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A Synchronic and Diachronic Study of

the Licensing of Negative Polarity Items in English

（英語における 否定極性項目の認可についての 共時的・通時的研究）

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A Synchronic and Diachronic Study of
the Licensing of Negative Polarity Items in English

by

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Abstract

This thesis accounts for the licensing of negative polarity items (henceforth, NPIs) in English in the recent framework of the Minimalist Program, with special reference to their diachronic aspects.

The environments involving NPI licensing are divided into two categories: the environments of Type A have the licensers and the licensed NPIs in the same CP, whilst the environments of Type B have the licensers out of the CP where the NPIs are positioned.

A mechanism based on the Agree system in Chomsky (2000, 2001) in terms of affective features and focus features is proposed to account for NPI licensing of Type A. The advantages and plausibility

of the analysis are discussed. It turns out that this analysis can not only be adopted to account for NPI licensing in all environments of Type A, including negatives, conditionals, comparatives, *yes-no* questions, adversatives, exclamative constructions with a negative implication, and result clauses dependent on *too*, but also provide principled accounts for the facts concerning NPIs which are observed in conditionals, comparatives, and interrogatives. These facts are predicted under the mechanism proposed in this thesis.

As for NPI licensing of Type B, I assume that the relation between the licensed NPI and the licenser (i.e. the quantifier or superlative form) is parallel to the relation between PRO and its controller. Following the movement analysis of PRO, I suggest that the licenser is generated together with the licensed NPI in the relative clause in narrow syntax and the licenser is moved out of CP and is merged with DP which the relative clause restricts.

This thesis also presents and explains the changes concerning NPIs in the history of English. Surveys based on a couple of historical corpora are carried out to provide data which depict the development of the NPI *any* and the possibility of allowing NPIs in the subject position in Elizabethan English. I apply the proposed feature-based analysis to the historical development of the NPI *any* and *ne* in Stage Two of Jespersen's Cycle. It is shown that both of them underwent a change in their feature specifications, which is consistent with van Gelderen's (2008, 2009) theory of Feature Economy. The change of the acceptability of the phenomenon involving NPIs in the subject

position from Elizabethan English to Present-day English is related to the loss of V-to-T movement in the history of English.

Abbreviations

The following abbreviations are used in this thesis:

ACC	accusative case
adj	adjective
ASP	aspect
c/ca.	circa
Cen.	century
C(P)	complementizer (phrase)
D(P)	determiner (phrase)
F	feature/function/functional head/focus
Fin	finite
Foc	focus
IMP	imperfect
Int(P)	Interrogative (phrase)
I(P)	inflectional (phrase)
MASC	masculine
neg	negative (marker)
Neg(P)	negative (phrase)
N(P)	noun (phrase)
NOM	nominative case
Op	operator
Part (P)	participle (phrase)
PAST	past tense
pl	plural

Q	question (marker)
S	sentence
sg	singular
SN	sentential negation
Spec	specifier
Top	topic
T(P)	tense (phrase)
VGP	verb group
V(P)	verb (phrase)
v(P)	little/small verb (phrase)
2	second person
3	third person

Chapter 1

Introduction

1.1. Introduction to Negative Polarity Items

There exist a group of words and expressions in natural languages which appear to be considerably curious. These forms can only occur in a positive or negative environment, viz. they are *polarity-sensitive*. Forms that can only occur in a positive environment are termed positive polarity items (henceforth, PPIs; see (1) below), while forms that can merely occur in a negative environment are termed negative polarity items (henceforth, NPIs; see (2) below).

(1)　a.　＊I'm not *pretty* pleased with it.

　　　　　(PPI in negative sentence)

　　　b.　I am *pretty* pleased with it.

　　　　　(PPI in positive sentence)　　　　　(Linebarger (1980: 7))

(2) a. *I think I could *ever* trust you.

(NPI in positive sentence)

b. I don't think I could *ever* trust you.

(NPI in negative sentence)   (cf. Hoeksema (2000: 115))

It is widely recognized in the literature that these forms exist crosslinguistically. As far as I know, no researchers have ever claimed the existence of languages whereby no PPIs or NPIs are attested. Nevertheless, PPIs and NPIs are not found in artificial languages, like a programming language. In this sense, PPIs and NPIs are not logically necessary. Therefore, research on PPIs and NPIs may reveal the nature of natural languages.

There are a large variety of NPIs in English. I will introduce the classification of NPIs in a simple fashion for reasons of space. NPIs vary in part of speech[1] and length (from one word to several words). Zwarts (1997) and van der Wouden (1997), among others, classify NPIs according to the elements that license them, as illustrated in (3).

(3) a. Superstrong NPIs

licensed only by anti-morphic contexts (overt/sentential negation),

e.g. *until*, *either*, and *in* + indefinite time expression.

b. Strong NPIs

licensed by anti-morphic and anti-additive [2] contexts (expressions like *nobody*, *never*, and *without*),

e.g. *lift a finger* and *give a damn*.

c. Weak NPIs

licensed by anti-morphic, anti-additive, and monotone decreasing contexts,

e.g. *ever*, *at all*, *any*.

Another classification of NPIs is pointed out by Giannakidou (2011), as shown in the diagram in (4).

(4) A. Narrower NPIs (with a narrow distribution in only negatives)

B. Broader NPIs (with a broad distribution in negative, downward entailing (hereafter, DE), and nonveridical environments)

a. Non-scalar NPIs

b. Scalar NPIs

a. Narrower NPIs (including minimizers),

e.g. *in* + indefinite time expression.

b. Broader NPIs,

e.g. *any.*

A number of NPIs will be discussed in this thesis. Among them,

any will be the most discussed one. In some analyses below, *any* is the only representative of all NPIs or all weak/broader NPIs. However, in some cases, *any* just represents itself.

Note that *any* is not used as an NPI in all contexts. In some contexts, *any* denotes free choice. If *any* appears in an environment where no negation or other elements can license NPIs, it has a free choice reading. On the other hand, when *any* appears in an environment in which it can be licensed, say, negatives, the sentences are generally ambiguous, allowing both an NPI reading and a free choice reading.[3]

Despite the complexity of ambiguity, some characteristics enable us to distinguish them in most cases. Roberts (2007: 73) suggests that the free choice *any* can be modified by *just*[4], *almost*, or *absolutely*, while the NPI *any* cannot. If *any* precedes numeral-and-noun constructions (e.g. *any five books*), it has a free choice reading. If *any* combines with *old* to modify a nominal, it also has a free choice reading, e.g. *any old how*, *any old place*, *any old time*, etc. In these phrases, *old* is used for emphasis, and has no specific meaning.

Note that the relation between the NPI *any* and the free choice *any* in this thesis is supposed to follow the MECE (mutually exclusive, collectively exhaustive) principle. In other words, if *any* in some context does not have a free choice reading, it must have an NPI reading, and vice versa.

1.2. Problems with Analyses from a Semantic Perspective

There is a vast amount of literature on the licensing mechanism of NPIs: Lakoff (1970), Ladusaw (1980), Linebarger (1980), Horn (1989), Progovac (1993), Atlas (1996), van der Wouden (1997), von Fintel (1999), Horn and Kato (2000), Israel (2004), etc. Among them, the most remarkable analyses so far must be those involving DE. However, the analyses involving DE is not unproblematic. This section examines the problems concerning the DE approach to NPIs. Giannakidou (2011) suggests that although both the old-style Ladusaw and the refined Zwarts style DE-conditions are prescribed as a universal condition on the occurrence of NPIs, the reason why DE licenses NPIs is not elucidated. Furthermore, Giannakidou (2011) points out some empirical problems of the DE approach to NPIs, in that DE is not universal enough to account for all types of NPIs found in a variety of languages and also fails to capture all the environments that license NPIs in English.

1.2.1. NPIs in Restrictions of Quantifiers

The English quantifier *every* is left monotone decreasing (see (5)), which is a kind of DE environment.

(5) left monotone decreasing

poodle $\subset$ dog $\subset$ animal   ($\subset$: *is a subset of*)

Every **dog** barks. $\rightarrow$ Every **poodle** barks.   TRUE

Every **dog** barks. $\rightarrow$ Every **animal** barks.   FALSE

Under the DE condition which claims that NPIs are licensed in a DE environment, the grammaticality of (6) is predicted.

(6)   **Every** student who saw *anything* reported to the police.

<div align="right">(cf. Giannakidou (2011: 1670))</div>

The universal quantifier *every*, which modifies *student*, licenses the NPI *anything*, which is inside the restriction of *every*. The DE condition is met.

However, another quantifier *each* poses a problem for the DE condition. *Each* is left monotone decreasing (see (7)).

(7)   left monotone decreasing
      girl student ⊂ student ⊂ person
      Each **student** in that school was dressed neatly. →
      Each **girl student** in that school was dressed neatly.   TRUE
      Each **student** in that school was dressed neatly. →
      Each **person** in that school was dressed neatly.   FALSE

Thus, a nominal phrase containing *each* would be expected to license an NPI in its relative clause. However, contrary to the expectation, licensing relation is not established between *each* and *anything*, as shown in (8).

(8)　*/?? **Each** student who saw *anything* reported to the police.

<div align="right">(cf. Giannakidou (2011: 1670))</div>

As Giannakidou (2011) observes, this sort of complexity is not unique to English. She claims that it is not DE but some other property of the determiners which licenses NPIs. The point is whether the determiners are presuppositional, namely, whether they demand non-empty domains.

　The foregoing example whereby *each* which generates a DE environment does not license the NPI *anything* calls into question the validity of the DE condition. Moreover, the complexity does not end here. The quantifier *most* which is not DE licenses NPIs, as shown in (9).

(9)　a.　**Most** children with *any sense* steal candy.

　　b.　**Most** people who would *lift a finger* to help Bill now are either very foolish or very well-paid.　　　(Israel (2004))

So far, the discussion in Giannakidou (2011) introduced above have revealed that the licensing condition of NPIs in restrictions of quantifiers is an issue that cannot be accurately accounted for by the DE condition.

1.2.2. NPIs in *Yes-no* Questions

　It is generally accepted that NPIs can occur in *yes-no* questions, as

shown in (10).

(10) Does John have *any* books?

The difficulty in accounting for NPIs in *yes-no* questions by using the DE condition is a well-recognized problem in the literature, in that establishing monotonicity patterns in *yes-no* question is almost impossible. Giannakidou (2011) highlights the failure of the DE condition in handling NPIs in *yes-no* questions. She claims that with negation being the most common environment for NPIs, *yes-no* questions are the second most common environment. Thus, she argues that if the DE condition cannot provide an explanation for NPIs in *yes-no* questions, the DE condition is not well grounded. To support this, crosslinguistic examples are provided. The Dutch NPI *ook maar iets* and the Greek NPI *tipota* cannot be licensed by the counterparts of *few* in their own languages, as shown in (11).

(11) a. */?? Liji   anthropi idhan   *tipota*.   (Greek)
              few   people   saw.3pl   anything
              Few people saw anything.
       b. *   To poli   5   anthropi idhan   *tipota*.   (Greek)
              At most   five   people   saw   anything
       c. *   Weinig   mensen hebben *ook maar iets* gezien (Dutch)
              Few people saw anything.

                                        (Giannakidou (2011: 1671, 1672))

In contrast, the Dutch NPI *ook maar iets* and the Greek NPI *tipota* can occur in *yes-no* questions, as shown in (12).

(12) a. Heb   je   *ook maar iets* gezien?   (Dutch)
          have.2sg you anything   seen
          Did you see anything?

      b. Idhes   *tipota*?   (Greek)
          saw.2sg   anything
          Did you see anything?   (Giannakidou (2011: 1671))

Therefore, it can be concluded from (12) and (13) that the ability for *yes-no* questions to license NPIs is stronger than that for negative determiners to license NPIs, at least in Dutch and Greek. If the DE approach cannot account for NPIs in *yes-no* questions, the validity of the DE condition should be questioned.

To sum up, the DE condition, which claims that DE is required in NPI licensing, is undesirable, in that the Dutch NPI *ook maar iets* and the Greek NPI *tipota* do not occur with the DE quantifiers, which are the equivalents of *few*, while the acceptability of them is greatly enhanced when they occur in *yes-no* questions, which are not DE.

1.2.3. NPIs in Modals and Other Non-DE Environments

Giannakidou (2011) points out that imperatives and environments with modal verbs also allow the occurrence of NPIs (see (13) for some

Greek examples).

(13) a. Patise   {*kanena/opjodhipote*} pliktro

Press.imperative any key

Press any key.

b. O   Janis bori na   milisi   me   {*kanena/opjodhipote*}

the John   may subj talk.3sg with   anybody

John may talk to anybody.

c. O   Janis ine prothimos na   milisi   me

the John is   willing   subj talk.3sg with

{*kanena/opjodhipote*}

anybody

John is willing to talk to anybody.

(Giannakidou (2011: 1672))

In other languages, there also exists the phenomenon in which NPIs occur in imperatives and environments with modal verbs. Nevertheless, it is generally accepted that modal environments are non-monotone. Therefore, NPIs in imperatives and environments with modal verbs also pose a problem to the DE condition.

In addition, Giannakidou (2011) provides a number of Greek examples which serve as evidence in support of her claim that NPIs in conditionals, habituals, and disjunctions are also problematic to the DE condition, in that, although these environments can hardly be considered as DE, they license NPIs.

1.2.4. Summary of Section 1.2

Giannakidou (2011) summarizes the environments where *any*, broad NPIs, and free choice items occurs in Table 1.1.

Table 1.1 Comparative distribution of *any*, broad NPIs, and free choice items

Environments	*any*	Broad NPIs[5]	Free choice items
1. Negatives	OK	OK	*/#
2. *Yes-no* questions	OK	OK	*/#
3. Conditionals (*if*-clauses)	OK	OK	OK
4. *every/all*	OK	OK	OK
5. (Non-antiadditive) DE Quantifiers	OK	*	*
6. Modal verbs	OK	OK	OK
7. Directive attitudes (e.g. *want, insist, suggest, allow*)	OK	OK	OK
8. Imperatives	OK	OK	OK
9. Habituals	OK	OK	OK
10. Disjunctions	*	OK	OK
11. *isos/perhaps*	*	OK	OK
12. Stative verbs	OK	*	OK
13. *prin/before* clauses	OK	OK	OK
14. NP Comparatives	OK	*	OK

Environments	*any*	Broad NPIs	Free choice items
15. *monon/only*	OK	*	*
16. Emotive factive verbs	OK	*	*
17. Episodic past sentences	*	*	*
18. Positive existential structures	*	*	*
19. Epistemic attitudes (e.g. *believe, imagine, dream, say*)	*	*	*
20. Progressives	*	*	*
21. Non-emotive factives (e.g. *know, remember*)	*	*	*

(cf. Giannakidou (2011: 1674))

Giannakidou (2011) points out that the environments of Rows 1-17 are the major polarity data which a satisfactory NPI theory should capture. However, only Row 1 negatives, Row 4 universal quantifiers, and Row 5 DE quantifiers (which do not license the Dutch NPI *ook maar iets* and the Greek NPI *tipota*) generate a DE environment, while environments in other rows are not DE. In other words, the DE condition can only account for the environments of Rows 1, 4, and 5.

Giannakidou (2011) concludes that the DE condition is far from complete in accounting for NPIs in English and Greek, and that this difficulty exists crosslinguistically. Instead of the DE condition, she

proposes the concept of non-veridicality [6] to account for all the environments in which NPIs occur (see (14)).

(14) Licensing Property

NPIs appear in non-veridical contexts. Non-veridical contexts include modal, intensional, generic, downward entailing contexts, disjunctions, and non-assertive contexts (questions, imperatives, and the protasis of conditionals).

(cf. Giannakidou (2011: 1679))

The details of this *licensing property* are beyond the scope of this thesis. See Giannakidou (2011: 1680ff.) for the limitations of her analysis.

Although NPI licensing is an issue which has been widely discussed from a semantic viewpoint, it is not yet sufficiently discussed from a syntactic perspective, particularly from the minimalist perspective advocated by Chomsky (2000, 2001, 2004, 2007, 2008). This thesis attempts to provide principled explanations for some behaviors of NPIs in various environments which allow the occurrence of NPIs, within the recent minimalist framework.

1.3. Affective Environments

Klima (1964) points out that the environments in which NPIs appear are very diverse, so that they cannot be restricted to a dependency on surface negation. Klima proposes an analysis in which

an NPI is triggered by a morphosyntactic feature [Affective] (henceforth, [Aff]). Klima also shows that negatives, interrogatives, restrictives, conditionals, and adversatives are the major environments involving [Aff]. In addition, NPIs are able to occur in some other affective environments. (15) is a list of the environments in which NPIs are licensed, with the numbers of the examples of these environments on the right.

(15) a. Negatives; --- (16)

        b. Interrogatives; -- (17)

        c. Conditionals; --- (18)

        d. Comparatives; --- (19)

        e. Restrictives; --- (20), (21)

        f. Adversatives; -- (22)

        g. Restrictive relatives modifying universals; ----- (23)

        h. Superlative NPs; --------------------------------------- (24)

        i. Exclamative constructions with a negative implication; -- (25), (26)

        j. Result clauses dependent on *too*. -------------------- (27)

(16) John doesn't have *any* books.   (Hoeksema (2000: 116))

(17) Does John have *any* books?

(18) If you think I could *ever* trust you, you're wrong.

(Hoeksema (2000: 116))

(19) I love you more than I could *ever* say. (Hoeksema (2000: 116))

(20) Every dog which has *ever* bitten a cat feels the admiration of other dogs.   (Portner (2005: 123))

(21) Every child who has *any* money is likely to waste it on candy.

(Portner (2005: 123))

(22) The U.S. government denied that *any* of its agencies is carrying out operations in Mexico targeting the country's powerful drug cartels.

(23) All I could *ever* do was gnashing my teeth and obey.

(Hoeksema (2000: 116))

(24) That was the best book that he had *ever* written.

(*Unabridged Genius English-Japanese Dictionary*, 2001)

(25) Who would *ever* trust Fred?   (Hoeksema (2000: 116))

(26) Like I would *ever* trust Fred! Yeah right.

(Hoeksema (2000: 116))

(27) Fred is too smart to *ever* admit he wrote the pamphlet.

<div align="right">(Hoeksema (2000: 116))</div>

Klima (1964) does not explain why such environments bear the [Aff] feature. Since non-veridicality triggers NPI licensing, it is reasonable to assume that elements that are vital to generate non-veridicality bear a [Aff] feature. This thesis regards the [Aff] feature as a formal feature in syntax and explores how it contributes to generate some phenomena of NPIs from a syntactic viewpoint.

1.4. Syntactic Categorization of Affective Environments

The affective environments listed in (15) can be divided into two categories. Let us assume a clausal structure such as [s [NP Determiner Common Noun] VP]. For the first category, NPIs can only be licensed in the relative clause of NP, with the determiner of NP being the licenser, as shown in (28a). However, the NPI cannot be licensed when it is in VP, while the licenser is the determiner of NP, as shown in (28b).

(28) a.   Every child who has *any* money is likely to waste it on candy.

b. *Every child has *any* money.

On the other hand, for the second category, the affective element

licenses the NPI as long as it c-commands the NPI (generally with the NPI inside VP). See the instances in (29).

(29) a. John doesn't have *any* books.

b. No student has *any* books.

d. I don't think John has *any* books.

With the details of the judgments omitted, [7] based on the difference discussed above, the affective environments can be divided into two categories (see (30)).

(30) a. Type A

The licensed NPI is not in a restrictive relative.

Negatives, interrogatives, conditionals, comparatives, adversatives, exclamative constructions with a negative implication, and result clauses dependent on *too*;

b. Type B

The licensed NPI is in a restrictive relative.

Restrictives, restrictive relatives modifying universal, and superlative NPs.

(30) is a classification from a syntactic viewpoint. We will provide a more fine-grained classification in sections 3 and 4.

1.5. Aim and Organization of the Thesis

This thesis seeks to study NPIs from two perspectives. First, from the syntactic perspective, I will divide the environments of NPI licensing into Type A and Type B. I will provide the mechanism for each type within the recent framework of the minimalist program. By analyzing the features and operations involved in NPI licensing, I hope that this thesis contributes to the study of NPIs in generative grammar. Second, as for the diachronic aspects, the changes concerning the features of *any* and *ne* will be discussed, and the phenomenon involving NPIs in the subject position in the history of English will be examined, which are studies combining the analysis of historical data with the minimalist framework. This thesis does have some limitations, such as the scarcity of independent evidence for the formal features and syntactic operations involved in the analyses. Nevertheless, I hope that this thesis will serve as a springboard for future studies on NPI licensing in English both synchronically and diachronically.

As stated above, the aim of this thesis is to address the licensing mechanism of various NPI-licensing environments in English and to provide some diachronic aspects concerning the development of the typical English NPI *any* and the phenomenon with NPIs in the subject position in the history of English. This thesis is organized as follows: this chapter has given an overview of the definition and classification of NPIs. As shown in Giannakidou (2011), it has been evident that DE and even non-veridicality is undesirable in accounting for the

licensing condition of NPIs. Thus, the significance of a syntactic approach has been underlined. Then, the major environments of English NPIs are demonstrated. Furthermore, these environments are divided into two groups, depending on whether the licensed NPIs are in a restrictive relative or not.

The body of this thesis is organized as follows. Chapter 2 seeks to provide a mechanism for NIPs in negatives. The Agree approach to NPI licensing has been adopted in Zeijlstra (2004) and Roberts (2007). However, these analyses have some limitations. Thus, chapter 2 attempts to account for NPI licensing in negatives within the minimalist framework. An examination into the feature specification of NPIs and negative markers is carried out. Then, the focus of this chapter turns to *any* in the history of English.[8] Since this is closely related to the development of the negation system in the history, the relevant changes in feature specifications of both NPIs and the negative marker *ne* will be discussed.

Chapter 3 will investigate the application of the licensing mechanism of NPIs proposed in chapter 2 and revised in section 3.1 to the analyses of NPIs in English conditional, comparative, and interrogative clauses. Section 3.2 tries to adopt the mechanism to account for the different grammatical behaviors between *if* and *when* concerning focalization and NPI licensing. Section 3.3 focuses on the fact that NPIs can occur in clausal comparatives, but not in phrasal comparatives. The Agree-based mechanism of NPI licensing will be adopted to account for this phenomenon. Then, the consequences will

be discussed. Section 3.4 investigates the contrast in which NPIs can occur in a *yes-no* question, but not in a *wh*-question. The feature specification of *wh*-words is examined, and the licensing mechanism of NPIs in negatives will be applied to NPI licensing in interrogative clauses. Section 3.5 seeks to apply the mechanism in section 3.1 to other environments of Type A: adversatives, exclamative constructions with a negative implication, and result clauses dependent on *too*.

Chapter 4 accounts for NPI licensing of Type B by adopting the anaphoric analysis of NPIs proposed in Progovac (1994) and the proposal concerning binding in Hornstein (2001). The mechanisms of NPI licensing in restrictives, restrictive relatives modifying universal, superlatives will be discussed, respectively.

Chapter 5 will conduct a survey on NPIs in the subject position in the history of English. This survey is important due to the obscurity in the literature concerning NPIs in the subject position in the history of English. The results of the survey will suggest that NPIs could appear in the subject position in just a specific era of English, viz. Elizabethan English, when V-to-C movement was generally lost, while V-to-T movement still existed. Then, this chapter seeks to provide a principled explanation for the existence of this phenomenon in Elizabethan English in the framework of the recent minimalist program. It will be pointed out that the change of the acceptability of NPIs in the subject position from Elizabethan English to PE is correlated with the loss of V-to-T movement in the history of English.

Chapter 6 will summarize the proposals made in each chapter.

Notes to Chapter 1

1 NPIs of various syntactic categories are as follows.

    (i)   a.   Nominal NPIs,

                  e.g. *any* and *anyone*.

           b.   Adverbial NPIs,

                  e.g. *yet*, *ever*, *either*, and *in years*.

           c.   Verbal NPIs,

                  e.g. *budge*.

           d.   Focus particle NPIs,

                  e.g. *even*.

           e.   Minimizer NPIs,

                  e.g. *lift a finger* and *give a damn*.

2 A function F is antiadditive if and only if $F(a \lor b) = F(a) \land F(b)$. A function F is antimorphic if and only if it is antiadditive and additionally $F(a \land b) = F(a) \lor F(b)$, i.e. if and only if F is classical negation. ($\land$: *and*, $\lor$: *or*.)

3 Roberts (2007) gives two examples to illustrate this ambiguity, as shown in (i) and (ii), with their NPI and free choice interpretations presented in *a* and *b*, respectively.

(i)   If you don't understand *any* aspect of the instructions, please

       let us know.

       a. 'if you understand *no* aspect of the instructions, …'

                                                                (NPI *any*)

       b. 'if there is *some* aspect which you don't understand, …'

                                                         (free choice *any*)

                                                    (cf. Roberts (2007: 73))

(ii)   I don't want to go *anywhere*.

       a. 'I want to go nowhere'   (NPI *any*)

       b. 'Not all places are such that I want to go there'/'There are

          some places I don't want to go to'   (free choice *any*)

                                                    (cf. Roberts (2007: 73))

[4] The contrast in support of this statement is illustrated in (i).

(i)   a. A whale is not (*just) any fish.   (NPI *any*)

       b. A trout is not (just) any fish.   (free choice *any*)

                                                    (cf. Horn (2000: 159))

[5] Broad NPIs are NPIs which can be licensed in negative, DE, and
non-veridical environments.

[6] In linguistics, veridicality indicates a context which implies the
truth of its argument. For example, the operator Fp = *yesterday*, p is

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veridical in that "Yesterday, John bought a book" entails "John bought a book". On the other hand, negation is non-veridical in that "John didn't buy a book" entails that "John bought a book" is false. Modality is also non-veridical in that "John may have bought a book" does not entail "John bought a book". Modern theories tend to approach polarity-sensitivity via the use of veridicality, non-veridicality and their subproperties, because these properties predict the behavior of NPIs more precisely than previous approaches based on DE.

7 The criterion of the judgment is whether the licenser and the licensed NPI are in the same CP. Since the structures of these environments have not been discussed and for some environments the syntactic positions of the licensers are not obvious, the more concrete term "restrictive relative" is used to define the criterion tentatively.

Note that a sentence involving neg-raising like (i) is an exception.

(i)   I don't think that there are *any* limits to how excellent we could make life seem.

Although the licenser *don't* and the licensed NPI *any* are not in the same CP, (i) belongs to Type A.

[8] Here are the standardly assumed historical periods of English:

Old English (OE) (700–1100),

Middle English (ME) (1100–1500),

    Early Middle English (EME) (1100–1300),

    Late Middle English (LME) (1300–1500)),

Modern English (ModE) (1500–1900),

    Early Modern English (EModE) (1500–1700),

    Late Modern English (LModE) (1700–1900)),

Present-day English (PE) (1900–).

Chapter 2

NPIs in Negatives

2.1. Introduction

This chapter deals with the licensing and historical development of NPIs used in negative environments, in terms of Agree within the recent minimalist framework. Then, it also discusses the consequence of the proposed feature-based analysis of NPIs for the treatment of the historical change of negation, called "Jespersen's Cycle." The relevant historical data in this chapter mainly come from the *Oxford English Dictionary* (OED) and three historical corpora.

This chapter is organized as follows. Section 2.2 introduces some previous studies on NPIs and negative concord, pointing out their limitations. Section 2.3 proposes the licensing mechanism of NPIs based on Agree, which is inspired by Roberts (2007), but significantly different from his analysis. Section 2.4 discusses the development of NPIs which are exemplified by *any*, in the history of English, and examines the roles of negative and focus features in the process of

their development. As a consequence of the analysis proposed in sections 2.3 and 2.4, section 2.5 focuses on the negative *ne* in Stage Two of Jespersen's Cycle (henceforth, Stage Two *ne*). Because the correlation between Stage Two *ne* and NPIs is verified from the viewpoint of the correlation coefficient, it is claimed that they share the same feature specification. Then the feature-based analysis of the development of *ne* is put forward, arguing that the development of NPIs and Jespersen's Cycle can be accounted for in terms of van Gelderen's (2008, 2009) theory of Feature Economy. Section 2.6 is the conclusion.

2.2. Previous Studies

As for NPIs in a negative context, there have been a large number of studies in the generative literature: Klima (1964), Ladusaw (1980), Linebarger (1980), Atlas (1996), Martins (2000), Watanabe (2004a), Giannakidou (2000, 2006), just to name a few. This section briefly discusses the analyses proposed by Zeijlstra (2004) and Roberts (2007) which are both feature-based.

2.2.1. Zeijlstra (2004)

Zeijlstra (2004) demonstrates how his analysis of negation explains the syntactic and semantic properties of multiple negation. The major difference between negative concord and double negation languages [1] is the presence or absence of X. In negative concord languages, negation is the result of the agreement between multiple

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uninterpretable negative features (henceforth, [*u-Neg*] features) and a single negative operator *Op¬* carrying an interpretable negative feature (henceforth, [i-Neg] feature), as shown in (2), which roughly represents the structure of (1). In (2), the covert negative operator agrees multiply with the negative marker (or negative adverb/particle in some other works) *ne* and the n-word *rien*, which both have a [*u-Neg*] feature. Zeijlstra suggests that this mechanism applies to the licensing of NPIs in English as well.

(1) Jean *ne*   mange *rien*   (French)
     Jean neg eats   nothing
     'Jean doesn't eat anything.'   (cf. Zeijlstra (2004: 253))

(2) [NegP *Op¬*[i-Neg] [Neg ne-mange i[*u-Neg*]] [vP Jean rien[*u-Neg*] ti]]

On the other hand, double negation languages only have an [i-Neg] feature. Since they do not have a [*u-Neg*] feature, negative concord cannot be established, resulting in the cancellation of negation when two [i-Neg] features co-occur. Syntactic operation with respect to negation is not triggered.[23]

  However, there is a problem with Zeijlstra's (2004) analysis in its crucial respect: it seems unnatural to posit a [*u-Neg*] feature on n-words such as *rien*, because they can be used in fragmentary answers, as shown in (3). This will suggest that n-words have an [i-Neg] feature that allows them to express a negative meaning by

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themselves.[4]

(3) Qu'est-ce que tu as vu? Rien! (French)

What is it that you have seen? Nothing

'What have you seen? Nothing!' (Roberts (2007: 65))

2.2.2. Roberts (2007)

Roberts (2007) attempts to explain the licensing of negative concord in French and NPIs in English in terms of Agree as defined in (4):

(4) α Agrees with β where:

(i) α and β have non-distinct formal features;

(ii) α asymmetrically c-commands β;

(iii) there is no γ non-distinct in formal features from α such that γ c-commands β and α c-commands γ.

(Roberts (2007: 66-71))

In contrast to Chomsky's (2000, 2001) assumptions on Agree, where both a probe and goal must have uninterpretable features which make them active for Agree, Roberts assumes that only a probe needs to be activated by uninterpretable features, while a goal is only required to have non-distinct features.

Based on these assumptions, Roberts (2007) suggests that an Agree relation exists between the negative *ne* and one or more n-word(s) in

the case of negative concord in French. In (5), *ne* has a [*u-Neg*] feature,[5] which allows it to act as a probe, while the [i-Neg] feature on *rien* allows it to be the goal, because this satisfies the condition (4i), which requires both a probe and goal to have non-distinct formal features. Thus, an Agree relation is established between *ne* and *rien*, as shown in (6), which illustrates the structure of (5), resulting in single negative interpretation, namely, negative concord.

(5) Je n'ai   rien   vu.   (French)
     I   neg-have nothing seen
     'I have seen nothing/ I haven't seen anything.'

                                              (Roberts (2007: 65))

(6)   TP
                   ┌──────────┴──────────┐
                 Je_i   T'
                            ┌─────────────┴─────────────┐
                          Neg   n'ai[u-Neg](Probe)
                   ┌────────┴────────┐
                 vP   t_Neg
           ┌──────┴──────┐
         ~~Je_i~~   v'
                   ┌──────┴──────┐
                 VP   vu
           ┌──────┴──────┐
     rien[i-Neg](goal)   V
                        Agree
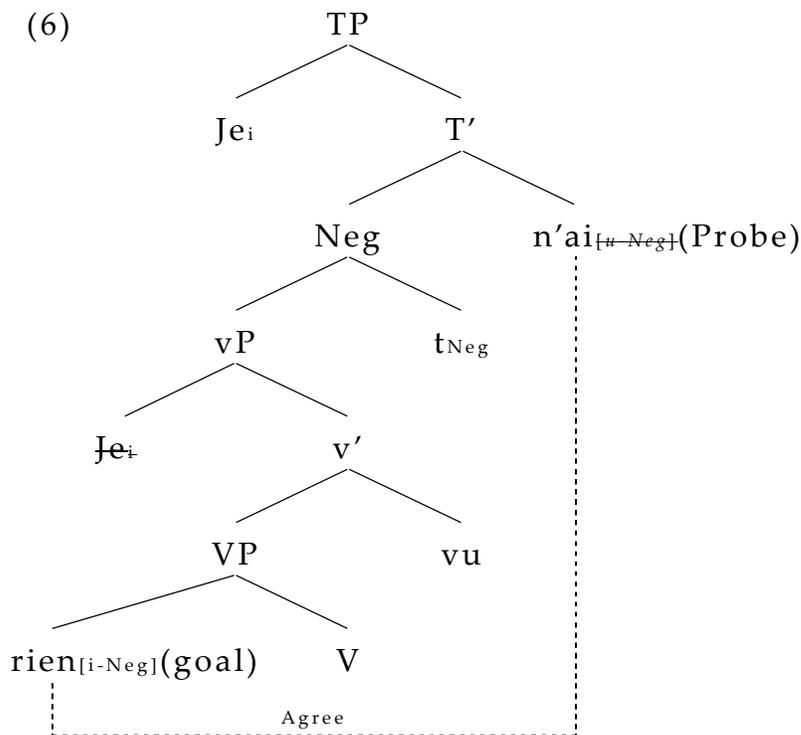
As for English NPIs, Roberts proposes that an Agree relation of negative features (henceforth, [Neg] features) also exists between negative markers such as *not* and *never* and NPIs. In his analysis, an NPI has a [*u-Neg*] feature and acts as a probe, while its licenser, i.e. a negative marker has an [i-Neg] feature and acts as a goal. For example, in a sentence like (7), *anything* bears a [*u-Neg*] feature and serves as the probe, while *not* bears an [i-Neg] feature, which enables it to be the matching goal. *Anything* and *not* enter into an Agree relation, with the result that the NPI is licensed.

(7)   John did not eat *anything*.

The sentence in (7) has the structure (8) below.

(8)   TP

John$_i$ ... T'

did ... NegP

not$_{[i\text{-}Neg]}$(goal) ... vP

John$_i$ ... v'

eat ... VP

V ... anything$_{[u\text{-}Neg]}$(probe)
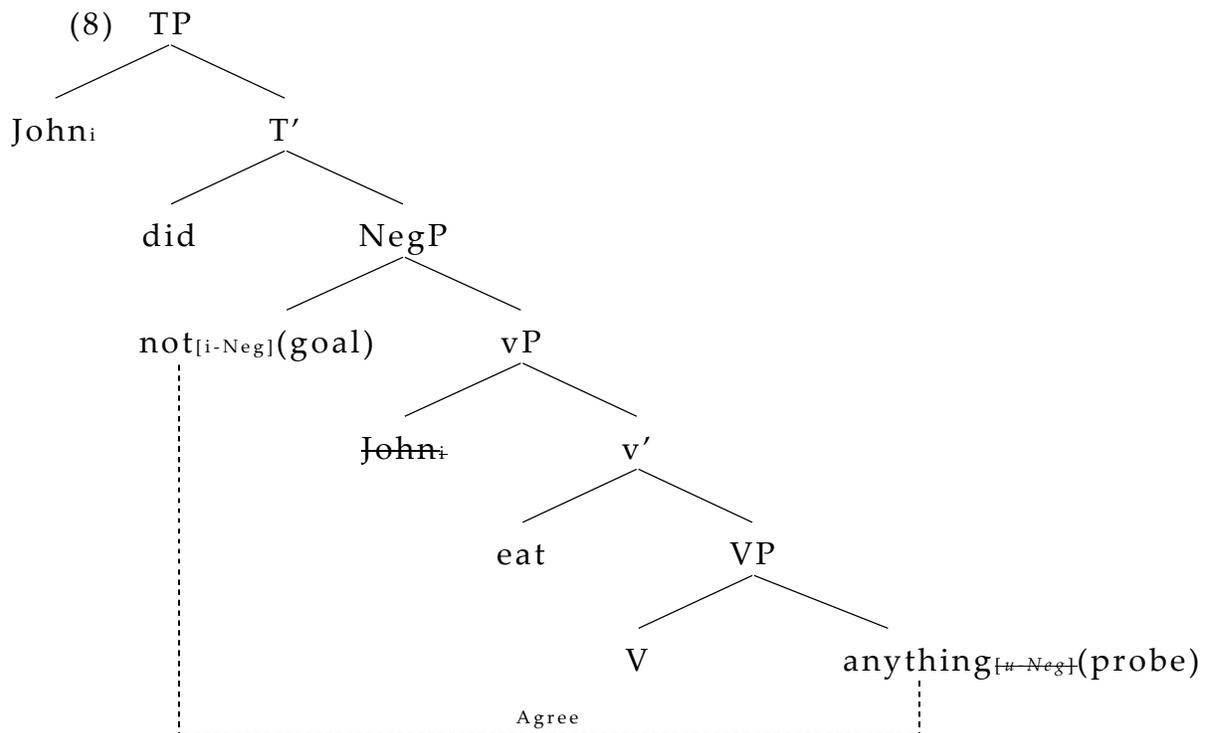
Agree

Roberts refers to this type of Agree as an "inverse" probe-goal relation. Thus, the difference between negative concord of the French type and NPI licensing of the English type is described in (9).

(9) a. English Negative Agree: (α, β) where α is a goal and β a probe;

b. French Negative Agree: (α, β) where β is a goal and α a probe.   (Roberts (2007: 74))

However, Roberts' (2007) analysis of English NPIs seems to be problematic, because it depends on the inverse Agree relation where the goal c-commands the probe, which seems to be unattested elsewhere in natural languages and hence should be dispensed with unless there is compelling evidence for it. Moreover, postulating the inverse Agree relation necessarily leads us to abandon the hypothesis that the search domain of a probe is limited to its complement, which implies the increase of search space and/or computational burden and hence is undesirable from the viewpoint of computational efficiency.

2.3. The Licensing of NPIs

This section develops the mechanism of NPI licensing, based on the Agree system in Chomsky (2000, 2001). The constrtaints on Agree is listed in (10).

(10) Constraints on Agree

    a. Probe-goal matching;

    b. The probe and the goal are active;

    c. The goal is in the c-command domain of the probe;

    d. There is no closer goal up to equi-distance.

Unlike Roberts (2007), Chomsky assumes that both a probe and goal must have uninterpretable features in order to get active for Agree, and that a probe must search for a matching goal in its c-command domain.

    Beginning with the feature specification of NPIs, it is reasonable to assume that they have a [*u-Neg*] feature (while negative markers like *not* have an [i-Neg] feature), as shown in the structure of (8) proposed by Roberts (2007), because NPIs cannot express negation independently.

(11) A: What have you seen?

    B: *Anything!   (cf. Roberts (2007: 65))

However, *not* does not have any uninterpretable features in (8), so it cannot enter into an Agree relation with *any* under Chomsky's (2000, 2001) Agree system. According to his assumption that both a probe and goal must bear uninterpretable features to be active for Agree, one way to solve this problem would be that besides a [Neg] feature, another kind of feature exists which is interpretable on NPIs, but is

uninterpretable on negative markers.

To figure out what the relevant feature is, it should be noted that some NPIs can also be focus adverbs. Hoeksema and Rullmann (2001) argue that the italicized expressions in (12) are NPIs serving as focus adverbs modifying expressions which denote a scalar endpoint, which will suggest a possible connection between NPIs and focus.[6]

(12) a. She cannot stand Fred, *much less* his brother.

b. Nobody understands me, *least of all* my father.

c. If you *so much as* lift a finger, I'll scream.

(Hoeksema and Rullmann (2001: 129))

NPI phrases such as *at all* are emphatic. Some other NPIs such as *bat an eye, budge an inch, drink a drop, give a damn, lift a finger, sleep a wink* follow a pattern in which the expressions contain the quantificational expression *a*, and they have the nuance of exaggeration. NPIs such as *give a red cent* not only contain the quantificational expression *a*, but it is also specific in that they contain the modifiers like *red*. Since elements which are emphatic, exaggerating, or specific are frequently associated with focus, as frequently pointed out in the literature, it is reasonable to assume that NPIs and focus are connected in nature.

Another piece of evidence for the relevance of focus comes from Klima's (1964: 311) observation that the NPI *any* can be licensed by *only* as a focus adverb, as shown in (13).

(13) Only young writers ever accept suggestions with *any* sincerity. (Klima (1964: 311))

The following examples are cited from Wagner (2006) in which *only* licenses other kinds of NPIs other than *any.*

(14)   a.   If you were a kid in Cleveland, you only *gave a damn* about two things – the Beatles and Ghoulardi.

  b.   Stuard David, visionary and poet, cursed it before trying it, and would only *lift a finger* to pick his nose or write a book. (Wagner (2006))

Given that the function of a focus adverb is to specify that the element it is associated with is interpreted as a focus (see Traugott (2006) and the references therein), I assume that both a focus adverb and the element it modifies bear a focus feature (henceforth, [Foc] feature). Moreover, it seems plausible to suppose that NPIs also bear a [Foc] feature, especially an interpretable focus feature (henceforth, [i-Foc] feature), since some of them can function as focus adverbs and they can be associated with and licensed by focus adverbs, as shown in (12)-(14).

  The existence of a [Foc] feature in negatives is also suggested by Watanabe (2004) and Tubau Muntaña (2008). Watanabe (2004) provides an explanation for the parametric variation in negatives

among three languages. Concord items in West Flemish like *niemand* 'nobody' and *geen*-NP 'no-NP' do not bear focus morphology. On the other hand, in Modern Greek and Japanese, focus morphology, i.e. stress in Modern Greek and the particle *mo* in Japanese, is an indispensable element of concord items. Accordingly, Watanabe posits that a negative quantifier has an uninterpretable focus feature (henceforth, [*u-Foc*] feature) only optionally in West Flemish, whereas a negative quantifier always bears a [*u-Foc*] feature in Modern Greek and Japanese. Tubau Muntañá (2008) analyzes the data from strict negative concord varieties of non-Standard English, and suggests that *never* should be characterized as a negative marker with an [i-Neg] feature and a [*u-Foc*] feature.[7]

With this in mind, let us return to the licensing of English NPIs. As shown in the structure in (15) with the negative marker *not* and NPI, suppose that *not* is generated in the head of NegP with an [i-Neg] feature and a [*u-Foc*] feature, whilst the NPI bears a [*u-Neg*] feature and an [i-Foc] feature. In the system of Chomsky (2000), the two items enter into an Agree relation and the [*u-Foc*] and [*u-Neg*] features are deleted, with the result that the NPI is successfully licensed.[8][9]

(15)

```
              ╱╲
             T'
            ╱  ╲
          T      NegP
               ╱      ╲
             not        vP
           [i-Neg]    ╱    ╲
           [u-Foc]   ...NPI...
                     [u-Neg]
                     [i-Foc]
```
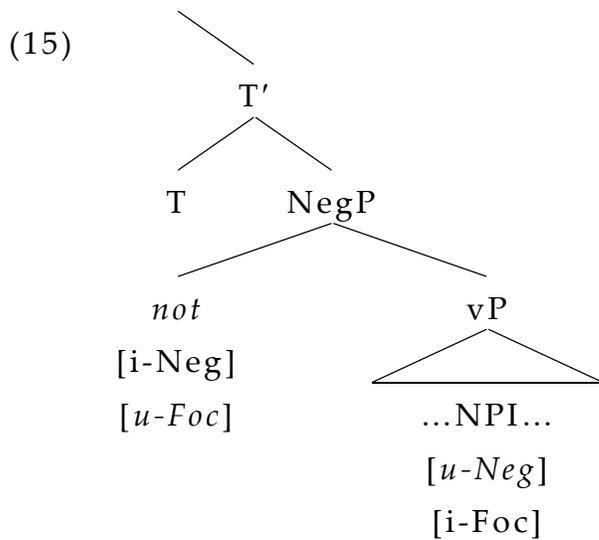
2.4. Diachronic Perspectives

Having established the licensing mechanism of NPIs, this section investigates the historical development of English NPIs and offers a feature-based analysis of the results of the investigation.

2.4.1. The Development of NPIs

Although NPIs occur in various affective environments, this chapter takes only NPIs in negative sentences into consideration. Moreover, *any* is singled out as the representative of NPIs here, because it is treated as such in the relevant literature and is the most frequently used NPI (see note 19 for the observation that a few other typical NPIs behave like *any* in their historical developments). Therefore, I have investigated the frequency of *any* in negative sentences in the history of English, based on the following historical corpora: *The York-Toronto-Helsinki Parsed Corpus of Old English Prose* (Taylor, Warner, Pintzuk, and Beths (2003), henceforth, YCOE), *The*

Penn-Helsinki Parsed Corpus of Middle English, 2nd Edition (Kroch and Taylor (2000), henceforth, PPCME2), and *The Penn-Helsinki Parsed Corpus of Early Modern English* (Kroch, Santorini, and Delfs (2004), henceforth, PPCEME).[10] The result of this investigation is summarized in Figure 2.1.

Figure 2.1 The frequency of *any* in negative sentences (per 100,000 words)
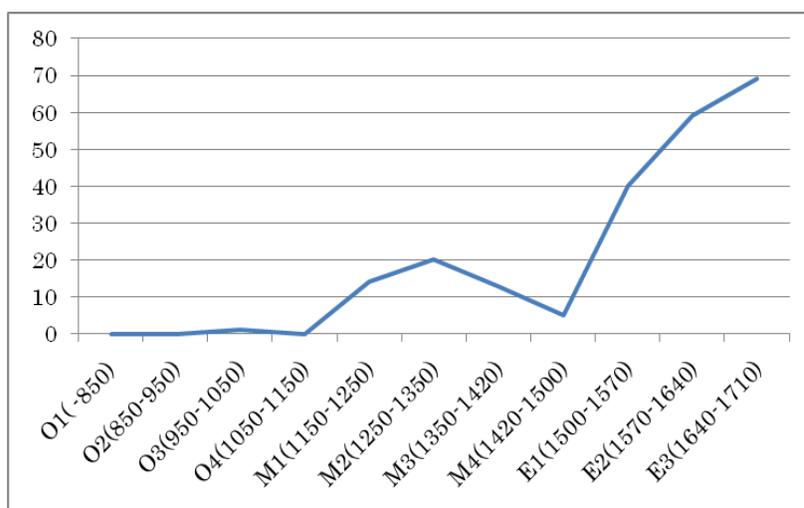
The earliest four cases of *any* in negative sentences are attested in O3 (950-1050), with its frequency increasing thereafter, especially in EModE. According to OED, the earliest example of *any* in negative sentences is (16), which dates from *circa* 1000. Thus, it can be concluded that *any* began to be used as an NPI in negative sentences around 1000.[11]

(16) He *ne* ʒeþafode þæt *æniʒ* man *æniʒ* fæt ðurh þam

he not allow that any man any jar through the

templ bære.

temple bear

'He didn't allow that any man bear any jar through the

temple.' (*c*1000 *Ags. Gosp.* Mark xi. 16)

2.4.2. A Feature-based Analysis of the Development of NPIs

Apart from its NPI usage, *any* has a free choice function, as exemplified in (17).[12]

(17) I say *anything* I know.

Unlike the NPI *any*, the free choice *any* does not have to be licensed by entering into an Agree relation with negative markers, but it is reasonable to assume that the two cases of *any* have some feature in common, and the relevant feature is a [Foc] feature. Assuming with van Gelderen (2009) that there is a distinction between interpretable features and semantic features in that only the former, but not the latter enter into an Agree relation, it would be suggested that the free choice *any* bears a semantic [Foc] feature.[13]

According to the survey based on YCOE, the earliest example of the free choice *any* is attested *circa* 900, a little earlier than that of the NPI *any*, as illustrated in (18).

(18) & forþam þe he wolde ofer his mihta æni þing

and because he would over his might any thing

gedyrstlæcean.

presume

'And because he would presume anything over his

might/ability.' (cogregdH,GD_1_[H]:10.73.1.712: O2)

Thus, the distribution of the free choice *any* and the NPI *any* in the history of English is indicated by the shaded areas in Figure 2.2, with their respective feature specifications.

Figure 2.2 A feature-based analysis of the historical development of *any*

	Column One The free choice *any* with semantic [Foc]	Column Two The NPI *any* with [*u-Neg*] and [i-Foc]
...		
9th Cen.		
10th Cen.	ca. 900	
11th Cen.		ca. 1000
...		
21st Cen.		
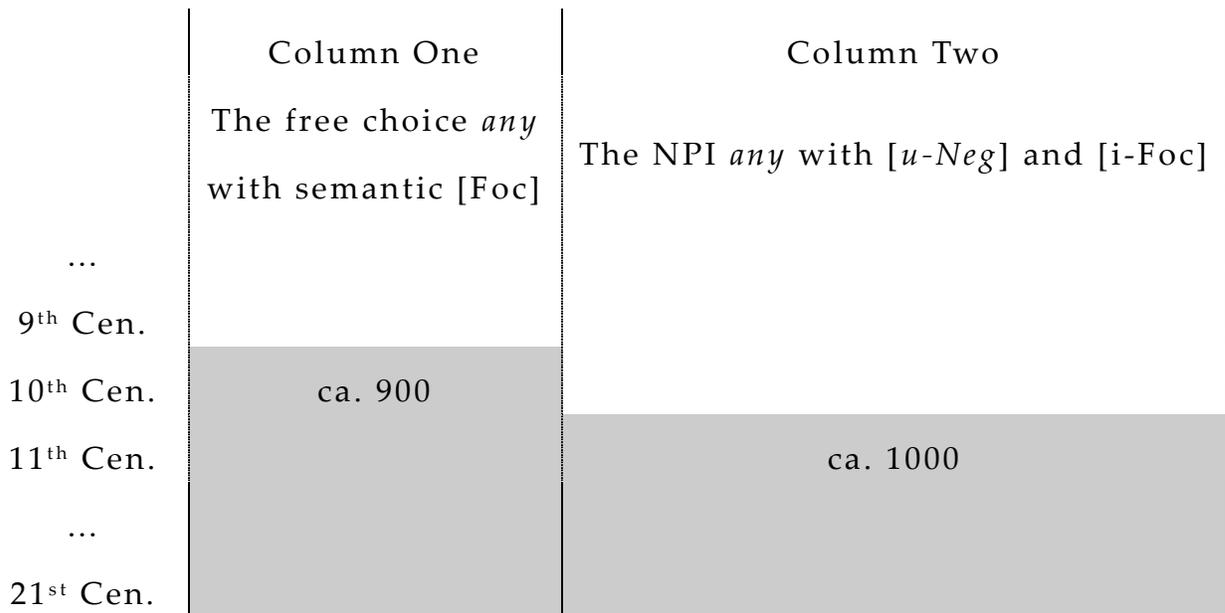
It is interesting to consider the feature-based analysis in Figure

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2.2 in the light of Feature Economy proposed by van Gelderen (2008, 2009), according to which some cases of grammaticalization can be analyzed in terms of the shift from semantic to interpretable to uninterpretable features, which is motivated by economy considerations, as shown in (19).

(19) Feature Economy

semantic $\longrightarrow$ [iF] $\longrightarrow$ [uF]

(cf. van Gelderen (2009: 108))

The following is one of the examples of grammaticalization driven by Feature Economy: from prepositions to complementizers (e.g. the development of the complementizer *after* in English), which is characterized as the shift of [time] from a semantic to interpretable to uninterpretable feature.[14]

(20) Preposition $\longrightarrow$ Preposition $\longrightarrow$ Complementizer

[u-phi]   [u-phi]   [u-phi]

[ACC]   [ACC]   [i-time] /[u-$time$]

[time]   [i-time]

(cf. van Gelderen (2008: 299))

Returning to the historical development of *any* as schematized in Figure 2.2, there is a change in the status of [Foc] from a semantic to interpretable feature, which is consistent with Feature Economy in

(19). Therefore, it would be concluded that the NPI *any* developed from the free choice *any* under the pressure of Feature Economy.

2.5. Consequence: Focus Features and Jespersen's Cycle

This section discusses a consequence of the proposed feature-based analysis of the licensing and historical development of NPIs, which is related to the historical development of negation known as Jespersen's Cycle.

2.5.1. Basic Facts on Jespersen's Cycle

The development of negation originally observed by Jespersen (1917) is well known as Jespersen's Cycle. His original description is shown in (21).

(21) The history of negative expressions in various languages makes us witness the following curious fluctuation: the original negative adverb is first weakened, then found insufficient and therefore strengthened, generally through some additional word, and this in its turn may be felt as the negative proper and may then in course of time be subject to the same development as the original word.

(Jespersen (1917: 4))

Recently, Wallage (2008) argues that Jespersen's Cycle is regarded as comprising the following three stages, which were in grammatical

competition during ME.[15, 16]

(22) Stage One: Sentential negation is marked by *ne* alone.

    a. we *ne*   moten halden Moses e   lichamliche

       we neg   need observe Moses' law bodily

       'we need not observe Moses law in body'

                                                (CMLAMBX1,89.735)

    b. we *ne*   mugen þat don

       we neg can   that do

       'We cannot do that'   (CMTRINIT,103.1369)

(23) Stage Two: The sentential negator *not* co-occurs with *ne*. Sentential negation comprises two parts.

    a. ac of hem *ne*   speke ic *noht*

       but of them neg spoke I   not

       'but I did not speak of them'   (CMTRINIT,95.1271)

    b. I *ne*   may *nat* denye it

       I neg may not deny   it

       'I may not deny it'   (CMBOETH,435.C1.262)

(24) Stage Three: Sentential negation is marked by *not* alone.

    a. Thou sall   *noghte* do so

       You   ought not   do so

       'You ought not do so'   (CMROLLTR,43.880)

    b. I know *nat*   the cause

.   I know not   the cause

‘I do not know the cause’   (CMMALORY,627.3550)

Horn and Kato (2000: 3) argue that Jespersen's Cycle is motivated by the confrontation between the semantic importance of negation and the phonological lightness of its morpho-syntactic expression. In this process, some indefinites and minimizers gradually take place of the original prosodically weakened proclitic negative markers. This is what has happened to *not* in the history of English, and what is now happening to French *pas*. In particular, although *ne* was the only essential negative marker in Old French, it is widely believed that the *ne ... pas* combination was established in the seventeenth century. In modern colloquial French, *pas* can denote negation on its own, and *ne* is generally omitted. See Ayres-Bennett (1996) and the references therein.

Wallage (2008) follows the feature-based account in Zeijlstra (2004), and claims that the configuration in (25) demonstrates the licensing of Stage Two *ne*.

(25)   NegP
        ╱   ╲
not[*i*neg]   Neg′
                  ╱   ╲
          Ne+V [*u*neg]   VP
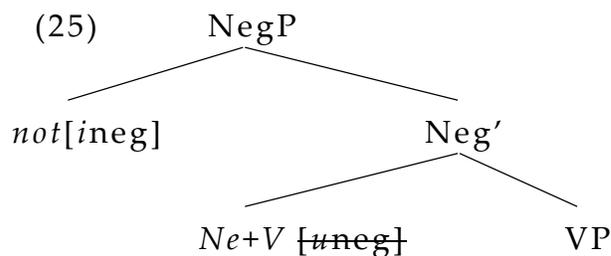
(Wallage (2008: 670))

In (25), the unvalued feature on the head of NegP enters into an Agree relation with the valued feature on *not*, which is merged with the head of NegP. It follows that, in Stage Two of Jespersen's Cycle, the unvalued negative feature on *ne* is valued by *not*, so that *not* checks and deletes the [Neg] feature on *ne*.

If I adopt (25) as the structure involving Stage Two *ne*, one may ask whether the [Foc] feature is involved in this structure. I will come back to this in section 2.5.2 below.

2.5.2. The Relation between NPIs and Stage Two *Ne*

The discussion in this section is inspired by Iyeiri (2003), in which correlation coefficient is used to analyze the relation between two factors. She investigates the relation between the frequency of the NPI *any* and negative concord, based on five LME texts: (a) *The Canterbury Tales* by Chaucer; (b) *Confessio Amantis* by Gower (the first 300 pages of Macauley's edition only); (c) *Sir Gawain and the Green Knight*; (d) *The York Plays*; and (e) Caxton's translation of *The History of Reynard the Fox*. The frequency of *any* in negation per 100 negative clauses is shown in Table 2.1, and the proportions of multiple negation to the entire sample of negative clauses is shown in Table 2.2.

Table 2.1 Frequency of *any* in negation per 100 negative clauses

Canterbury Tales	Confessio Amantis	Sir Gawain	York Plays	Reynard the Fox
1.06	1.39	1.57	0.30	2.49

(Iyeiri (2003: 215))

Table 2.2 The proportions of multiple negation to the entire sample of negative clauses

Canterbury Tales	Confessio Amantis	Sir Gawain	York Plays	Reynard the Fox
29.9%	8.6%	18.4%	10.2%	14.5%

(Iyeiri (2003: 216))

Since *The Canterbury Tales*, with the highest rate of negative concord, does not show the lowest rate of the NPI *any* among the five texts, and *Confessio Amantis*, with the lowest rate of negative concord, does not show the highest rate of the NPI *any*, Iyeiri (2003: 216) argues that the development of the NPI *any* is rather indifferent to the decline of negative concord.

Furthermore, Iyeiri analyzes the relation between the ratio of negative concord and the frequency of the NPI *any* per 100 negative clauses in the five texts with correlation coefficient. The results are shown in Figure 2.3.

Figure 2.3 The ratio of multiple negation and *any* in negation per 100
        negative clauses

The ratio of multiple negation and *any* in negation per 100 negative clauses. X-axis: *Any* in negation (per 100 negative clauses). Y-axis: Multiple negation (10%). Legend: Canterbury Tales, Confessio Amantis, Sir Gawain, York Plays, Reynard the Fox. Correlation coefficient: 0.025
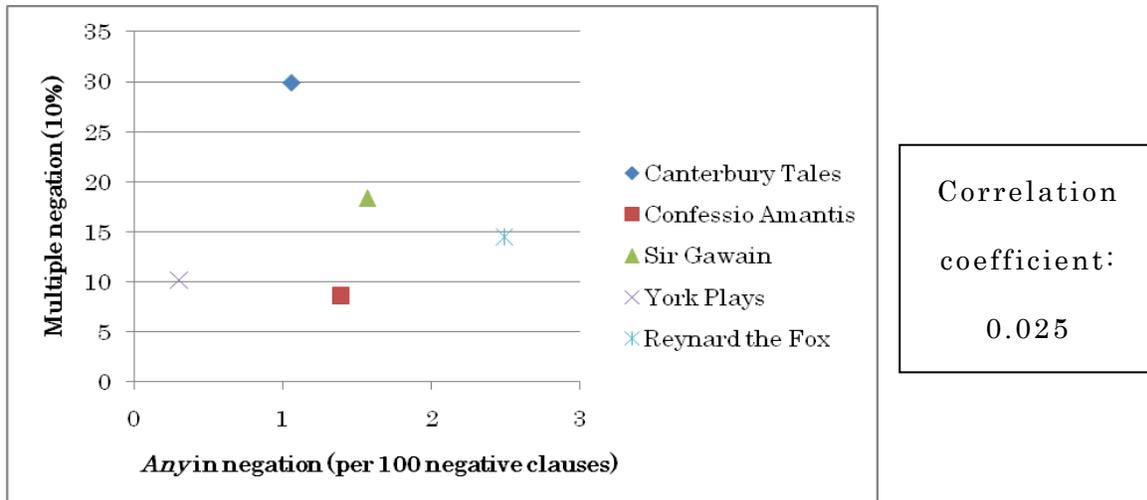
(cf. Iyeiri (2003: 217))

Iyeiri argues that the relation between the occurrence of negative
concord and that of the NPI *any* in negative sentences is pretty loose
in the five texts, in that the data "yields the *positive* correlation
coefficient of 0.025".[17] Thus, the value "0.025" whose absolute value is
close to 0 reconfirms the conclusion earlier that the occurrence of
multiple negation and that of *any* in negation are barely correlated
with each other. If even the slightest correlation should be pointed
out, it is possible to state that in a text in which relatively more
instances of multiple negation are attested, the chance in which
relatively more instances of *any* in negation are attested is high,
because the value "0.025" is positive. Again, note that since the
absolute value of "0.025" is rather low, the tendency is insignificant.

   In conclusion, Iyeiri's (2003) survey suggests that the decline of

multiple negation and the increase of NPIs are not in a cause-and-effect relationship. If they were, their correlation coefficient should be negative and high in its absolute value (close to 1). The decline of multiple negation is a change from the North (see Iyeiri (2001: 131)), while the emergence of non-assertive *any* is a change presumably from the East Midland area (see Iyeiri (2002: 219-220)). The two events met at the end of ME. In other words, the increase of the NPI *any* and the decrease multiple negation are not in a relation of substitution, and is just a coincidence of two changes originated from different regional dialects in LME.

Iyeiri's (2003) interest in multiple negation is not identical with my interest in Stage Two *ne*. However, her analysis provides a hint to my study on the relation between the occurrence of Stage Two *ne* and that of the NPI *any*. The investigation of this relation is carried out through the use of YCOE, PPCME2, and PPCEME. The results of the survey are demonstrated in the following figures. Figure 2.4 shows the frequency of Stage Two *ne* per 100,000 words, and Figure 2.5 illustrates the frequency of *any* in negation per 100,000 words, which is repeated from Figure 2.1.

Figure 2.4 The frequency of Stage Two *ne* (per 100,000 words)
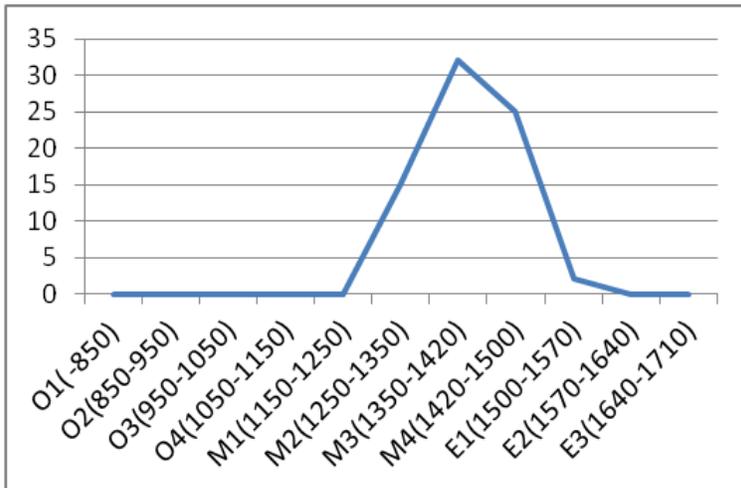
Figure 2.5 The frequency of *any* in negative sentences (per 100,000
     words)
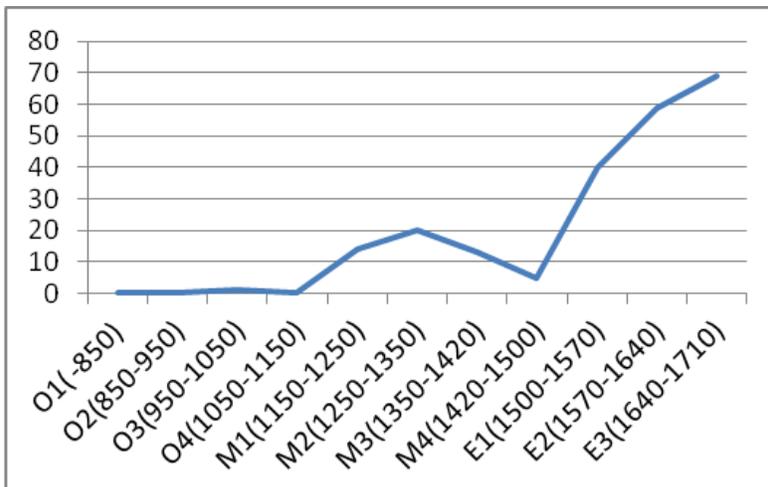
From Figure 2.4 it can be observed that Stage Two *ne* first appears in
M1 and reaches the peak in M3. Then, it gradually decreases and
finally disappears during E2. On the other hand, Figure 2.5 shows
that *any* in negative sentences, which is first attested in O3, becomes

rather common after M1, and then its frequency continue to increase until the latest period investigated except for the decline in M3 and M4. The two results are marked in Figure 2.6, which shows the relation between the ratio of Stage Two *ne* and that of *any* in negative sentences per 100,000 words from O1 to E3. Furthermore, the box besides Figure 2.6 gives the correlation coefficient of the total eleven values and the correlation coefficient of the four values in ME.

Figure 2.6 The correlation between the frequency of Stage Two *ne* and that of *any* in negative sentences

Correlation coefficient of the eleven values: −0.1935

Correlation coefficient of the four values in ME: 0.9258
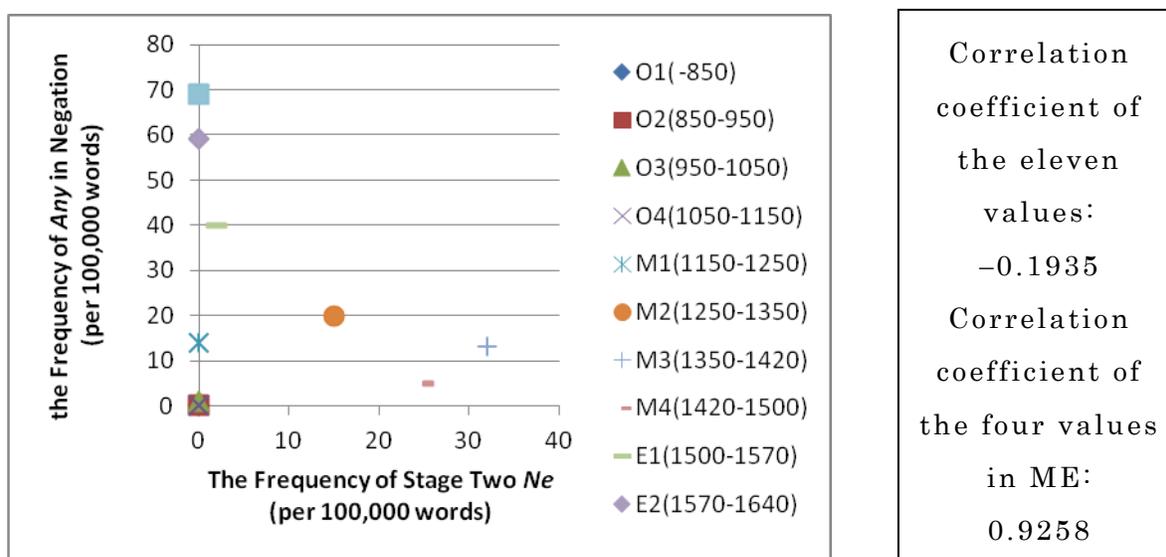
The holistic correlation coefficient here is −0.1935, and hence the two arrays are in an inverse proportion. It is no surprise that this value is negative, because Stage Two *ne* declines while the NPI *any* increases in the history of English as a whole. However, when we just take ME data into account, we find that the correlation coefficient is 0.9258,

which is positive, strikingly high (close to 1). Therefore, this suggests that in ME, when the frequency of Stage Two *ne* increases, the frequency of the NPI *any* also increases. Assuming that items which show high correlation coefficient of frequency in a period of history tend to belong to the same grammatical category sharing the same features,[18] the result in Figure 2.6 will lead to the hypothesis that Stage Two *ne* and the NPI *any* have the same feature specification.[19,20]

Based on the discussion above, suppose, following Roberts (1993) among others, that sentences with Stage Two *ne* have the structure in (26), where *not* is in the specifier of NegP and Stage Two *ne* is in the head of NegP.[21] In (26), the two items enter into an Agree relation, and the [*u-Foc*] and [*u-Neg*] features are deleted, leading to the convergent derivation.[22] This is parallel to the structure and derivation of NPIs in (15), though Stage Two *ne* and NPIs are generated in different syntactic positions.

(26)

```
            T′
          /    \
         T      NegP
              /      \
           not       Neg′
        [i-Neg]     /    \
        [u-Foc]    ne      vP
                 [u-Neg]
                 [i-Foc]
```
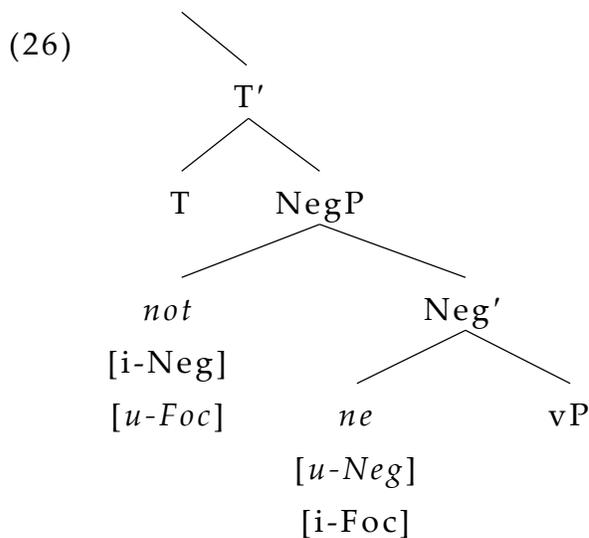
2.5.3. A Feature-based Analysis of Jespersen's Cycle

The development of negation in the history of English is shown by the shaded areas in the following figure, which also represents the feature specification of *ne*. Note that Stage Three involves only the negative marker *not* with the loss of *ne* around 1500.

Figure 2.7 A feature-based analysis of the development of negative markers

	Stage One *ne* with semantic [Neg]	Stage Two *ne* with [*u-Neg*] and [i-Foc]	Stage Three *not* with [i-Neg] (and [*u-Foc*])
...			
8th Cen.	ca. 700		
9th Cen.			
10th Cen.			
11th Cen.			
12th Cen.		ca. 1100	
13th Cen.			
14th Cen.			ca. 1350
15th Cen.			
16th Cen.	ca. 1500	ca. 1500	
17th Cen.			
18th Cen.			
19th Cen.			
...	(rare and literary)		

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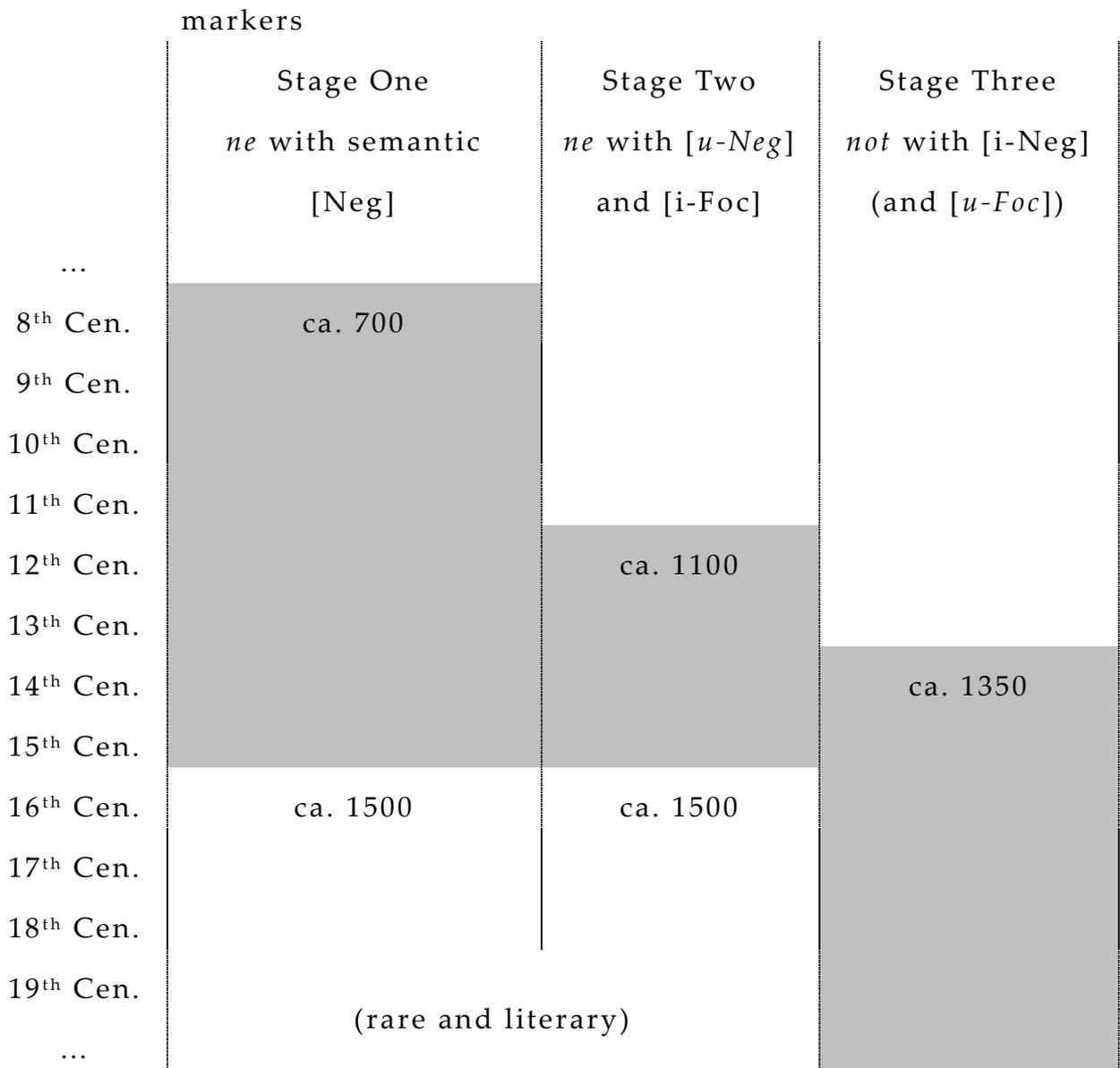
In Stage One of Jespersen's Cycle, *ne* has a semantic [Neg] feature, since it expresses negation alone (see (22)). Stage Two *ne* is derived from Stage One *ne*, when its semantic [Neg] feature becomes a [*u-Neg*] feature in accordance with van Gelderen's (2008, 2009) Feature Economy. In Stage Three, *ne* disappears, and *not* comes to play the role of expressing sentential negation by itself. As is obvious, the above feature-based analysis of Jespersen's Cycle, especially the transition from Stage One to Stage Two, turns out to be consistent with van Gelderen's (2008, 2009) theory of Feature Economy.

Recall from section 2.4.1 that the NPI *any* is first attested in negative sentences at around the year 1000. In that era, the negative marker which Agrees with *any* should be *ne*, as indicated in Figure 2.7. In (16), *ne* enters into an Agree relation with the NPI *æniʒ*, and hence it bears an [i-Neg] feature (as well as a [*u-Foc*] feature). If this sort of *ne* is also derived from Stage One ne, it will follow that there is a shift of the [Neg] feature from a semantic feature to an interpretable feature, in accordance with Feature Economy. Together with the change from Stage One *ne* to Stage Two *ne* mentioned above, it is suggested that there are two independent routes in the development of *ne*,[23] both of which originate from Stage One *ne* and are consistent with Feature Economy. Particularly, in the beginning, *ne* had a semantic [Neg] feature, and it changed to a formal feature (i.e. an [i-Neg] feature) in a rather early stage. Then *ne* diverged into two clines: on one cline, the [Neg] feature remained interpretable, and the [*u-Foc*]

feature emerged, and thus it could cooccur with an NPI. On the other cline, the original [i-Neg] feature on *ne* became uninterpretable, viz. the [*u-Neg*] feature. And similar to an NPI, *ne* acquired an [i-Foc] feature, which enabled it cooccur with the negative marker *not*, which had an [i-Neg] feature and a [*u-Foc*] feature. In other words, in Figure 2.7, both *ne* in the second column and *ne* in the third column are developed from *ne* in the first column independently. In either case, it obeys Feature Economy proposed by van Gelderen (2009). If this is on the right track, the development of *ne* will contribute to the theory of Feature Economy.

2.6. **Conclusion**

This chapter has proposed the mechanism of NPI licensing based on Agree relations involving [Foc] and [Neg] features, applying it to the analysis of Stage Two *ne* in Jespersen's Cycle. After establishing that NPIs and Stage Two *ne* have the same feature specification, it was argued that the former involve the shift of [Foc] from a semantic feature to an interpretable feature, and the latter the shift of [Neg] from a semantic feature to an uninterpretable feature. It was also suggested that there is another route in the development of *ne* that is related to the rise of NPIs, where its semantic [Neg] feature becomes an [i-Neg] feature. These results of feature change, which are all consistent with Feature Economy proposed by van Gelderen (2008, 2009), are summarized in (27) with the relevant features in bold.

(27) a. *any*: **semantic [Foc]**

             (free choice) $\longrightarrow$ **[i-Foc]** and [u-Neg] (NPI)

  b. *ne*: **semantic [Neg]**

         (Stage One)

[u-Foc] and **[i-Neg]**

(*ne* occurring with NPIs)

[i-Foc] and **[u-Neg]**

(Stage Two)

Notes to Chapter 2

---

[1] Zeijlstra (2004) defines double negation and negative concord as follows:

(i)   **Double Negation**: Two negative elements cancel each other out and yield an affirmative.
       Negative Concord: two or more negative elements yield one negation in the semantics.   (Zeijlstra (2004: 57, 58))

According to the typological study in his work, double negation languages include German, Swedish, Norwegian, and Standard English, while negative concord languages include Czech, Polish, Russian, Serbo-Croatian, Greek, Romanian, Hungarian, Hebrew, Italian, Spanish, Portuguese, Berber, Catalan, French, Bavarian, and Yiddish.

[2] Dutch is argued by Zeijlstra (2004) to be a language of the double negation type. As shown in (i) (with its structure in (ii)) and (iii) (with its structure in (iv)), the negative marker *niet* or the negative quantifier *niemand* 'nobody' generates a negative sentence, respectively. On the other hand, when *niemand* and *niet* appear in the same clause as shown in (v) (with its structure in (vi)), a double negation reading is yielded.

(i)   Jan loopt *niet*

Jan walks neg

'John doesn't walk'   (Zeijlstra (2004: 262, 263))

(ii)   [TP Jan$_i$ [$_{v}$P *niet* [$_{v}$P t$_i$ loopt]]]   (Zeijlstra (2004: 262, 263))

(iii) *Niemand* loopt

Nobody   walks

'Nobody walks'   (Zeijlstra (2004: 262, 263))

(iv) [*v*P Niemand loopt]   (Zeijlstra (2004: 262, 263))

(v)   *Niemand* loopt *niet*

Nobody   walks neg

'Nobody doesn't walk' = 'Everybody walks'

(Zeijlstra (2004: 262, 263))

(vi) [TP *Niemand$_i$* [$_{v}$P *niet* [$_{v}$P t$_i$ loopt]]]   (Zeijlstra (2004: 262, 263))

[3] Note that in the history of English, the language changes from a negative concord language to a double negation language. In OE and ME eras, English is a negative concord language, as illustrated by the sentence in (i).

(i)   *Ne* maeg he   *nane* gesceafta gescyppan

Not can   he   no   creatures create

'He can create no creatures'

<div align="right">(AECHom I, 16. 20-21/ Ohkado (1996: 277))</div>

[4] Anticipating such a criticism, Zeijlstra (2004: 270-272) suggests that in fragmentary answers, n-words are licensed by a negative operator generated within the same DP, as represented in (i).

(i)   [*Op*¬[i-Neg] [A *nadie*[u-Neg]...]   (¬: *not*)

'Nobody'

However, he does not present any independent evidence for the structure in (i), so his analysis based on it seems to be undesirable.

[5] Roberts (2007: 72) suggests that since a wide class of elements can license polarity items, the relevant feature should be treated as something more general than a negative feature. He names the feature "operator feature".

[6] In (12c), *lift a finger* is not an NPI which often combines with *not* to mean "to not help someone to do something, usually because he or she is lazy." Here, *lift a finger* has its literal meaning, and *so much as* is the only NPI in this sentence.

[7] As mentioned in section 1, all natural languages as far as we know have NPIs, though they are not necessary in practical sense and burden the language learning process. How should this kind of apparently redundant elements exist in natural languages? The association of NPIs with the [Foc] feature here may offer an answer to the question. NPIs came into being in order to express emphasis or focus, which is important for interpersonal communication in natural languages, though it does not change the truth value. The connection between NPIs and the [Foc] feature might be considerably universal. However, little is discussed with regard to relevant phenomena and evidence of other languages in this thesis for the reasons of space.

[8] Although a detailed analysis of negative concord is beyond the scope of this thesis, the present analysis employing a [Foc] feature would be extended to examples like (1) and (5): the probe *ne* has a [*u-Neg*] feature and an [i-Foc] feature, while the goal *rien* has an [i-Neg] feature and a [*u-Foc*] feature, allowing an Agree relation to be established between the two. In a similar vein, Watanabe (2004a: 560) suggests that in negative concord languages including Japanese, a [Foc] feature makes n-words active for Agree.

[9] The mechanism illustrated in (15) can be applied to a variety of NPIs occurring with negatives. For example, in (i), *not* enters into an Agree

relation with *any* (see the relevant formal features and Agree operation in (ii)).

    (i)   John does not have *any* books.

    (ii)   John does not$_{[u\text{-}Foc][i\text{-}Aff]}$ have any$_{[i\text{-}Foc][u\text{-}Aff]}$ books.

$$\text{Agree}$$

In another case such as (iii), *not* enters into an Agree relation with the verbal phrasal NPI *budge an inch*, with the result that *budge an inch* is licensed. The feature specifications and Agree operation is illustrated in (iv).

    (iii) He will not *budge an inch* on the issue.

    (iv) He will not$_{[u\text{-}Foc][i\text{-}Aff]}$ *budge an inch*$_{[i\text{-}Foc][u\text{-}Aff]}$ on the issue.

$$\text{Agree}$$

As for adverbial NPIs, such as *ever* in (v), *not* enters in an Agree relation with it and licenses it. See (vi) for the relevant formal features and the Agree operation.

    (v)   John has not *ever* been to Tokyo.

(vi)   John has not[u-Foc][i-Aff] *ever*[i-Foc][u-Aff] been to Tokyo.

┌ ┈ ┈ ┈ ┈ ┈ ┈ ┈ ┐
       Agree
└ ┈ ┈ ┈ ┈ ┈ ┈ ┈ ┘

[10] The texts of YCOE, PPCME2, and PPCEME are divided into the following periods: O1 (–850), O2 (850–950), O3 (950–1050), O4 (1050–1150), M1 (1150–1250), M2 (1250–1350), M3 (1350–1420), M4 (1420–1500), E1 (1500–1569), E2 (1570–1639), and E3 (1640–1710).

[11] Note that the NPI *any* may appear earlier than 1000. Ohkado (2005) provides a number of examples of the NPI *any* in *Beowulf*, which dates back to sometime between the eighth and eleventh century. See (i) and (ii).

(i)   ...   ne   inc   ænig   mon
                            not   you-two any   man
       ne   leof   ne   lað   belean   mihte
       not beloved not hostile dissuade-from could
       sorhfullne   sið þa   git   on sund reon
       perilous   trip when you-two in sea   row
       'None could dissuade you, / friend nor foe, / keep either of you / from that hapless trip, / when you two went swimming / out of the bay, ...'   (*Beowulf*, 510b-512b/ Ohkado (2005: 45))

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(ii)   ...   no   þær   ænige   swa   þeah

                                       not   there   any   so   though

       feasceaft   guma   frofre   gebohte,

       destitute   man   confort   obtained

       'The miserable creature / got little comfort / from that dear

       gift'   (*Beowulf*, 972b-973b/ Ohkado (2005: 46, 47))

[12] Note that the free choice *any* can be used in a negative sentence, with an interpretation different from the NPI *any*. Thus, a sentence like *I don't like any ice cream* is ambiguous. One interpretation is that "for all ice creams, I like none of them," while the other interpretation is that "for all ice creams, I don't like all of them." The former is an NPI reading, and the latter is a free choice reading. See Horn (2000) for more discussion concerning the distinction between the free choice *any* and the NPI *any*.

[13] The distinction between interpretable features (which have semantic content) and uninterpretable features (which lack semantic content) is first proposed by Chomsky (1995). Van Gelderen (2008, 2009) goes further to argue that interpretable features in the sense of Chomsky (1995) are divided into two categories: semantic and interpretable features, depending on whether they enter into an Agree relation, as mentioned in the text.

[14] According to van Gelderen (2008), the examples in (i)-(iii) illustrate the three stages in (20), respectively, where the three cases of *after* share [*u-phi*] features entering into an Agree relation with their complements (with the concomitant accusative Case assignment in the first two stages involving *after* as a preposition). Her explanation of these examples goes as follows. In (i), *after* is a preposition with a semantic [time] feature which heads the PP base-generated in VP. In (ii), the PP headed by *after* is base-generated in Spec-CP and it is used to link the two clauses, where the [time] feature on *after* is analyzed as an [i-time] feature. In (iii), after the reanalysis of *after* as C, it continues to bear an [i-time] feature, or it may be analyzed as a [*u-time*] feature, especially when *after* cooccurs with another adverb of time.

(i) Fand þa   ðar inn æþelinga gedriht swefan   after symble
    found then there in noble   company sleeping after feast
    'He found therein a company of nobles sleeping after their
    feast.'   (Beowulf 118–9)

(ii) &   þær wearþ Heahmund biscep ofslægen, &   fela godra

and there was   H.   Bishop killed   and many good

monna; &   æfter þissum gefeohte cuom micel sumorlida.

men   and after this   fight   came many summer troops

'And there was Bishop H. killed and many good men, and after

this fight came many summer troops.'   (Chron A, anno 871)

(iii) After that Raleigh had Intelligence that Cobham had accused

       him, he endeavour'd to have Intelligence from Cobham.

                                                     (HC, EModE2)

[15] Some researchers divide Jespersen's Cycle into more stages, as shown in the following description given by van Kemenade (2000: 56):

Stage 1: negation is expressed by one negative marker;

Stage 2: negation is expressed by a negative marker in combination with a negative marker or noun phrase;

Stage 3: the second element in stage 2 takes on the function of expressing negation by itself; the original negative marker becomes optional;

Stage 4: the original negative marker becomes extinct.

See also Zeijlstra (2004: 56) for the idea that Jespersen's Cycle is

divided into seven stages.

[16] In what follows, occurrences of *ne* in the first and second stages of Jespersen's Cycle are referred to as Stage One *ne* and Stage Two *ne*, respectively.

[17] The following information may be helpful in understanding correlation coefficient. The value of a correlation function is between −1 and 1. The two involved arrays are more correlative when the absolute value of the correlation function is close to 1. A positive value suggests that the two arrays are in a direct proportion, and vice versa for a negative value.

[18] Mizuno (2007) observes that epistemic adverbs like *apparently*, *certainly*, *evidently*, *possibly*, and *probably* increase their frequencies during EModE, arguing that they are licensed by a functional head Mod$_{epistemic}$. If the relevant licensing involves an Agree relation of epistemic modality that these adverbs share as a feature, her observation would provide one of the instances in which items which share the same feature(s) show a similar development in their frequencies.

[19] One might argue that the positive correlation coefficient between Stage Two *ne* and *any* in negative sentences is just a coincidence. I

have also checked the correlation coefficients between the occurrence of Stage Two *ne* and that of a few other typical NPIs, like *ever, yet*, and *until*, based on the investigation of YCOE, PPCME2, and PPCEME. The results are that the correlation coefficients of all the eleven values are negative, while the correlation coefficients of the four values in ME are generally positive (*ever* (0.3681), *until* (0.6987), and *yet* (0.9164)).

[20] A question may arise as to why the NPI *any* and Stage Two *ne* which once had a high positive correlation coefficient and shared the same features finally diverged in their developments after ME. Although a detailed analysis is beyond the scope of this thesis, there would be at least two factors which may cause the increase of the occurrence of the NPI *any* in EModE. First, the NPI *any* fulfills the function once shared by the NPI *any* and Stage Two *ne*, after the occurrence of Stage Two *ne* decreased and finally disappeared in EModE, due to its semantic and phonological weakening (see Horn and Kato (2000: 3)). Second, the increase of the occurrence of the NPI *any* in EModE may be the consequence of the loss of negative concord. Although Iyeiri (2003) does not find the correlation between the development of the NPI *any* and the decline of negative concord in LME, it is not unreasonable to assume that the two changes went hand in hand in ModE (see Nevalainen (1998: 268-270) and Rissanen (1999: 272),

among others).

^{21} Assuming the structure in (26), (23a) is derived as follows. The verb is generated in V and raises to Neg, where it forms a complex head with *ne* as a negative prefix. Then, the complex head moves through T to C, resulting in the surface order of (23a).

^{22} If *any* cooccurs with *ne* and *not* in the structure of (26), the three items would enter into a Multiple Agree relation in the sense of Chomsky (2004), deleting all the uninterpretable features.

^{23} Evidence in support of regarding *ne* in Stage One and Two of Jespersen's Cycle (i.e. *ne* in Column Two and Column Three) as two distinct forms is found in Wallage (2008), which makes the observation that the frequency of *ne* in Stage One of Jespersen's Negative Cycle is greatly affected by clause type, while that in Stage Two is not. This difference lasts throughout ME.

Chapter3

NPIs in Conditionals, Comparatives, and Interrogatives

3.1. Introduction

As we discussed in section 1.4, the affective environments are divided into two categories from a syntactic point of view. (1) is repeated from (30) in chapter 1.

(1) a. Type A

The licensed NPI is not in a restrictive relative.

Negatives, interrogatives, conditionals, comparatives, adversatives, exclamatives, and result clauses dependent on *too*;

b. Type B

The licensed NPI is in a restrictive relative.

Restrictives, restrictive relatives modifying universal, and superlative NPs.

This chapter seeks to apply the mechanism proposed in chapter 2 to the analysis of the mechanism of NPI licensing in the affective environments of Type A.

Prior to analyzing all the affective environments of Type A, let us review the mechanism of NPI licensing in Negatives proposed in chapter 2. It is proposed that negative markers like *not* have an [i-Neg] feature, while NPIs have a [*u-Neg*] feature. Evidence in support of the assumption that the [Neg] feature on NPIs is uninterpretable comes from sentences such as (2). The unacceptibility of the answer *anything* suggests that the NPI *any* cannot express negation independently.

(2)   A: What have you seen?
      B:*Anything!   (cf. Roberts (2007: 65))

Under Chomsky's (2000, 2001) Agree system, both a probe and a goal must bear uninterpretable features to be active for Agree. Therefore, if we are to develop a mechanism of NPI licensing where negative markers enter into an Agree relation with NPIs, it is necessary to assume that besides a [Neg] feature, there is another kind of feature which is interpretable on NPIs, but is uninterpretable on negative markers.

To figure out what the relevant feature is, we should note Klima's (1964) observation that the NPI *any* can be licensed by the focus adverb *only*, as shown in (3).

(3)   Only   young   writers   *ever*   accept   suggestions   with   any
       sincerity.   (Klima (1964: 311))

Given that the function of a focus adverb is to specify that the
element it is associated with is interpreted as a focus (see Traugott
(2006) and the references therein), it is reasonable to assume that both
a focus adverb and the element it licenses bear a [Foc] feature. Then,
it will follow that NPIs also bear a [Foc] feature, especially an [i-Foc]
feature, because they can be licensed by focus adverbs.

    Based on the discussion above, we have proposed the mechanism
of NPI licensing in negative sentences in chapter 2. As shown in the
structure in (4) which is repeated from (15) in chapter 2, with the
negative marker *not* and an NPI, suppose that *not* is generated in the
head of NegP with an [i-Neg] feature and a [*u-Foc*] feature, whilst the
NPI bears a [*u-Neg*] feature and an [i-Foc] feature. In the system of
Chomsky (2000, 2001), the two items enter into an Agree relation and
the [*u-Foc*] feature on *not* and the [*u-Neg*] feature on the NPI are
deleted, with the result that the NPI is successfully licensed.

(4)

```
              T'
             /  \
           /      \
          T       NegP
                 /    \
                /      \
              not       vP
            [i-Neg]    /  \
            [u-Foc]   /____\
                     ...NPI...
                     [u-Neg]
                     [i-Foc]
```
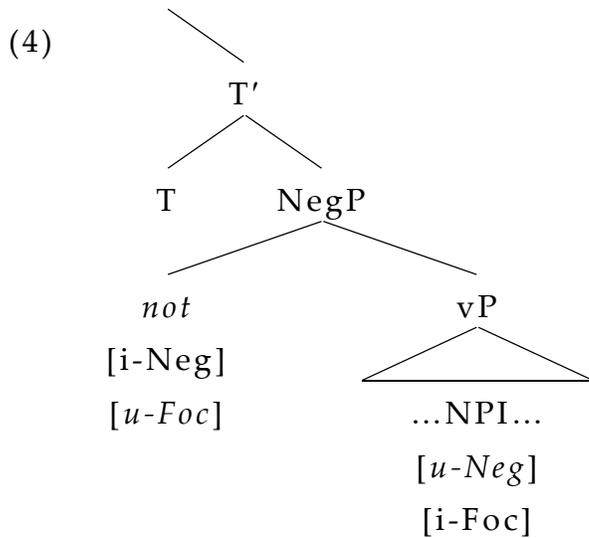
Our discussion so far has suggested that *not* bears an [i-Neg] feature and an [*u-Foc*] feature, whilst the NPI bears a [*u-Neg*] feature and an [i-Foc] feature. In this chapter, the [Neg] feature is changed to the [Aff] feature, which is boarder than the [Neg] feature. Particularly, as for the feature specifications of NPIs and negative markers, it is reasonable to assume with Klima (1964) as discussed in section 1.3 that NPIs have an uninterpretable affective feature (henceforth, [*u*-Aff] feature), while negative markers like *not* have an interpretable affective feature (henceforth, [i-Aff] feature). Thus, the mechanism of NPI licensing in negatives is modified as follows. As shown in the structure in (5), *not* is generated in the head of NegP with an [i-Aff] feature and a [*u-Foc*] feature, whilst the NPI bears a [*u-Aff*] feature and an [i-Foc] feature. In the system of Chomsky (2000, 2001), the two items enter into an Agree relation and the [*u-Foc*] and [*u-Aff*] features are deleted, leading to the convergent derivation.

(5)

```
              T'
             /  \
            T    NegP
                /    \
              not     vP
            [i-Aff]   /\
            [u-Foc]  /  \
                   ...NPI...
                    [u-Aff]
                    [i-Foc]
```
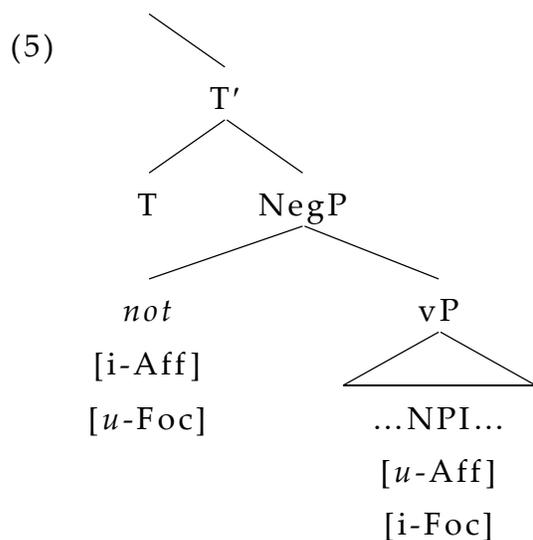
The organization of this chapter is as follows. Section 3.2 proposes a mechanism in which the fact that NPIs are licensed in an *if*-clause but not in a *when*-clause and that the focus adverb *only* can focalize TP preceded by *if* without being adjacent to it but not TP preceded by *when* is accounted for. Section 3.3 provides a principled account for the fact that NPIs are licensed in clausal comparatives, but not in phrasal comparatives. Section 3.4 gives a theoretical explanation for the fact that NPIs are licensed in *yes-no* questions, but not in *wh*-questions. Section 3.5 discusses how NPIs in other affective environments of Type A are licensed. Section 3.6 is the conclusion of this chapter. This chapter only deals with weak NPIs such as *any* and *ever* (see the classification of NPIs in (3) of chapter 1).

3.2. NPIs in Conditionals

This section provides an analysis of the feature specification of the conjunctions *if* and *when*, and discusses how it explains the differences between the behaviors of *if* and *when,* with regard to NPI licensing and the relation to a focus particle like *only*.

3.2.1. Facts

Let us begin by presenting two phenomena concerning *if* and *when*. Firstly, it is observed in the contrast in (6) that an NPI like *anyone* is licensed in an *if*-clause, but not in a *when*-clause.

(6) a. **If** John hits *anyone*, he is a dangerous guy.

   b. *__**When**__ John hits *anyone*, he is a dangerous guy.[1]

Secondly, the focus particle *only* can focalize an *if*-clause regardless of whether it is adjacent to the *if*-clause, whereas *only* can focalize a *when*-clause only when it is adjacent to the *when*-clause, as shown in (7) and (8), where the focalized portions are underlined. In other words, (7a) and (7b) can share the same meaning, in spite of the fact that the focus particle *only* occupies different positions. On the other hand, (8a) implies that *she did not pick up the receiver until he entered*, whereas we could infer from (8b) that *at the time when he entered, she has just picked up the receiver; she did not proceed to the next action such as dialing the number*. Note that other interpretations in which the VP, the object DP or the adjunct PP in the matrix clause is focalized are

also available in (7b). I will return to this point later.

(7) a. The committee can make its decision by Friday of next week *only* **if** it receives a copy of the latest report.

b. The committee can *only* make its decision by Friday of next week **if** it receives a copy of the latest report.

(*The American Heritage Dictionary of the English Language*)

(8) a. She picked up the receiver *only* **when** he entered, not before.

b. She *only* picked up the receiver **when** he entered; she didn't dial the number.

(*The American Heritage Dictionary of the English Language*)

In fact, the difference above is more complicated, in that the difference virtually exists between conjunctions of conditional meaning and conjunctions of non-conditional meaning. For example, conditional *when* can license an NPI, and the TP following it can be focalized by the focus particle *only*, even though they are not adjacent, as shown in (9) and (10).

(9) **When** there is *any* trouble about it, please let me know.

(10) I will *only* do it **when** someone is with me.

The way to distinguish whether a usage of *when* is temporal or

conditional is to test whether it is interchangeable with *if*. For example, *when* in (11a) is temporal and *when* in (11b) is conditional.

(11) a. When/*If I was an undergraduate, I studied syntax.

b. I'll become a monarchist when/if the queen starts taking the 49 bus to the opening of parliament. (Cf. Declerck & Reed (2001: 31))

For the sake of convenience, henceforth I will take the conditional conjunctional use of *if* and the non-conditional/temporal conjunctional use of *when* as the representatives of conjunctions of conditional meaning and conjunctions of non-conditional meaning. Therefore, I simply use *if* and *when* for short in the following discussion.

How should we account for the differences between *if* and *when* illustrated in (6)-(8)? Is it just a coincidence that *if* behaves differently from *when* in both NPI licensing and focalization? The following discussion attempts to give explanatory answers to these questions, going further than some simple descriptions.

3.2.2. The Position of *If* and the Structure of an Adverbial Clause

Rizzi (1997) points out that some subordinators like the Italian word *che* ("that") are generated in the head of ForceP, the highest head in the CP layer (see (12)).

(12) Force (Top*) Foc (Top*) Fin IP

(The asterisk (*) marks the possible recursion of the functional phrases.)

<div align="right">(Cf. Rizzi (1997: 297))</div>

Furthermore, Rizzi (2001) suggests that the Italian word *se* ("if"), which introduces embedded *yes-no* questions, is similar to the declarative *che* ("that/what") in terms of their syntactic positions. They both must precede a focalized phrase, as shown in (13) and (14). The focalized items are bold-faced.

(13) a. Credo che **questo** avreste dovuto dirgli (non qualcos'altro)

'I believe that **this** you should have said to him, not something else'

   b. *Credo **questo** che avreste dovuto dirgli (non qualcos'altro)

'I believe **this** that you should have said to him, not something else'   (Rizzi (2001))

(14) a. Mi domando se **questo** gli volessero dire (non qualcos'altro)

'I wonder if **this** they wanted to say to him, not something else'

b. *Mi domando **questo** se gli volessero dire (non qualcos'altro)

'I wonder **this** if they wanted to say to him, not something else' (Rizzi (2001))

As (13) and (14) illustrate, the structure should be *che*/*se* > Foc (>: precedes) which enables both *che* and *se* to be followed by Foc. On the other hand, *se* can either precede or follow a topic as shown in (15), while *che* can only precede a topic as shown in (16).

(15) a. Non so se, a Gianni, avrebbero potuto dirgli la verità

'I don't know if to Gianni, they could have said the truth'

b. Non so, a Gianni, se avrebbero potuto dirgli la verità

'I don't know, to Gianni, if they could have said the truth'

c. Mi domando se questi problemi, potremo mai affrontarli

'I wonder if these problems, we will ever be able to address them'

d. Mi domando, questi problemi, se potremo mai affrontarli

'I wonder, these problems, if we will ever be able to address them' (Rizzi (2001))

(16) a. Credo che a Gianni, avrebbero dovuto dirgli la verità

'I believe that to Gianni, they should have said the truth to him'

b. *Credo, a Gianni, che avrebbero dovuto dirgli la verità

'I believe, to Gianni, that they should have said the truth

to him'   (Rizzi (2001))

Sentences in (15) and (16) require the structure *che* > Toc > *se* > Top > Foc, which enables *se* to be either preceded or followed by Top while *che* to be only followed by Top. Therefore, Rizzi (2001) argues that *se* occupies a position different from and lower than the position occupied by *che*. The position is higher than Foc, but can be either preceded or followed by Top. Since *che* occupies the head of ForceP, as mentioned above, Rizzi (2001) proposes a position named Int(errogative) for *se*, resulting in the structure of the left periphery shown below.

(17) Force (Top*) Int (Top*) Foc (Top*) Fin IP
     (The asterisk (*) marks the possible recursion of the functional phrases.)

                                                    (Rizzi (2001))

Although the conjunctional *if* and the subordinator *if* are different, they share the same origin. Thus, it is natural to assume that they share the same position in the syntactic structure. Furthermore, assuming the English subordinator *if* and its Italian counterpart *se* occupy the same syntactic position, it is thus reasonable to assume that the conjunctional *if* occupies the same position as the

subordinator *se*, namely the head of IntP.

As for the position of *when* when used as a temporal conjunction, Haegeman (2010) and Trips (2001) place *when* in C (see Mimura (2009) and Shih (2008) for different analyses of the structural position of *when*). In most part of this section, C is shorthand for what Rizzi (1997, 2001) defines as the left periphery. Consequently, it is reasonable to assume that *if* and *when* occupy C. The specific position of *when* in the left periphery is not discussed in this thesis, in that, contrary to *if* whose specific position in the left periphery is related to the discussion below, the specific position of *when* is irreverent.

As for the structure of a complex sentence, Taylor (2007) suggests that the consequence part of a conditional is the matrix clause, because its verb takes tag questions, as shown in (18).

(18) a.   If Jane drives to Philadelphia tonight, then Bob will leave for New York tomorrow, won't he?
      b. *If Jane drives to Philadelphia tonight, then Bob will leave for New York tomorrow, won't she?

(Taylor (2007: 195))

Given the fact in (18), it is reasonable to assume that a conjunctional clause is adjoined to VP. This assumption is also made by Gelderen (2002), as shown in (19), where the *because*-clause, which is a conjunctional clause as an *if*-clause, serves as a VP adjunct.

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(19)

```
             S
         ┌───┴────────┐
        NP            VP
         │       ┌─────┴──────────┐
        He       │                S'
             ┌───┴───┐       ┌─────┴─────┐
             V      NP       C           S
             │       │       │       ┌───┴────┐
           read    books  because    NP       VP
                                      │        │
                                      it      VGP
                                           ┌───┴────┐
                                          was    required
```
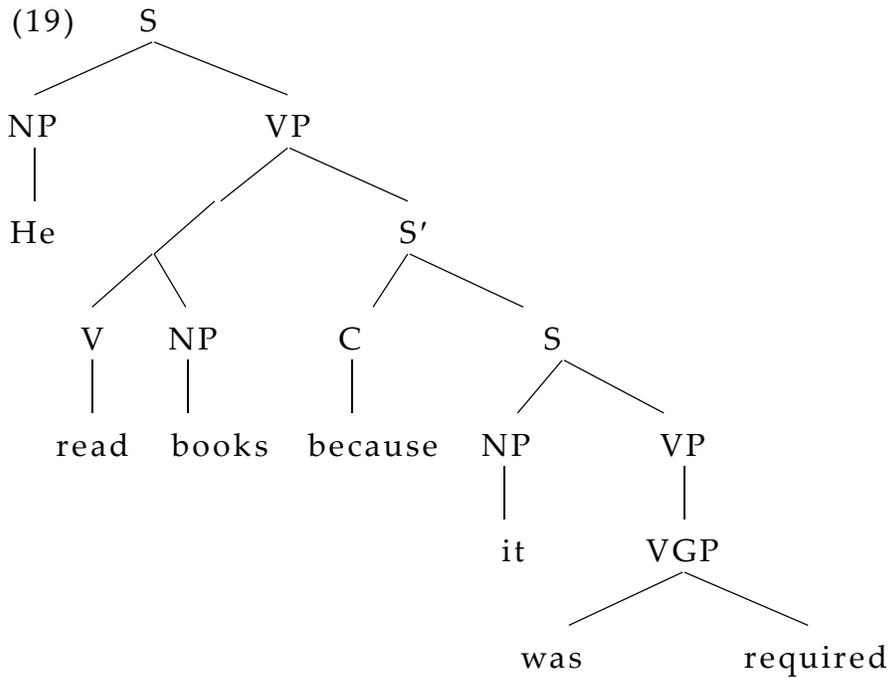
<div align="right">(van Gelderen (2002: 137))</div>

A similar structure is proposed in Iatridou (1991) and subsequently adopted by Taylor (2007), as illustrated in (20).

(20)

```
        TP
     ┌───┴────┐
    NP        T'
          ┌────┴────┐
                    VP
               ┌────┴──────┐
              VP         if-clause
              △            △
```
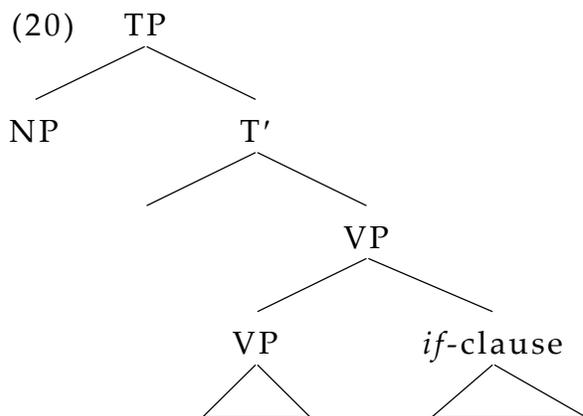
<div align="right">(Cf. Taylor (2007: 196))</div>

Hence, I tentatively assume that clauses like *if*-clauses and *when*-clauses are VP adjuncts of matrix clauses.

However, based on the evidence given in her paper, Taylor (2007: 196-198) claims that an *if*-clause is base-generated within the matrix VP and then A'-moves to adjoin to TP, whereas in the case in which extraction out of an *if*-clause occurs (see (21)), the *if*-clause may be base-generated in the sentence-initial position, a position adjoined to TP.

(21)   Rich's sports car$_1$, if Michelle buys t_1, her insurance premium
       will increase.   (Taylor (2007: 197))

Despite the complexities mentioned above, I would change the VP-adjunct assumption to the assumption that an *if*-clause is adjoined to TP, resulting in the structure in (22).

(22)   CP

C'

TP
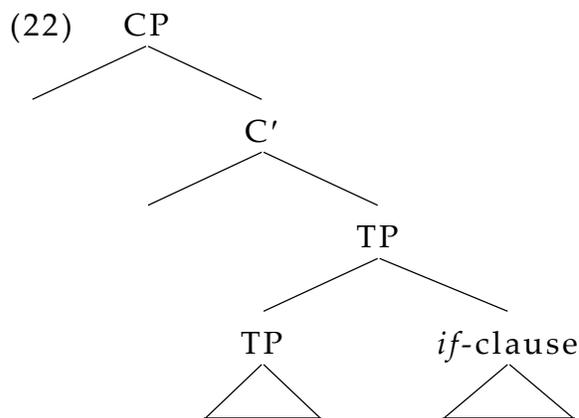
TP   *if*-clause

Given that Kayne (1994) and Fukui and Takano (1998) impose a ban on rightward adjunctions, the structure of (22) is revised to (23), in

which the *if*-clause is leftward adjoined to TP. At certain stage of the derivation, the matrix TP optionally moves to a position higher than the *if*-clause, yielding the word order in which the consequence clause precedes the *if*-clause.

(23)   CP
          |
          C′
          |
          TP
         / \
   if-clause   TP
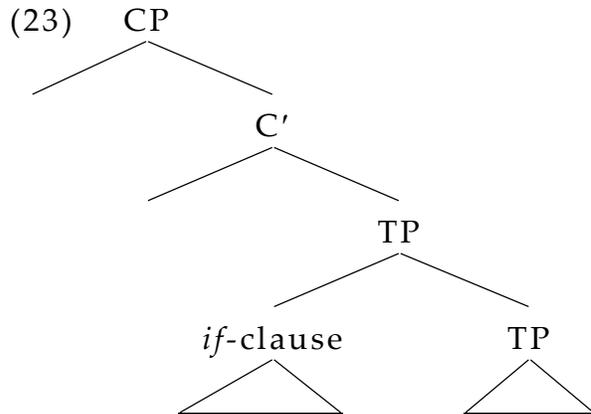
3.2.3. An Agree-Based Analysis of *If*: the Issue of NPI Licensing

Let us now turn to consider NPI licensing in conditionals. Since NPIs are licensed in an *if*-clause, but not in a *when*-clause, it is reasonable to assume, in the light of the discussion in section 3.1, that *if* has a [*u-Foc*] feature and an [i-Aff] feature, while *when* has no formal features. The relevant features are shown in (24) and (25), where the difference in the feature specifications of *if* and *when* gives rise to the contrast in (6).[2]

(24)   [CP [C If[*u-Foc*][i-Aff]] [TP Mary saw anyone[i-Foc][*u-Aff*]]],

                    Agree
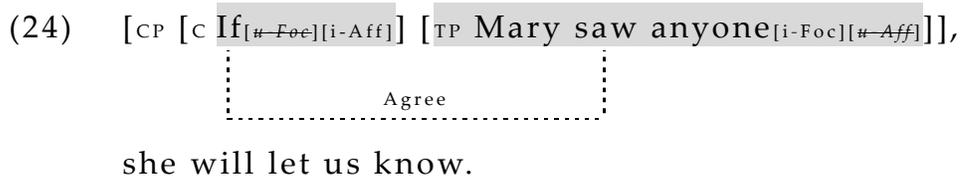
she will let us know.

(25) *[CP [C When] [TP Mary saw anyone[i-Foc][u-Aff]]],

          ┆‑‑‑‑‑ Do Not Agree ‑‑‑‑‑┆

she will let us know.

3.2.4. An Agree-Based Analysis of *If*: the Issue of Focalization

3.2.4.1. The Agree Relation in an *If*-Clause

As is obvious, *if*, as a conjunction, cannot form a sentence alone, because it bears uninterpretable formal feature that must be checked and deleted by the Agree operation. On the other hand, an *if*-clause can form a sentence alone. See (26) for the contrast.

(26) A: May I go with you?

      B: * If.

      B: If you like.

Therefore, it is plausible to assume that an Agree relation is established within the clause such as *if you like*. T bears an [i-Foc] feature and a [*u-Aff*] feature, regardless of whether *if* precedes a clause like *you like* as in (27) or precedes a word like *possible* as in (28).

(27) You can go, [CP [C If[u-Foc][i-Aff]] [TP [T[i-Foc][u-Aff]] you like]].

              ┆‑‑‑‑‑‑ Agree ‑‑‑‑‑‑┆

(28) [[If[u-Foc][i-Aff]] [possible[i-Foc][u-Aff]]], I'd like to see you.

        ┆‑‑‑‑‑‑ Agree ‑‑‑‑‑‑┆

With regard to (6a), where *if* licenses an NPI, I adopt the operation of multiple Agree. Hiraiwa (2001a) proposes a theory of multiple feature checking, (see (29)).

(29) Multiple Agree/Move (cf. Hiraiwa (2000, 2001b))

Multiple Agree (multiple feature checking) with a single probe is a single simultaneous syntactic operation; AGREE applies to all the matched goals at the same derivational point derivationally simultaneously. Multiple Move (movement of multiple goals into multiple specifiers of the same probe H) is also a single simultaneous syntactic operation that applies to all the Agreed goals.

(Hiraiwa (2001a: 69))

The mechanism of multiple feature checking described in (29) is illustrated as in (30).

(30) Multiple Agree as a single simultaneous operation

$\alpha \; > \; \beta \; > \; \gamma$
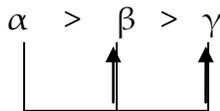
(AGREE (α, β, γ), where α is a probe and both β and γ are matching goals for α.) (Hiraiwa (2001a: 70))

Under the theory of multiple Agree, when a probe is merged, its

uninterpretable feature starts to search into its accessible domain for the closest matching feature. Presumably, the probe locates and matches with the closest goal β. Then, since the uninterpretable feature on the probe is [+multiple], it continues to probe for the next closest goal γ, locating and matching with it. This operation goes on until the probe locates all the matching goals within the accessible domain. In this operation, Agree applies to all matching goals simultaneously, resulting in the Agree relation between the probe and goals. Hence, the Agree relation in (6a) can be illustrated as in (31), in which the probe *if* and the goals T and *anyone* enter into a multiple Agree relation.

(31)   [$_{CP}$ [$_C$ If$_{[\text{~~u-Foc~~}][\text{i-Aff}]}$] [$_{TP}$ [$_T$$_{[\text{i-Foc}][\text{~~u-Aff~~}]}$] John hits *anyone*$_{[\text{i-Foc}][\text{~~u-Aff~~}]}$]],

<center>Multiple Agree</center>
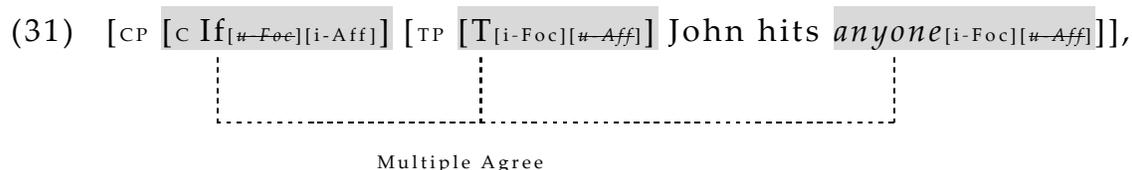
he is a dangerous guy.

3.2.4.2. The Focalization of TP Led by *If* – the Non-adjacent Case

Let us now turn to look at the derivation of (7b). As mentioned in section 3.2.4.1, it is T that bears the formal features, to be precise. However, adopting the concept of pied-piping, I will for convenience take TP as a whole as the form that bears these formal features. The derivation of (7b) concerning merge and move is illustrated in (32).[3]

(32) a. Merge (*if*, TP):

[if [it receives a copy of the latest report]]

b. Adjunction (the *if*-clause, matrix TP):

[[if [it receives a copy of the latest report]] [The committee can *only* make its decision by Friday of next week]]

c. Move/copy TP and merge it with *if*:

[[[it receives a copy of the latest report] [if [it receives a copy of the latest report]]] [The committee can *only* make its decision by Friday of next week]][4]

d. Raise the matrix TP:

[[The committee can *only* make its decision by Friday of next week] [[[it receives a copy of the latest report] [if [it receives a copy of the latest report]]] [The committee can *only* make its decision by Friday of next week]]]

e. Delete the copies:

[[The committee can *only* make its decision by Friday of next week] [[[~~it receives a copy of the latest report~~][5] [if [it receives a copy of the latest report]]] [~~The committee can only make its decision by Friday of next week~~]]]

When we consider the relevant formal features and the operation of spell-out, the derivation can be illustrated as in (33), (34), (35), and (39). In (33), *if*, which is generated in C, enters into an Agree relation with TP, having the [*u-Foc*] feature on *if* and the [*u-Aff*] feature on TP

deleted.

(33) Merge and Agree (*if*, TP)

$[_{CP}$ $[_{C}$ if$_{[u\text{-}Foc][i\text{-}Aff]}]$ $[_{TP}$ it receives a copy ... $]_{[i\text{-}Foc][u\text{-}Aff]}]$

Agree
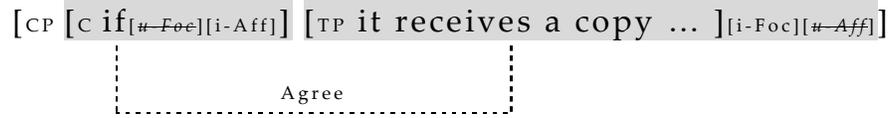
Then, TP raises to Spec-CP, as shown in (34).[6]

(34) Move/copy TP and merge it with *if*

$[_{CP}$ $[_{TP}$ it receives a copy ... $]_{[i\text{-}Foc][u\text{-}Aff]}$ $[_{C}$ if$_{[u\text{-}Foc][i\text{-}Aff]}]$

$[_{TP}$ it receives a copy of the latest report$]_{[i\text{-}Foc][u\text{-}Aff]}]$
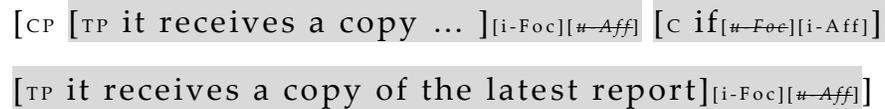
According to the Phase Impenetrability Condition (henceforth, PIC) in Chomsky (2000) which requires that when the CP phase is completed, the domain of CP is transferred to Logic Form (henceforth, LF) and Phonetic Form (henceforth, PF), and becomes inaccessible to an external probe. In (34), the TP *it receives a copy of the latest report* is transferred and becomes inaccessible to an external probe.

In order to understand the existence of [Foc] feature in focalization in the framework of minimalist program, let us take a brief look at Watanabe (2002, 2004b) and Kelly (2006). Watanabe (2002) posits that the Japanese particle *ka*, which accompanies *wh-*phrases in Old Japanese, bears a [*u-Foc*] feature. In note 12 there, Watanabe suggests that the in-situ focus phrase requires an [i-Foc] feature. In a similar vein, Watanabe (2004b: 85) assumes that a focus

particle carries a [*u-Foc*] feature. Kelly (2006) suggests that focus particles bear a [*u-Foc*] feature, which enables them to enter into an Agree relation with focalized elements, resulting in the deletion of the uninterpretable features.

Along the lines of the works mentioned above, which adopt an Agree approach to analyze focalization, it is plausible to assume that the focus particle *only* bears a [*u-Foc*] feature and an [i-Aff] feature, and probes into its domain and Agrees with the TP which is raised to the edge of the CP. The relevant uninterpretable features are deleted, resulting in the focalization of the TP (see (35)).

(35) Merge (*if*-clause, matrix vP)

the committee can [vP *only*[u-Foc][i-Aff] make its decision by ...

[CP [TP it receives a copy ...][i-Foc][u-Aff] [C if[u-Foc][i-Aff]]

Agree

[TP it receives a copy of the latest report][i-Foc][u-Aff]]]

The feasibility of the Agree operation above is ensured by the fact that the focus particle *only* c-commands the *if*-clause. According to Song (2009), the focus particle *only* occupies the specifier of the underlined modifier (Mod) phrase. See (36) for the position of ModP in the left periphery.

(36) Force   Top*   Int   Top*   <u>Mod*</u>   Focus   Mod*   Top*   Fin   IP

(Song (2009: 126))

On the other hand, the *if*-clause is adjoined to matrix TP, as proposed in section 3.2.2. It is thus obvious that in (7b) *only* c-commands the *if*-clause or TP. The condition on Agree in which the probe must asymmetrically c-command the goal is met.

Let us now turn to look at the possibility of deleting the higher copy. The copy theory of movement formulated by Chomsky (1995) maintains that a moved constituent leaves a copy of itself. Furthermore, Hornstein (2009) suggests that in a standard case of inverse agreement in Icelandic, the lower copy is pronounced. (37a) is an Icelandic sentence, in which the subject is marked by quirky case. The DP *bækurnur* enters into an Agree relation with the finite predicate, and is assigned nominative case. See (37b) for the structure of (37a).

(37) a. Henni voru   gefnar bækurnur

She.dat were.pl given.pl books.nom.pl

b. [$_{TP}$ She$_1$ [[$_T$ past + were] [$_{vP}$ t$_1$ v [$_{VP}$ given books]]

(Hornstein (2009: 149))

Hornstein (2009) develops the following Agree-based account for the derivation of (37b). After *she* moves to Spec-TP, T probes into its c-command domain to check its uninterpretable *phi*-features. T Agrees with the goal *books* which has the matching interpretable features. At the same time, T's uninterpretable *phi*-features are checked and

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valued. As a result of the Agree operation, *books* is assigned nominative case. The structure of the resulting sentence is illustrated in (38). The Agree relation between *given* and *were* is established, and *books* moves to Spec-PartP and then moves to Spec-TP. This is one of the cases in which the lower copy of the chain is transferred to LF and PF, and the higher copies are deleted.

(38)
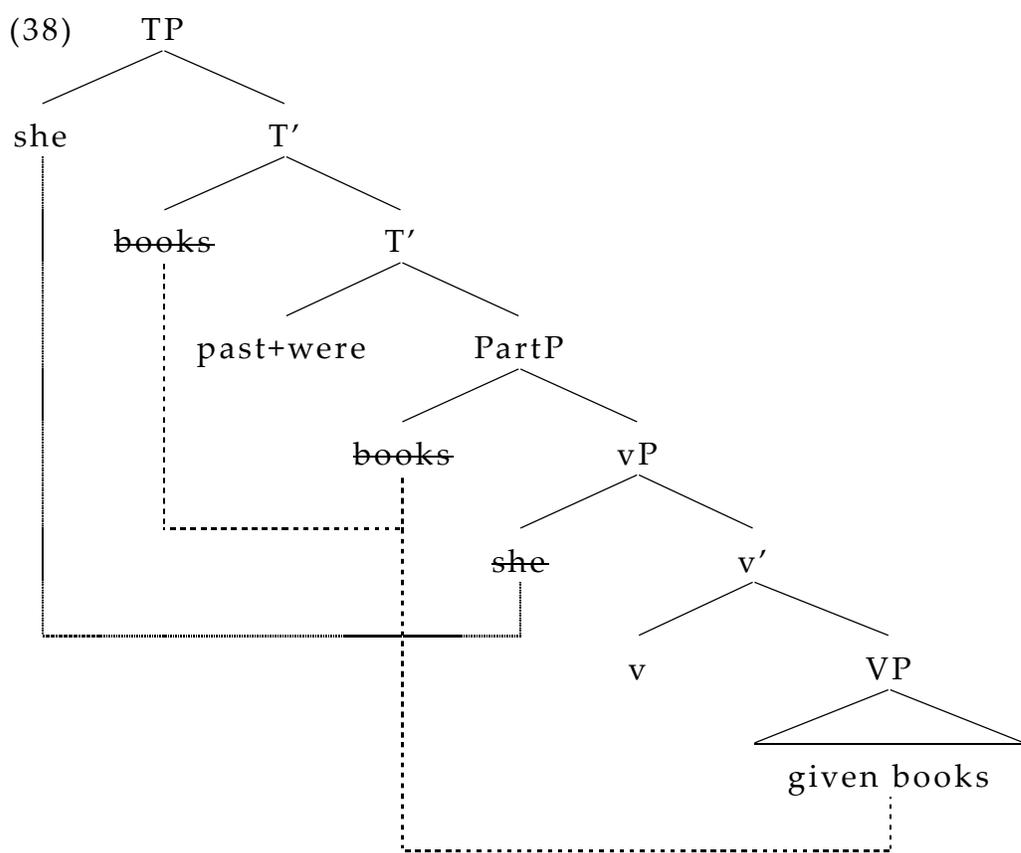
(cf. Hornstein (2009: 149))

The possibility of deleting the higher copy created by movement is also argued by Mikami (2010). He suggests that in locative inversion constructions, the theme DP undergoes A-movement to Spec-TP, with

the higher copy deleted at PF due to the lower copy's status as a focus, whereas the locative PP undergoes A'-movement to Spec-TopP under topicalization.[7]

Thus, finally, as shown in (39), given the idea that the lower copy created by movement can be pronounced under some circumstances, the higher copy of TP in Spec-CP is deleted, resulting in the sentence in (7b).

(39)   Deletion of the higher copy

the committee can [$_{vP}$ *only*$_{[u\text{-}Foc][i\text{-}Aff]}$ make its decision by ...

[$_{CP}$ [$_{TP}$ ~~it receives a copy ...~~]$_{[i\text{-}Foc][u\text{-}Aff]}$ [$_{C}$ if$_{[u\text{-}Foc][i\text{-}Aff]}$]]

[$_{TP}$ it receives a copy ...]$_{[i\text{-}Foc][u\text{-}Aff]}$]]

We now turn to consider how the Agree relation in (33) can be maintained after the spell-out of TP. Following the theory of feature inheritance in Chomsky (2007, 2008), it is assumed that the [*u-Foc*] feature of *if* on C/Int is inherited to a head lower than it, and the head is spelled out with TP; with the result that the Agree relation is maintained. In Chomsky (2004) and subsequently in Chomsky (2008), a conceptual motivation for the assumption of phases is formulated. What forms a phase is determined by the possibility of spell-out. This suggests that as soon as a valuation takes place, the structure must be spelled out. Valuating uninterpretable/unvalued features makes them indistinguishable from interpretable/valued features. Since Full Interpretation requires the deletion of uninterpretable features,

deletion must be implemented immediately after the valuation operation. Thus, Chomsky (2007, 2008) suggests that a phase head enters into a derivation carrying both interpretable and uninterpretable features, while other heads enter into the derivation carrying only interpretable features. After merging the lexical items to build a certain phase structure, and before the operations of Agree, case, and movement, the phase head passes its uninterpretable features to the head below it. Thus, it follows that, in a CP phase, T inherits its uninterpretable *phi*-features from C, and transitive V inherits its agreement features from v*. The inheritance operation is necessary, because uninterpretable features on a phase head would wrongly be taken as interpretable features, after being valued. Since a phase head has its uninterpretable features inherited to the head below it, after merging with the lexical items, and before operations concerning Agree, case, and movement take place, we may encounter the problem below, if we don't consider CP and TP in a split fashion. The [*u-Foc*] on C is inherited to T, and then T Agrees with the TP; this is problematic, since evidently T cannot Agree with the TP. However, this problem will be solved if we adopt the theory of split CP or split TP. Since there are a number of functional heads in the structure of CP and TP, we can assume the structure in (40).

(40)   IntP   FP₁   FP₂   TP

Feature Inheritance

The Domain of Spell-Out
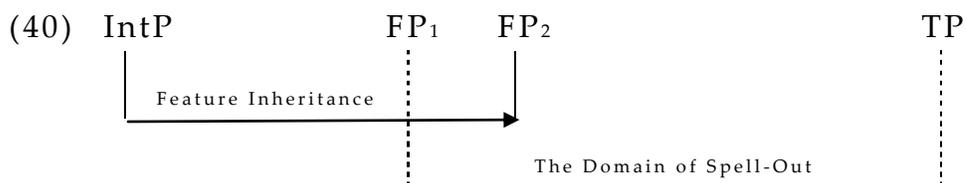
Suppose that the functional head F_1 is a specific head in the CP phase that delimits the domain of spell-out. It is assumed that *if* is generated at the head of IntP and hands over its [*u-Foc*] feature to a particular functional head, say F_2, which is lower than F_1. Thus, the head of IntP, which is accessible to the minimal strong phase above it, does not bear any uninterpretable features after the implementation of feature inheritance. On the other hand, F_2 is lower than F_1 and it is spelled out with what are dominated by it, including TP. Thus, when the phase is completed, the Agree relation also is maintained. As for the identification of the functional heads F_1 and F_2 in the theory of split CP and split TP, I will leave this technical point open here.

3.2.4.3. Revision

However, the mechanism proposed in section 3.2.4.2 is problematic in that it violates two principles of feature, namely:

(41) The Feature Visibility Convention specifies that deleted features are invisible in the semantic component but remain visible in the syntactic and PF component.

(Radford (2004: 452))

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(42) The Feature Inactivation Hypothesis posits that an uninterpretable feature becomes inactive in the syntax (and invisible to the semantic component) immediately it is deleted.   (Radford (2004: 452))

The Feature Visibility Convention in (41) and the Feature Inactivation Hypothesis in (42) require an uninterpretable feature to be inactive and inaccessible to further operations such as Agree after being deleted. However, if we examine (41) and (42), we see that the derivation in (35) is problematic due to the violation of the principles above, in that the TP *it receives a copy of the latest report* Agrees twice, once with *if* and once with *only*.

Before revising the mechanism proposed in section 3.2.4.2 (and by way of background information), let us first look at an Icelandic construction discussed in Chomsky (2001). PIC is first formulated in Chomsky (2000), and Chomsky (2001) assumes that the effect of PIC is limited to strong phases. If a phase phrase is a strong phase, the c-command domain of the phase head is not accessible to operations carried out in the minimal strong phase above it, whereas its head and edge are accessible. Thus, in an instance of Case agreement on passive participles in Icelandic (see (43)), the matrix T/v Agrees in *phi*-features and case with *several fish*, while the participle *caught* Agrees in number, gender, and case with *several fish*.

(43) a. There T seem-_{pl.} to have been caught-_{NOM.pl.}

       several fish-_{NOM.pl.}

    b. John v expects-_{sg.} there to have been caught-_{ACC}

       several fish-_{ACC}.

Since the only strong phase in this case is the matrix CP, all checked features survive until the entire sentence is finished. The derivation of (43) is as in (44).

(44) a. Agree (the participle, the DP):

      Person and gender on the participle are valued and deleted, but case on either the particle or the DP is not valued.

    b. Agree (T, the participle):

      Case on the participle is still active, while case on the DP is valued as nominative and is deleted. *Phi*-features on T are still unvalued because *phi*-features on the participle are incomplete.

    c. Agree (T, the DP):

      Case on DP is valued and deleted, and *phi*-features on T are also valued and deleted. The participle does not intervene between T and the DP because the participle is *phi*-incomplete.

               The participle: *caught*; the DP: *several fish*.

Following an idea concerning the Icelandic construction developed in Chomsky (2001), to solve the problem that TP entered into two Agree relations, we assume that the [i-Aff] feature involved in focalization and that involved in a conditional clause are different. Since focus is semantically rich, it is reasonable to assume that *only* bears the [*u-Foc*] and the interpretable strong affective feature (henceforth, [i-Aff(strong)] feature), and the focalized TP bears the [i-Foc] feature and the uninterpretable strong affective feature (henceforth, [*u-Aff(strong)*] feature). On the other hand, *if* bears the [*u-Foc*] feature and the interpretable weak affective feature (henceforth, [i-Aff(weak) feature]). It is natural to assume that an interpretable weak feature cannot check and delete the uninterpretable strong feature, because the form with the strong feature involved is semantically rich and thus what is contained in the feature of the semantically rich form can be considered to be a superset of what is contained in the relevant feature of the semantically poor form.[8] Particularly, strong affective feature can be considered to be the combination of affective feature and emphatic feature[9], while weak affective feature can be considered to be just affective feature. Thus, the derivation of (7b) is as in (45).

In (45a), *if* merges with TP, resulting in the deletion of the [*u-Foc*] feature on *if*. However, the [*u-Aff(strong)*] feature on TP is not deleted in that the [*u-Aff*] feature on *if* is weak. In order to have the [*u-Aff(strong)*] feature on TP deleted, which may lead to the crash of the derivation when transferred to LF and PF, TP moves to Spec-CP (see

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(45b)) and then Agrees with only (see (45c)). Finally, the higher copy of TP is deleted, leading to the convergent derivation (see (45d)).

(45)   a.   Merge and partial Agree (*if*, TP)

[$_{CP}$ [$_{C}$ if$_{[u\text{-}Foc][i\text{-}Aff(weak)]}$] [$_{TP}$ it receives a copy ...]$_{[i\text{-}Foc][u\text{-}Aff(strong)]}$]

Agree

b.   Move/copy TP and merge it with *if*

[$_{CP}$ [$_{TP}$ it receives a copy ...]$_{[i\text{-}Foc][u\text{-}Aff(strong)]}$ [$_{C}$ if$_{[u\text{-}Foc][i\text{-}Aff(weak)]}$]

[$_{TP}$ it receives a copy ...]$_{[i\text{-}Foc][u\text{-}Aff(strong)]}$]

c.   Merge (*if*-clause, matrix vP)

the committee can [$_{vP}$ *only*$_{[u\text{-}Foc][i\text{-}Aff(strong)]}$ make its decision ...

[$_{CP}$ [$_{TP}$ it receives a copy ...]$_{[i\text{-}Foc][u\text{-}Aff(strong)]}$ [$_{C}$ if$_{[u\text{-}Foc][i\text{-}Aff(weak)]}$]

Agree

[$_{TP}$ it receives a copy ...]$_{[i\text{-}Foc][u\text{-}Aff(strong)]}$]]

d.   Deletion of the higher copy

the committee can [$_{vP}$ *only*$_{[u\text{-}Foc][i\text{-}Aff(strong)]}$ make its decision ...

[$_{CP}$ [$_{TP}$ ~~it receives a copy ...~~]$_{[i\text{-}Foc][u\text{-}Aff(strong)]}$

[$_{C}$ if$_{[u\text{-}Foc][i\text{-}Aff(weak)]}$] [$_{TP}$ it receives a copy ...]$_{[i\text{-}Foc][u\text{-}Aff(strong)]}$]]

3.2.4.4. The Focalization of TP Led by *If* – the Adjacent Case

In the case of (7a), the derivation is similar to that of (7b). It is assumed that *only* occupies some position within CP, for example, Spec-CP. In (46a), *if* merges with TP, and the [*u-Foc*] feature on *if* is deleted, but the [*u-Aff(strong)*] feature on TP remains because the matching feature on *if* is weak. TP moves to another specifier of CP,

which is lower than *only* (see (46b)) and enters into an Agree relation with *only* (see (46c)), deleting the [*u-Aff(strong)*] feature that may otherwise lead to the crash of the derivation when transferred to LF and PF. In the end, only the lower copy of TP is pronounced, as shown in (46d).

(46) a. Merge and partial Agree (*if*, TP)

[CP [C if[*u-Foc*][i-Aff(weak)]] [TP it receives a copy ...][i-Foc][*u-Aff(strong)*]]

Agree

b. Move/copy TP and merge it with *if*

[CP [TP it receives a copy ...][i-Foc][*u-Aff(strong)*] [C if[*u-Foc*][i-Aff(weak)]]

[TP it receives a copy ...][i-Foc][*u-Aff(strong)*]]

c. Merge (*if*-clause, matrix vP)

the committee can [vP make its decision by ...

[CP *only*[*u-Foc*][i-Aff(strong)] [TP it receives a copy ...][i-Foc][*u-Aff(strong)*]

Agree

[C if[*u-Foc*][i-Aff(weak)]] [TP it receives a copy ...][i-Foc][*u-Aff(strong)*]]]

d. Deletion of the higher copy

the committee can [vP make its decision by ...

[CP *only*[*u-Foc*][i-Aff(strong)] [TP ~~it receives a copy ...~~][i-Foc][*u-Aff(strong)*]

[C if[*u-Foc*][i-Aff(weak)]] [TP it receives a copy ...][i-Foc][*u-Aff(strong)*]]]

3.2.4.5. The Issue of Ambiguity

In the light of the analysis above, let us return to the issue of ambiguity concerning (7b). (47a, b) represent the two interpretations

of (7b).

(47) a. We will only visit the lake at the foot of the mountain if it
          rains tomorrow, (and we won't do it on a sunny day, for the
          reason that the lake is more beautiful in a rainy day).

      b. We will only visit the lake at the foot of the mountain (not to
          climb the mountain) if it rains tomorrow, (for the reason that
          it is dangerous to climb the mountain on a rainy day, but it
          is fine to just visit the lake).

These interpretations are determined by the different derivations
associated with them. With the parts in the parentheses omitted, the
structures of (47a, b) are shown in (48a, b), respectively. As shown in
(48a), the TP *it rains tomorrow* is moved to Spec-CP, which enables it
to Agree with the focus particle *only*. In this case, Spec-CP serves as
an escape hatch for the Agree operation carried out between *only* and
the TP. On the other hand, the movement of TP does not occur in
(48b). Therefore, *only* cannot Agree with the TP, but with the vP *visit
the lake at the foot of the mountain* in the matrix clause. Thus, the
interpretations in (47a, b) are different, which is attributed to the two
different derivations associated with them.

(48) a. we will [$_{vP}$ only$_{[u\text{-}Foc][i\text{-}Aff(strong)]}$ visit the lake ... [$_{CP}$ [$_{TP}$

<div align="center">Agree</div>

it ~~rains tomorrow~~] $_{[i\text{-}Foc][u\text{-}Aff(strong)]}$

[$_C$ if$_{[u\text{-}Foc][i\text{-}Aff(weak)]}$] [$_{TP}$ it rains tomorrow] $_{[i\text{-}Foc][u\text{-}Aff(strong)]}$]

<div align="center">Agree</div>

<div align="right">(for (47a))</div>

b. we will [$_{vP}$ only$_{[u\text{-}Foc][i\text{-}Aff(strong)]}$ visit the lake ... $_{[i\text{-}Foc][u\text{-}Aff(strong)]}$

<div align="center">Agree</div>

[$_{CP}$ [$_C$ if$_{[u\text{-}Foc][i\text{-}Aff(weak)]}$] [$_{TP}$ it rains tomorrow] $_{[i\text{-}Foc][u\text{-}Aff(weak)]}$]]

<div align="center">Agree</div>

<div align="right">(for (47b))</div>
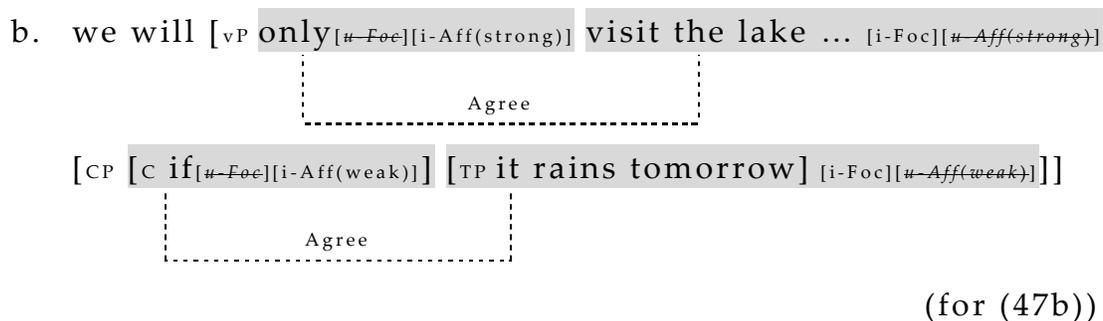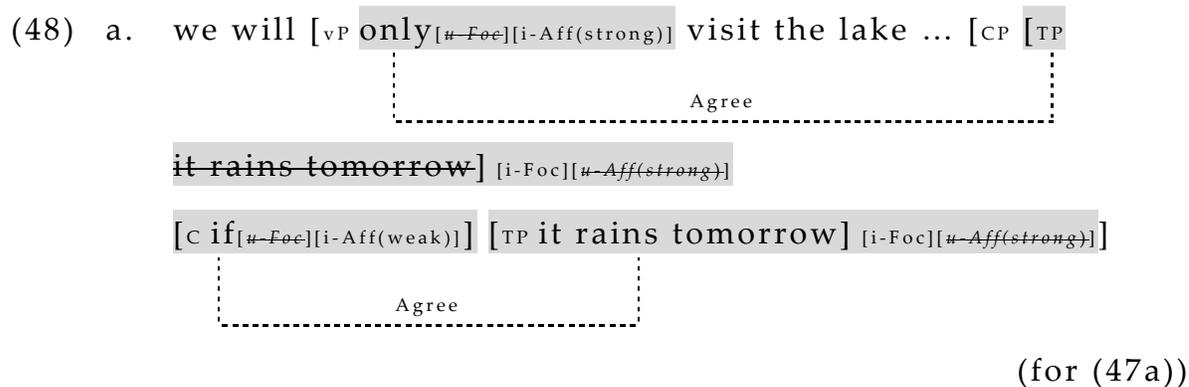
Some discussion in Chomsky (2001) and Miyagawa (2010) lend support to optional movement such as the case above. The absence of the movement of TP in (48b) is theoretically explained by Chomsky (2001). See (49) for the relevant statement.

(49) Optional operations can apply only if they have an effect on outcome.   (Chomsky (2001: 34))

In (48b), the movement cannot be implemented because it has no effect on the outcome, different from the derivation of (47a) and (7a). Furthermore, Miyagawa (2010: 33) suggests that movement triggered by Agree occurs in order to keep a record of functional relations for

information-structure and semantic interpretation. It follows that movement of TP is implemented in (48a) in order to keep a record of the functional relation for information-structure (i.e. focus) in the minimal strong phase above it in order to allow the TP to Agree with *only*. On the other hand, in the case of (48b), since TP following *if* does not need to be kept for further operations, the movement is not motivated. Thus, we conclude that the derivation of the two interpretations in (47) is theoretically legitimate in that movement is optional, depending on whether it has an effect on the outcome/interpretation or not.

3.2.4.6. *When*

Finally, let us consider the derivation of a *when*-clause. Since *when* has no formal features, its TP complement cannot raise to Spec-CP. Therefore, if it is to be focalized by *only*, it must be inside the same phase as *only*, as shown in (50). This also accounts for the fact that *only* cannot focalize the *when*-clause in (51b) due to the PIC: TP *he entered* has already been spelled out when the focus particle *only* enters into the derivation. On the other hand, *only* can focalize the element immediately after it, the vP *pick up the receiver*, because the two are within the same phase and hence can enter into an Agree relation, as shown in (51a).

(50) a. she picked up ... [CP *only*[u-Foc][i-Aff] [C when] [TP

Agree

he entered] [i-Foc][u-Aff]]

(51) a. she [vP *only*[u-Foc][i-Aff] [vP picked up the receiver [i-Foc][u-Aff]]

Agree

[CP [C when] [TP he entered]]

b. she [vP *only*[u-Foc][i-Aff] picked up the receiver

[CP [C when] [TP he entered] [i-Foc][u-Aff]]]

Do Not Agree

3.2.5. Conclusion to Section 3.2

In sum, this section has proposed that the different grammatical behaviors of *if* and *when* concerning focalization and NPI licensing can be given a principled account in terms of their different feature specifications: *if* has formal features, namely a [*u-Foc*] feature and an [i-Aff] feature, which enable it to enter into an Agree relation with the elements in its c-command domain, whereas *when* has no relevant formal features.

The gist of this section is summarized in the diagrammatic form below:

(52)

Four assumptions		*A unified explanation*
The Agree-based analysis of NPI licensing		The facts of NPI
The feature specifications of *if* and *when*	$\Rightarrow$	licensing: (6)
PIC		The facts of
The Agree-based analysis of focalization		focalization: (7) and (8)

3.3. NPIs in Comparatives

3.3.1. Facts

This section will analyze the mechanism of NPI licensing in comparative clauses. We begin by taking a look at the two categories of comparatives. Depending on the forms that they precede, comparatives are divided into two categories: phrasal constructions, as illustrated in (53), where the comparative particle *than* is followed by a phrase; and clausal constructions, as illustrated in (54), where *than* is followed by a clause. Hankamer (1973) argues that *than* in phrasal comparatives is a preposition, whereas *than* in clausal comparatives is a complementizer.

(53) Moscow is older *than Washington*.   (cf. Hoeksema (1983: 403))

(54) The Sahara was hotter *than I had expected it would be*.

(cf. Hoeksema (1983: 403))

As pointed out by Horn (1972), the free choice *any*, like other

universal quantifiers, can be modified by adverbs like *almost* or *nearly*, as shown in (55).

(55) a. Almost *all* dogs like meat.

b. Almost *any* dog can bark.　　　(cf. Hoeksema (1983: 403))

This contrasts with the unacceptability of *almost* in front of existential quantifier, as shown in (56).

(56) a. *Almost *some* boys were swimming.

b. *Almost *a* dog was barking.　　(cf. Hoeksema (1983: 409))

The NPI *any* in a negative clause is regarded as the counterpart to the PPI *some* in an affirmative clause, the difference being their polarity and distribution. Thus, *any* should belong to the same category of existential quantifiers as *some*. Therefore, it is predicted that the NPI *any* cannot be modified by *almost* or *nearly*. This is indeed the case. *Almost* in (57a) and *nearly* in (57b) in front of the NPI *anyone* render the sentences ungrammatical, whereas these examples are fine when the adverbs *nearly* and *almost* do not appear. This difference between the NPI *any* and the free choice *any* is also pointed out by Roberts (2007) as mentioned in section 1.1.

(57) a. They didn't talk to (*almost) *anyone*.

b. The police doubt that (*nearly) *anyone* is in the bank safe.

<div align="right">(Hoeksema (1983: 409))</div>

Turning now to the occurrence of *any* in comparatives, one way of telling whether it is the NPI *any* or the free choice *any* is to place *almost* or *nearly* before it. The grammaticality of the examples in (58) indicates that *any* occurring in these phrasal comparatives is the free choice *any*. Furthermore, it turns out that *any* is able to be modified by *almost* or *nearly* in all phrasal comparatives. Thus, it is reasonable to argue that *any* in phrasal comparatives is the free choice *any* and NPIs cannot be licensed in phrasal comparatives.

(58) a. This girl is smarter than almost *any* boy.

b. One diamond is more valuable than almost *any* number of bricks.

c. This movie is more important than nearly *anything* by Antonioni. (Hoeksema (1983: 409))

In contrast, the example in (59) shows that the adverb *almost* cannot precede *anyone* in this clausal comparative clause. Thus, it is reasonable to argue that NPIs can be licensed in clausal comparatives.

(59) Susan is lovelier than (*almost) *anyone* expected her to be.

<div align="right">(cf. Hoeksema (1983: 424))</div>

There is more evidence in support of the fact that NPIs can occur in clausal comparatives (see (60)).

(60) a. Thanks to Star-drops, my teeth are brighter than they have *ever* been before. (Hoeksema (1983: 425))

    b. I cried more than I *could help*. (Hoeksema (1983: 425))

    c. The sound of her voice was more than I *could stand*.

(Hoeksema (1983: 410))

    d. He told me more jokes than I *cared to* write down.

(Zepter (2003: 197))

    e. He said the sky would sooner fall than he would *budge an inch*. (Zepter (2003: 197))

The same contrast is also observed with other NPIs like *ever*. In (61a), which contains a phrasal comparative, *ever* can be modified by the adverb *almost*, while *ever* cannot be modified by *almost* in (61b), which contains a clausal comparative.

(61) a. Housing affordability is better than (almost) *ever*.

    b. I love you than I could (*almost) *ever* say.

Why can NPIs appear in clausal comparatives, but not in phrasal comparatives? Hoeksema (1983) suggests that comparative adjectives or adverbs denote a Boolean homomorphism in phrasal comparatives,

while they denote an anti-additive function in clausal comparatives. Since anti-additivity can trigger NPIs, it follows that only clausal comparatives can license NPIs. On the other hand, Zepter (2003) proposes that the licensing condition of NPIs is that they be contained in a particularly strong statement. Since clausal comparatives, but not phrasal comparatives, could possibly contain a strong statement, only the former may license NPIs. However, it should be noted that both Hoeksema's (1983) and Zepter's (2003) analyses are descriptive and simply a statement of the relevant facts. Therefore, the reminder of section 3.3 attempts to provide a principled explanation of the contrast in NPI licensing between phrasal comparatives and clausal comparatives.

3.3.2. The Feature Specification of Comparatives and NPI Licensing

Recall from section 3.1 that the NPI *any* has a [*u-Aff*] feature and an [i-Foc] feature, entering into an Agree relation with negative markers, as schematized in (5), repeated here as (62).

(62)

```
          T'
         /  \
        T    NegP
            /    \
          not     vP
        [i-Aff]   /\
        [u-Foc]  ...NPI...
                 [u-Aff]
                 [i-Foc]
```
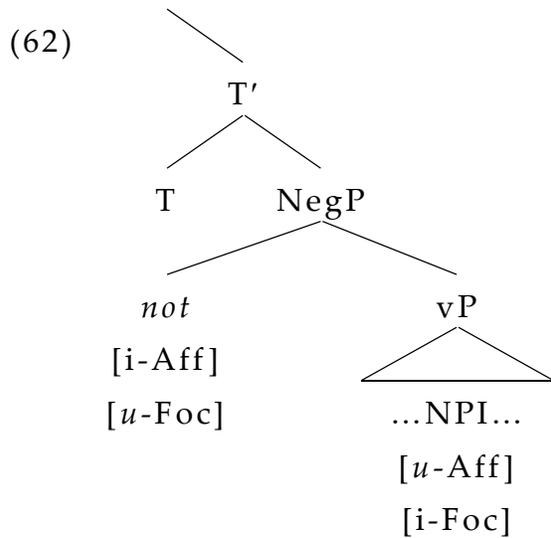
On the other hand, the free choice *any* apparently does not need licensing via Agree, so it has no formal features.

Next, if we are to achieve a unified analysis of NPI licensing, it is necessary to assume that all types of affective contexts share the same formal features. Given that negative markers bear an [i-Aff] feature and a [*u-Foc*] feature (see section 3.1), it will follow that the comparatives discussed here, especially clausal comparatives which license NPIs, should also involve an [i-Aff] feature and a [*u-Foc*] feature. Then, a question will arise as to which element bears these formal features in clausal comparatives. As shown in (63), phrasal comparatives and clausal comparatives share the comparative form of an adjective or adverb, so it cannot be the locus of these formal features.[10] Since the most fundamental difference between the two types of comparatives lies in the nature of *than*, suppose that the complementizer *than* in clausal comparatives bears an [i-Aff] feature and a [*u-Foc*] feature, whereas the prepositional *than* in phrasal

comparatives bears no formal features.[11]

(63) a. Susan is lovelier than (almost) *anyone*.   (free choice *any*)

      b. Susan is lovelier than *anyone* expected her to be. (NPI *any*)

          (Hoeksema (1983: 424))

The Agree operation taking place in clausal comparatives is illustrated in (64). The derivation converges because the $[u\text{-}Foc]$ feature on *than* and $[u\text{-}Aff]$ feature on *anyone* are deleted under the Agree relation between the two elements.

(64) Susan is lovelier than$_{[u\text{-}Foc]\ [i\text{-}Aff]}$ anyone$_{[i\text{-}Foc][u\text{-}Aff]}$ expected

                       Agree

      her to be.

On the other hand, phrasal comparatives cannot license NPIs, as illustrated in (65). The derivation crashes because no Agree relation is established with *anyone* and hence its $[u\text{-}Aff]$ feature cannot be deleted.

(65) *Susan is lovelier than   anyone$_{[i\text{-}Foc][u\text{-}Aff]}$.   (NPI *any*)

                Do not Agree

3.3.3. Independent Evidence of the Analysis

According to Swan (2005) and Emoto (2007), the auxiliary preceding the elided VP is stressed. Moreover, as shown in (66b), the

auxiliary *is* preceding the elided VP cannot be contracted. Therefore, it is reasonable to assume that *is* is focalized.

(66) a.   John's taller than Bill is.

b. *John's taller than Bill's.

As is claimed in the analysis in section 3.2.4.2, focalized elements bear an [i-Foc] feature and a [*u-Aff*] feature. Thus, it is reasonable to assume that the focalized *is* in (66) bears an [i-Foc] feature and a [*u-Aff*] feature. Since *than* and *is* enter into an Agree relation, as illustrated in (67), it follows that the complementizer *than* must bear a [*u-Foc*] feature and an [i-Aff] feature. This serves as independent evidence of the analysis above.

(67) John's taller than[*u-Foc*] [i-Aff] Bill is[i-Foc][*u-Aff*].

$$\underset{\text{Agree}}{\underline{\quad\quad\quad\quad\quad\quad\quad\quad\quad}}$$
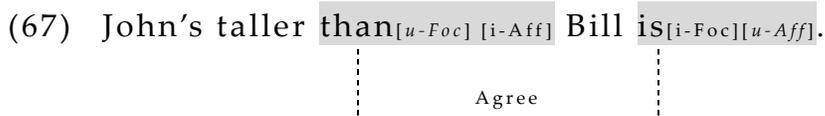
3.3.4. Consequences

So far, we have argued that it is not the comparative form, but the complementizer *than* that licenses NPIs. It is therefore predicted that NPIs cannot occur in sentences, which have the comparative form but not the complementizer *than*. This is indeed the case, as shown in (68) and (69), where the comparative adjectives take the sentential complements without the complementizer *than*.

(68) a. It is better to do *something* rewarding.

b. *It is better to do *anything* rewarding.   (NPI reading)

(69) a. It is better that *some* rules are added to prevent abuse.

b. *It is better that *any* rules are added to prevent abuse.

(NPI reading)

The fact that *something/some* is much more comfortable to cooccur with the comparative form *better* than *anything/any* in the context where no complementizer *than* occurs provides evidence for the claim that it is not the comparative form *-er/more* that bear the formal features which license NPIs.[12]

   A further consequence of the present analysis is that it accounts for the occurrence of NPIs not only in comparatives with *–er/more*, but in *as*-comparatives as well. This is a significant advantage over the analysis based on the concept of downward entailment that NPIs are licensed in downward entailing contexts (e.g. Linebarger (1980)). Consider the following examples, which show that comparatives with *–er/more* are downward entailing, but *as*-comparatives are not.

(70) It rains more often than I eat bread. ⇒ It rains more often than I eat whole-wheat bread.   (Linebarger (1980: 139))

(71) It rains as often as I eat br∅ad. ⇒ It rains as often as I eat

whole-wheat bread. (Linebarger (1980: 139))

However, no difference is observed between the two types of comparatives in NPI licensing: like comparatives with *–er/more*, *as-*comparatives can license NPIs when they are clausal comparatives, as shown in (72). This poses a serious problem for the analysis of NPI licensing based on downward entailment. Moreover, the contrast in (72) shows that the prepositional *as* and the complementizer *as* behave differently in NPI licensing, which is parallel to the contrast between the prepositional *than* and the complementizer *than* observed above.

(72) a. Susan is as lovely **as** (almost) *anyone*. (free choice *anyone*)

b. Susan is as lovely **as** (*almost) *anyone* expected her to be.

(NPI *anyone*)

This fact can be accounted for by extending to *as*-comparatives the analysis of comparatives with *than* proposed in the previous section. Assuming that the complementizer *as* bears an [i-Aff] feature and a [*u-Foc*] feature like the complementizer *than*, the derivation of (72b) (without *almost*) will be as in (73), where *as* enters into an Agree relation with *anyone*, deleting the [*u-Foc*] feature on *as* and the [*u-Aff*] feature on *anyone*. On the other hand, if the prepositional *as* bears no formal features like the prepositional *than*, it cannot license NPIs and

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hence only a free choice reading is available to *anyone* in (72a).

(73) Susan is as lovely as $_{[u\text{-}Foc]}$ $_{[i\text{-}Aff]}$ anyone$_{[i\text{-}Foc][u\text{-}Aff]}$ expected
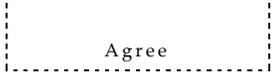
                                                   Agree

her to be.

3.3.5. Conclusion to Section 3.3

Section 3.3 has proposed the mechanism of NPI licensing in comparative clauses, following the mechanism of NPI licensing in negatives proposed in section 3.1. Suppose that NPIs always bear a [*u-Aff*] feature and an [i-Foc] feature. It is necessary to identify the probe of the Agree relation in comparative clauses. Since NPIs cannot occur in the complement of the prepositional *than*, a reasonable conjecture is that it is the complementizer *than*, rather than the comparative form *–er/more* that carries the [i-Aff] and [*u-Foc*] features. This analysis turned out to be plausible and empirically optimal, in that it can be applied to another comparative construction, the *as … as* construction.

3.4. NPIs in Interrogatives
3.4.1. Facts

It is interesting to note that NPIs can occur in *yes-no* (polar) questions, but *wh*-questions generally resist the occurrence of NPIs, as shown in the contrast between (74a, b) and (74c-h).

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(74) a.   Have you bought John *any* books?

b.   Have you bought a book to *any* students?

c.   *Who bought John *any* books?

d.   *What have you bought to *any* students?

e.   *When have you bought John *any* books?

f.   *Where have you bought John *any* books?

g.   ?Why have you bought John *any* books?

h.   ?How have you bought John *any* books?[13]

There exist some cases where NPIs occur in *wh*-questions. These cases tend to be interpreted rhetorically, whereas NPIs in *yes-no* questions can be used in information seeking contexts. This phenomenon has been discussed in some literature. Progovac (1993) suggests that the use of NPIs in *wh*-questions enforces special and rhetorical readings. She assumes that the polarity operator is positioned in Spec-CP. However, this assumption raises the question of its (in)compatibility with *wh*-words in C in that they compete for the same position. Thus, they are expected to be mutually exclusive. Despite this, polarity items, which require the presence of an operator in C, do occur in *wh*-questions, as shown in (75) and (76).

(75)   Who did Mary *ever* kiss at the first date?

(Progovac (1993: 173))

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(76)   When did Mary give a present to *anyone*?

(Progovac (1993: 173))

The characteristic of the above examples is that the *wh*-phrases no longer range over different possibilities, but rather they designate an empty set. (75) and (76) can be paraphrased as (77) and (78).

(77)   No one did Mary ever kiss at the first date, did she?

(Progovac (1993: 173))

(78)   Never did Mary give a present to anyone, did she?

(Progovac (1993: 173))

Ladusaw (1997) states that *yes-no* questions are polarity neutral environments which allow both PPIs and NPIs to occur freely. For example, in (79), both the NPI *anyone* and the PPI *already* occur in the *yes-no* question.

(79)   Has anyone already figured out the answer?

(Ladusaw (1997: 327))

Hoeksema (2006) observes that NPIs in *wh*-questions are more acceptable when the questions are considered as rhetorical, but not as

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an inquiry for information.

The Chinese data in (80) also provide evidence that NPIs can only occur in *yes-no* questions. In Chinese, *shenme* serves as either a *wh-*word meaning *what* or an NPI meaning *anything*. In (80a), the NPI reading of *shenme* is not available, because NPIs cannot be licensed in *wh*-questions. On the other hand, the NPI reading of *shenme* is possible in (80b), which is a polar question marked by the *yes-no* question particle *ma*.

(80)   a.   Shei shuo-le shenme?

who say-ASP   what

'Who said what?'

b.   Shei shuo-le shenme   ma?

who say-ASP   anything Q-*yes-no*

'Is there anybody who said something?'

(NPI reading, a *yes-no* question)

'Nobody said anything.'

(NPI reading, a rhetorical question)

There is some disagreement on whether NPIs can be licensed in *wh*-questions in English. Some of my informants suggested that NPIs cannot occur in non-rhetorical *wh*-questions or information seeking questions. Since rhetorical questions and information seeking questions should be treated separately (see Han (2002)), I would take the general observation that NPIs can only occur in *yes-no* questions

as a premise of the following discussion, despite the complexities involved. Although there may be continuous debate on this issue, the above facts leads us to conclude that NPIs occur more felicitously in *yes-no* questions than in *wh*-questions.

3.4.2. Analysis

3.4.2.1. The *Yes-no* Question

Since NPIs can be licensed in *yes-no* questions, it follows from the present analysis that there are matching features, namely an [i-Aff] feature and a [*u-Foc*] feature, in a position c-commanding NPIs in *yes-no* questions. Given that the illocutionary force of questions lies in C (Chomsky (1995)) and is related to making questions affective in the sense of Klima (1964), it is reasonable to assume that an [i-Aff] feature and a [*u-Foc*] feature are located in C in *yes-no* questions. Moreover, following the standard analysis that C in questions bears a Q-morpheme (Chomsky and Lasnik (1977), Huang (1982), Lasnik and Saito (1984), and Radford (2009)), suppose that the Q-morpheme in C bears these formal features.[14] Then, the derivation of (74a) will be as in (81) (with the illustration of T-to-C movement of *have* omitted).[15]

(81)   [$_{CP}$ [$_C$ $\phi_{[u\text{-}Foc][i\text{-}Aff]}$] [$_{TP}$ you have bought John any$_{[i\text{-}Foc][u\text{-}Aff]}$ books]]
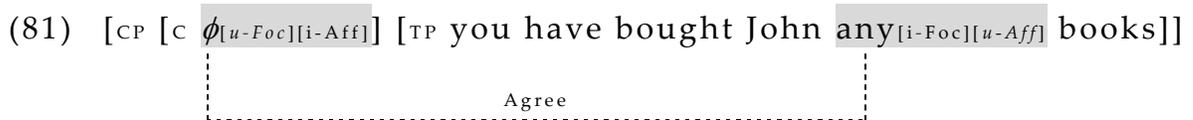
Agree

As shown in (24), the Q-morpheme, which is phonetically null and

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hence represented as ϕ, enters into an Agree relation with *any*, deleting the [*u-Foc*] feature on ϕ and the [*u-Aff*] feature on *any*. The derivation converges and NPIs are successfully licensed in *yes-no* questions.[16]

3.4.2.2. The *Wh*-question

Let us begin by considering the feature specification of *wh*-phrases. There have been a number of studies observing the syntactic, semantic, and phonological similarities between a focus and a *wh*-phrase. First, *wh*-phrases are required to appear in the designated structural position for foci in languages like Hungarian, Chadic, and Malayalam (Brody (1990), Tuller (1992), Jayaseelan (2003), and Kim (2006)). Thus, *wh*-movement in these languages is an instance of focus movement, which will suggest that *wh*-phrases carry a [Foc] feature that enables them to occupy the same position as foci.[17]

Second, the semantics of questions closely resembles that of sentences with a focus, in that a focus evokes alternatives like a *wh*-phrase in a question. According to Kim (2006), the focus semantic value of a sentence is the set of propositions obtained by replacing the focus with alternatives of the same type. There are also some other semantic similarities between focused items and *wh*-phrases. The semantic properties of questions and of focus (especially contrastive focus) are closely related. Rooth (1985, 1992) develops alternative semantics for focus along the same fashion as Hamblin's

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(1973) alternative semantics for questions. A focalized element evokes alternatives like a *wh*-phrase in a question. Rooth (1985, 1992) suggests that sentences with focus involve two semantic objects: the ordinary semantic value (⟦.⟧ °) and the focus semantic value (⟦.⟧ ᶠ). To put it in another way, the focus semantic value of a sentence is the set of propositions obtained by replacing the focus with an alternative of the same type. For example, the ordinary semantic value of (82) is the single proposition as illustrated in (83), whereas its focus semantic value is a set of propositions, as shown in (84).

(82)   [John]ꜰ left.   (Kim (2006: 525))

(83)   ⟦[John]ꜰ left⟧ °   ordinary semantic value

        = λw. John left in w

        = that John left   (Kim (2006: 525))

(84)   ⟦[John]ꜰ left⟧ ᶠ   focus semantic value

        = {that John left, that Bill left, that Amelie left, . . . }

        = $\{p : p = \lambda w.\ x$ left in $w \mid x \in D\}$

        (λ: lambda-operator, $\in$: *is a member of*)   (cf. Kim (2006: 525))

In much the same way, the denotation of a *wh*-question is the set of propositions corresponding to its potential answers (see (85)).

(85) Who left?

{that John left, that Bill left, that Amelie left, . . . }

{$p : p = \lambda w.\ x$ left in $w \mid x \in D$}　　　　　　(cf. Kim (2006: 526))

Thus, Kim (2006) suggests that the focus semantic value of (82) is identical to the ordinary semantic meaning of the question (85), and that a *wh*-phrase, like a focus, triggers the introduction of alternatives.

　　Third, *wh*-phrases phonologically pattern with foci in that they are both stressed. This is particularly clear in languages where *wh*-phrases and indefinites share the same morphology. For example, the following examples show that in German and Korean, a *wh*-word in-situ must be stressed in order to be interpreted as a question word, while it is interpreted as an indefinite without stress. This fact also reveals that there is a close connection between *wh*-phrases and indefinites: they are both existential quantifiers, only differing in the presence/absence of a *wh*-feature (as well as stress).

(86) a. Wer hat WAS gelesen?　　　　　　　　(German)

　　　　　who has what read

　　　　　'Who read what?'

　　b. Wer hat was gelesen?

　　　　　Who has what read

　　　　　'Who read something/anything?'　　　(Kim (2006: 525))

(87) a. Mira-ka   MWUES-ul masi-ess-ni?   (Korean)

Mira-NOM what-ACC   drink-PAST-Q

'What did Mira drink?'

b. Mira-ka   mwues-ul   masi-ess-ni?

Mira-NOM what-ACC   drink-PAST-Q

'Did Mira drink something/anything?'   (Kim (2006: 525))

It is observed above that stress distinguishes the question word meaning from the indefinite existential meaning of *wh*-pronouns in German and Korean. This is also observable in some other languages. For instance, Ishihara (2002) shows that Japanese *wh*-questions always bear focal stress. Hayes and Lahiri (1991) observes that *wh*-phrases exhibit the same prosodic pattern as focalized forms in Bengali.

Stoyanova (2008) provides another study concerning the relation between focus and *wh*-phrases. Along the same lines as Chomsky (1995), she assumes that the head of FocP in root interrogatives has a strong *wh*-feature, which triggers V-to-C movement. Stoyanova further assumes that both *wh*-phrases and their non-interrogative focalized counterparts appear in Spec-FocP.

Moreover, Progovac (1993) suggests that *wh*-words can serve as NPIs crosslinguistically, as illustrated below for Chinese and Serbo-Croatian. This property of Chinese has already been mention above in the analysis of (80).

(88) Ni   xiang chi sheme ma?   (Chinese)

     you   like   eat what   Q-*yes-no*

     'Would you like to eat anything?'………(Progovac (1993: 174))

(89) Da li je   Milan i-šta   doneo?   (Serbo-Croatian)

     that Q has Milan   any-what brought

     'Has Milan brought anything?'   (Progovac (1993: 174))

In addition, grammatical properties of the relation between *wh-*movement and focus are observed in Erteschik-shir (1986) and Simpson (2000).

These similarities to focus might lead us to assume that *wh-*phrases bear an [i-Foc] feature. Furthermore, given that they belong to the category of existential quantifiers, of which NPIs are also a member, it is natural to assume that *wh*-phrases share the same formal features as NPIs, namely a [*u-Aff*] feature and an [i-Foc] feature.

Zavitnevich-Beaulac (2005) assumes that language faculty has just one interrogative interpretable feature, and he names it Q. Following Chomsky (2000), Zavitnevich-Beaulac (2005) takes *wh*-feature to be a reflex of certain properties of Q, "analogous to structural case for nouns" (see Chomsky (2000: 21)), hence having no independent status. Appearing in the functional domain, Q determines the semantic meaning of a sentence, marking it as interrogative. Thus, a structure without a *wh*-element but with a [+Q] C is interpreted as a *yes-no*

question. With a *wh*-element present in the derivation, the sentence is a *wh*-question. Zavitnevich-Beaulac (2005) suggests that the evidence for this claim comes from Japanese. Since there is a vast amount of similarity between *yes-no* questions and *wh*-questions, I assume that in both a *yes-no* question and a *wh*-question, the interrogative morpheme Q is positioned at C.

The structure of (74c) before *wh*-movement will be as in (90), where C is occupied by the Q-morpheme whose feature specification is the same as the Q-morpheme in *yes-no* questions (except the EPP feature which triggers *wh*-movement, which is omitted in the labeled bracketing in (90)).

(90)   [$_{CP}$ [$_C$ $\phi_{[u\text{-}Foc][i\text{-}Aff]}$] [$_{TP}$ who$_{[i\text{-}Foc][u\text{-}Aff]}$ [$_{T'}$ bought John any$_{[i\text{-}Foc][u\text{-}Aff]}$

Agree

Do Not Agree

books]]]
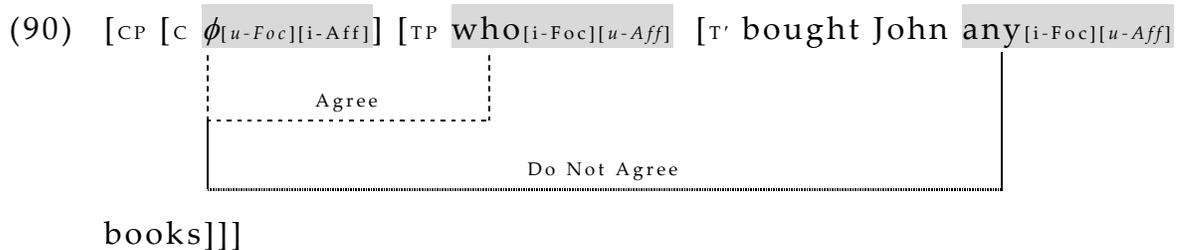
In (90), ϕ enters into an Agree relation with *who*. This renders *who* inactive for Agree, but it intervenes between ϕ and *any* in the sense of the Defective Intervention Constraint pointed out by Chomsky (2000): in the structure where α c-commands β and β c-commands γ, inactive β blocks matching between the probe α and the goal γ. Therefore, ϕ cannot enter into an Agree relation with *any*, so the derivation crashes with the [$u\text{-}Aff$] feature left undeleted. The same result is obtained if an NPI is generated structurally higher than a *wh*-phrase: in this case,

ϕ enters into an Agree relation with the NPI, which blocks matching between ϕ and the *wh*-phrase. Hence, the ungrammaticality of NPIs in *wh*-questions is accounted for under the present analysis.

3.4.3. An Apparent Problem – Multiple *Wh*-questions and Multiple NPI Structures

The Defective Intervention Constraint adopted in the above discussion poses a potential problem for the analysis of multiple *wh*-questions under the Agree-based account I have proposed. (91) is an instance of multiple *wh*-questions, and the formal features in question are illustrated as in (92).

(91)   Who saw what?

(92)   [CP [C $\phi_{[u\text{-}Foc][i\text{-}Aff]}$] [TP who$_{[i\text{-}Foc][u\text{-}Aff]}$ [T' saw what$_{[i\text{-}Foc][u\text{-}Aff]}$]]]

If the Defective Intervention Constraint holds, we might expect that the Agree relation between the interrogative morpheme Q at C and *what* is proscribed due to the intervention of *who*. However, this is not the case, because (91) is perfectly grammatical. By the same token, another type of structure, which is also seemingly problematic for the above analysis, is multiple NPI structures such as (93) (see (94) for the relevant formal features).

(93)   I did not buy *any* books *anywhere*.

(94) [_CP_ [_TP_ I [_T′_ did not$_{[u\text{-}Foc][i\text{-}Aff]}$ buy any$_{[i\text{-}Foc][u\text{-}Aff]}$ books

anywhere$_{[i\text{-}Foc][u\text{-}Aff]}$.]]]

The concept feature sharing developed in Pesetsky and Torrego (2007) provide a solution to these apparent problems (see (95) for the sketch of the "feature sharing version" of Agree).

(95) Agree (Feature sharing version)

a. An unvalued feature F (*a probe*) on a head H at syntactic location α (F$_\alpha$) scans its c-command domain for another instance of F (*a goal*) at location β (F$_\beta$) with which to agree.

b. Replace F$_\alpha$ with F$_\beta$, so that the same feature is present in both locations.   (Pesetsky and Torrego (2007))

Pesetsky and Torrego (2007) further sugget that a single valued feature F is able to be shared by several locations. In this connection, let us consider (91-94). In (92), if feature sharing occurs between the interrogative morpheme Q and *who* first, and then between *who* and *what*, the uninterpretable feature of *what* can be valued, resulting in a well-formed multiple *wh*-question. This can also be applied to multiple NPI structures. Assuming that feature sharing only takes place among elements of the same category, e.g. being all *wh*-words or all NPIs, the difference between the derivation of (90) and that of (91) and (93) can be accounted for.

3.4.4. Conclusion to Section 3.4

Section 3.4 has proposed the licensing mechanism of NPIs in interrogative clauses. The fact that NPIs are more likely to occur in *yes-no* questions than in *wh*-questions has been given a principled explanation. In *yes-no* questions, the interrogative morpheme in C enters into an Agree relation with the NPI it c-commands, whereas in *wh*-questions the *wh*-phrase blocks the Agree relation between the interrogative morpheme and the NPI due to the Defective Intervention Constraint, given that the *wh*-phrase bears the same focus and affective features as the NPI.

3.5. NPIs in Other Environments of Type A
3.5.1. Outline

Four major environments (negatives, interrogatives, conditionals, comparatives) of Type A have been discussed in chapter 2, section 3.2, 3.3, and 3.4, respectively. The examples of the environments that have not yet been discussed are repeated as in (96-98).

(96)   Adversatives

e.g.   The U.S. government denied that *any* of its agencies is carrying out operations in Mexico targeting the country's powerful drug cartels.

(97) Exclamative constructions with a negative implication

   e.g.   Who would *ever* trust Fred?

        Like I would *ever* trust Fred! Yeah right.

(98) Result clauses dependent on *too*

   e.g.   Fred is too smart to *ever* admit he wrote the pamphlet.

3.5.2. NPIs in Adversatives

 Adversatives are predicates that express the world in which the speaker or the speaker's expectation is against the real world. English forms belonging to this category are *be amazed, deny, doubt, forget, be offended, refuse, regret, resent, sorry, be surprised, be unwilling*, etc. Baker (1970) suggests that adversatives like *surprised*, *sorry*, and *strange* have the following entailments.

(99) a. surprised that S ⊃ expect that neg S.   (⊃: *implies*)

   b. sorry that S ⊃ wish that neg S.

   c. strange that S ⊃ logical that neg S   (Baker (170: 182))

By the same token, it is reasonable to assume that other adversative predicates presented above have the following entailments (see (100)).

(100) a. amazed that S ⊃ expect that neg S.

   b. deny that ⊃ claim that neg S.

   c. doubt that ⊃ believe that neg S.

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d.   forget that ⊃ remember that neg S.

e.   offended that ⊃ satisfied that neg S.

f.   refuse that ⊃ claim that neg S.

g.   regret that ⊃ hope that neg S.

h.   resent that ⊃ hope that neg S.

i.   be unwilling that ⊃ be willing that neg S.

With this in mind, we assume that a negative operator (NegOp as the shorthand abbreviation) is generated in C[18] of the subordinate clause. NegOps bear an [i-Aff] feature and a [u-Foc] feature as negative markers. NegOps in the embedded clauses of adversatives enter into an Agree relation with the NPIs they license. The [u-Foc] features on NegOps and the [u-Aff] features on the NPIs are deleted, resulting in the convergence of the derivation. For example, in (96), NegOp enters into an Agree relation with *any* (see (101) for the relevant features and the Agree operation).

(101)   ... denied that [CP [C NegOp[u-Foc][i-Aff]] [TP any[i-Foc][u-Aff]

Agree

of its agencies is carrying out operations in Mexico targeting the country's powerful drug cartels.]]

Although the form following the adversative predicate *deny* is different, NPI licensing operation in (102) is similar to that in (96).

(102) Fred denied *ever* having had an affair with Edna.

<div align="right">(Hoeksema (2000: 116))</div>

The relevant Agree operation in (102) is illustrated in (103).

(103) Fred denied [$_{CP}$ [$_C$ NegOp$_{[u\text{-}Foc][i\text{-}Aff]}$] [$_{TP}$ *ever*$_{[i\text{-}Foc][u\text{-}Aff]}$ having

<div align="center">⌐————— Agree —————⌐</div>

had an affair with Edna.]]
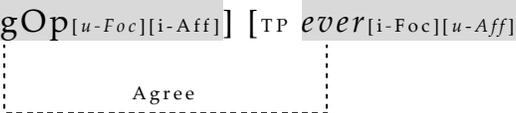
In (103), NegOp which bears a [u-Foc] feature and an [i-Aff] feature enters into an Agree relation with the NPI *ever* which bears an [i-Foc] feature and a [u-Aff] feature. The [u-Foc] and the [u-Aff] features are deleted, leading to the convergent derivation.

3.5.3. NPIs in Exclamative Constructions with a Negative Implication

Since exclamative constructions with a negative implication carry a negative implication, as their name suggest, it is reasonable to assume that they contain a NegOp. As shown in (104), NegOp in C which carries a [u-Foc] feature and an [i-Aff] feature Agrees with the NPI *ever* which carries an [i-Foc] and a [u-Aff] feature. The [u-Foc] feature and [u-Aff] are deleted under the Agree relation between NegOp and *ever*, and the derivation converges.

(104) [_CP [_C NegOp_{[u-Foc][i-Aff]}] [_TP like I [_T′ would ever_{[i-Foc][u-Aff]} trust

<center>Agree</center>

Fred!]]]

It would appear that this mechanism does not work for an exclamative sentence with *wh*-phrase such as (105), in that a *wh*-phrase bears an [i-Foc] feature and a [*u-Aff*] feature may block the Agree operation between NegOp and ever.

(105) Who would ever trust Fred!!

However, in an exclamative clause, since the interrogative function of the *wh*-phrase is not activated, it is tenable to assume that *wh*-phrases in an exclamtive clause do not bear relevant formal features. Since (105) can be paraphrased as *nobody would trust Fred*, it is reasonable to assume that a NegOp is generated at C. The structure thus can be illustrated as in (106).

(106) [_CP [_C NegOp_{[u-Foc][i-Aff]}] [_TP who [_T′ would ever_{[i-Foc][u-Aff]} trust

<center>Agree</center>

Fred!]]]

In (106), the NegOp in C with a [*u-Foc*] feature and an [i-Aff] feature Agrees with the NPI *ever* with an [i-Foc] and an [*u-Aff*] feature. The derivation converges and the NPI is successfully licensed.

3.5.4. NPIs in Result Clauses Dependent on *too*

It is generally accepted that an instance of *too ... to* constructions like ... *too big to fail* can be paraphrased as ... *be so big that ... will not fail*. Since this construction implies negation, it is reasonable to assume that a NegOp exists in the *to*-infinitive. We further suppose that the *to*-infinitive in *too ... to* constructions is a CP, similar to control constructions. The Agree relation which results in NPI licensing in *too ... to* constructions is illustrated in (106).

(106)   Fred is too smart

[$_{CP}$ [$_C$ NegOp$_{[u\text{-}Foc][i\text{-}Aff]}$] [$_{TP}$ [$_{T'}$ to ever$_{[i\text{-}Foc][u\text{-}Aff]}$ admit

Agree

he wrote the pamphlet]]]
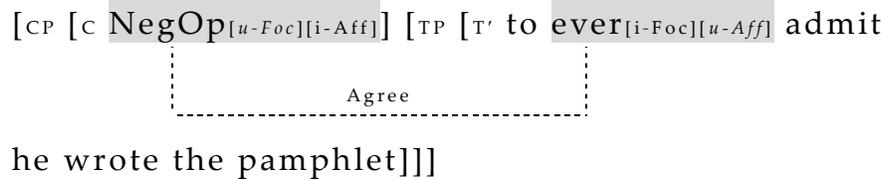
An Agree relation is established between the NegOp which has a [u-Foc] feature and an [i-Aff] feature and the NPI *ever* which has an [i-Foc] feature and a [u-Aff] feature, resulting in the licensing of the NPI *ever*.

3.6. Conclusion

Chapter 3 has analyzed NPIs in English conditional, comparative and interrogative clauses and other environments of Type A in terms of the licensing mechanism of NPIs proposed in chapter 2 and revised in section 3.1.

Section 3.1 has revised a feature involved in the mechanism of NPI

licensing in negatives, proposing that an affective element like *not* bears a [*u-Foc*] feature and an [i-Aff] feature, whilst an NPI bears an [i-Foc] feature and a [*u-Aff*] feature. In the system of Chomsky (2000, 2001), the two items enter into an Agree relation and the [*u-Foc*] and [*u-Aff*] features are deleted, with the result that the NPI is licensed.

Section 3.2 has provided an analysis of the feature specification of the conjunctions *if* and *when* and has discussed how it explains the differences in behavior between *if* and *when* with regard to NPI licensing and the relation with a focus particle like *only*.

Section 3.3 has provided the licensing mechanism of NPIs in comparative clauses. Horn (1972) observes that the free choice *any*, like other universal quantifiers, can be modified by adverbs like *almost* or *nearly*, whilst the NPI *any*, like other existential quantifiers, cannot be modified by such adverbs. Therefore, the fact that they can modify *any* in phrasal comparatives, but not in clausal comparatives has led us to assume that NPIs can only occur in clausal comparatives. Given the mechanism introduced in section 3.1, it has been proposed that the complementizer *than* bears an [i-Aff] feature and a [*u-Foc*] feature, whilst the prepositional *than* bears no relevant formal features. The complementizer *than* enters into an Agree relation with an NPI, resulting in the deletion of the [*u-Foc*] and [*u-Aff*] features. The latter part of section 3.3 has discussed consequences of the present analysis. First, it accounts for the fact that NPIs do not occur

in comparative clauses without the complementizer *than*. Second, it can also be applied to *as*-comparatives, whose behavior cannot be accounted for under a semantic approach based on DE.

Section 3.4 has provided the licensing mechanism of NPIs in interrogative clauses, accounting for the fact that NPIs are more likely to occur in *yes-no* questions than in *wh*-questions. It has been proposed that in *yes-no* questions the interrogative morpheme in C enters into an Agree relation with the NPI it c-commands, whereas in *wh*-questions the *wh*-phrase blocks the Agree relation between the interrogative morpheme and the NPI due to the Defective Intervention Constraint.

Section 3.5 has suggested the possibility of applying the mechanism in 3.1 into other environments of Type A. Although the discussion is carried out in depth, we have found that it is plausible to analyze NPIs in adversatives, exclamative constructions with a negative implication, and result clauses dependent on *too* in terms of Agree involving the [Aff] and [Foc] features.

In all these environments except negation, NPIs enter into an Agree relation with an element in C, allowing a unified treatment of NPI licensing in these clauses. If the arguments in chapter 3 are on the right track, they lend further support to the feature-based analysis of NPI licensing proposed in chapter 2 and revised in section 3.1, and highlight the necessity of a syntactic approach to NPIs.

Notes to Chapter 3

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[1] Note that (6b) is grammatical if *when* has a conditional reading or *anyone* is given a free choice reading.

[2] The elements which have the relevant formal features and may enter into an Agree relation are dark-tinted, and elements which receive a null spell-out and uninterpretable features which are checked and deleted are indicated by ~~strikethrough~~.

[3] The sequence of the operations in (32) does not necessary follow what I illustrate here. The sequence of the two deletions in (32e) is not clear either. Since these matters does not affect the analyses in this thesis, I will leave them open here.

[4] It seems that in (32c) TP is moved from the complement position of C to the specifier position of C, which may violate the Antilocality Constraint in (i).

(i)   Movement internal to a projection counts as too local, and is banned.   (Radford (2009: 406))

However, in fact, the launching site of the moved TP and the landing site of it do not share the same head, when we adopt the theory of

spilt CP in which there are a number of functional heads in the left periphery. This provides us with the possibility to assume that the maximum projections of the launching position and that of the landing position are different. Therefore, the seeming problem concerning the Antilocality Constraint is eliminated.

[5] The possibility of deleting the higher copy will be discussed later in this thesis.

[6] The trigger of movements is assumed to be Agree (see Miyagawa (2010)) rather than EPP (see Chomsky (1995)) or Case (see Bošković (2007)).

[7] In Mikami (2010), a sentence involving locative inversion like (i) has the structure in (ii).

    (i)   Into the room worked John.   (Mikami (2010: 298))

(ii)   TP
       /   \
into the room   Top'
              /   \
            Top   TP
                    /   \
                 ~~John~~   T'
                        /   \
                   T [φ , EPP]   vP
                               /   \
                              v   VP
                                   /   \
                          ~~into the room~~   V'
                                            /   \
                                      walked   John [φ , EPP, Focus]

(cf. Mikami (2010: 313))
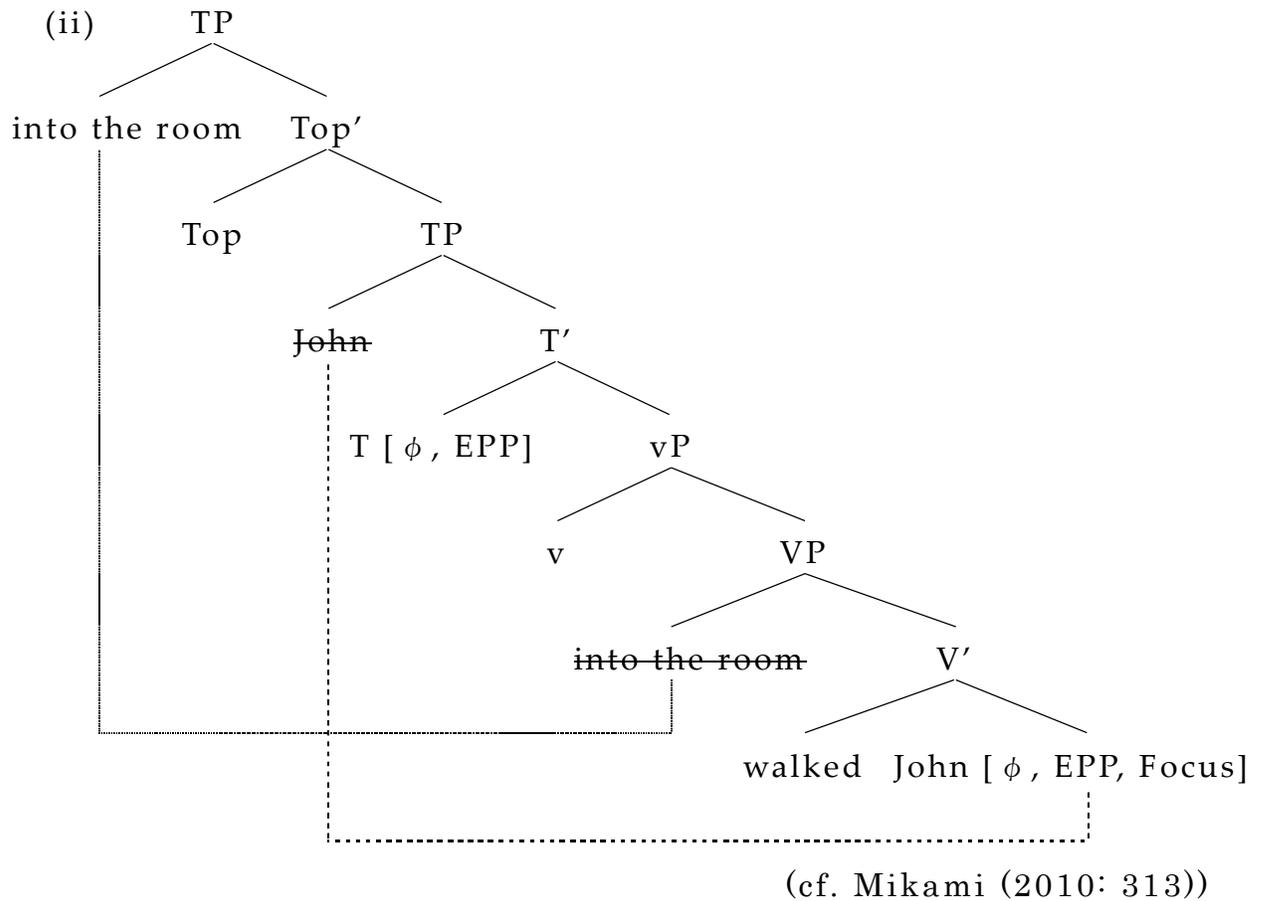
In the structure above, *John*, which is base-generates as the complement of the unaccusative V is moved to Spec-TP due to EPP. The lower copy of *John* is spelled out, in that it has the Focus feature and is unable to be null.

[8] On the other hand, an interpretable strong feature can Agree with the matching uninterpretable weak feature and the uninterpretable weak feature is deleted, in that what is contained in the weak feature can be considered as a proper subset of what is contained in the

matching strong form. This ensures the convergent derivation of a sentence like (i) (repeated from (3)), in which a focus particle is the licenser of an NPI.

(i)   Only young writers *ever* accept suggestions with any

       sincerity.   (Klima (1964: 311))

[9] For a discussion concerning emphatic feature, see Rouveret (2011).

[10] In (63a), if *lovelier* bears a [*u-Foc*] feature, the derivation will crash because the uninterpretable feature [*u-Foc*] is not deleted in the course of the derivation and it cannot be transferred to the semantic component.

[11] Consequently, *lovely/lovelier* is one lexical item, whereas the prepositional *than* and the complementizer *than* are two distinct lexical items.

[12] One might object that the c-command relation between the licensers and NPIs does not exist in (68) and (69). *To do anything rewarding* in (68b) and *that any rules are added to prevent abuse* in (69b) are actual subjects of these sentences, and thus the NPIs might not be c-commanded by the comparative forms that license them, if we think about the general case in which the subject precedes the predicate.

However, the objection does not hold, because the c-command condition of NPI licensing works at S-structure (see Mahajan (1990), among others).

[13] The judgments of these examples are obtained with the help of a few native speakers of English. There is judgment variation among them concerning the acceptability of (some of) these examples. For example, one of the informants suggested that (74g, h) are less unacceptable than (74c-f). This paper somewhat idealizes the relevant judgments, putting aside complexities such as this.

[14] There are some other reasons to assume that the Q-morpheme in C in *yes-no* questions bear an [i-Aff] feature and a [*u-Foc*] feature. First, it is reasonable to assume that the Q-morpheme bears these features, rather than Spec-CP, given that economy considerations require us to avoid assuming a null form in Spec-CP. Furthermore, according to Radford (2009), C has a tense feature which attracts *will* to move from its original position in T to C. Therefore, since C already has tense feature, assuming that all the features are located at C seems to be economical. Second, the function of the Q-morpheme is rather similar to the complementizer *if/whether*. That the complementizer *if* is base-generated in C has been assumed in section 3.2.2, and section 3.2.3 suggests that the conjunction *if* bears an [i-Aff] feature and a [*u-Foc*] feature. Although the complementizer *if* and the conjunction *if* are

different, it is not unlikely that they share the same features. If the complementizer *if* bears an [i-Aff] feature and a [*u-Foc*] feature, it is natural to assume that the Q-morpheme in C bears the same features. Third, according to Chomsky (2000), in a *wh*-question, the probe which has an uninterpretable Q(uantifier) feature is located in C. Thus it is plausible to assume that question-related features are in C.

[15] The null strong Q-morpheme attracts the auxiliary *have* to move from T to C to attach to it, thus filling the C position.

[16] An important theoretical question to ask at this juncture is how ϕ and *any* should enter into an Agree relation despite the fact that the v*P phase boundary intervenes between these two elements. It might be possible that the object moves covertly to Spec-v*P, which is a position accessible from C (cf. Phase-Impenetrability Condition (Chomsky (2000)), thereby allowing the Agree relation between ϕ and *any*.

[17] Kim (2006) suggests that *wh*-movement in such languages might be an instance of focus movement. It is suggested that *wh*-phrases bear a [Foc] feature that enables them to occupy the same positions as other focalized forms. In addition, focus and *wh*-phrases in situ seem to share the syntactic property of being insensitive to island constraints (see Rooth (1996)). When we compare (ia) and (ic) with (ib), we find

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that only quantifiers cannot scope out of the island.

(i)   a.   Dr. Svenson only rejected the proposal that *[John]F* submitted.

b.   Dr. Svenson rejected the proposal that *no student/almost every student* submitted.

c.   Tell me who rejected the proposal that *who* submitted.

(Kim (2006: 524))

[18] As for the specific position of the operator in C (the left periphery), it is natural to assume that it is located in Pol(arity)P. See Culicover (1991) for the information concerning PolP. For the reason of space, the discussion of PolP falls outside the scope of this thesis.

Chapter 4

NPIs in Restrictives, Restrictive Relatives Modifying Universals, and Superlatives

4.1. Introduction

In chapter 2 and 3, we have analyzed the environments of Type A in terms of a feature-based Agree system. However, this system cannot account for all kinds of environments in which NPIs are licensed. This chapter seeks to propose the mechanism of NPI licensing in the environments of Type B.

Before analyzing the mechanism of NPI licensing in the environments of Type B, we need to be clear about the difference between the environments of Type A and those of Type B, as well as the reason why the approach based on Agree cannot be adopted to analyze NPI licensing in the environments of Type B.

(1a) is an instance with an NPI in a restrictive relative clause, which belongs to Type B. The quantifier *every* licenses the NPI *any*, which is in the relative clause, whilst *every* does not license the NPI *any*, which is in the same CP with it, as shown in (1b).

(1) a. Every child who has *any* money is likely to waste it on candy.

   b. *Every child has *any* money.

In contrast, as for the environments of Type A, the licenser and the licensed NPI must be in the same CP, as we have seen in chapter 2 and 3. This is what distinguishes Type A from Type B. Since we now have a better understanding of the classification of Type A and Type B, we revise it as in (2) (cf. (30) in chapter 1 and (1) in chapter 3).

(2) a. Type A

   The licenser and the licensed NPI are in the same CP

   Negatives, interrogatives, conditionals, comparatives, adversatives, exclamative constructions with a negative implication, and result clauses dependent on *too*;

   b. Type B

   The licenser and the licensed NPI are not in the same CP

   Restrictives, restrictive relatives modifying universals, and superlative NPs.

   In the analysis of (1a), it is impossible to assume that *every* bears an [i-Aff] feature and a [*u-Foc*] feature for the following reasons. If *every* bears such formal features, the NPI *any* in (1b) should be licensed via Agree. What is more, the approach involving negative

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operator proposed in section 3.5 cannot be adopted to analyze the environments of Type B in that the environments of Type B do not imply negation. Hence, a different mechanism must be proposed in order to account for the environments of Type B.

4.2. Theoretical Backgrounds
4.2.1. Characteristic of NPI Licensing of Type B
4.2.1.1. Progovac (1994)

Progovac (1994) points out that polarity is parallel to anaphora. In the example in (2), *herself* can only be bound to *Mary* which is in the same clause with it, but not *Jane* which is the matrix clause. This suggests that a reflexive must have a clausemate antecedent.

(2)   Jane$_i$ believes [that Mary$_j$ respects herself$_{*i/j}$.]

(Progovac (1994: 3))

For example, sentences in (3) and (4) suggest that Chinese NPIs must be licensed by a clausemate negation. In the example in (3), the NPI *conglai* is in the same clause with the negative marker *meiyou*, and the sentence is grammatical. In contrast, in the example in (4), the negative marker *meiyou* is in the matrix clause and the NPI *conglai* is in the subordinate clause. In this case, the NPI *conglai* is not licensed, and the sentence is ungrammatical.

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(3) Ta *conglai* meiyou kanjian Mali.

     he ever did-not see Mary

     'He has never seen Mary.' (Progovac (1994: 4))

(4) *Zhangsan meiyou shuo ta *conglai* kanjian guo Mali.

     Zhangsan did-not say he ever see Asp Mary

     'Zhangsan did not say that he have ever seen Mary.'

                                     (cf. Progovac (1994: 4))

Progovac (1994) also presents similar examples in Serbian/Croatian and Russian to illustrate this phenomenon. This phenomenon seems to be quite universal. Progovac (1994: 4) introduces some works concerning similar facts in other languages. See Hasegawa (1987) for Japanese, Linebarger (1980) for English, Milner (1979) for French, and Sedivy (1990) for Czech.

   Based on the facts provided in her book, Progovac (1994) suggests that reflexives and NPIs must be in the scope of (or bound to) their antecedent or licenser in that they are both dependent. On the other hand, pronouns and PPIs must be interpreted outside of the scope of a local antecedent or licenser in that they are both anti-dependent. Reasoning thus, Progovac makes the conclusion in (5) and (6).

(5) NPIs are subject to Principle A of the Binding Theory.

                                       (Progovac (1994: 2))

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(6)   PPIs are subject to Principle B of the Binding Theory.

(Progovac (1994: 2))

   Progovac (1994) also applies the binding analysis to English negative contexts. Principle A of the Binding Theory is also applied to the NPI *any*. She suggests that *any* in English can raise at LF, and thus *any* is licensed by both clausemate negations and superordinate relations. She provides independent evidence for the LF raising of *any*. In chapter 4 of Progovac (1994), NPI licensing in different languages is discussed, and two factors, which can interact to account for wide cross-linguistic variations, are indentified. As for Serbian/Croatian NPIs beginning with the prefix *ni* and English NPIs, they are subject to Principle A only, whereas Serbian/Croatian NPIs beginning with the prefix *i* are subject to both Principle B and general binding requirements in the sentence. Moreover, some NPIs like Serbian/Croatian NPIs beginning with the prefix *ni* do not raise at LF, while other NPIs do. Some NPIs like English NPIs can raise via either TP-adjunction or via Spec-CP, whereas it is argued that some NPIs like Turkish NPIs raise only through Spec-CP and some NPIs like Catalan and Chinese NPIs raise only through TP-adjunction. Thus, it is a natural consequence that English NPIs are acceptable in all the polarity contexts, while Chinese NPIs occur in all contexts except superordinate negative contexts. On the other hand, Turkish NPIs are licensed by either superordinate negative contexts or clausemate negative contests.

4.2.1.2. Analysis

Traditionally, Binding Theory is a theory on A-binding, and consists of three conditions, as shown in (7).

(7)   Binding Theory

    (A)   An anaphor is bound in its governing category

    (B)   A pronominal is free in its governing category

    (C)   An R-expression is free   (Chomsky (1981: 188))

In some analyses, these conditions are associated with a characterization of anaphors, pronominals, R-expressions, and PRO in terms of an anaphor feature and a pronominal feature, as illustrated in (8).

(8)   a.   [+anaphor, -pronominal]   =   anaphor

    b.   [+anaphor, +pronominal]   =   PRO

    c.   [-anaphor, -pronominal]   =   R-expression

    d.   [-anaphor, +pronominal]   =   pronominal

            (cf. Chomsky (1982: 78) and Chomsky (1986: 164))

A similar diagram is provided in Zwart (2002) (see (9)).

(9)

Overt	Anaphoric	Pronominal	Covert
	+	+	PRO
Anaphor	+	−	A-trace
Pronoun	−	+	pro
R-expression	−	−	A'-trace

(Zwart (2002: 273))

Following the parallelism between anaphora and polarity pointed out by Progovac (1994), it is reasonable to make the proposal in (10) for polarity, which is parallel to (8).

(10) (A) An NPI is bound in its governing domain

(B) A PPI is free in its governing domain

(C) A non-polarity-sensitive expression is free

In a similar vein, my proposal, shown in (11), captures the parallelism between anaphora and polarity from the viewpoint of feature (cf. (9)).

(11) a. [+NPI, -PPI] = NPI (Type A)

b. [+NPI, +PPI] = NPI (Type B)

c. [-NPI, -PPI] = non-polarity-sensitive expression

d. [-NPI, +PPI] = PPI

It is reasonable to assume that an NPI of Type B is both [+NPI] and

[+PPI] (see (11b)), in that, as shown in (1a), the NPI *any* is dependent on its licenser *every*, which makes it [+NPI], whilst as shown in (1b), *any* must be free in its governing domain, which makes it [+PPI].

Thus, based on Progovac (1994) and the discussion above, one proposal along these lines would be to capture the relation between polarity and the Binding Theory (see (12)).

(12) a. NPIs of Type A are subject to Principle A of the Binding Theory.

b. PPIs are subject to Principle B of the Binding Theory.

c. Non-polarity-sensitive expressions are subject to Principle C of the Binding Theory.

d. NPIs of Type B are parallel to PRO.

4.2.2. A Derivational Theory of Binding

To support the claim that anaphor binding, control, and NP movement are available in the same domains, Lidz and Idsardi (1998) present ten paradigms. In the first paradigm, all these relations are implemented from the subject position to the object position in a matrix clause, as illustrated in (13).

(13) a. *John* was seen *e*

b. *John* saw *himself*

c. *John* dressed *PRO*   (Lidz and Idsardi (1998: 111))

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In contrast, these relations cannot be carried out from the opposite direction (viz. from the object position to the subject position) in a matrix clause, as illustrated in (14).

(14) a. *_e_ was seen _John_

b. *_himself_ saw _John_

c. *_PRO_ dressed _John_   (Lidz and Idsardi (1998: 111))

In an infinitival clause, it is possible for the subject to be involved in these relations, as in shown (15).

(15) a. _John_ is expected _e_ to lose the race

b. _John_ expects _himself_ to lose the race

c. _John_ expects _PRO_ to lose the race

(Lidz and Idsardi (1998: 111))

In contrast, in a tensed subordinate clause, it is impossible for the subject to be involved in these relations, as shown in (16).

(16) a. *_John_ was expected (that) _e_ would lose the race

b. *_John_ expected (that) _himself_ would lose the race

c. *_John_ expected (that) _PRO_ would lose the race

(Lidz and Idsardi (1998: 111))

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All these relations cannot be legitimately established, when an expletive subject of an infinitival intervenes, as shown in (17).

(17) a. *_John_ was expected it to be likely _e_ to lose the race

b. *_John_ expected it to be likely _himself_ to/will lose the race

c. *_John_ expected it to try _PRO_ to lose the race

(Lidz and Idsardi (1998: 112))

Another similarity among an NP trace, an anaphor, and a PRO is that they always require an antecedent (see (18)).

(18) a. *was seen _e_

b. *_himself_ shaved

c. *It was expected _PRO_ to shave himself

(Lidz and Idsardi (1998: 112))

The antecedent of an NP trace, an anaphor, or PRO is generally required to be the closest possible antecedent, which otherwise renders the sentence ungrammatical, as illustrated in (19).

(19) a. *_John_ was expected Mary to be likely _e_ to lose the race

b. *_John_ expected Mary to believe _himself_ to be losing the race

c. *_John_ expected Mary to try _PRO_ to lose the race

(Lidz and Idsardi (1998: 112))

In all of these relations, the c-command relation must be established between the antecedent and the NP trace, the anaphor, or PRO, as illustrated in (20).

(20) a. *_John_'s campaign is expected _e_ to lose the race

b. *_John_'s campaign expects _himself_ to lose the race

c. *_John_'s campaign expected _PRO_ to lose the race

(Lidz and Idsardi (1998: 113))

Split antecedents are not allowed when these three relations are involved, as illustrated in (21).

(21) a. *_John_ was expected Mary to be likely _e_ to lose the race

b. *_John_ described Mary to _themselves_

c. *_John_ persuaded Mary _PRO_ to describe themselves/each other

(Lidz and Idsardi (1998: 113))

The last parallelism among anaphor binding, control, and NP movement is that under VP-ellipsis, only sloppy reading is available, when these three relations are involved. This means that (22a) can only mean _John was expected to lose the race and Bill was expected to lose the race too_, that (22b) can only mean _John expected himself to lose the_

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race and Bill also expected himself to lose the race too, and that (22c) can only mean *John expected to leave and Bill expected to leave too*.

(22) a. *John* was expected *e* to lose the race and Bill was too

b. *John* expected *himself* to lose the race and Bill did too

c. *John* expected *PRO* to leave and Bill did too

(Lidz and Idsardi (1998: 113))

In all the ten cases above, the grammaticality of the instances involving the movement is the same as that of the instances involving control and binding. As pointed out in Hornstein (2001, 2007, 2009), this makes sense if the anaphor is the residue of overt movement. It follows that, for example, the antecedent *John* in (23) is generated together with the anaphor *himself*, and then *John* moves to the subject position.

(23) John$_1$ likes [t$_1$ himself]   (Hornstein (2007: 353))

Furthermore, Hornstein (2001), Boeckx and Hornstein (2004), Boeckx and Hornstein (2006), and Boeckx, et al. (2007) suggest that PRO is also the residue of overt movement.

4.3. The Structure of Relative Clauses

There are a large number of syntactic works on the structure of relative clauses. In this chapter, I adopt the structure of relative

clauses illustrated in (24).

(24)   DP
      / \
     D   NP
     | / \
   the NP   CP
        | / \
       cat DPᵢ   C′
           | / \
        whichᵢ C   TP
               | / \
            (that) DP   VP
                   | / \
              the dog V   DP
                       | |
                     bite   Tᵢ
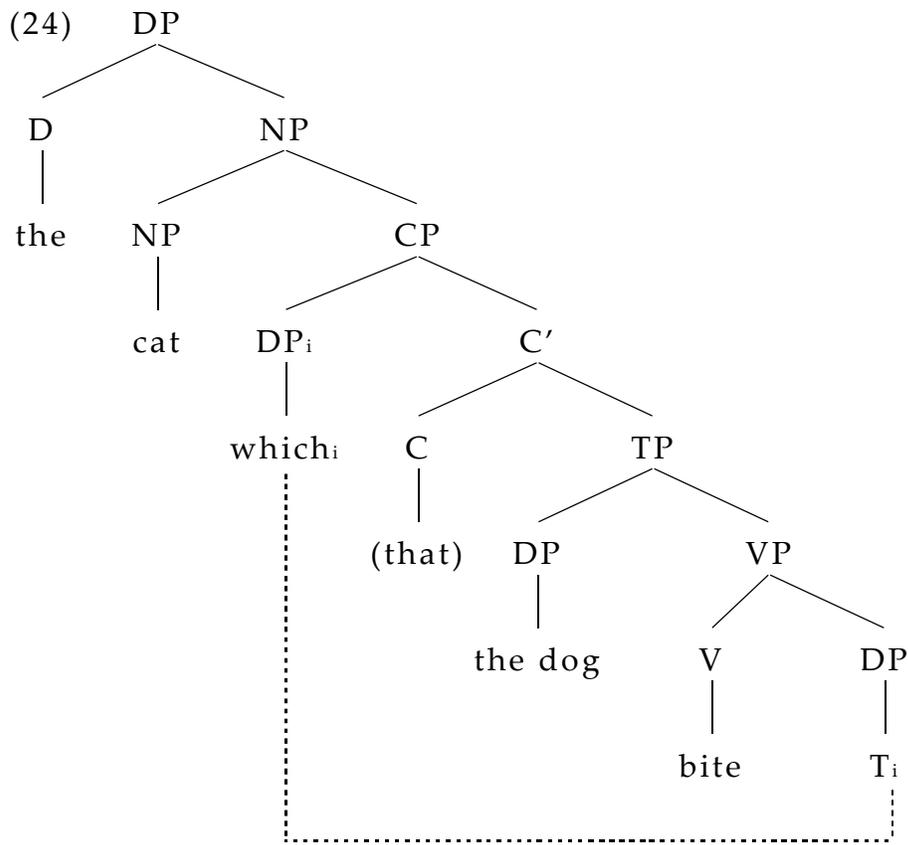
In (24), the relative DP operator occupies the head position of CP, and
cat and *which* have an anaphoric relation.[1]

4.4. Analysis

4.4.1. NPIs in Restrictives

Let us first examine the example in (25), which contains the NPI
ever in the relative clause of the DP *every dog*. *Ever* is adjoined to V in
the relative clause.

(25) Every dog which has *ever* bitten a cat feels the admiration of
other dogs.   (Portner (2005: 123))

Suppose that the licenser *every* and the licensed NPI *ever* are
generated in the same position. Assuming that an NPI of Type B is
parallel to PRO and that PRO is the residue of overt movement, the
structure of (25) which results after *wh*-movement and the movement
of *every* have applied is that shown in simplified form below (see (26)).

(26)

```
              DP
            /    \
           D      NP
           |     /   \
        every  NP     CP
               |     /    \
              cat  DPᵢ      C'
                    |      /   \
                 whichᵢ   C     TP
                               /    \
                              DP     T'
                              |     /   \
                           whichᵢ  T     VP
                                   |    /   \
                                  has  adv   V'
                                       |    /   \
                                   every-ever bitten DP
                                                      |
                                                    a cat
```

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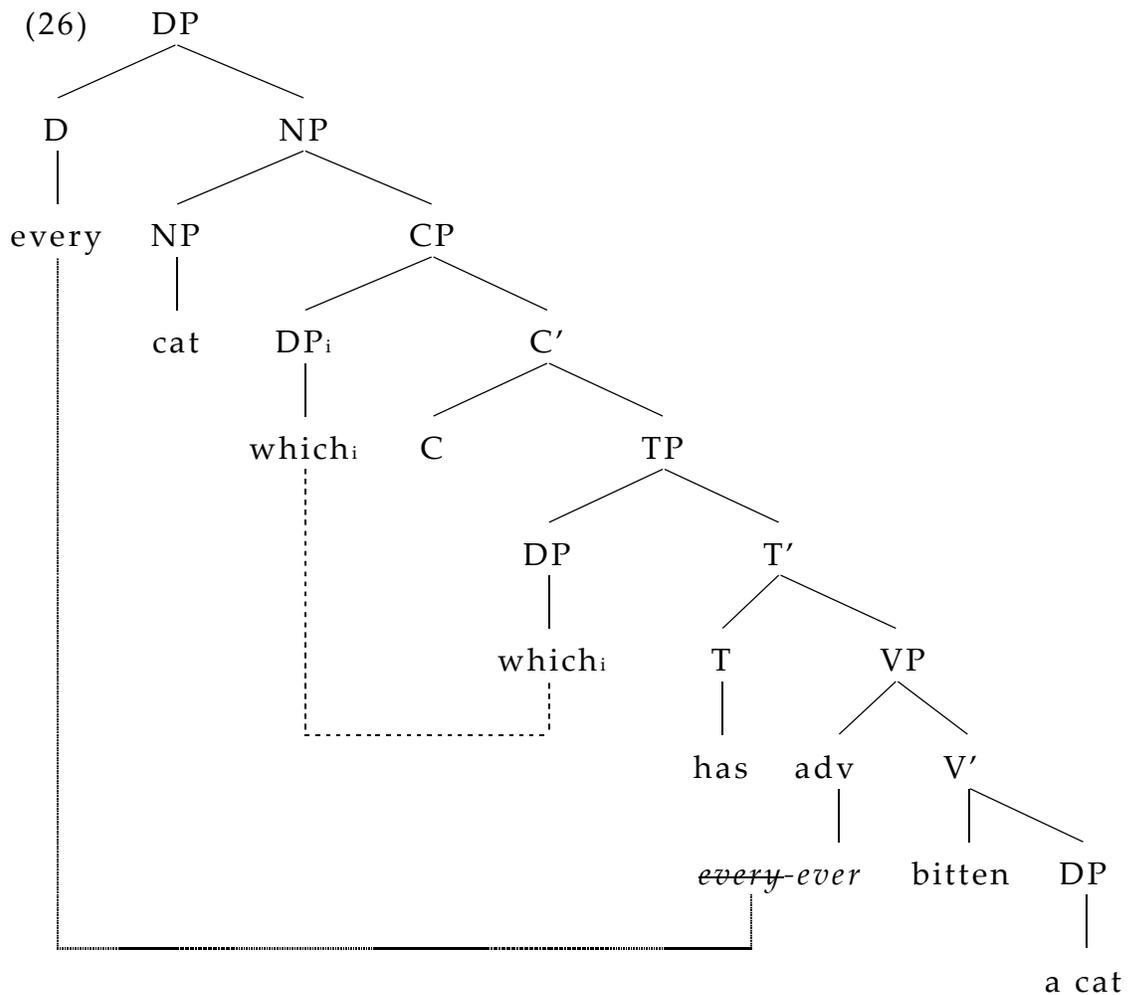
In (26), *every* and *ever* are generated together as an adjunct of VP, and then *every* remerges with the NP *cat*, serving as the modifier of *cat*. Let us turn to another instance of NPIs in restrictive such as (27), where the NPI is in the object position of the relative clause (see (28) for the structure of (27)).

(27) Every child who has *any* money is likely to waste it on candy.

(Portner (2005: 123))

(28)

```
           DP
          /  \
         D    NP
         |   /  \
      every NP   CP
            |   /  \
         child DPᵢ   C'
               |    /  \
              whoᵢ  C    TP
                        /  \
                       DP   T'
                       |   /  \
                     whoᵢ T    VP
                               / \
                              V   DP
                              |   / \
                             has D   NP
                                 |    |
                            every-any money
```

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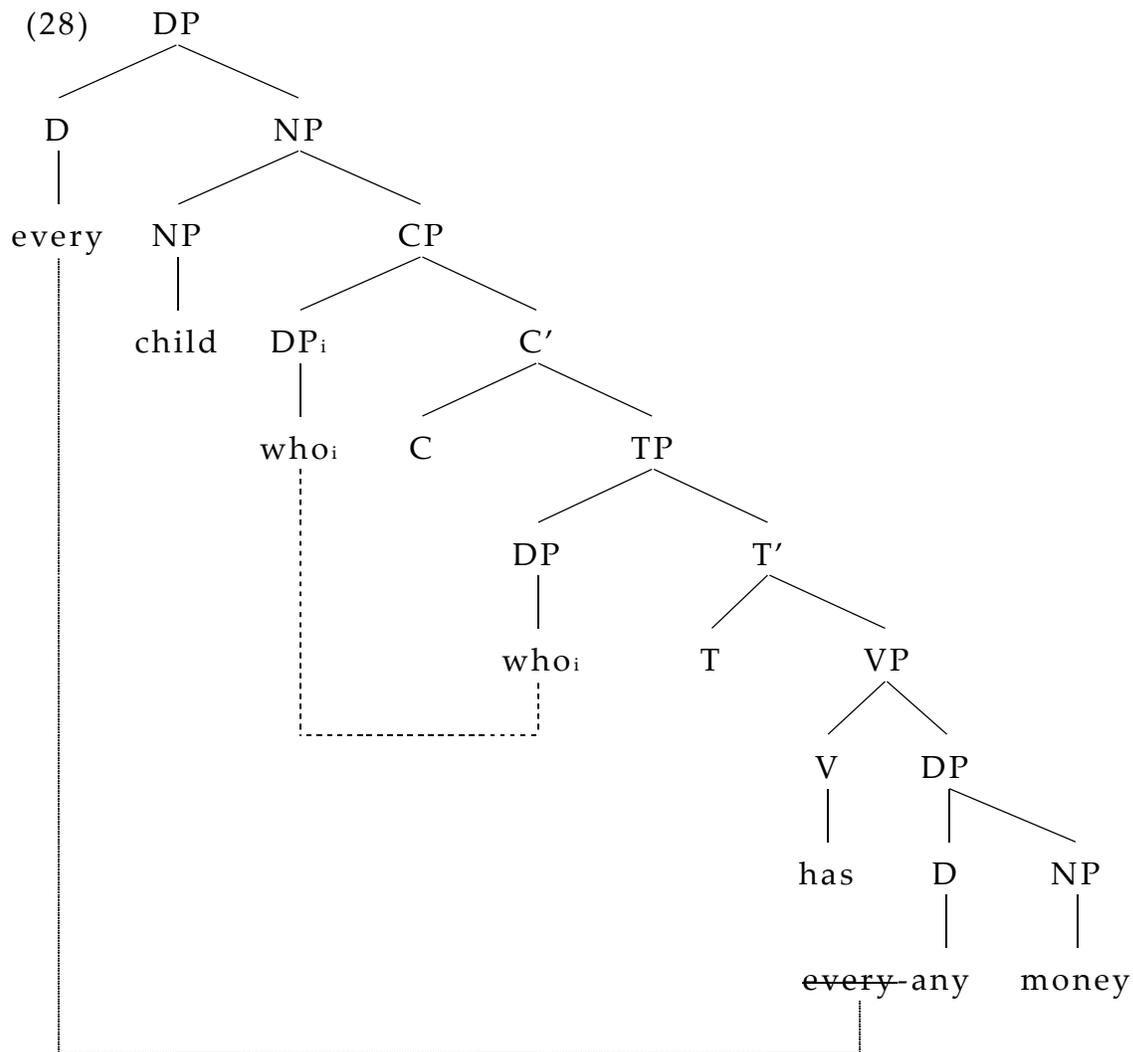
Similar to the derivation illustrated in (26), in (28) the licenser *every* is generated together with the NPI *any* when it first enters into the derivation. Then, *every* undergoes movement in the same way as *every* in (26) does.

4.4.2. NPIs in Restrictive Relatives Modifying Universals

Let us turn to consider the derivation of NPIs in restrictive relatives modifying universals. The example is repeated here as (29).

(29) All I could *ever* do was gnashing my teeth and obey.

(Hoeksema (2000: 116))

Similar to the analysis of NPIs in restrictives, we adopt the following assumptions. The licenser *all* and the licensed NPI *ever* are generated in the same position; an NPI of Type B is parallel to PRO; PRO is the residue of overt movement. Thus, we analyze the derivation of (29) as follows (see (30)).

(30)

```
                    DP
                   /  \
                       D'
                      /  \
                     D    CP
                     |   /  \
                    all DPᵢ   C'
                        |    /  \
                       Opᵢ  C    TP
                            |   /  \
                         (that) DP   T'
                               |    /  \
                               I   T    VP
                                   |   /  \
                                could all ever V'
                                              /  \
                                             do   DP
                                                  |
                                                  tᵢ
```
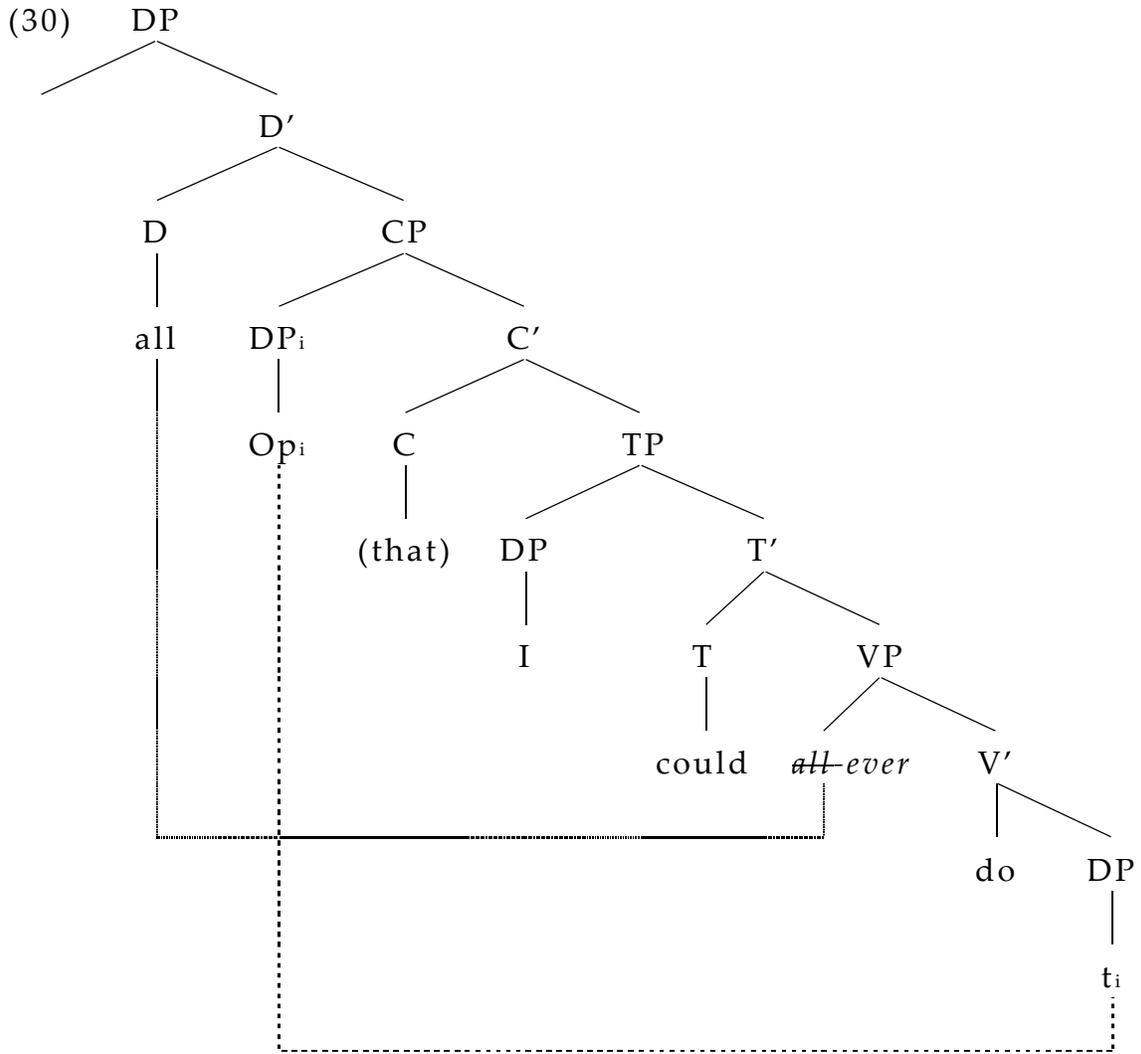
In (30), the licenser *all* and the licensed NPI *ever* are generated in the same position, and then *all* moves to the head of DP in the main clause, resulting in the surface order of (29) and the licensing of the NPI *ever*.

4.4.3. NPIs in Superlatives

Let us now turn to the analysis of the derivation of NPIs in superlatives such as (31).

(31)   That was the best book that he had *ever* written.

(*Unabridged Genius English-Japanese Dictionary*, 2001)

The derivation of (31) is similar to (25), (27), and (29) in key respects. The licenser *best* and the licensed NPI *ever* are assumed to be generated in the same position. The assumption that an NPI of Type B is parallel to PRO and the assumption that PRO is the residue of overt movement are also adopted here. Thus, we give (32) to illustrate the syntactic operations at issue.

(32)

DP
├─ the
└─ NP
   ├─ adj
   │ └─ best
   └─ N′
      ├─ N
      │ └─ book
      └─ CP
         ├─ DP$_i$
         │ └─ Op$_i$
         └─ C′
            ├─ C^0
            │ └─ that
            └─ TP
               ├─ DP
               │ └─ he
               └─ T′
                  ├─ T
                  │ └─ had ~~best~~-*ever*
                  └─ VP
                     └─ V′
                        ├─ written
                        └─ DP
                           └─ t$_i$
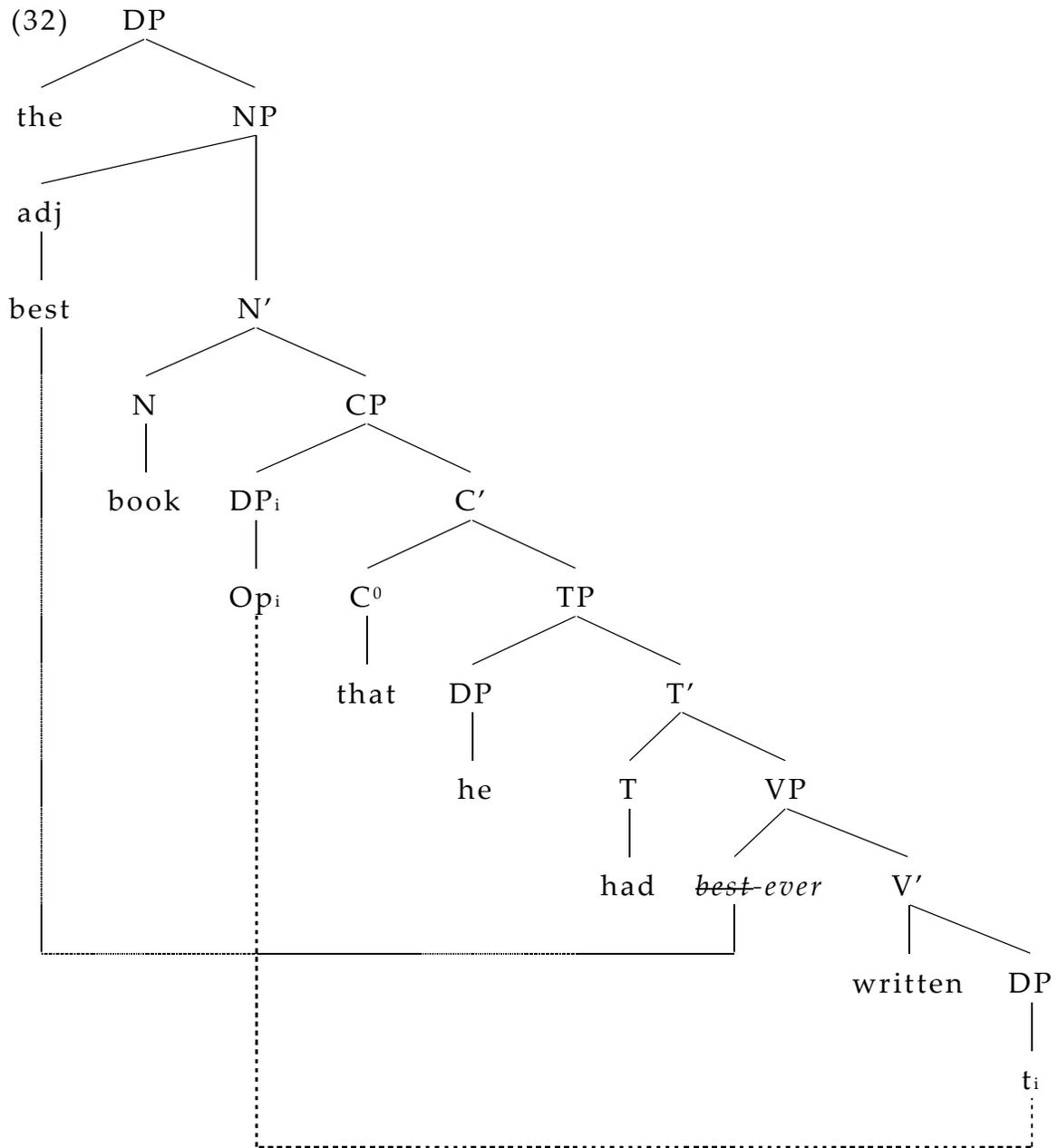
In (32), the licenser *best* is generated together with the licensed NPI *ever*, and then *best* moves to adjoin to the NP *book* in the main clause. Consequently, the derivation converges and the NPI *ever* is successfully licensed in the relative clause of the superlative.

4.5. Conclusion

This chapter has discussed NPI licensing in the relative clauses with the modified DP involving some quantifiers and superlatives, viz. NPI licensing of Type B. Following the idea hinted at in Progovac (1994), I have found that the property of NPIs of Type B concerning the Binding Theory is parallel to that of PRO. Furthermore, I have adopted Hornstein's treatment of PRO, in which PRO is analyzed as the residue of overt movement. In addition, I have assumed that the quantifier or superlative form is generated together with the NPI inside the relative clause. Based on these assumptions, we have proposed that the quantifier or superlative form is moved to merge with the NP in the matrix clause, with the result that the NPI is successfully licensed. Hence, the affective environments of Type B have been accounted for from a syntactic perspective.

Notes to Chapter 4

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[1] See Alexiadou et al. (2000) for the analyses of the structure of relative clauses. Nevertheless, the structure of relative clauses is not crucial for the point at issue.

Chapter 5

NPIs in Subjects in the History of English

5.1. Introduction

In PE, NPIs like *anyone* is allowed in the object position, but not in the subject position, as illustrated by the contrast in (1).

(1) a. John does not like *anyone*.

  b. *Anyone does not like John.

However, this is not a universal phenomenon. In languages like Japanese and Hindi, NPIs can appear in both object and subject positions. The examples in (2) show that the Japanese typical NPI *sika* is allowed in both the object position and the subject position.

(2) a. John-ga   Mary-*sika* aisa-nai.

  John-NOM Mary-only like-Neg

  'John likes only Mary.'

b. John-*sika*   Mary-o   aisa-nai.

   John-only   Mary-ACC like-Neg

   'Only John likes Mary.'

(3) and (4) are the examples of NPI *koi-bhii* in Hindi.

   (3)   *Koi-bhii   nahii* aayaa

         Anybody ₛₙ   came

         'Nobody came.'   (Vasishth (2004: 141))

   (4)   *Koi-bhii nahii*   khaat-aa   th-aa   sabzii

         Anyone ₛₙ   eat.ɪᴍᴘ.ᴍᴀꜱᴄ be.ᴘᴀꜱᴛ.ᴍᴀꜱᴄ vegetables

         'No one used to eat vegetables.'   (Vasishth (2000: 113))

The difference between the PE-type NPI licensing and the Japanese-and-Hindi Type NPI licensing is curious, and what is more intriguing to me is whether NPIs are allowed in the subject position in the history of English.

   This chapter will discuss the availability of NPIs in the subject position in the history of English and will provide an analysis of the change, which occurs from EModE to PE. The historical data in this chapter are mainly from YCOE, PPCME2, and PPCEME.

   This chapter is organized as follows. Section 5.2 overviews some previous studies on NPIs in subjects in the history of English. Section 5.3 carries out a diachronic survey of NPIs in the subject position, based on the above corpora. Sections 5.4 and 5.5 discuss the change of

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the phenomenon of NPIs in subjects from EModE to PE and examine the role of V-to-T movement in the loss of the phenomenon NPIs in subjects. Section 5.6 gives the conclusion of this chapter.

5.2. Previous Studies

Although there is no syntactic work dedicated to the historical study of NPIs in subjects, some information concerning this phenomenon is provided in de Swart (1998, 2010) and Mazzon (2004).

5.2.1. de Swart (1998, 2010)

De Swart (1998) suggests that in OE, an NPI containing the morpheme *any(-)* could appear in the subject position and the subject precedes the sentence negation, as illustrated in (5) and (6).

(5) And we lærað þæt *ænig* mæssepreost ana   ne
     And we teach that any   mass-priest   alone not
     mæssige
     should hold mass
     'And we teach that no priest should hold mass alone.'

                                        (de Swart (1998: 178))

(6) An riht is þæt *ænig* christen mon blood ne þycge
     And right is that any   Christian man blood not should-drink
     'And it is right (law, good conduct) that no Christian man should drink blood.'   (de Swart (1998: 178))

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According to de Swart (1998), the examples are cited from *Wulfstan's Canons of Edgar*, and Larbrum (1982) quoted them in support of her claim that the indefinites are in the scope of negation. De Swart (1998) states that all the examples that she found are in lawlike environments and they denote a generic use of *any*, which is not observed in PE. The restricted corpus search in de Swart (1998) shows that the majority of examples containing *any* in the subject position are subordinate clauses but some are main clauses.

De Swart (2010) observes that NPIs can precede the preverbal negation *ne* in OE, as shown in (7) and (8).

(7) Þæt hi   æfre on *ænine* man curs   ne   settan

     that they ever on any   man curse sɴ   lay

     'that they ever on any man curse not lay' (de Swart (2010: 18))

(8) *Ængum*   ne mæg se cræft losian

     anyone   sɴ may his craft loose

     'anyone not may the skill abandon'   (de Swart (2010: 18))

5.2.2. Mazzon (2004)

Mazzon (2004) gives some examples in which the subjects contain the NPI *any.* They are attested in OE.

(9)   þe   *ænig* mon ne   mæg monnum areccan?

        that any man not can to men   explain

        (OE *Martyrology* 156)

        'that no one can explain to others?'   (cf. Mazzon (2004: 39))

(10) *Ængum* ne   mæg   se   cræft losian.

        anyone not may   the skill abandon

        (Liles (1972: 131))

        'No one can abandon the skill.'   (cf. Mazzon (2004: 39))

Mazzon (2004) suggests the possibility of the influence from the Latinate original texts on this issue.

5.3. Corpus Search

In this section, I will show that NPIs are allowed in the subject position in some era of the history of English based on the historical corpora YCOE, PPCME2, and PPCEME. I searched the examples with *any* in the subjects. The results are shown in Table 5.1.[1]

Table 5.1 *Any* in subjects in the history of English

OE					OE (-1150)
Words Searched					1,450,376
any in subject					60
ME	M1 (1150-1250)	M2 (1250-1350)	M3 (1350-1420)	M4 (1420-1500)	ME (1150-1500)
Words Searched	258,090	146,603	485,988	265,284	1,155,965
any in subject	0	0	0	0	0
EModE	E1 (1500-1570)	E2 (1570-1640)	E3 (1640-1710)		EModE (1500-1710)
Words Searched	576,195	652,799	565,016		1,794,010
any in subject	5	2	0		7

5.3.1. Old English

As shown in Table 5.1 above, there are 60 examples with NPIs in the subject position in OE. In order to investigate whether these sentences are influenced by the Latinate original texts, it is necessary to examine the origin of these examples to identify whether they are translations from some texts written originally in Latin. The

information of the relevant 60 examples is shown in Table 5.2.

Table 5.2 Information of 60 examples in OE

Numbers of the examples	Text name	Dialect	Genre	Latin Translation	Era	Word count
17	Canons of Edgar	West Saxon	Ecclesiastical laws	No	O4	2,118
16	Canons of Edgar		Ecclesiastical laws	No	O3	1,765
12	The Homilies of Wulfstan	West Saxon	Homilies	No	O34	28,768
3	Boethius, Consolation of Philosophy	West Saxon	Philosophy	Head: ? Proem: No Body: Yes	O2	48,443
2	Institutes of Polity		Ecclesiastical laws	No	O4	4,896
1	Ælfric's Catholic Homilies I	West Saxon	Homilies	No	O3	106,173
1	Saint Christopher		Biography, lives	?	O3	1,426

Numbers of the examples	Text name	Dialect	Genre	Latin Translation	Era	Word count
1	Gregory's Dialogues	West Saxon/ Anglian Mercian	Biography, lives	Yes	O24	91,553
1	Gregory's Dialogues	West Saxon	Biography, lives	Yes	O23	25,593
1	Laws of Cnut	West Saxon/X	Laws	No	O3	2,386
1	Laws of Æthelred V	West Saxon/X	Laws	No	O3	1,228
1	Laws of Æthelred VI	West Saxon/X	Laws	No	O3	2,096
1	Northumbra Preosta Lagu	West Saxon/X	Laws	No	O3	1,330
1	Martyrology	West Saxon/ Anglian Mercian	Biography, lives	No	O23	25,781

Numbers of the examples	Text name	Dialect	Genre	Latin Translation	Era	Word count
1	Vercelli Homilies		HomS: Homilies HomU: Homilies LS: Biography, Lives	?	O2	45,674

Examples attested in OE with NPIs in subjects are divided according to *Latin translation*, which is summarized in Table 5.3.

Table 5.3 Results in terms of *Latin translation*

Latin translation	Yes	No	?
Numbers of the Examples	5	53	2
Numbers of the texts	3	10	2
Word count	165,589	176,541	47,100
Frequency Per 100,000 words	3.02	30.02	4.25

As mentioned in section 5.2, Mazzon (2004) suggests the possible

influence from the Latinate original texts. Table 5.3 shows, however, that the occurrence of the instance with NPIs in subjects is not common in the texts of *Latin translation*. Among the texts where instances of NPIs in subjects are attested, the frequency in texts of non-Latin translation is about ten times higher than that in the texts of *Latin translation*. Therefore, it is reasonable to conclude that the phenomenon of NPIs in subjects is not limited to the texts of a Latin origin.[2]

Let us next examine the results in terms of genres.

Table 5.4 Results in terms of genres

Genre	(Ecclesiastical) laws	Homilies	Others
Examples	39	14	7
Text numbers	7	3	5
Word count	15819	180615	192796
Frequency Per 100000 words	246.54	7.75	3.63

Table 5.4 shows that 39 out of 60 examples in OE are attested in the texts of *(ecclesiastical) laws*. This to some extent supports de Swart's (1998) observation that sentences with NPIs in subjects are attested in lawlike texts. It should be noted, however, that not all the examples are attested in lawlike texts. 21 out of 60 examples are attested in the genres of *homilies*, *philosophy*, and *biography, lives*.

In PE, the free choice *any* is more likely to appear in lawlike or formal contexts. Therefore, according to the conclusion drawn from Table 5.4, there is the possibility that examples involving NPIs in subjects in OE are the free choice *any*. If so, the phenomenon of NPIs in subjects may not exist in OE.

To test the assumption above, I have examined these 60 instances attested in OE. Among them, 18 instances involve the expression *riht is þæt*, and the NPI *any* is in the subject of the clause preceded by *riht is þæt*. *Riht* means *right, law, canon*, or *rule* in OE. In another 17 instances, the NPI *any* is in the subject of the subordinate clause of *læran*. *Læran* means *to teach, instruct, educate, to give religious teaching, to preach, to teach a particular tenet or dogma, to enjoin a rule*, or *to exhort, admonish, advise, persuade, suggest*. In most other examples, the NPI *any* is also in the subject of the subordinate clause of a predicate which indicates a law or a rule. Thus, it is reasonable to conclude that in OE the NPI *any* in the subject position is the free choice *any*, and that OE does not allow NPIs to appear in the subject position.[3]

5.3.2. Early Modern English

As shown in Table 5.1, there are no examples involving *any* in subjects in ME. In EModE, however, seven instances with NPIs in the subject position are attested. One of the examples is shown in (11).

(11) but *any* learning learned by compulsion,

but any learning learned by compulsion,

tarieth not long in the mynde:

tarries not long in the mind

'All learning that is acquired under compulsion has no hold

upon the mind.'   (ASCH-E1-P1,9V.172)

A question posed here is whether *any* in (11) is the NPI *any* or the
free choice *any*. A number of subjects are consulted, and their answers
are almost the same.[4] If we consider (11) as a PE sentence, the use of
any is acceptable. Since it is well grounded that NPIs do not appear in
subjects in PE, it seems that *any* in (11) is the free choice *any*.
However, it is more plausible to assume that *any* in (11) is an NPI. If
any in (11) were a free choice item, it could take wide scope over the
negation. However, this reading is not possible according to the
subjects who are consulted.

The sentences like (11) are not attested in ME. It is thus reasonable
to conclude that the phenomenon of the NPI *any* in the subject
position just exists in EModE. If this is on the right track, it is
interesting to find out the reason why the examples like (11) just
existed in EModE.

## 5.4. Theoretical Background

5.4.1. Neg C-commands an NPI at S-structure

Klima (1964) among others suggests that the trigger (i.e. the

licenser) of an NPI must c-command the NPI at S-structure. For example, (12) is grammatical because the trigger *nobody* in the subject position c-commands the NPI *anything* in the object position.

(12)   Nobody bought *anything* for John.

The structure of (12) is roughly presented in (13).

(13)

```
                    vP
            ┌────────┴────────┐
           DP                 v′
          ╱──╲          ┌──────┴──────┐
     Nobody              v′            PP
     (trigger)      ┌────┴────┐      ╱──╲
                    v        VP      for John
                    │     ┌───┴───┐
                  bought  V       DP
                          │      ╱──╲
                        bought  anything
                                 (NPI)
```
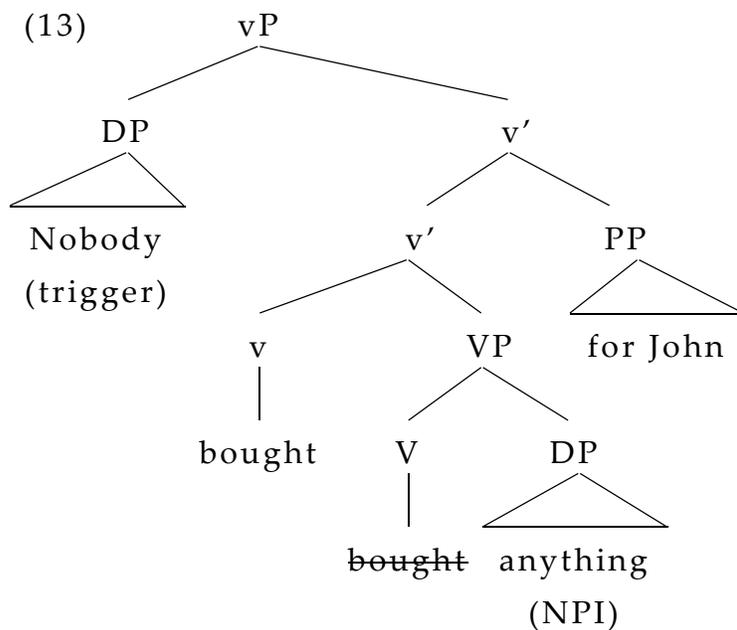
In contrast, when an NPI is in the subject position and the trigger is in the object position as in (14), the c-command relation required for NPI licensing is not satisfied and the NPI cannot be licensed.

(14)   *Anybody* bought nothing for John.

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The structure of (14) is illustrated in (15).

(15)

```
                        vP
                ┌────────┴────────┐
              DP                  v′
            ┌──╱─┐          ┌──────┴──────┐
        Anybody             v′            PP
         (NPI)         ┌────┴────┐      ┌─╱─┐
                       v        VP     for John
                       │      ┌──┴──┐
                    bought    V     DP
                              │    ┌─╱─┐
                           bought  nothing
                                   (trigger)
```
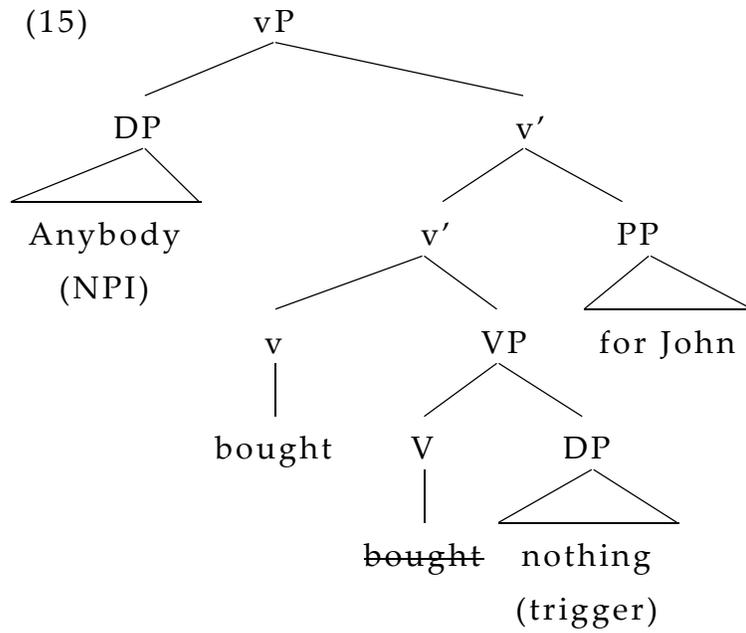
Sentences like (16) also provide us with empirical evidence that the c-command relation is required in NPI licensing.

(16)   *The portrayal of no one hangs on *any* wall.

The structure of (16) is as in (17).

(17)

```
                        vP
                   ╱          ╲
                 DP            v′
              ╱      ╲        ╱   ╲
    The portrayal of no one  v′      PP
         (trigger)          ╱  ╲    ╱    ╲
                           v    V  on any wall
                           │    │      (NPI)
                         hangs  h̶a̶n̶g̶s̶
```
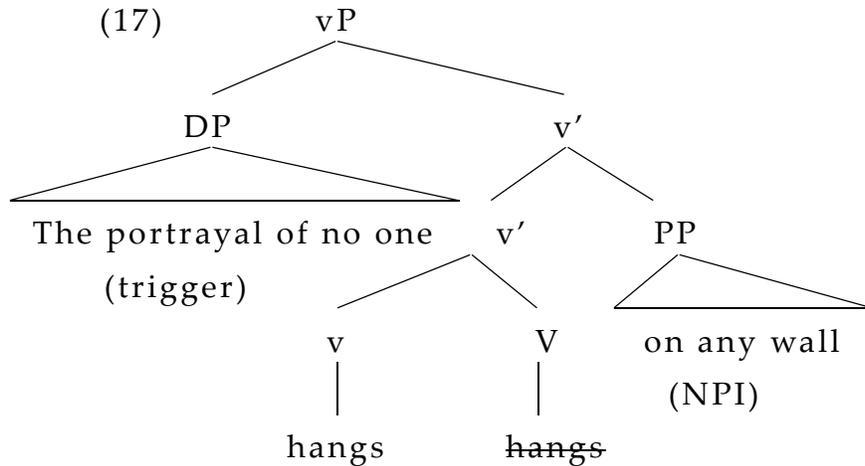
Although the possible trigger *no one* is in the subject position, it does not c-command the NPI *any*. (16) is therefore correctly predicted to be ungrammatical.

Besides Klima (1964), a considerable amount of literature suggests that the level to which the c-command condition applies is S-structure (see Jackendoff (1969), Baker (1970), Ladusaw (1980), Linebarger (1987), Laka (1990), McCloskey (1996)). (18) is typically given as evidence in support of the claim that a trigger must c-command and license the NPI at S-structure, instead of D-structure.

(18) *Anyone* is not liked by John.

If a trigger c-commands and licenses an NPI at D-structure, (18) would wrongly be predicted to be grammatical for the following reason. The structural subject *anyone* is the thematic object of *like*. The derivation of (18) involves the A-movement operation, by which *anyone* moves from the object position of *like* into the structural

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subject position. Before the movement operation, *anyone* is c-commanded by *not*. However, the ungrammaticality of (18) indicates that the c-command condition on NPI licensing is implemented at S-structure.

Given the VP-Internal Subject Hypothesis, which requires that subjects be base-generated within VP, it is also necessary to maintain that the c-command condition on NPI licensing is estimated at S-structure, or we will wrongly predict clauses with NPIs in subjects and sentence negation like (1b) to be grammatical. Since it is generally assumed that a subject is base-generated in Spec-vP and NegP occupies the position between vP and TP, it is obvious that the subject is c-commanded by the negative marker, before raising to Spec-TP. However, the NPI is not licensed in a case like (1b). It is thus concluded that the c-command condition on NPI licensing works at S-structure.

However, the concepts of D-structure and S-structure are abandoned in the minimalist program. Roberts (2010) suggests that since the c-command condition on NPI licensing seems to be a condition on the NPI interpretation of *any*, instead of the free-choice interpretation, it is an LF-condition. Roberts' analysis is reasonable, and taking the c-command condition on NPI licensing as an LF-condition is popular in the literature after the elimination of the concepts of D-structure and S-structure. Nevertheless, for convenience, the terminology S-structure is still used in the

discussion below, without considering what replaces the concept of S-structure in the minimalist program.

5.4.2. V-to-T Movement in the History of English

Up until the fourteenth century when the Verb Second (V2) order disappeared, V moved to the head of FinP (cf. Fischer, et al. (2000) and Nawata (2009)). From circa the fifteenth century, V moved to T, and V-to-T movement gradually declined during ModE except the cases involving the auxiliary *have* and the copula *be*. Pollock (1989) makes some observations that French allows the order of V-not/Adv, while PE does not. It is suggested that T in PE is weak/opaque in theta-role assignment, whereas T in French is strong/transparent. The property of French T is attributed to the rich inflection in French. T in Elizabethan English could be strong and it could attract main verbs to it, as illustrated in (19).

(19) If I serue not him, ...   (The Merchant of Venice)
      if I serve not him
      'If I do not serve him, ...'

On the other hand, T in PE is weak, and it cannot attract main verbs to it, but only auxiliaries that do not assign theta-roles like the auxiliary *have* and the copula *be*.[5] In PE, in clauses containing main verbs only, unattached affixes on T are lowered onto the main verbs. This operation is termed Affix Hopping. In a negative clause in PE, T

is weak, and the V-to-T movement operation thus does not take place. Moreover, the negative marker *not* prevents Affix Hopping. As a result, *do*-support is necessary in PE.

V-to-T movement in the main clauses was lost in the fifteenth and sixteenth century, although some instances involving V-to-T movement are attested until the seventeenth century (see Warner (1997)). Furthermore, Vikner (1997) observes that the SVO languages exhibit V-to-T movement if and only if person morphology is found in all tenses. [6] Because some languages and dialects with V-to-T movement do not have a sound system of person agreement,[7] Roberts (2007) modifies the generalization to a less rigid one in (20).

(20)　If (finite) V is marked with person agreement in all simple tenses, this expresses a positive value of the V-to-T parameter.　　　　　　　　　　　　　　(Roberts (2007: 137))

See also Thráinsson (2003) for a similar analysis.

It is generally suggested that V-to-T movement before 1500 was triggered morphologically. On the other hand, circa 1500~1700, the morphological trigger was lost, and the syntactic trigger came into existence, namely, T became strong. In this era, sentences with and without V-to-T movement coexist. Most affirmative clauses are opaque as for whether V-to-T movement is involved, in that regardless of what the structure is, the clauses look the same on surface. This is presumably the reason why the structure without V-

to-T movement is preferred due to economy considerations.

5.4.3. Bare Phrase Structure

Chomsky (1995: 245) suggests that when constituents α and β merge to form K, either α or β should project. If we assume that α projects, maximal K is construed as a phrase of the type α at the LF interface. For example, the product is interpreted as a verb phrase if H(K) is a verb, and it behaves consistently in the process of computation. Thus, it is natural to assume that the label of K is H(K), rather than α itself. Chomsky (1995) suggests that this also leads to technical simplification. K = {H(K), {α, β}} is the solution, and H(K) is not only the head of α but also the label of α. Chomsky (1995) suggests that the label is determined by the head, though rigid identity is not always required.

5.4.4. [+NEG]

Rizzi (1996) suggests that, in an English sentence with negative inversion like (21), I-to-C movement (i.e. T-to-C movement) is obligatorily carried out.

(21) In no case would I do that.   (Rizzi (1996: 73))

It is generally assumed that a negative operator must be in a spec-head configuration with a head that bears negative feature. *Would* is required to move to form a spec-head relation with *in no case* in order

to satisfy the Negative Criterion.[8] Rizzi (1996) also provides a solution to allow *would* to carry the feature [+NEG]. Following Pollock (1989), Rizzi assumes that a negative sentence contains NegP as an independent clausal projection. Then, following Belletti (1990), Rizzi assumes that NegP is a projection between AgrP and TP, as shown in (22).

```
(22)      CP
         /  \
        C    AgrP
            /    \
          Agr    NegP
                /    \
              Neg    TP
                    /
                   T
```
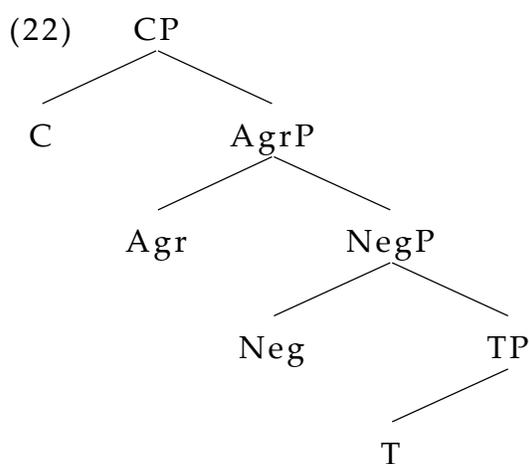
Rizzi also points out that it is natural to assume that the [+NEG] feature is licensed in the head of NegP and that an inflected verbal element undergoes head-to-head movement via the head of NegP, associating itself with [+NEG].

5.5. Analysis

5.5.1. The Derivation Process

This section provides an analysis for (23) (repeated from (11)) based on the theoretical background given in section 5.4.

(23) but *any*   learning   learned   by   compulsion,

  but any   learning   learned   by   compulsion,

  tarieth not long in the mynde:

  tarries not long in the mind

  'All learning that is acquired under compulsion has no hold

  upon the mind.'   (ASCH-E1-P1,9V.172)

Roberts (1993) suggests the non-head status of *not* in the sixteenth century. Thus, it is reasonable to assume that *not* occupies the position of Spec-NegP and the feature [+NEG] is located at the head of NegP. The derivation of (23) is illustrated as in (24).

(24)
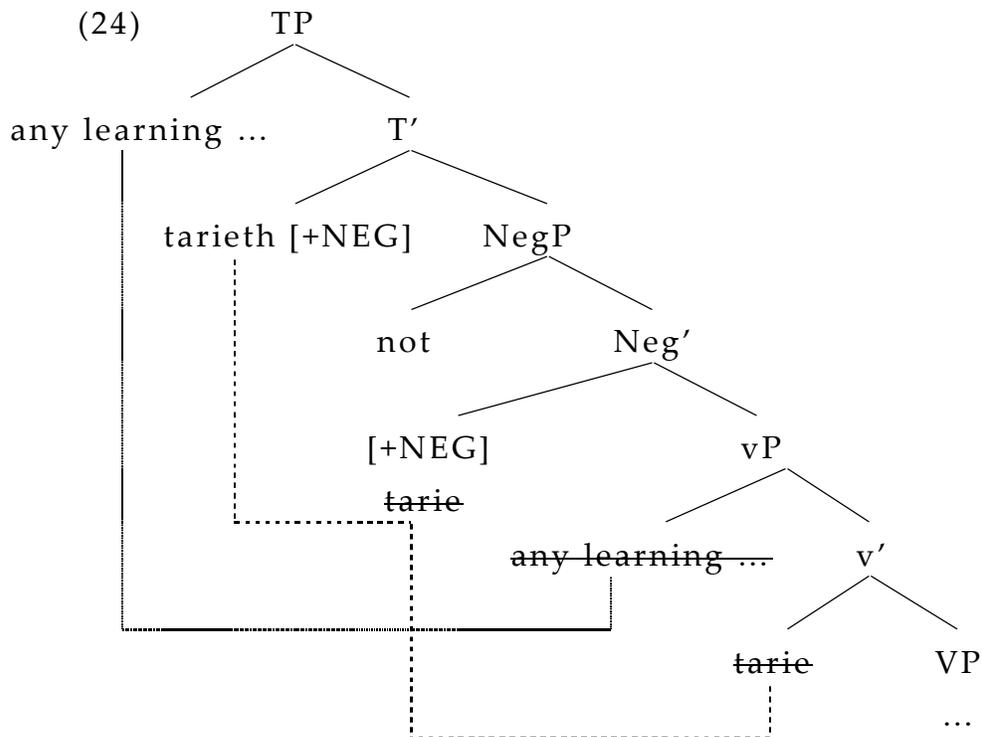
After merging *tarie* with VP, the subject is generated in Spec-vP. Then *tarie* moves to the head of NegP, associating itself with [+NEG], in the same fashion as what happens in the derivation of (21) as discussed in section 5.4.4. Following the completion of NegP, *tarie* with [+NEG] moves to T through internal merge. In the next step, the subject moves to Spec-TP and enters into an Agree relation with T, and the verb thus takes the form *tarieth*.

Let us focus on the licensing of the NPI *any* in this sentence. Recall that the trigger of NPI must c-command the NPI at S-structure. In (24), [+NEG], when it first appears with the head of NegP, is not in a position c-commanding the subject which occupies Spec-TP at S-structure. However, as mentioned in section 5.4.2, V-to-T movement can be attested in Elizabethan English, and (24) is one of the instance. *tarie* in the head of vP moves to T via the head of NegP, which enables *tarie* to associate with the feature [+NEG] and finally bring [+NEG] to T. Recall what we have discussed in section 5.4.3 about the Bare Phrase Structure. *Tarie* with [+NEG] and NegP internally merge, and *tarie* with [+NEG] projects. As a result, the subject containing the NPI *any* is in a sister relation with *tarie* with [+NEG]. In accordance with the definition of c-command in (25), the trigger [+NEG] c-commands the NPI *any*, resulting in the licensing of *any*.

(25) Node A c-commands node B if and only if

    a. A ≠ B,

    b. A does not dominate B and B does not dominate A,

    c. every X that dominates A also dominates B.

<div align="right">(cf. Chomsky (1981) and Chomsky (1986))</div>

However, a question may arise as to how the condition in (25b) is satisfied. If we think about the Bare Phrase Structure at the time when the subject *any leaning ...* internally merges with *tarie* with [+NEG] (the traditional T') which represents the derivation so far, the traditional place represented by TP should be *tarie* with [+NEG], in that the two constituents *any leaning ...* and *tarie* with [+NEG] merge, and *tarie* with [+NEG] projects. It appears that (25b) is violated. Recall what we have looked at in section 5.4.3. K = {H(K), {α, β}} suggests that if α projects, H(K) is the label of the forming constituent K. This design allows the establishment of the c-command relation between *any leaning ...* and *tarie* with [+NEG]. Particularly, when taking the Bare Phrase Structure into consideration, the relevant structure is illustrated in (26).

(26) *tarie* with [+NEG]''

    any learning ...   *tarie* with [+NEG]'

               tarie with [+NEG]   NegP
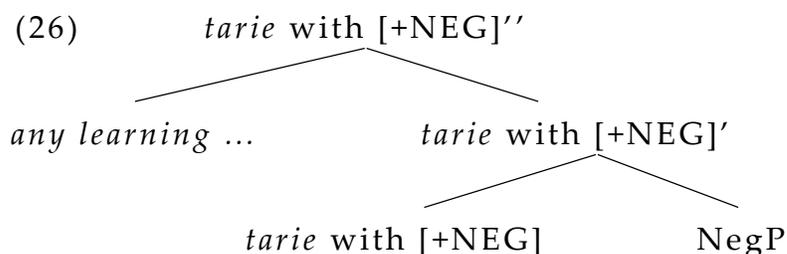
As is mentioned in section 5.4.3, the product is interpreted as a verb if H(K) is a verb. Thus, it is natural to argue that if the element at T bears [+NEG], it also bears [+NEG] after it projects, namely, when the element is at the traditional T' position. On the other hand, *tarie* with [+NEG]' is the label of the projection of *any learning …* and *tarie* with [+NEG]. We can name the label anything we like, say, *tarie* with [+NEG]', *tarie* with [+NEG]₁, or *tarie* with [+NEG]Label 1, etc. It does not matter. What matters here is that *tarie* with [+NEG] ≠ *tarie* with [+NEG]', and *tarie* with [+NEG]' ≠ *tarie* with [+NEG]''. Hence, (25b) is observed, with the result that the trigger [+NEG] c-commands the NPI *any*.

The reason why NPIs are not allowed to appear in subject positions in PE is due to the loss of V-to-T movement of main verbs in the history of English.

On the other hand, the reason why the phenomenon NPIs in subjects is not attested before Elizabethan English is complicated, because many factors should be considered. What is more, the change of the negation system in the history of English is complicated. What we can assume is that, in some time before Elizabethan English when *not* is an adverb adjoined to T (as proposed in a vast amount of literature), NPIs are not allowed in subjects because the head of NegP with [+NEG], which is the intermediate landing site of the moving main verb, did not exist. Thus, [+NEG] could not c-command the subject, even if there was V-to-T movement.

5.5.2. Possible Problem

A seeming problem is the ungrammaticality of (27).

(27) *_Any_ students are not studying Syntax.

Any in (27) cannot have an NPI reading. However, (27) involves V-to-T movement. As addressed in section 5.4.2, V-to-T movement was gradually lost in ModE, whereas it still exists in the clauses involving the auxiliary _have_ and the copula _be_. For instance, the copula _be_ (realized as _are_) moves from v to T in (28).

(28) Some students are$_1$ not t_1 studying Syntax.

Evidence in support of the existence of V-to-T movement in (28) is shown in (29).

(29) Some students will not be studying Syntax.

The position of _be_ in (29) suggests the involvement of the V-to-T movement operation in (28) (see note 5 for the similar argument).

Because the structure of (28) is same as that of (27), V-to-T movement must be involved in (27). Thus, (27) is wrongly predicted to be grammatical. However, (27) is not identical to (24) in two respects. First, it is pointed out that, unlike _not_ in PE, _not_ in Elizabethan English occupies Spec-NegP, and the head of NegP is

empty. Thus, even if V-to-T movement takes place in (27), the copula, which moves from v to T, does not land in the head of NegP for the existence of *not* at that position in PE. Second, it is also plausible to argue that because the auxiliary *have* and the copula *be* do not have much semantic contents, they cannot carry [+NEG] to T, even though they lands in the head of NegP in the course of the derivation.

5.6. Conclusion

This chapter has done a diachronic survey concerning NPIs in subjects in the history of English. The necessity of this survey lies in the uncertainty in the literature concerning the existence of NPIs in subjects in the history of English. The results of the corpus research indicate that NPIs appeared in subjects just in a short period in the history of English, namely Elizabethan English, in which V-to-C movement was generally lost but V-to-T movement is still observed. Based on the results of the survey, I have provided an account of the existence of the phenomenon of NPIs in subjects in Elizabethan English in the framework of the minimalist program. It has been proposed that the change of the acceptability of the phenomenon NPIs in subjects from Elizabethan English to PE is due to the loss of V-to-T movement.

Notes to Chapter 5

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[1] One may notice that my survey has a limitation in that only *any* is included in the survey. It is true that *anyone*, *anybody*, *anything*, etc. should also be included for a more comprehensive study. However, this thesis just takes *any* as the representative, hoping to capture the relevant story in the history of English.

[2] Another way of calculating frequency is that we divide all the a hundred files in YCOE into two folders, with texts of *Latin translation* in one folder and texts of non-Latin translation in the other folder. And then, we search the instances of NPIs in subjects in the two folders, respectively. By this, we get two numbers, i.e. the number of the instances attested in texts of *Latin translation* and the number of the instances attested in texts of non-Latin translation. Next, figure out the number of the words in each folder. Finally, divide the number of the instances by the number of the words, and we get the statistics that enable us to compare the frequencies in another way. It is unclearly which method to calculate frequency is better. I leave this open here and adopt the way in the text to calculate the frequency at issue.

[3] An instance involving *riht is þæt* is presented in (i).

(i) And riht is þæt ænig gelæred preost ne   scende
     And right is that any   learned priest not   put to shame

     þone samlæredan, ac   gebete hine gif he bet   cunne.
     the   half-learned, but amend   him   if he better know.

     'And we enjoin that no learned priest put to shame the half-
     learned, but amend him, if he knows better.'

                                   (cocanedgX,WCan_1.1.2_[Fowler]:12.11)

An instance involving *læran* is presented in (ii).

(ii) And we lærað þæt æni   wifman neah weofode ne   cume
      And we teach that any   woman near altar   not come

      þa hwile þe   man mæssige.
      when   the man say Mass.

      'and we teach that any woman should not come near the altar
      when one says Mass.' (cocanedgD,WCan_1.1.1_[Fowler]:44.54)

An instance with *forbeódan* is shown in (iii). *Forbeódan* means *to forbid,
prohibit, restrain,* or *suppress.*

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(iii) And Godes forboda   we forbeodað, þæt ænig preost

   and God's messengers we forbid,   that any priest

   oðre cirican   naðer   ne gebicgæ   ne geþicgæ,

   other church   neither   not purchase   not take,

   'and we God's messengers forbid any priest, nor other church,

   to purchase and take,'   (colawnorthu,LawNorthu:2.5)

[4] The sentence that I provided to the subjects is in (i).

(i)   *Any* learning learned by compulsion has no hold upon the mind.

Generally, the subjects' judgments are that the *use* of *any* in the sentence is acceptable, though they tend to paraphrase it with *all*. Some subjects point out that the phrase *learning learned* is awkward, and they prefer expressions like *anything learned*, *any learning acquired*, *any learning gained*, or *any learning received*.

[5] Much of the evidence for the V-to-T movement operation in clauses involving the auxiliary *have* and the copula *be* is of an essentially empirical character, based on the observed grammatical properties of (i) and (ii).

(i)   John will not be working.

    (ii)   John is not working.

The example in (i) suggests that *be* is based generated lower than *not*. Thus, the fact that *is* is higher than *not* in (ii) can serve as the evidence in support of the V-to-T movement operation in clauses involving the auxiliary *have* and the copula *be*.

[6] Vikner (1997) provides the formulation in (i) and discusses the relation between the weakening of inflection and the loss of V-to-T movement in the history of English.

    (i)   An SVO-language has V-to-T movement if and only if person morphology is found in all tenses.   (cf. Vikner (1997: 201))

It seems that the morphological change which happened from LME to EModE is the trigger of the loss of V-to-T movement, if the formulation in (i) holds. (ii) illustrates the morphological change.

(ii)

	LME (14th and 15th Cen.)		EModE (16th Cen.)	
	Present	Past	Present	Past
1st sg.	here	herde	hear	heard
2nd sg.	herest	herdest	hearst	heardst
3rd sg.	hereth	herde	heareth	heard
1st pl.	here(n)	herde(n)	hear(en)	heard(en)
2nd pl.	here(n)	herde(n)	hear(en)	heard(en)
3rd pl.	here(n)	herde(n)	hear(en)	heard(en)
Different forms	4	3	3	2

(cf. Vikner (1997: 203))

[7] Roberts (2007) provides the case in the Kronoby dialect of Swedish (spoken in Finland), as shown in (i) and the case the Norwegian dialect of Tromsø, as shown in (ii).

(i) He va bra et   an tsöfft int bootsen.

It was good that he bought not book-the

'It was good that he didn't buy the book.'

(Platzack and Holmberg (1989: 74)/ Roberts (2007: 136))

(ii) Vi va' bare tre støkka før det at han Nielsen kom ikkje

we were just three pieces for it that he Nielsen came not

'There were only three of us because Nielsen didn't come.'

(cf. Vikner (1997: 211)/ Roberts (2007: 136))

[8] The generally accepted Negative Criterion is as follows.

(i) a. Each NegX^0 must be in a spec-head relation with a Negative operator;

b. Each Negative operator must be in a spec-head relation with a NegX^0. (Haegeman and Zanuttini (1991: 244))

c. Negative operator: a negative phrase in a scope position;

d. Scope position: left-peripheral A'-position [Spec, XP] or [YP, XP]. (Haegeman (1995: 107))

Chapter 6

Conclusion

From a syntactic perspective, this thesis has divided the environments involving NPI licensing into two categories and has provided analyses for them. For NPI licensing of Type A (i.e. NPI licensing with the licenser and the licensed NPI in the same CP), Agree in terms of affective features and focus features has been proposed. On the other hand, for NPI licensing of Type B (i.e. NPI licensing, in which the licenser and the licensed NPI are not in the same CP), I have proposed that the affective elements and the NPIs triggered by them are parallel to the controller and PRO. Following Hornstein's (2001, 2007) treatment of PRO, I argue that the licenser and the licensed NPI are generated in the same position in narrow syntax and the licenser undergoes movement at certain stage of the derivation.

Chapter 1 has given a brief look at the definition and classification of NPIs. As Giannakidou (2011) points out, DE and even

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non-veridicality is neither necessary nor sufficient in accounting for the licensing condition of NPIs. The theme of this thesis has thus set to account for NPI licensing from a syntactic viewpoint. Then, the environments where English NPIs occur have been demonstrated. Furthermore, these environments have been divided into two categories: the affective environments of Type A have the licensers and the licensed NPIs in the same CP, whilst the affective environments of Type B have the licensers out of the CP where the NPIs are located.

Chapter 2 has proposed the licensing mechanism of NPIs in negative sentences in terms of the Agree system in Chomsky (2000, 2001), by paying attention to the roles of focus features as well as negative features. Based on the similar distribution of NPIs and *ne* in Stage Two of Jespersen's Cycle in Middle English, it has been argued that the two items bear the same feature specification. Then, I applied the proposed feature-based analysis to the historical development of NPIs and *ne*, and it was shown that both of them underwent a change in their feature specifications, which is consistent with van Gelderen's (2008, 2009) theory of Feature Economy.

In Chapter 3, I have adopted the licensing mechanism of NPIs proposed in chapter 2 and revised in section 3.1 to analyze NPIs in English conditional, comparative, and interrogative clauses, as well as other environments of Type A. Section 3.2 has proposed that the different grammatical behaviors of the conjunctions *if* and *when* concerning focalization and NPI licensing can be accounted for

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syntactically in terms of their different feature specifications: *if* has formal features, which enable it to enter into an Agree relation with NPIs in its c-command domain, whereas *when* has no relevant formal features. Section 3.3 has proposed the licensing mechanism of NPIs in comparative clauses. The proposal can account for the fact that NPIs can occur in clausal comparatives, but not in phrasal comparatives. Section 3.4 has proposed the licensing mechanism of NPIs in interrogative clauses and has given a principled explanation for the occurrence of an NPI in a *yes-no* question, but not in a *wh*-question. Section 3.5 has applied the mechanism in section 3.1 into other environments of Type A: adversatives, exclamative constructions with a negative implication, and result clauses dependent on *too*.

Chapter 4 has accounted for NPI licensing of Type B by adopting the anaphoric analysis of NPIs proposed in Progovac (1994) and the proposal concerning binding in Hornstein (2001). The mechanisms of NPI licensing in restrictives, restrictive relatives modifying universals, and superlatives have been discussed, respectively. In either case, the quantifier or superlative form is generated in the same position with the NPI in the relative clause and the quantifier or superlative form is moved out of CP and is merged into the DP.

In Chapter 5, a diachronic survey on the phenomenon involving NPIs in the subject position in the history of English has been carried out. The necessity of this survey lies in the obscurity in the literature concerning the existence of this phenomenon in the history of English. The survey has pointed out that NPIs could appear in the subject

position in just a specific era in the history of English, namely Elizabethan English, when V-to-C movement was generally lost, while V-to-T movement still existed. This chapter has also provided a principled account for the existence of this phenomenon in Elizabethan English within the minimalist framework. The change of the acceptability of the phenomenon involving NPIs in the subject position from Elizabethan English to PE is related to the loss of V-to-T movement in the same era.

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