or non-inverted sentences introduced by a preposed negative argument/adjunct.

- (iii) $[_{FocP} \text{ nothing} [_{Foc'} \text{ ne+shal}] [_{TP} \text{ they } t_T [_{NegP} [_{Neg'} t_{ne} [_{v*P} \dots]]]]]]]$

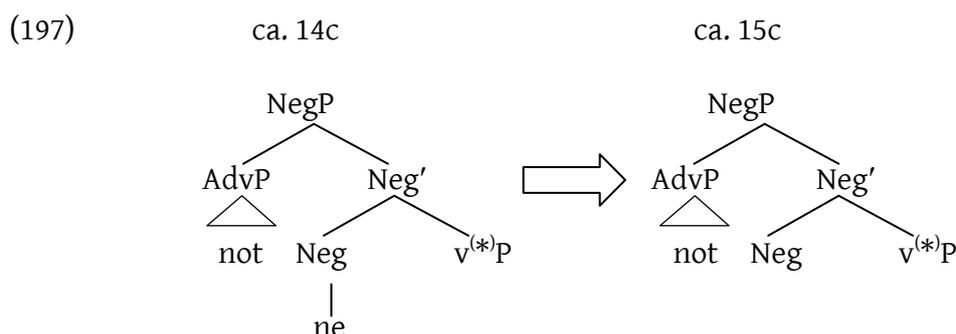
In sum, T with a polarity feature could undergo simultaneous Transfer with the primary negator with a negative feature, without recourse to head movement to Foc, and therefore the principle of last resort required it to stay in situ, deriving the non-inverted negative-initial construction.

5.5. The NICs from Late Middle English onward

This section is devoted to investigating the NICs from Late Middle English onward, dividing them into two types: one introduced by the negative marker *not* and the other introduced by other negative elements such as *never* and *nothing*.

5.5.1. The Rise and Loss of the *Not*-initial Construction

Once the primary negator *ne* was lost by morphological erosion, the secondary negator *not* began to express sentence negation on its own around the 15th century (Ishikawa (1995)), as mentioned in section 5.1. This is diagrammed in (197).



In this connection, it is noteworthy that the NIC introduced by *not* was sporadically attested in Late Middle English and Early Modern English, as shown in (198).⁷⁰

⁷⁰ No example of the *not*-initial construction has been found in the texts registered in PPCME2 and PPCME. On the other hand, when a search of the texts recorded in *The Oxford English Dictionary* (OED) and *Middle English Dictionary* (MED) has been conducted, a substantial number of such

- (198) a. Nat may the woful spirit in myn herte Declare o point of alle my
not can the woeful spirit in my heart declare one bit of all my
sorwes smerte
sorrows painful (ca. 1385, Chaucer CT.Kn. A.2765: MED)
'The woeful spirit in my heart cannot declare a bit of all my painful
sorrows'
- b. Nowt had þis doctour mynde þat he ded soo
not had this doctor memory that he did so
'This doctor did not remember that he had done so'
(ca. 1450, Capgr. St. Aug. 7.17: MED / Ishikawa (1995: 201fn6))
- c. Not might it been hid How masterfull a leech he had him kid
(ca. 1613, W. Browne Sheph. Pipe i: OED)
'It might not be hidden how masterful a doctor he had made known to him'

However, as far as we can tell, (198c) is the last example of the *not*-initial construction, and such examples are not found thereafter. Thus, the *not*-initial construction seems to have died out before the turn of the 18th century.

This thesis proposes that the loss of the *not*-initial construction can also be best explained in terms of competing phrase structures. Specifically, the negative marker *not* is argued to have developed along the scenario described in (199).

examples have been found. This chapter assumes that the NIC led by *not* was available as a grammatical option in the relevant periods, given the fact that it was attested in a number of texts written by different authors.

DP, leaving behind the negative marker *not* in sentence-medial position.

- (201) a. thynkest thou not that thou doeste her wronge therein?

(BOETHCO-E1-P1,31.226: E1)

‘Don’t you think that you do (= prescribe) her a wrong therein?’

- b. $[_{FocP} [_{Foc} \text{ thynkest } [_{TP} \text{ thou } t_T [_{NegP} \text{ not } [_{Neg} t_{Neg} [_{V^*P} t_{V^*} [_{VP} t_{thynkest} [_{ForceP} \dots]]]]]]]]]]]$

This sentence is generated as shown in (201b); *not* is base-generated in [Spec, NegP], while the finite verb moves through the empty Neg as far as Foc in accord with the head movement constraint (Travis (1984)), according to which head movement is only possible between a given head and the head of its complement.^{71, 72} On the other hand, *not* can also be base-generated in the head of NegP and this is confirmed by (202a), where the finite verb has moved to sentence-initial position, together with the negative marker *not*.

- (202) a. Knewest not thou my maners?

(BOETHCO-E1-P1,32.269: E1)

‘Don’t you know my manners?’

- b. $[_{FocP} [_{Foc} \text{ knewest+not } [_{TP} \text{ thou } t_T [_{NegP} [_{Neg} t_{not} [_{V^*P} t_{V^*} [_{VP} t_{knewest} \text{ my maners}]]]]]]]]]$

⁷¹ Given that head movement leaves behind a copy of a moved head, it seems reasonable to assume that it is a copy of T-head in its base position that establishes a polarity relation with *not* occupying [Spec, NegP] in (201b). See footnote 54 in chapter 4 for the same analysis of Present-day English negative questions.

⁷² The existence of the Spec-type of *not* is further supported by the fact that it could undergo stylistic fronting in clauses with a subject gap, as exemplified in (i).

- (i) ... in-to a strawnge cuntre wher sche had not ben be-forn ne \emptyset not wist
 into a strange country where she had not been before nor (she) not knew
 how sche xulde come a-geyn
 how she should come again (CMKEMPE,229.3735: M4)
 ‘... into a strange country where she had not been before and (she) did not know how she
 should come again’

Given that only phrases can undergo stylistic fronting to fill in subject gaps (Roberts (1993: 304)), this fact indicates the phrasal status of *not* in the relevant period.

This type of negative interrogative sentence is derived as shown in (201b), following up van Kemenade (2011); the finite verb moves through the intermediate heads as far as Foc, picking up *not* in Neg on its way. It should be stressed here that both of (201a) and (202a) are taken from the same text and this alternation within the usage of individual speakers can be easily captured in terms of grammatical competition. In fact, as many as 29 texts from PPCME2 and PPCEME exhibit the kind of intra-speaker variation as illustrated in (201a) and (202a). It is important to note that negative questions like (202a) were robustly attested after E1 (see van Kemenade (2011) for the same observation), as shown by the investigation in (203) based on PPCME2 and PPCEME.⁷³

(203) The frequency of the $V_{\text{aux/lexical}}\text{-not-subj}$ question (per 100,000 words)

M1	M2	M3	M4	E1	E2	E3
0	0	0	0.7	24.0	13.0	27.1

Based on this result, it can be concluded that the head-type of *not* began to be established as a robust grammatical option around the 16th century. Note that the high frequency in E1

⁷³ The investigation in (203) targets sentences whose subject is a personal pronoun, following up van Kemenade (2011). Van Kemenade claims that *not* in V-to-T-to-C movement contexts is base-generated within the higher NegP, which is higher than the landing site for full DP subjects but lower than that for pronominal subjects, as shown in (i). In (i), her analysis assuming single-layered CP is recast in terms of the split CP analysis adopted here.

(i) [_{FocP} [_{Foc'} Foc [_{TopIP} pronominal DP [_{NegP} not [_{TP} full DP ... V_{finite} ...]]]]]

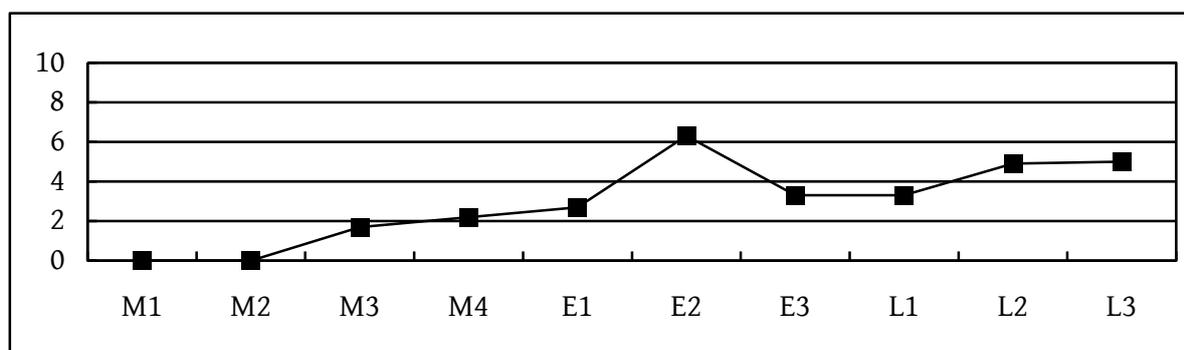
It is not so clear until when the movement of the pronominal subject to [Spec, Top^lP] was retained in a substantial number of Late Middle and Early Modern English texts. However, if her analysis is on the right track, we cannot judge whether *not* preceding a full DP subject occupies the specifier or head of NegP. In contrast, *not* followed by a pronominal subject, which has moved as far as Foc along with a finite verb, can be judged to be unambiguously the head of NegP. With the apprehension about these considerations, we count in negative questions with a pronominal subject while counting out those with a full DP subject. Note that the analyses proposed in this chapter remain essentially unchanged, even if NegP could be merged above TP in V-to-T-to-C movement contexts; *ne* and *not* leave their base positions within NegP and move to [Spec, FocP] in the derivations of the *ne*-initial and *not*-initial constructions, respectively. This chapter continues assuming that NegP is merged between TP and v^(*)P throughout the history of English, for the sake of simplicity of discussion.

chapter 4). This thesis has conducted a search of all texts in PPCME2, PPCEME, and PPCMBE in order to reveal the distribution of the NIC. The result of this investigation is presented in (205), which is followed by its graphed form in (206).⁷⁴

(205) The frequency of the negative inversion construction (per 100, 000 words)

M1	M2	M3	M4	E1	E2	E3	L1	L2	L3
0	0	1.7	2.2	2.7	6.3	3.3	3.3	4.9	5.0

(206) The frequency of the negative inversion construction (per 100, 000 words)



We can see that the NIC was first attested in M3, when the system of negative concord started to decay. Thereafter, it has survived into Present-day English, without any interruption. Note that among the total of 14 examples in E2, 7 examples are from Queen Elizabeth I's *Boethius*, which contributes to the high frequency of the NIC in E2. Below are examples from each period.

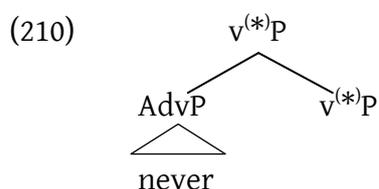
⁷⁴ Inverted sentences introduced by *neither* or *nor* like (i) are not contained in the figures of (205), because they involve pro-form inversion or additive inversion which is somewhat different from negative inversion (Dorgeloh (1997: 26-29)).

- (i) a. neither will I (JUDALL-E2-P2,1,178.466: E2)
 'neither will I'
 b. nor had he travelled abroad (BURNETCHA-E3-P1,1,186.159: E3)
 'nor had he travelled abroad'

- (207) a. and neuer schal he seese for to do it
 and never shall he cease for to do it (CMCLOUD,19.102: M3)
 ‘and he shall never cease to do it’
- b. and no wepyn coude he fynde
 and no weapon could he find (CMMALORY,64.2150: M4)
 ‘and he could find no weapon’
- (208) a. yn no wyse myght I have any graunt for her abode here
 (MTUDOR-1510-E1-P1,1.1,118.20: E1)
 ‘I might have any grant for her abode here in no way’
- b. but nothing could he answer (MIDDLET-E2-P2,46.14: E2)
 ‘but he could answer nothing’
- c. for never was such a Kingdome won in so short an Expedition
 (EVELYN-E3-H,928.242: E3)
 ‘for such a kingdom was never won in so short an expedition’
- (209) a. seldom is sufficient care taken to regulate his diversions
 (CHAPMAN-1774,26.38: L1)
- b. but at no time have they been visible when nearer the planet
 (HERSCHEL-1797,32.690: L2)
- c. Never did a sun-baked man drain a cup of well-water ...
 (BENSON-190X,135.816: L3)

Given the above discussion that *not* can no longer be preposed, a question immediately arises why negative adverbs like *never* can still occupy sentence-initial position. This

difference can be reliably attributed to the idea that the latter are adjoined to the left side of $v^{(*)}P$ without projecting NegP, as diagrammed in (210).



This is supported by the familiar contrast in (211) where *not* blocks affix hopping, but *never* does not.

- (211) a. *John not baked cakes.
 b. John never baked cakes. (Hornstein (2009: 98))

Given the standard assumption that NegP intervening between T and $v^{(*)}$ blocks affix hopping (cf. Pollock (1989), Bobaljik (2002a), and Hornstein (2009)), this fact shows that negative sentences with *never* does not involve NegP, in contrast to those with *not*. The word order as in (211b) has been attested from Late Middle English onward, as shown by the examples in (212), (213), and (214) from each period.

- (212) a. and Engist neuer come þere
 and Engist never came there (CMBRUT3,55.1620: M3)
 ‘and Engist never came there’
 b. and summe vnnethes touched a lytell drope
 and some scarcely touched a little drop (CMREYNES,267.501: M4)
 ‘and some scarcely drank a little drop’

- (213) a. ... he never intended to receiue reward (ROPER-E1-P1,46.7: E1)
 ‘... he never intended to receive reward’
- b. for contrarieties seld consorte (BOETHEL-E2-P1,35.484: E2)
 ‘for contrarieties seldom consort’
- c. so it scarce ever appeared that he was disordered
 (BURNETCHA-E3-P1,1,187.167: E3)
 ‘so it scarcely ever appeared that he was disordered’
- (214) a. this rarely happens (MAXWELL-1747,17.124: L1)
- b. we scarcely suffered any inconvenience from heat
 (MONTEFIORE-1836,147.236: L2)
- c. but my brute hardly ever condescends to honour me with a grunt
 (BROUGHAM-1861,24.869: L3)

Thus, we can reasonably assume that negative adverbs such as *never* and *seldom* have been $v^{(*)}P$ adjuncts at least since the Late Middle English period. Note that it is difficult to verify the absence of NegP with these negative adverbs in the Old English and Early Middle English period, when $v^{(*)}$ -to-T movement was robustly attested instead of affix hopping (see subsection 3.5.2 of chapter 3 for relevant discussion). Given the fact that these adverbs are adjoined to $v^{(*)}P$ without projecting NegP, we cannot postulate an alternative phrase structure where they are base-generated in Neg. Since there was no competing phrase structure, it follows that the structure in (210) has survived without being driven out of use.⁷⁵

⁷⁵ The above assumption that negative adverbs such as *seldom* have retained their status as a phrase is supported independently of their possibility of fronting to sentence-initial position. In particular, some of them could be modified by adverbs, as shown in (i) where *very* modifies *seldom*.

To sum up, the negative marker *not* is merged within NegP, and it has gone through structural competition between its Spec-type and its head-type, with the consequence of the demise of the *not*-initial construction built upon the former phrase structure. In contrast, negative adverbs such as *never* are adjoined to v^(*)P, and they have not undergone such structural competition. As a result, they have retained their phrasal status, and therefore they can still move to sentence-initial position.

5.6. Extension to Other Instances of Sentence Negation

This section extends the diachronic analysis of sentence negation in terms of cyclic Transfer to Early and Modern English sentences with a sentence-negative element in syntactic positions other than the left periphery of a clause.

5.6.1. Negative Sentences with *Ne* in Sentence-medial Position

Subsection 5.3.3 has suggested that negative sentences with the sentence-medial negative marker *ne* were derived from the structure in which *ne* is base-generated in [Spec, NegP] before the 10th century, but they were generated from the structure where *ne* occupies Neg in and after the 10th century. Under this idea, the negative sentences in (215a) and (216a) are analyzed as having the syntactic structures in (215b) and (216b), respectively.

-
- (i) and the hook being stuck into the leather or skin of the mouth of such fish does very seldom or never lose its hold (WALTON-E3-P1,221.82: E3)
 ‘and the hook being stuck into the leather or skin of the mouth of such fish does very seldom or never lose its hold’

Assuming with Elenbaas and van Kemenade (2014) that only phrases can be modified by such adverbs, this fact is indicative of the phrasal status of *seldom*.

- (215) a. Ac sio gitsung ne con gemet
 but the avarice not knows measure (coboeth,Bo:26.60.20.1120: EOE)
 ‘but the avarice knows no measure’
- b. $[_{\text{ForceP}} \text{Force} \text{ } / \text{ } [_{\text{TP}} \text{ sio gitsung ne}[\text{NEG}][_{\text{T}}[\text{Pol}] \text{ con}][_{\text{NegP}} t_{\text{ne}} [_{\text{Neg}'} t_{\text{Neg}} [_{\text{V}^* \text{P}} t_{\text{V}^*} \text{ } / \text{ } [_{\text{VP}} t_{\text{con}} \text{ gemet}]]]]]]]]]$
- (216) a. Edmund ne regnede but vij 3er
 Edmund not reigned more-than 7 years (CMBRUT3,112.3404: M3)
 ‘Edmund did not reign for more than 7 years’
- b. $[_{\text{ForceP}} \text{Force} \text{ } / \text{ } [_{\text{TP}} \text{ Edmund } [_{\text{T}}[\text{Pol}] \text{ ne}[\text{NEG}]+\text{regnede}][_{\text{NegP}} [_{\text{Neg}'} t_{\text{ne}} [_{\text{V}^* \text{P}} t_{\text{V}^*} \text{ } / \text{ } [_{\text{VP}} t_{\text{regnede}} \text{ but vij 3er}]]]]]]]]]$

In (215b), the negative marker *ne* is base-generated in [Spec, NegP] and then it moves to adjoin to the subject DP occupying [Spec, TP]. On the other hand, in (216b), *ne* base-generated in Neg incorporates into the finite verb that raises through Neg to T. Crucially, *ne* with a negative feature and T with a polarity feature undergo simultaneous Transfer at the end of the ForceP phase in either derivation. As a result, the two elements can establish their polarity relation within a single transferred domain, on the basis of which the scope of sentence negation can be properly identified (see subsection 4.3.1 of chapter 4 for the exact mechanism by which the scope of sentence negation is determined). Note that the example in (215a) presumably illustrates the Spec-type of *ne*, because it is from EOE, when the head-type of *ne* did not yet emerge (see the data of the topic-initial negative sentence based on the head-type of *ne* in (189)). In contrast, the example in (216a) arguably exemplifies the head-type of *ne*, because it is from M3, by which time the Spec-type of *ne* already disappeared (see the data of the *ne*-initial construction built upon

the Spec-type of *ne* in (181)).⁷⁶

The same lines of explanation as (216b) hold for the negative sentence in (217a) where *ne* induces negative concord with other negative elements in the same sentence. As shown in (217b) as its syntactic structure, *ne* incorporating into T and T staying in its base position together undergo Transfer at the ForceP phase, so that TP headed by the latter can be properly interpreted as the scope of the former.

- (217) a. But the Sarazines *ne* tylen not no vynes
 but the Saracens not cultivate not no vines

(CMMANDEV,47.1162: M3)

‘But the Saracens do not cultivate any vines’

- b. $[_{\text{ForceP}} \text{Force} \text{ } [_{\text{TP}} \text{the Sarazines } [_{\text{T[Pol]} } \text{ne[NEG]+tylen}] [_{\text{NegP}} \text{not } [_{\text{Neg}'} t_{\text{ne}} \text{ } [_{\text{v}^* \text{P}} t_{\text{v}^*} \text{ } [_{\text{VP}} t_{\text{tylen}} \text{ no vynes}]]]]]]]]]$

That the sentence in (217a) entails sentence negation is suggested by the fact in (218) that it was immediately followed by the sentence introduced by the negative conjunction *ne* ‘nor’. This chapter assumes, applying Moro’s (2013) analysis of Present-day English to Early English, that *nor* requires the preceding sentence to be sentence negation. Then, this fact indicates that the sentence in question expresses sentence negation.

⁷⁶ The syntactic position of a sentence-initial subject DP in the subject-initial construction might remain controversial. Indeed, Nawata (2009) suggests that the subject DP raises to [Spec, Top¹P] in the derivation of the subject-initial construction. If this is right, the analyses in (215b) and (216b) need to be revised as shown in (i) and (ii), respectively.

- (i) $[_{\text{ForceP}} \text{Force} \text{ } [_{\text{Top}^1 \text{P}} \text{sio gitsung } [_{\text{FinP}} \text{ne[NEG]} \text{ } [_{\text{Fin}'} \text{T[Pol]+CON} \text{ } [_{\text{TP}} t_{\text{sio}} \text{ gitsung } t_{\text{T}} \text{ } [_{\text{NegP}} t_{\text{ne}} \text{ } [_{\text{Neg}'} t_{\text{Neg}} \text{ } [_{\text{v}^* \text{P}} t_{\text{v}^*} \text{ } [_{\text{VP}} \dots]]]]]]]]]]]]]$
- (ii) $[_{\text{ForceP}} \text{Force} \text{ } [_{\text{Top}^1 \text{P}} \text{Edmund } [_{\text{FinP}} \text{ne[NEG]+T[Pol]+regne} \text{ } [_{\text{Fin}'} \text{T[Pol]+regne} \text{ } [_{\text{TP}} t_{\text{Edmund}} \text{ } t_{\text{T}} \text{ } [_{\text{NegP}} \text{ } [_{\text{Neg}'} t_{\text{ne}} \text{ } [_{\text{v}^* \text{P}} t_{\text{v}^*} \text{ } [_{\text{VP}} \dots]]]]]]]]]]]]]$

Note that *ne* and T still fall within the same domain of Force in either derivation. One advantage of this revision is that the analysis of the verb-second effect in terms of obligatory verb movement as far as Fin can be further extended to accommodate such a subject-initial verb-second construction.

- (220) a. the Jury doth not require it (THROCKM-E1-H,I,72.C1.489: E1)
 ‘the jury does not require it’
- b. $[_{\text{ForceP}} \text{Force}] \text{ } [_{\text{TP}} \text{the Jury } [_{\text{T}} [\text{tense}, \varphi, \text{Pol}}]] [_{\text{NegP}} \text{not} [\text{NEG}] [_{\text{V}^* \text{P}} [_{\text{V}^*} \text{require}]]] \text{ } [_{\text{VP}} \text{ } t_{\text{require}} \text{it}]]]]]$

The φ -features on T are valued via their Agree relation with the matching features on the subject DP. Then, they are realized on T as a single morpheme together with the tense feature (see subsection 3.5.2 of chapter 3 for detailed discussion). Now, given the assumption that NegP intervening between T and $v^{(*)}$ blocks affix hopping (see especially Bobaljik (2002a) for a worked out model), the derivation would crash if any verbal element were inserted into T; the inflectional morpheme realized on T would be left unattached to its appropriate verbal host, leading to a violation of the stranded affix filter as repeated in (221).

(221) The Stranded Affix Filter

A morphologically realized affix must be a syntactic dependent of a morphologically realized category, at surface structure. (Lasnik (1981: 164))

Then, the auxiliary verb *do* is inserted into T in order to save the derivation by attaching to the stranded inflectional affix on T. Thus, once the finite verb ceased to undergo head movement to T, the insertion of *do* became the rule in negative sentences without other auxiliaries, thereby accounting for the rise of the periphrastic auxiliary *do*. Importantly, according to Ellegård's (1953) data of the periphrastic use of *do*, Rohrbacher (1999) dates the rise and establishment of *do*-support to from the 15th to the 17th century, which roughly coincides with the decline and loss of $v^{(*)}$ -to-T movement as argued in subsection 3.5.2 of

chapter 3. Note also that the negative marker *not* falls within the domain of Force in which T is contained.

A main question that remains under the present analysis is why it was impossible for *do*-insertion into T, instead of verb raising to T, to apply in Old English and Early Middle English negative sentences; if the auxiliary verb *do* were inserted into T and then it moved to Fin when necessary, the derivation would converge, with all the verbal inflectional morphemes attaching to *do*. One possible answer to this question lies in Chomsky's (1995b: Ch. 2) suggestion that language-specific operations like *do*-support are more costly than universal operations such as verb raising (see also Hornstein, Nunes and Grohmann (2005: 363-364) for relevant discussion of *do*-support in terms of economy of lexical resources). Given that verb raising is more economical than *do*-support, *do*-insertion into T was preempted and hence blocked by verb movement to T in Old English and Early Middle English. On the other hand, once the system of verb movement to T was lost in Late Middle English and Early Modern English, *do*-insertion into T became operative as an alternative to verb movement to accommodate the verbal inflectional affix on T in negative sentences.

5.6.3. Negative Sentences with a Negative Subject/Object

Negative arguments containing negative quantifiers such as *no* began to express sentence negation by themselves after the corrosion of negative concord. This is suggested by the fact in (222) that the negative subject/object DP licenses *any* as a negative polarity item.

- (222) a. no man should alter any Rites or Ceremonyes at that tyme used in the Church (HAYWARD-E2-H,5.23: E2)
 ‘no one should alter any rites or ceremonies at that time used in the church’
- b. I have had no time to doe any thinge but tend my busines since I came (KNYVETT-1620-E2-P1,70.261: E1)
 ‘I have had no time to do anything but tend to my business since I came’

Given the fact that such a negative argument marked sentence negation on its own, there is no doubt that it had the authority to determine the negative polarity of a sentence containing it. More specifically, the negative sentences in (223a) and (224a) are generated as shown in (223b) and (224b), respectively, under the assumption that the polarity of Modern English sentences is determined under exactly the same mechanism as that of Present-day English (see subsection 4.5.2 of chapter 4).

- (223) a. And no man hath ascended vp to heauen (AUTHNEW-E2-H,3,1J.273: E2)
 ‘And no man has ascended up to heaven’
- b. $[_{\text{ForceP}} \text{Force} \text{ / } [_{\text{TP}} \text{no man}[_{\text{NEG}}][_{\text{T}}[\text{Pol]} \text{hath}][_{\text{VP}} \text{ascended} [_{\text{VP}} t_{\text{ascended}} \text{vp to heauen}]]]]]$
- (224) a. the cooke could get no quinces (ARMIN-E2-H,12.134: E2)
 ‘the cook could get no quinces’
- b. $[_{\text{ForceP}} \text{Force} \text{ / } [_{\text{TP}} \text{the cooke} [_{\text{T}}[\text{Pol]} \text{could}][_{\text{V}^*} \text{no quinces}[_{\text{NEG}}][_{\text{V}^*} \text{get}]] \text{ / } [_{\text{VP}} t_{\text{get}} \text{no quinces}]]]]]$

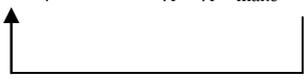
In (223b), the negative subject DP moves overtly to [Spec, TP] under probing by the EPP-feature on T, so that it can undergo simultaneous Transfer with T at the end of the ForceP phase. In (224b), the negative object DP moves covertly to the outer [Spec, v*P] under probing by the EPP-feature on v*, as a result of which it can be transferred simultaneously with T at the end of the ForceP phase. Thus, the negative argument DP and the T-head successfully establish their polarity relation within a single transferred domain in both the derivations in (223b) and (224b), thereby identifying the TP headed by the latter as the scope of the former.

One might cast doubt on the assumption that a postverbal negative object DP moves covertly to the outer [Spec, v*P], but this assumption can be defended by the fact that it could license a negative polarity item in the adverbial adjunct presumably adjoining to the right side of VP, as shown in (225a) with the relevant structure in (225b).

- (225) a. they make no advantage thereof by any sort of manufacture

(FIENNES-E3-H,144.74: E3)

‘they make no advantage thereof by any sort of manufacture’

- b. ... [_{v*P} DP [_{v*} make][_{VP} [_{VP} t_{make} DP] by any sort of manufacture]]
- 

(DP: no advantage thereof)

Again, given the standard assumption that negative polarity items must be licensed by c-commanding affective constituents including negatives (cf. Klima (1964)), the existence of the example in (225a) lends support to the present analysis, according to which the negative object DP moves covertly to the left edge of v*P, from which it can properly c-command the negative polarity item contained in the adverbial adjunct, as shown in

adverbs such as *never* have retained their phrasal status as $v^{(*)}P$ adjuncts. This difference is clearly reflected in their (im)possibility of fronting to sentence-initial position in Present-day English. Finally, it has been established that other examples of sentence negation including subject-initial sentences with the negative marker *ne* and negative sentences with the periphrastic auxiliary *do* can also be correctly captured by the proposals made in this chapter, providing us with a fuller description of the development of negative sentences in the history of English.

Chapter 6

Grand Summary

This thesis has investigated the LIC and the NIC in English within the recent framework of the Minimalist Program, shedding light on both the synchronic and diachronic aspects of the two inversion constructions.

Chapter 1 has introduced two theoretical underpinnings that are employed throughout the following chapters. One is the phase-based derivational model (Chomsky (2004, 2008, 2013 etc.)) and the other is the split CP hypothesis (Rizzi (1997, 2001, 2004 etc.)). Then, the immediate question has been discussed as to which of the functional categories in the split CP domain constitute phases, when these two theoretical apparatuses are combined. Conceptual and empirical considerations have pointed to the conclusion that Force, Top, and Foc are phrase heads while Fin is not.

Chapter 2 has examined the derivations underlying the LIC in Present-day English, making a distinction between the LIC with an unaccusative and the LIC with an unergative. Applying Chomsky's (2008) idea of independent probing, the analysis of the unaccusative LIC has been proposed under which the locative PP moves to both [Spec, TP] and [Spec, TopP] simultaneously at the TopP phase, whereas the subject DP stays in [Spec, VP] as its base position. This straightforwardly accounts for the fact that the sentence-initial

locative PP behaves as both the syntactic subject and the topic element of the sentence. On the other hand, following up Culicover and Levine (2001), the unergative LIC has been argued to be derived from the structure in which the locative PP is attracted only to [Spec, TopP] at the TopP phase, while the subject DP raising to [Spec, TP] undergoes HNPS. This fits in with the observation that the sentence-initial locative PP exhibits only topichood and the postverbal subject DP must be relatively heavy.

Chapter 3 has discussed the development of the LIC in the history of English in the context of the RAH, paying attention to the structural position of the finite verb that is inverted with the subject. It has been argued by extending Nawata's (2009) analysis of topic-initial constructions to the LIC in Old and Middle English that the finite verb raises obligatorily through T to Fin at the TopP phase in order to accommodate the distinct inflectional morphemes that are realized on T, Fin, and Top. The verb movement to Fin results in inversion of a subject and a finite verb even when the subject DP raises to [Spec, TP], giving rise to the unaccusative LIC with a pronominal subject and the unergative LIC with a relatively light subject. On the other hand, after the relevant agreement features gradually lost their own morphological realizations from Late Middle English onward, the finite verb came to raise as far as $v^{(*)}$ in order to get the single inflectional morpheme realized on T. It has been shown that the proposed scenario for the decline of verb movement is confirmed by the historical change in availability of pronominal subjects in the unaccusative LIC and grammatical weight of postverbal subjects in the unergative LIC.

Chapter 4 has scrutinized the derivations of negative sentences including the NIC in Present-day English, illuminating the mechanism by which the negative polarity of a negative sentence is determined. It has been proposed, combining Holmberg's (2012) idea of a polarity relation between a sentence-negative element and T with Tanaka's (2011) idea of semantic interpretation in units of single transferred domain, that the polarity relation is

established within a single transferred domain. This proposal successfully derives the obligatoriness of negative inversion, in that the sentence-negative element preposed to [Spec, FocP] requires T to raise as far as Foc at the FocP phase so that they can fall within the same transferred domain, inducing subject-auxiliary inversion. Moreover, a number of major properties of the NIC have been shown to receive principled accounts under the proposed syntactic analysis. Then, it has been demonstrated that non-inverted negative sentences as well as the NICs can be accounted for in a unified way by the analysis of sentence negation in terms of cyclic Transfer.

Chapter 5 has explicated the development of negative-initial constructions including the NIC in the history of English, especially focusing on the syntactic status of negative markers as phrases or heads. The decline and loss of the *ne*-initial construction in Late Old English and Early Middle English has been attributed to the fact that the negative marker *ne* gradually lost its phrasal status via structural competition in the sense of Pintzuk (1999). The non-inverted negative-initial construction attested in Middle English has been analyzed in terms of the principle of last resort, which inhibits T from raising as far as Foc in the derivation in which the primary negator stays within the domain of Foc. Then, the negative marker *not* has been argued to have undergone the same kind of structural competition as the negative marker *ne* did, with the consequence that the *not*-initial construction died out due to the deprivation of the phrasal status of *not*. On the other hand, it has been claimed that negative adverbs such as *never* and *seldom* have been $v^{(*)}P$ adjuncts and have retained their phrasal status, which agrees with the fact that the NICs introduced by them have survived since Late Middle English. Finally, the analyses of other instances of sentence negation in Early and Modern English have been offered that are compatible with the proposals and observations made in the preceding chapters.

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