平成24年度 名古屋大学大学院文学研究科

学位（課程博士）申請論文

A Minimalist Approach to Ellipsis in the History of English

（英語史における省略へのミニマリスト・アプローチ）

名古屋大学大学院文学研究科

人文学専攻英語学専門

山村 崇斗

平成24年12月

A MINIMALIST APPROACH TO ELLIPSIS IN THE HISTORY OF ENGLISH

by

Shuto YAMAMURA

Dissertation Submitted to the Graduate School of Letters

in Partial Fulfillment of the Requirements

for the Degree of

DOCTOR OF LITERATURE

at

Nagoya University

December 2012

Acknowledgments

This thesis owes a great deal to a large number of people who have helped me and supported me during my doctoral studies at the Graduate school of Nagoya University. First and foremost, I would like to express my gratitude to my supervisors Takeshi Omuro and Tomoyuki Tanaka for their insightful suggestions and warm comments on earlier versions of this thesis. I enjoyed being with them and having a discussion on linguistics with them. I have greatly benefited from their wisdom and excellent guidance for many years. Had it not been for their help and support, I would not have been able to complete this thesis. Other teachers from whom I have learned a great deal include Hirozo Nakano, Yoshinobu Niwa, Yuji Nakao, Shigeru Miyagawa, and Zane Goebel.

I am grateful to following graduates of Nagoya University for their invaluable support and encouragement: Yosuke Fukumoto, Tomoyuki Yamaguchi, Azusa Yokogoshi, Hiroki Maezawa. I wish to express my deep appreciation to Satoshi Nakagawa, Seishirou Ibaraki, and Yusuke Kume, who spent enormous time and effort reading my thesis. Without their insightful comments and suggestions, I could not have finished writing up my thesis. All remaining errors and inadequacies are of course my own.

My sincere thanks go to my fellow graduate students for their useful comments, stimulating discussions, and warm friendship: Yosuke Matsumoto, Song Wei, Shoko Honda, Keita Tanikake, Yuhki Yoshimura, Takahiro Tamada, Katsuya Sugiura, Feng Suang, Yuichi Mori, Ryoichi Kondo, Di Yang, Chigch Bai, Ami Sawano, and Koji Koike.

For his thoughtful guidance and support, I am indebted to Megumi Uchida,

who taught me English Linguistics in Shizuoka University and the Graduate school of Shizuoka University and encouraged me to pursue linguistics. I learned from him that modesty and patience is essential to pursue linguistics without pause. His considerable assistance became the starting point of a career as a linguist.

My special thanks go to the late professor Masachiyo Amano, who encouraged and warmly watched over me. Through his classes, he taught me how important it is to study English both theory-specifically and theory-neutrally. His wisdom and valuable suggestions lit up my way to linguistics.

Last but not least, I would like to express my sincerest thankfulness to my family for their everlasting support and encouragement: my father Yasushi Yamamura, my mother Seiko Yamamura, my sisters Marino Yamamura and Nodoka Yamamura, and my grandmother Fumi Yamamura. I would like to dedicate this thesis to my dear grandfather Kisaku Yamamura who passed away.

Table of Contents

A Minimalist Approach to Ellipsis in the History of English

by

Shuto YAMAMURA

Submitted to the Graduate School of Letters, Nagoya University

in Partial Fulfillment of the Requirement for the Degree of

Doctor of literature

Abstract

This thesis investigates the derivation of elliptical constructions, with special reference to the historical changes in the history of English. It is argued that the feature makeup of a certain category can be changed, and this change is referred to as reanalysis in this thesis. Reanalysis is not a mechanism which directly affects the surface word order, but the one which affects the feature makeup of a certain category. It is shown that the loss of the morphological realization of agreement is related to reanalysis.

Chapter 2 investigates the correlation among the loss of adjectival inflection, the decline of N-adjectives, and the rise of the prop-word *one*. It is revealed by the result of the corpus-based research. The correlation among these historical events is explained by proposing the LF-copy analysis employing an empty, non-arbitrary

pronominal E-*pro*. In N-adjectives, E-*pro* is generated within a DP, and licensed when all the unvalued features within the DP are valued through Agree. In addition, it is identified when the result of the relevant Agree is morphologically realized on D. Therefore, the interpretability of ϕ-features on determiners and adjectives is responsible for the availability of N-adjectives. The historical fact that the adjectival inflection was lost in ME is linked to an instance of reanalysis. The feature makeup of adjectives was changed from lexically valued ϕ-features to unvalued ϕ-features. This change accounts for the declined of N-adjectives and the rise of the prop-word *one*. It is shown that the proposed analysis is supported by the availability of genitive N-adjectives and the distribution of the prop-word *one* in PE.

Chapter 3 investigates the derivation of VPE in English, focusing on the fact that English has allowed only Modal-stranding VPE throughout its history. This fact is successfully explained by the LF-copy analysis employing E-*pro* without suffering from the problems brought about by the presence of V-to-T movement in OE and ME It is proposed that E-*pro* as VPE is licensed by the Agree relation between u-ϕ on T and i-ϕ on the external argument of the infinitival *v**P. This Agree relation is necessary to the identification of E-*pro*: subject-verb agreement is responsible for the identification of E-*pro*. The proposed analysis successfully rules out the possibility of Lexical-V-stranding VPE in OE and ME, which is wrongly predicted by the feature-driven deletion analysis proposed by Merchant (2001, 2008) and Goldberg (2005). At the same time, the present analysis also explains the distribution of VPE in PE and French Modal Ellipsis.

Chapter 4 investigates the derivation of pseudogapping in English. Unlike the general assumption that pseudogapping is a variant of VPE, this thesis treats them in

different ways: VPE is derived by the LF-copy analysis, but pseudogapping is by the PF-deletion analysis. The argument is involved with the way the remnant is extracted from the elided constituent. It is proposed that pseudogapping can be derived by either leftward A-movement or rightward A′-movement. The proposed analysis is preferable to the previous analyses, because the latter postulates some movement operations special to pseudogapping which otherwise are not attested in English. In addition, the proposed analysis successfully explains the historical fact: pseudogapping has been possible only when pre-modals or modals are employed.

Chapter 5 is the conclusion of the thesis and summarizes the proposals made in each chapter.

Abbreviation

3 ..... third person

ACC ..... accusative

AGR .... agreement (inflection in glosses)

AP ..... adjective phrase

Agr ..... Agreement (functional category)

ArtP ..... article phrase

AspP ..... aspect phrase

CI ..... conceptual-intentional

CP ..... complementizer phrase

Comp ..... complement

DEF ..... definite

DP ..... determiner phrase

DNS ..... derivation

F ..... feminine

FL ..... faculty of language

GEN ..... genitive

INF ..... infinitive

INFL ..... Inflection (functional category)

LEX ..... lexical

LF ..... Logical Form

M ..... masculine

ME ..... Middle English

MOD ..... modal

ModE ..... Modern Egnlish

NEUT ..... neuter

NOM ..... nominative

NP ..... noun phrase

NS ..... narrow syntax

NumP ..... number phrase

OE ..... Old English

PE ..... Present-day English

PF ..... phonological form

PHON ..... phonological representation

PL ..... plural

POS ..... possessive

PP ..... preposition phrase

Past ..... Past tense

QP ..... quantifier phrase

QtyP ..... quantity phrase

REL/RelCl ..... relative clause

SEM ..... semantic representation

SG ..... singular

SM ..... sensorimotor

SMT ..... strong minimalist thesis

Spec ..... specifier

T ..... Tense (functional category)

TP ..... tense phrase

VP ..... verb phrase

VPE ..... VP-ellipsis

V_{fin} ..... finite verb

V_{inf} ..... infinitive

Chapter 1

Introduction

1.1. General Introduction

This thesis aims to clarify the derivation of elliptical constructions in English, such as DP-internal ellipsis, VP-ellipsis, and pseudogapping, with special reference to the historical change of feature makeup and its effect. One consistent theme in this thesis is that the feature makeup of a certain syntactic object can change in the history of English, and the change may influence the availability of particular elliptical constructions.[1] The idea of the historical change of feature makeup is based on Roberts' (2007) argument that "reanalysis only involves functional categories and only affects the operations of Move and Agree," which will be reviewed in detail below.

Adjectives used as nouns (N-adjectives) as DP-internal ellipsis is one construction whose availability was influenced by the historical change of the feature makeup. Chapter 2 explores the historical development of N-adjectives, based on the assumption that they are instances of DP-internal ellipsis which is licensed and identified if the language has rich inflections manifested within DP. N-adjectives were widely observed in Old English (OE), but they were largely restricted during Middle English (ME), and now restricted to certain fossilized expressions in Present-day English (PE). The examples in (1) are N-adjectives in OE, and the

examples in (2) are those in PE.

(1) a. þætte *ða* *cwican* no genihtsumedon þæt hi
that those quick.PL no longer sufficed that they
ða *deadan* bebyrigdan
those dead.PL bury
'the living no longer sufficed to bury the dead'
(cobede,Bede_1:11.50.3.448: o2)

b. *Se* *blinda* him ondswerede
that blind.SG him answered
'the blind man answered him'
(coblick,HomS_8_[BlHom_2]:15.23.198: o3)

(2) a. *The poor* are often generous to each other.
b. *The old* are more frequently ill than the rest of the population.

Since adjectives in OE had a number and gender distinction in their morphology, N-adjectives could be used as either a plural expression as in (1a) or a singular one as in (1b), while it is in principle restricted to a plural expression in PE as in (2). It is generally assumed that the decline of N-adjectives is attributed to the loss of adjectival inflection, and this assumption will be supported by the corpus research on the distribution of N-adjectives. These two historical changes will be related to each other by an LF-copy analysis of elliptical constructions based on the recent Minimalist framework. The analysis proposed in chapter 2 will also explain the rise of the prop-word *one* and its distribution in Present-day English.

Chapter 3 will extend the proposed LF-copy analysis to explain the derivation of VP-ellipsis (VPE) in the history of English. Clarifying the derivation of VPE in English, the proposed analysis will solve a mismatch between a theoretical prediction and empirical facts observed in earlier English: while lexical verbs can be the remnant of VPE (Lexical-V-stranding VPE) in some languages with V-to-T movement

as in (3), only modals (or their predecessors) can be the remnant of VPE (Modal-stranding VPE) throughout the history of English which allowed V-raising to T until the sixteenth century, as in (4).

(3) a. Q: at saragt et ha-sveder ha-ze
Q: you knit ACC the sweater this
'Did you knit this sweater?'
b. A: lo, ima Seli sarga
A: no, mother my knit
'No, my mother did.' (Doron (1999: 128))

(4) & he wolde þone weðer forlætan, ac he ne mihte
and he would that wether relinguish, but he not might
'and he would relinguish that sheep, but he might not.'
(cogregdC,GDPref_and_3_[C]:22.224.25.3075: o4)

This empirical fact gives rise to a serious problem to analyses which assume that the same mechanism is involved in the derivation of both Modal-stranding VPE in English and Lexical-V-stranding VPE in other languages. Summarizing the loss of V-to-T movement and the categorical change of modals, this thesis will show the proposed analysis does not suffer from these historical changes and gives a unified account for VPE in the history of English. In addition, it explains the distribution of VPE in PE and French Modal Ellipsis.

Another elliptical construction related to verbal phrases is pseudogapping. It is similar to VPE in that the subject and the auxiliary are left as the remnants; however, it has an additional remnant which is otherwise an element internal to VP. In the following examples, the internal argument of the lexical verbs is left as the remnant of pseudogapping.

(5) a. John read the books and Mary did [e] the magazines.
(Lobeck (1999: 99))

b. I didn't expect your mother to like the picture; but I did you.
(Jayaseelan (1990: 67))

This elliptical construction will be analyzed under a traditional approach, namely "movement-cum-deletion" analysis, in which VP-internal elements are evacuated from the elided VP by movement prior to the application of a deletion operation at the phonological component. This chapter aims to clarify the type of movement involved in pseudogapping. In addition, this chapter tries to explain the fact that pseudogapping has also been attested since OE.

(6) a. We magon monnum bemiðan urne geðonc & urne
we may from-men hide our thought and our
willan, *ac we ne magon Gode*
will, but we not may from-God
'We can hide our thoughts and our desires from men, but we cannot from God.' (CP 39.12/ cf. Warner (1993: 114-115))

b. se ðe wille godcundne wisdom secan *ne*
that that-REL will heavenly wisdom try to find not
mæg he hine wiþ ofermetta.
may he it with arrogance.
'that man who will seek heavenly wisdom may not it with arrogance.' (Bo 12.26.22 / cf. Warner (1993: 114-115))

Pseudogapping in the history of English will be analyzed in terms of an analysis based on deletion under identity, which has been to be applied regardless of the loss of V-to-T movement.

Before starting the discussions of elliptical constructions in detail, let us review Lobeck's (1993, 1995) analysis of the licensing and identifying condition of E-*pro* and

Roberts' (2007) argument of reanalysis of the historical change of feature makeup in the following subsections.

1.2. Lobeck's (1993, 1995) Licensing and Identification of Ellipsis Sites

1.2.1. The Licensing and Identification of Ellipsis Sites as Empty Category

Lobeck (1993, 1995) argues that DP-internal ellipsis and VP-ellipsis are generated as an empty, non-arbitrary category, adopting Chao's (1987) claim that ellipses in S and S′ are typologically 'non-NP' *pro*, which I will refer to as E(llipsis)-*pro*.[2] Lobeck proposes the following condition to explain the distribution of *pro* as a null subject and E-*pro*.

(7) Licensing and Identification of *pro*
An empty, non-arbitrary pronominal must be properly head-governed, and governed by an X-0 specified for strong agreement.

This condition follows Rizzi's (1990) formal licensing and identification of empty categories.[3] Proper head-government is defined as head-government within the most immediate projection of the head (Rizzi (1990: 74)), and strong agreement is defined as follows.

(8) Strong Agreement
An X-0 is specified for 'strong' agreement iff X-0, or the phrase or head with which X-0 agrees, morphologically realizes agreement in a productive number of cases. (Lobeck (1995: 51))

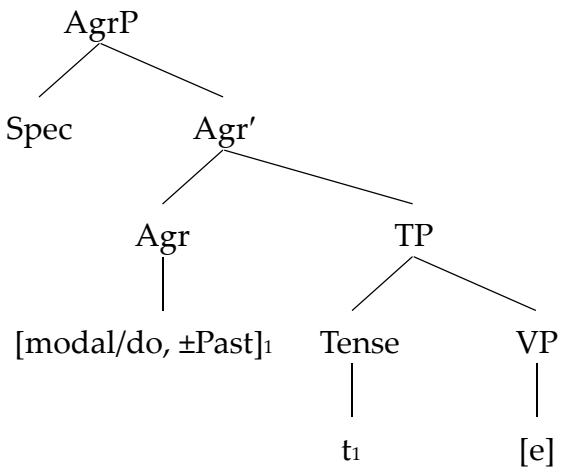
In Lobeck's theory, the licensing of the referential *pro* and E-*pro* means that their occurrence is legitimate in a given syntactic configuration, and the identification is a way to make *pro* and E-*pro* visible to the subsequent process at LF, whereby their semantic content is recovered. Under Rizzi's (1990) assumption that a subject is

base-generated at the final position of VP in null subject languages (Lobeck (1995: 20)), *pro* subjects in Romance require to be properly head-governed by V (licensing) and the head-governor needs to be specified for strong agreement (identification).

Lobeck (1995) argues that E-*pro* in VPE, for example, is formally licensed by head-government by INFL. In addition, the same INFL needs to be specified for strong agreement so that E-*pro* can be identified through government by the INFL. VPE in (9) is analyzed under the structure in (10).

(9) a. John didn't leave but Mary did [e].
b. Mary should leave and John should [e] too. (Lobeck (1995: 145))

(10)



(cf. Lobeck (1995: 145))

Empty VP is properly governed by Agr under the generalized Government Transparency Corollary, under which a head governing another empty head can govern whatever the latter governs when these heads share the same index.[4] Agr identifies the VP because it is specified for strong agreement which is morphologically realized as modals or the pleonastic *do*. Identification of E-*pro* makes it visible to a process at LF, that is, reconstruction whereby the semantic content of E-*pro* is recovered.

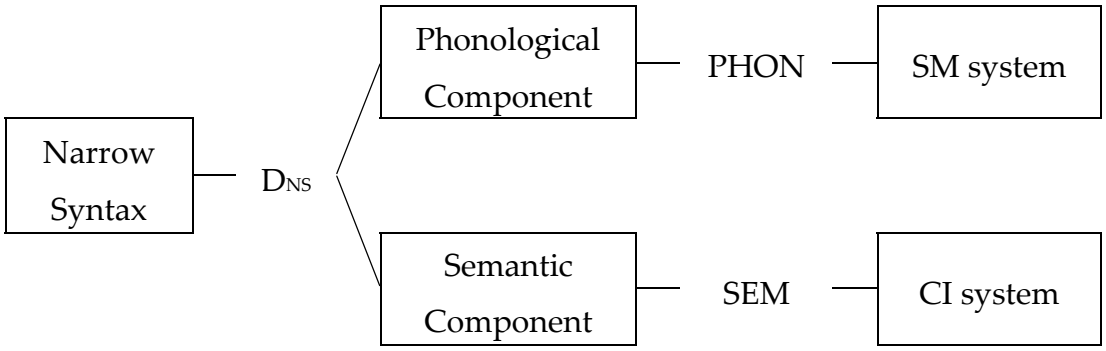
1.2.2. A Minimalist Reconsideration of the Licensing and Identification Conditions of Ellipsis Sites

The licensing and identification condition of *pro* proposed by Lobeck needs to be reconsidered under the recent Minimalist framework, chiefly because the notion of government has already been abandoned which played a big role in her analysis. To reconsider the licensing and identification condition of E-*pro*, let us review the recent Minimalist framework since Chomsky (2000).

1.2.2.1. The Architecture of the Minimalist Framework

Following a line of the strong minimalist thesis (SMT) proposed in Chomsky (2001, 2004, 2007, 2008), let us consider that language is a perfect solution to interface conditions which are imposed on FL by other systems such as the sensorimotor system and the conceptual-intentional system. Language generates syntactic objects which provide instructions for these systems external to FL. It is assumed that language L has three components such as narrow syntax (NS), the phonological component, and the semantic component. The output of NS (DNS) is transferred to both the other components, and they map it to representations legible to each interface: PHON for the SM interface, and SEM for the CI interface. Derivation converges if such representations satisfy interface conditions, otherwise derivation crashes. Thus, the architecture of FL is summarized as follows.

(11)

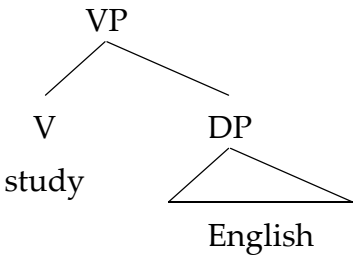


The derivation proceeds through three basic operations, such as Merge, Agree, and Move. Merge and Move operate to form a structure, and more importantly, Agree is virtually used as a mechanism of licensing derivation.

Merge takes two objects, such as lexical items or structures already formed, to form a new syntactic object. For example, a lexical verb *study* merges with a nominal expression *English* to form a new syntactic object VP, as illustrated in (12).

(12) a. Merge: [$_V$ study] + [$_{DP}$ English]

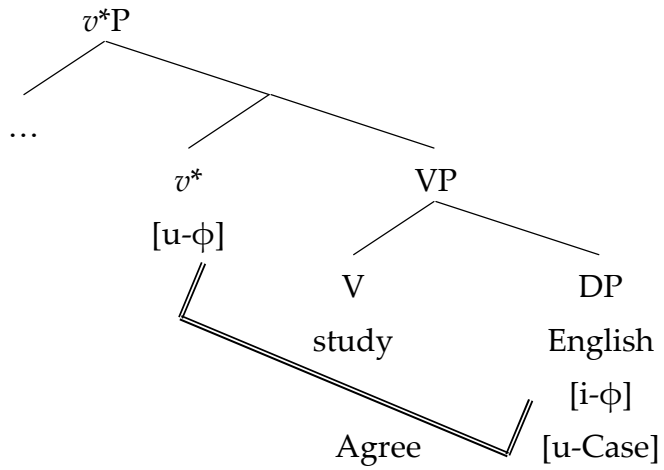
b.



Lexical items carry interpretable, valued features which are legible to the interfaces. They may also carry uninterpretable, unvalued features which are illegible to the interfaces. The nominal expression, such as *English* in (12), carries a set of valued ϕ-features including person, gender and number, and unvalued Case feature at the same time. Derivation converges at the interfaces if it contains only interpretable, valued features. So, unvalued features must be valued and deleted in terms of a relation Agree, which is established between unvalued features and their valued counterpart. More precisely, the unvalued features function as a probe and search

its complement (a domain) for the valued counterpart, which functions as a goal. Consider the following structure, in which a functional category *v** carrying unvalued ϕ-features merges with the VP *study English* in (12).

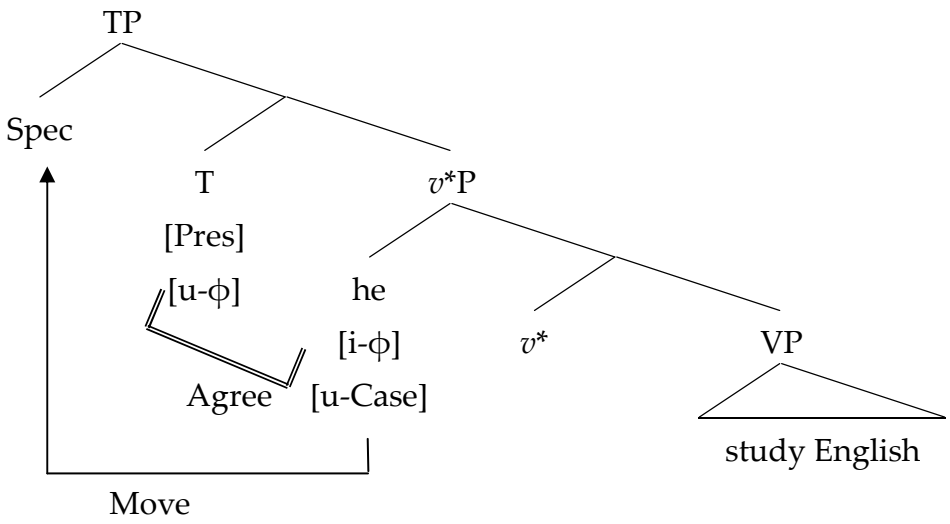
(13)



In this case, the unvalued features (u-ϕ) on *v** function as a probe and establish the Agree relation with the valued features (i-ϕ) on DP. Once the Agree relation is established, u-ϕ on *v** is valued and deleted by the time the derivation reaches the interfaces. In (13), the value of accusative is also assigned to the Case feature on DP as the epiphenomenon of this Agree relation. The derivation at this stage converges, because all the unvalued features are valued and deleted prior to reaching the interfaces.

The most straightforward outcome of the Agree system is a theoretical account for subject-verb agreement. Consider that the *v**P in (13) reaches the derivational stage in (14).

(14)



Here, the external argument *he* carrying i-ϕ and u-Case is merged as the specifier of *v**P and the *v**P is taken by the functional category T as its complement. The u-ϕ on T functions as a probe and enters into the Agree relation with the external argument *he*, which provides values for u-ϕ on T as its goal. Through this Agree relation, the u-ϕ on T is valued and deleted, and the value of nominative is assigned to the u-Case as the epiphenomenon. At the same time, the external argument moves to Spec, TP by an operation called Move.[5] In English, the result of the Agree relation with u-ϕ on T is morphologically realized as subject-verb agreement. Therefore, in (14), the lexical verb *study* appears in its third person, singular form *studies*.

1.2.2.2. Agree as a Mechanism of Licensing Derivation

Turn now to the licensing and identification of E-*pro* within the Minimalist framework. Note that, under such a mechanism that unvalued features cause derivation to crash at interfaces, Agree virtually functions as a mechanism of licensing the occurrence of DP with the unvalued Case feature. The valuation of the u-Case is implemented as an epiphenomenon of Agree between u-ϕ on T/*v** and i-ϕ on DP (u-Case is valued as nominative under Agree with T, and as accusative under

Agree with *v** (Chomsky (2000, 2001, 2007, 2008)). In other words, DP with u-Case must be posited in a configuration which can successfully value and delete the relevant unvalued features. Put more generally, Agree can be assumed as a general mechanism of licensing the derivation. Along these lines, it is plausible to consider that E-*pro* is licensed when the derivation of the phrase hosting E-*pro* converges: all the unvalued features within the relevant phrase are valued and deleted.

The identification of E-*pro* can also be implemented by Agree. Although government is not available in the recent Minimalist framework, Lobeck's (1993, 1995) proposal is still alive in that strong agreement is responsible for the identification of E-*pro*. I propose that E-*pro* is identified and made visible to reconstruction at the semantic interface by the Agree relation whose result is morphological realized on the head carrying the relevant probe.

1.3. Historical Changes, Reanalysis

This thesis assumes that reanalysis is a change of the feature makeup of a given functional/lexical category, extending Roberts' (2007: 140) argument that "reanalysis only involves functional categories and only affects the operations of Move and Agree."

Harris and Campbell (1995: 50, 61) define reanalysis as "a mechanism which changes the underlying structure of a syntactic pattern and which does not involve any modification of its surface manifestation." Following this definition, Roberts assumes that reanalysis does not change the surface string, but affects the structural representation related with it. Under the Minimalist framework, the structural representations are constructed in terms of three basic operations, such as Merge, Agree and Move, as summarized in 1.2.2. Remember that although Merge

constructs the underlying structure, Agree and Move affects the surface manifestation of the constructed structure. Therefore, Roberts proposes that reanalysis changes a triggering factor of Agree and Move: the feature makeup of functional categories.

It is widely assumed that reanalysis is related to language acquisition (Harris and Campbell (1995: 30)). In addition, it is assumed that reanalysis is related to a mismatch between one generation (Generation 1) and the subsequent one (Generation 2), such as a parental generation and a child's generation. Roberts assumes that children are dedicated to setting the value of parameters in acquiring a language. Suppose that part of language acquisition is to select a particular set of features from a universal set of features (Chomsky (2000)). Furthermore, suppose that the choice of these features produces the variations of languages, especially those related to the application of Agree and Move. Then, children specify a particular language by choosing a set of features in the course of their language acquisition, and they may make a different choice from their parents did. This mismatch is reanalysis, which signals the parametric change.

Within a large set of sentences produced by Generation 1, there are key points to setting the value of a given parameter. Roberts (2007) defines them as "parameter expression," represented in (15), which is originally introduced by Clark and Roberts (1993) and developed by Roberts and Roussou (2003: 15)).

(15) A substring of the input text S expresses a parameter p_i just in case a grammar must have p_i set to a definite value in order to assign a well-formed representation to S. (Roberts (2007: 133))

In short, a particular part of a sentence triggers the setting of a given parameter to a definite value. For example, the following example in Italian triggers the setting of

the positive value to the null-subject parameter, otherwise this sentence comes to be ungrammatical.[6]

(16) Parla italiano.
S/he speaks Italian. (Roberts (2007: 133))

If Generation 2 acquires the same grammar as Generation 1, it means that a set of the input provided by Generation 1 expresses all the parameters of UG. However, it is not always true: there can be a mismatch between a grammar of Generation 1 and that of Generation 2. This is connected to parameter expression by introducing the notion P-ambiguity, defined as follows.

(17) a. P-ambiguity:
A substring of the input text S is strongly P-ambiguous with respect to a parameter p_i just in case a grammar can have p_i set to either value and assign a well-formed representation to S.
b. A strongly P-ambiguous string may express either value of p_i and therefore trigger either value of p_i.
c. A weakly P-ambiguous string expresses neither value of p_i and therefore triggers neither value of p_i. (Roberts (2007: 133))

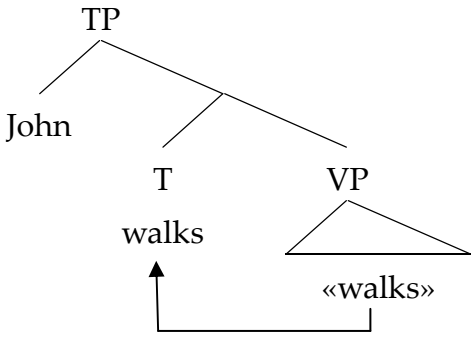
Roberts argues that strong P-ambiguity causes reanalysis. Once a substring expresses strong P-ambiguity with respect to a given parameter, Generation 2 begins to set the value of the parameter associated with a simpler representation. One example of reanalysis induced by strong P-ambiguity is the loss of V-to-T movement in the history of English. This historical change is schematized as follows.

(18) a. [TP John [T walk-eth] … [VP … (V) …]] ➔
b. [TP John T … [VP … [V walks]]] (cf. Roberts (2007: 138))

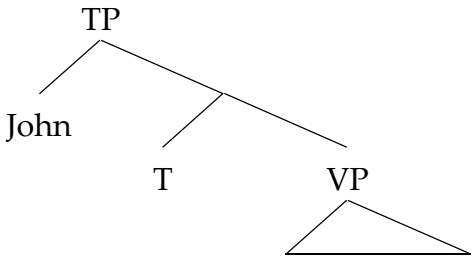
A lexical verb is base-generated within VP and moves out of VP to T in (18a), while it

remains in its base position in (18b). As well as many authors have observed, Roberts (2007: 138) argues that the rich verbal morphology expressed the positive value of the V-to-T parameter. However, the loss of the morphological expression of the V-to-T parameter gave rise to the strong P-ambiguity. Simple sentences like *John walks* is strongly P-ambiguous, since its surface word order can be analyzed as both structures represented in (19).

(19) a.



b.



(cf. Roberts (2007: 134))

The lexical verb *walks* moves out of the VP to T in (19a), whereas it remains in its base position in (19b). Thus, the same word order is attained regardless of the presence or absence of V-to-T movement. Generation 2 (a language learner) prefers to acquire a simpler structure to analyze the simple sentences like *John walks*. In this case, it is the feature makeup of T that changed in the configuration in (18) through the reanalysis: Generation 2 began to introduce into T agreement features which do not attract V, instead of the ones which induce the attraction of V.[7]

Thus, the change of feature makeup, i.e. reanalysis, takes place due to

P-ambiguity caused by the decline of verbal morphology. This change does not have a direct influence on the word order; however, it is manifested in an indirect way, such as the application of Agree and Move.

1.4. The Organization of This Thesis

Chapter 2 and 3 aim to clarify the historical development of N-adjectives and VPE respectively, under the same mechanism based on the LF-copy analysis reviewed in 1.2 and the reanalysis of feature makeup in 1.3. Especially, this thesis focuses on explaining how the reanalysis did or did not influence the availability of these constructions.

Chapter 4 will clarify the derivation of pseudogapping. In this thesis, pseudogapping is analyzed by a PF-deletion approach, although it has been widely assumed as a variant of VPE. Pseudogapping is another instance which has been available even after the reanalysis of feature makeup of T linked to V-to-T movement.

Chapter 5 is a conclusion of this thesis.

Notes on Chapter 1

---

[1] Here are the historical periods of English standardly assumed: Old English (OE: 450-1100), Middle English (ME: 1100-1500), Early Modern English (Early ModE: 1500-1700), Late Modern English (Late ModE: 1700-1900), and Present-day English (PE: 1900-).

[2] Lobeck (1993, 1995) argues that Sluicing is also derived by the empty category, non-NP *pro*. However, it is out of our discussion.

[3] The formal licensing and identification conditions are formulated as follows:

(i) Formal Licensing: The Empty Category Principle
A non-pronominal empty category (trace) must be properly head-governed. (Rizzi (1990: 87))

(ii) Identification
a. [e] with a referential index must be bound where:
X binds Y iff
(i) X c-commands Y
(ii) X and Y have the same referential idex
b. [e] without a referential index must be antecedent-governed.
(Rizzi (1990: 87))

[4] Lobeck (1995: 87ff.) develops Baker's (1988: 64) "Government Transparency Corollary," and redefines it as the "Generalized Government Transparency Corollary," as follows.

(i) **The Generalized Government Transparency Corollary**
An X-0 which is coindexed with and governs an empty head governs everything that head would govern. (Lobeck (1995: 87))

Here, the head is empty in that it does not have phonological content. It may be empty through movement, or it may be only filled by formal features which do not

necessarily have its phonological representation.

[5] The recent Minimalist framework treats the operation Move as one of the variants of Merge. The *Merge* in this thesis and Move are termed "External Merge," and "Internal Merge," respectively. In this thesis, however, the terms Merge and Move are used for the sake of simplicity.

[6] Roberts (2007: 25) informally provides the null-subject parameter, as in (i).

(i) Does every finite clause require an overt subject?
YES: non-null-subject languages (French, English …).
NO: null-subject languages (Italian, Spanish Greek, Japanese, Navajo …) (Roberts (2007: 25))

[7] Although the simple sentences like *John walks* were strongly P-ambiguous, it does not seem that the word order pattern was radically changed as soon as the verbal morphology had declined and lost. This is because that the following examples would express the positive value of the V-to-T parameter: negation and an adverb intervene between a lexical verb and its complement.

(i) a. if I **gave not** this accompt to you
'if I didn't give this account to you'
(1557: J. Cheke, Letter to Hoby / Roberts (2007: 57)))

b. The Turkes … **made anone redy** a grete ordonnaunce.
'the Turks … soon prepared a great ordnance.'
(c1482: Kay, *The Delectable Newsse of the Glorious Victorye of the Rhodyans agaynest the Turkes* / Roberts (2007: 57))

Even so, the strong P-ambiguity due to the loss of the verbal morphology could not have prevented reanalysis in (18) because simple sentences with strong P-ambiguity must have been prominent among the input Generation 2 experienced.

Chapter 2

A Syntactic and Diachronic Analysis of Adjectives Used as Nouns

2.1. Introduction

This chapter aims to clarify the development of adjectives used as nouns (N-adjectives) in the history of English, paying special attention to its relation to the loss of adjectival inflection and the rise of the prop-word *one*. The loss of adjectival inflection is one of the instances of the historical change of the feature makeup, i.e. reanalysis, and this reanalysis influenced the availability of N-adjectives. This chain of the historical changes will be accounted for under an analysis based on the recent Minimalist framework, and the analysis proposed in this section will also establish the rise of the prop-word *one* as a way of salvaging the unavailability of N-adjectives.

2.1.1. N-adjectives and Adjectival Inflection

Adjectives in Present-day English (PE) can function as if they are heads of noun phrases when they occur with a definite determiner as in (1) (Quirk et al. (1985: 421)). These adjectives are referred to as N-adjectives in this paper.[1]

(1) a. *The poor* are often generous to each other.
b. *The old* are more frequently ill than the rest of the population.
c. He takes a great interest in *the supernatural*.

In PE, N-adjectives are usually possible when they occur with a definite determiner,

and they are generally interpreted as a plural nominal expression denoting a particular social group of people, like (1a, b), and in some fixed expressions, interpreted as abstract idea like (1c).[2] These adjectives can also be modified by adverbs, as in (2).

(2) a. *The extremely old* need a great deal of attention.
b. *The emotionally disturbed* and *the physically and mentally handicapped* need the aid of society.
c. *The very wise* avoid such temptations. (Quirk et al. (1985: 422))

These uses of adjectives in PE are so restricted syntactically that they cannot appear with an indefinite article or occur with plural morphology, as in (3).

(3) a. * I met a rich.
b. * I met two riches. (Kester (1996: 60))

In fact, N-adjectives are attested more widely in Old English (OE) than in PE (Mitchell (1985: 63ff.) and Fischer (2000: 176)). The examples in (4) show that N-adjectives in OE are not subject to the same restrictions that those in PE, as illustrated in (4).

(4) a. þætte *ða cwican* no genihtsumedon þæt hi
that those quick.PL no longer sufficed that they
ða deadan bebyrigdan
those dead.PL bury
'the living no longer sufficed to bury the dead'
(cobede,Bede_1:11.50.3.448: o2)
b. *Se blinda* him ondswerede
that blind.SG him answered
'the blind man answered him'
(coblick,HomS_8_[BlHom_2]:15.23.198: o3)

c. *halige* gongað of mægene in mægen;
holy.PL go of virtue in virtue
'The saints shall go from virtue to virtue;'
(cobede,Bede_3:14.212.7.2148: o2)

d. and ðæt ungelærede folc … to *þæm heofenlican*
and that unlearned people to those heavenly.PL
cleopode & laðode
call & invite
'and summoned and invited those ignorant people to those heavenly things' (cobede.Bede_4:28.364.9.3648: o2)

The examples in (4a, b) indicate that N-adjectives are interpreted as either plural or singular in OE, depending on their inflectional endings. Furthermore, the example in (4c) shows that N-adjectives in OE do not have to occur with a determiner. The N-adjective in (4d) does not refer to humans but things. N-adjectives were attested even in Middle English (ME), and could refer to a single person, things or abstract ideas, as well as a specific group of people (Mossé (1952: 91), Lightfoot (1979: 178), Rissanen (1999: 199ff.)). The following examples are represented as N-adjectives in ME by Mossé (1952).

(5) a. an individual:
that fre 'that noble (person)'
(The Towneley Plays, 29.644 / Mossé (1952: 333))

b. a group:
þe fremede 'the strangers'
(The "Poema Morale," 2.34 / Mossé (1952: 137))
þe lufand and þe lufed 'the loving and the loved'
(Richard Rolle of Hampole 16.54-55 / Mossé (1952: 232))

c. animals:
þe broun 'the brown beasts, stags'
(Sir Gawain and the Green Knight 18.1162 / Mossé (1952: 242))

d. things:
þa æðelen 'the noble (ones), deeds'
(Lawman: The Brut 5.7 / Mossé (1952: 153))
þe depe 'the deep (sea)'
(Alliterative Morte Arthure 20.761 / Mossé (1952: 254))

e. abstraction:
heore hot 'their hotness'
(Thomas de Hales, *Love Song* 13$_2$.78 / Mossé (1952: 203))

However, their frequency decreased in the course of ME, so that they are restricted to fossilized plural expressions in PE.

It is generally assumed that the decline of N-adjectives is attributed to the loss of the inflectional system of adjectives: the loss of adjectival inflection of Case, gender and number in the ME period. The paradigm of adjectival inflection in OE is summarized in the following table.[3]

Table 1 The Paradigm of Adjectival Inflection in OE

		WEAK			STRONG		
		masc	neut	fem	masc	neut	fem
Nom	sg	-a	-e	-e	-	-	-/-u
	pl	-an	-an	-an	-e	-/-u	-a/-e
Acc	sg	-an	-e	-an	-ne	-	-e
	pl	-an	-an	-an	-e	-/-u	-a/-e
Gen	sg	-an	-an	-an	-es	-es	-re
	pl	-ra/-ena	-ra/-ena	-ra/-ena	-ra	-ra	-ra
Dat	sg	-an	-an	-an	-um	-um	-re
	pl	-um	-um	-um	-um	-um	-um
Inst					-e		-e

Unlike the OE paradigm, the paradigm of adjectival inflection in ME is much simplified: in principle, only monosyllabic adjectives terminated by a consonant are used with the inflectional endings according to the following table, while others are

invariable (Mossé (1952: 64), Nakao (1972: 144)).

Table 2 The Paradigm of Adjectival Inflection in ME

	WEAK	STRONG
sg	-e	-
pl	-e	-e

Finally, these inflectional endings of adjectives lost. Fischer (1992: 222ff.) argues that the loss of their inflection, especially the loss of the number distinctions, gave rise to problems in the availability of N-adjectives and then initiated the development of the prop-word *one* like (6) (see also Rissanen (1997: 99), Rissanen (1999: 199ff.), Fischer (2000: 176), Haumann (2003)).

(6) a. I'd like a cake. A *big one* with lots of cream.
b. Green apples often taste better than *red ones*.

(Swan (2005: 369-370))

Hence, it is plausible to assume that the rich adjectival inflection governs the availability of N-adjectives.

The correlation between the availability of N-adjectives and adjectival inflection is observable in other languages such as Dutch, Swedish, German, and Spanish. Adjectives in these languages bear inflectional endings for gender and/or number, and at the same time, N-adjectives are possible, as represented in (7)-(10). Dutch examples in (7a-c) are interpreted as human constructions into which the remaining N-adjectives in PE are categorized, while the sentence in (7d) is seen as an example of an elliptical construction.

(7) Dutch

a. [*Rijken*] worden alleen maar rijker.
rich become only richer
'The rich only become richer.'

b. [*Een zieke*] heeft recht op een goede verzorging.
a sick has right to a good care
'A sick person has a right to good care.'

c. Ik zag [*twee blinden*] de straatoversteken.
I saw two blind the streetcross
'I saw two blind people cross the street.'

d. Jan knocht de rode auto en [*de groene*]
John bought the red car and the green
'John bought the red car and the green one.'

(cf. Kester (1996: 62))

Swedish examples of N-adjectives in (8a-c) are interpreted as a human construction, an abstract construction denoting things but humans, and an elliptical construction, respectively.

(8) Swedish

a. Du är [*den ende*] jag älskar.
your are the only.DEF I love
'You are the only one I love.'

b. [*Det enda*] du kan göra är att vänta.
the only.DEF you can do is to wait
'The only thing you can do is wait.'

c. ett rött hus och [*ett vitt*]
a red.NEUT.SG house and a white.NEUT.SG
'a red house and a white one' (cf. Kester (1996: 71))

In German examples in (9), N-adjectives can be interpreted as a human construction in (9a), an abstract construction in (9b), and an elliptical construction in (9c).

(9) German

a. [*Der Blinde*] überquerte die Strasse.
the.M.SG.NOM blind-AGR crossed the street
'The blind person crossed the street.'

b. [*Das Gute*] an der Sache ist, dass er immer rechtzeitig ist.
the.NEUT.SG.NOM good.AGR of the case is that he always on-time is
'The good thing is that he is always on time.'

c. Er hat den roten Wagen und [*den grünen*] gekauft.
he has the red car and the.M.SG.ACC green-AGR bought
'He has bought the red car and the green one.'

(cf. Kester (1996: 73))

The same also holds for each Spanish example in (10).

(10) Spanish

a. [*Los extremadamente ricos*] no viven en este barrio.
the.M.PL extremely rich.M.PL not live in this neighbourhood
'The extremely rich do not live in this neighbourhood.'

b. [*Lo verdaderamente interesante*] de este libro es su primer capítulo.
the.N.SG really interesting of this book is its first chapter
'The really interesting thing of this book is its first chapter.'

c. Compré los libros verdes y [*los rojos*].
I-bought the books green and the.M.PL red.M.PL
'I bought the green books and the red ones.'(cf. Kester (1996: 74))

As indicated by the inflectional endings, the referents of those N-adjectives are apparently not limited to a group of people like PE, but they are interpreted as even a

single person or things just like OE and ME. Again, the availability of N-adjectives appears to be largely related to adjectival inflection.[4]

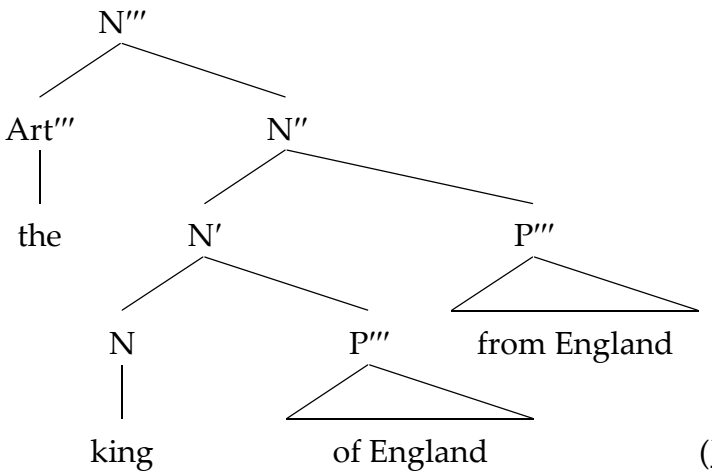
2.1.2. The Prop-word *One* in Present-day English

The prop-word *one* is the substitute for a certain nominal projection, so it has been traditionally used as a diagnosis of constituency. Jackendoff (1977) argues that the contrast in (11) illustrates the difference in the intimacy between a nominal head and a prepositional phrase PP. The complement PP *of France* is more intimate with the head noun than the adjunct PP *from France* is, because the former must be included in the range of substitution, while the latter can be excluded from it.

(11) a. Jack met the king from English, and I met the one from France.
b. * Jack met the king of England, and I met the one of France.
(Jackendoff (1977: 58))

What projection the prop-word *one* substitutes for has been long argued in generative grammar. Jackendoff (1977) proposes the following structure for a nominal phrase, in which the head noun and the complement PP are combined to form an intermediate projection N′, and the adjunct PP adjoins to the N′ to form N″.

(12)



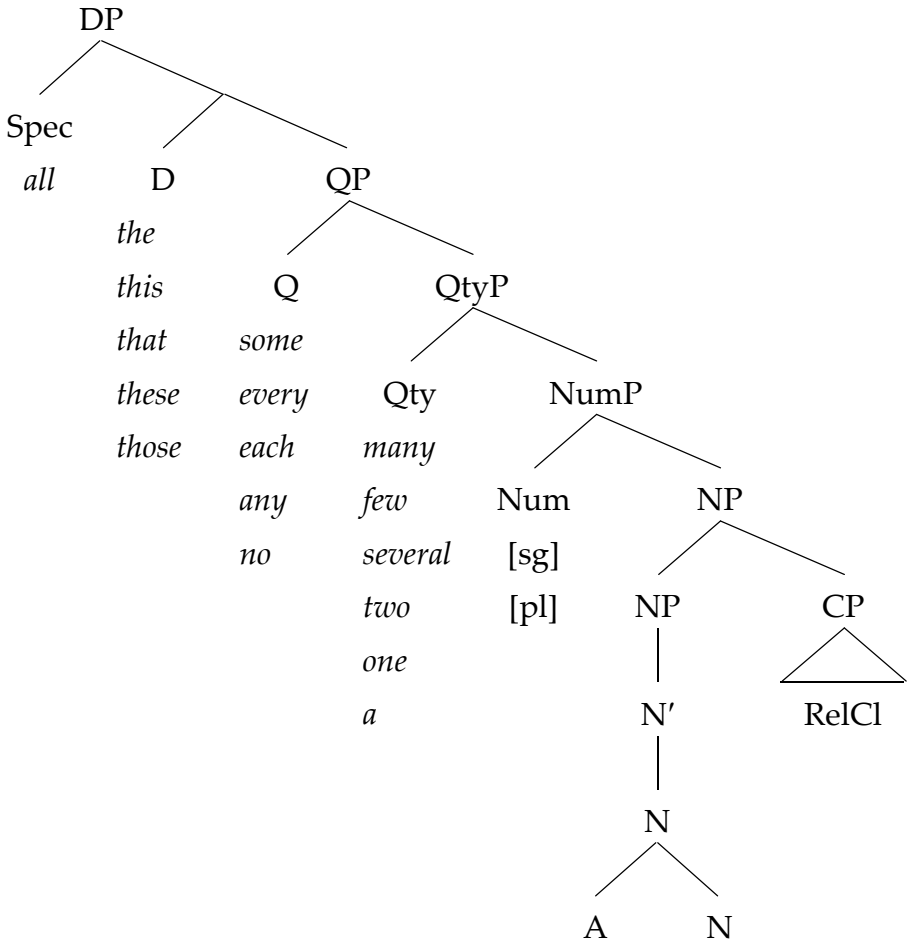
(Jackendoff (1977: 59))

In this structure, the prop-word *one* can substitute for the intermediate projection N′, but not for the head noun N.

On the other hand, Schütze (2001) proposes that the prop-word *one* is a semantically empty element and employed as last resort to saturate the head position of NP. Assuming that a projection without any semantic contribution must be omitted from the structure, he attempts to explain the contrast between (13b) and (13c) with the structure of DP in (14).

(13) a. I bought some/several pizzas.
b. I bought some/several.
c. * I bought some/several ones. (Schütze (2001: 136))

(14)

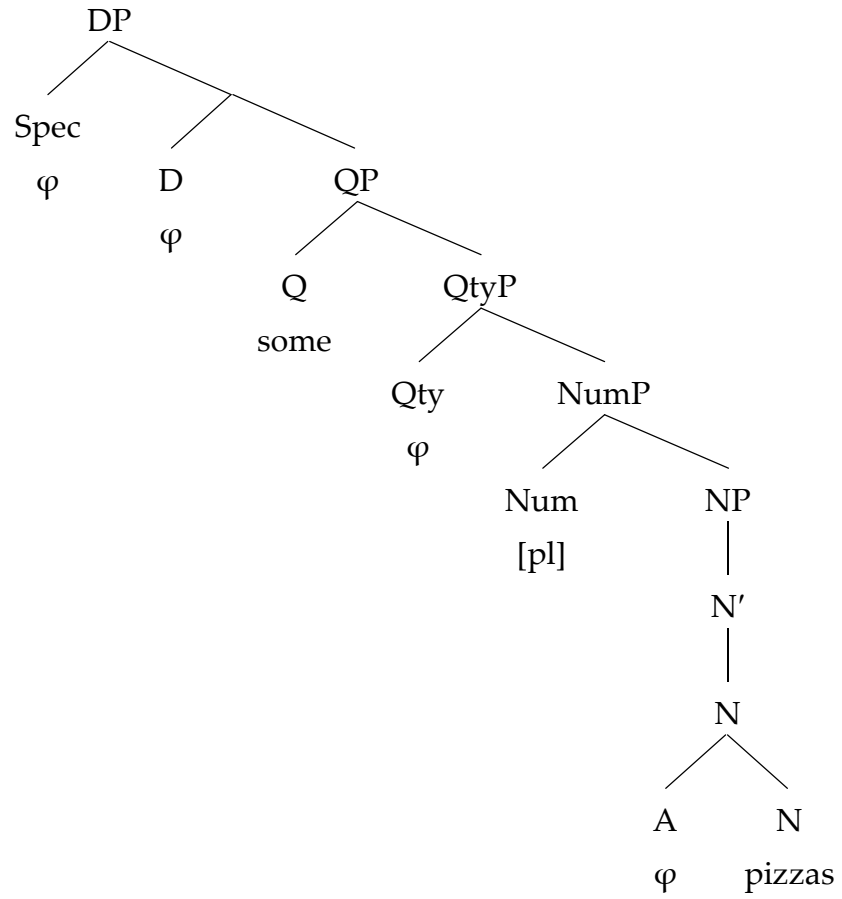


(Schütze (2001: 137))

His analysis can provide a clear account of the impossibility of the insertion of the

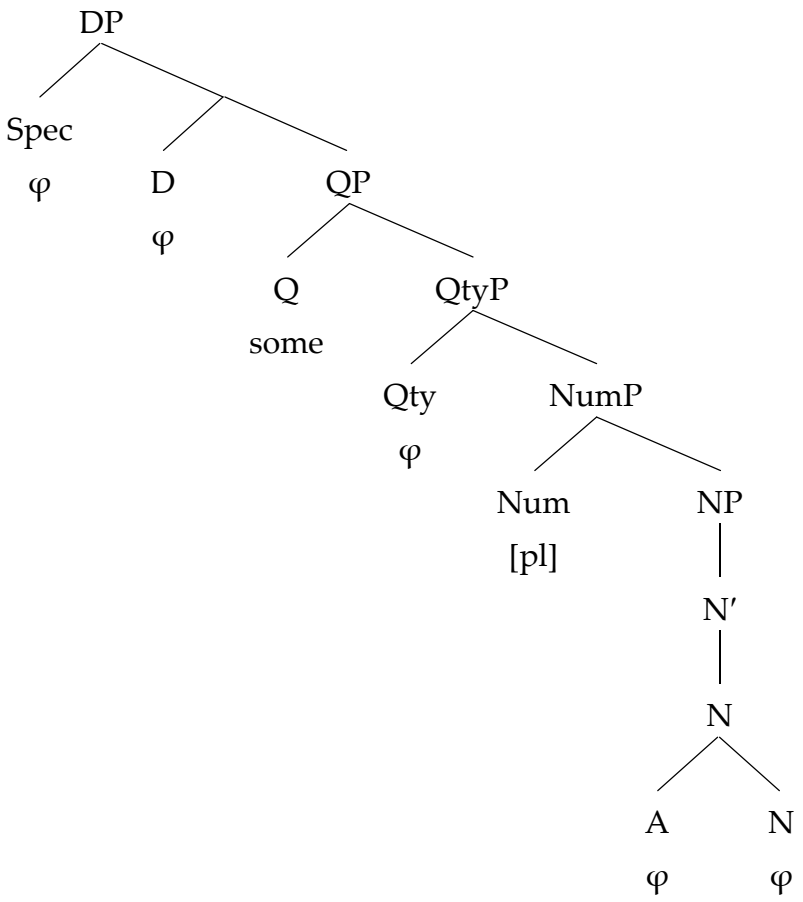
prop-word *one* in (13c) as long as the prop-word *one* is a semantically empty element and a projection with no semantic contribution must be deleted. In (13a), a head noun *pizzas* heads the object NP. The structure of *some pizzas* is analyzed as in (15).[5]

(15)



The NP in (15) cannot be deleted because its head noun contributes to the interpretation. On the other hand, the underlying structure of *some* in (13b) is analyzed as in (16), where the NP is head by an empty N.

(16)

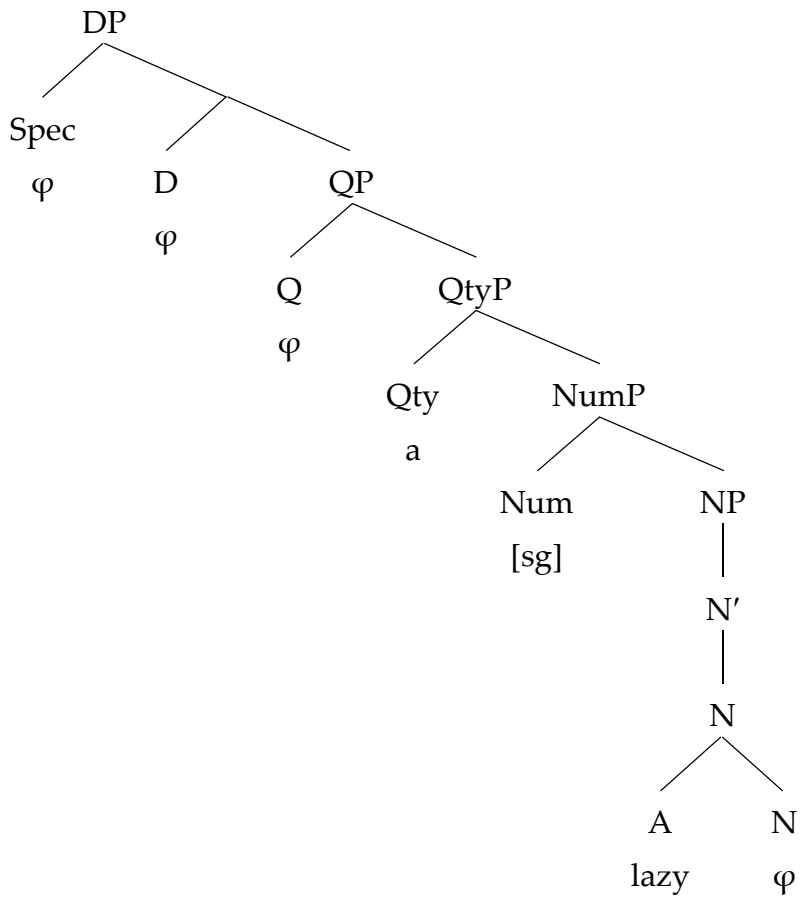


The NP in (16) must be deleted since it is semantically empty. The insertion of the prop-word *one* in (13c) is ruled out due to its redundancy: the semantically empty NP is prohibited from the phonological realization.

The prop-word *one* must be inserted as last resort in (17) because the relevant NP contributes to the semantic interpretation. The underlying structure of the DP *a lazy one* is analyzed as in (18).

(17) a. I know a conscientious grad student, as well as a lazy *(one).
b. I resent the angry students but I admire the happy *(ones).
(Schütze (2001: 130))

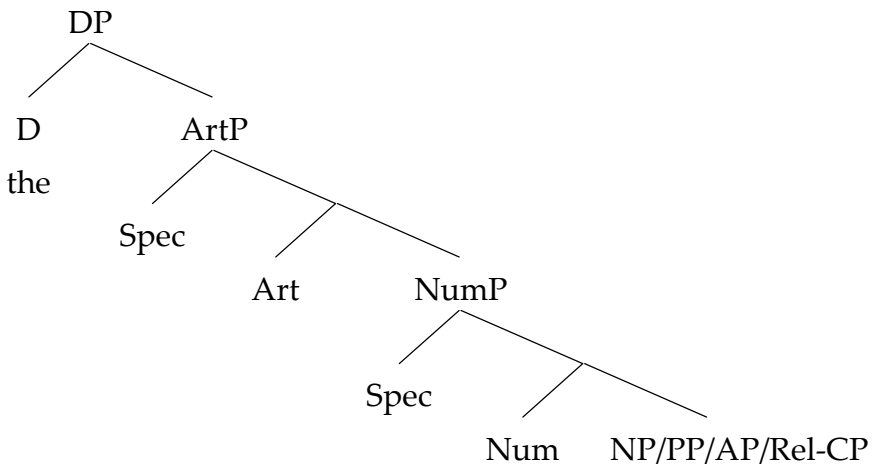
(18)



Although the NP is underlyingly headed by an empty N, it has the semantic contribution due to the presence of the prenominal adjective *lazy*. Therefore, this NP must be phonologically realized. Then, the prop-word *one* is inserted.

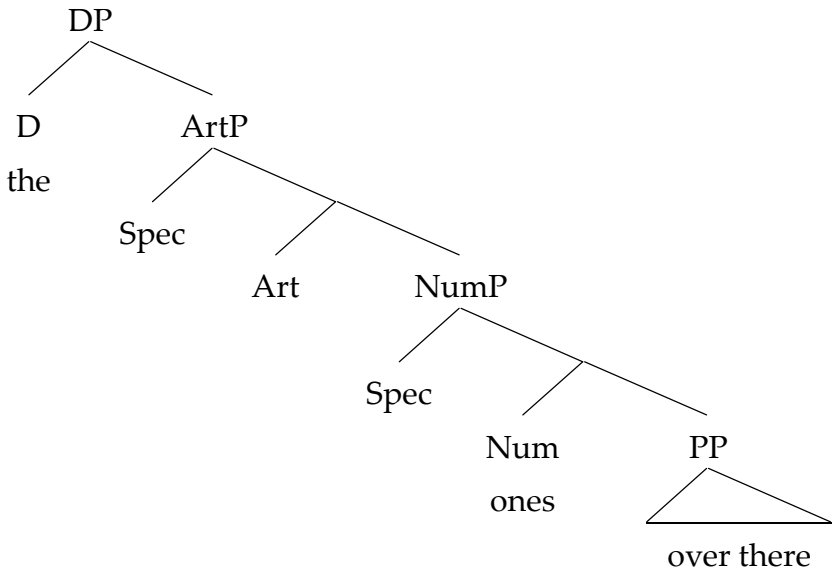
Unlike Jackendoff (1977) and Schütze (2001), Campbell (1996) assumes the prop-word *one* to be the morphological realization of a functional category Num rather than something like a lexical head/projection. He provides the following structure of DP, and proposes that Num can take AP, PP, and a relative clause CP as its complement, as well as NP.[6]

(19)



Num is realized as the prop-word *one* when it takes a complement other than NP. For example, the structure of DP *the ones over there* is analyzed as follows.

(20)



Although many analyses try to explain both syntactic and semantic aspects of the prop-word *one* and seem to achieve their goal, there are still many empirical and theoretical problems with them. For example, one of the theoretical problems with Schütze's (2001) analysis is that the syntactic structure is constructed in the X′-theoretic manner: the full-fledged DP structure is always introduced to the narrow syntax, and its subparts can be omitted depending on its semantic contribution. The representational syntax of this kind is clearly inconsistent with the derivational,

Merge-based syntax which is assumed within the recent Minimalist framework. In this connection, it is apparently redundant to introduce an empty N and subsequently delete its projection. Campbell's (1996) analysis is also problematic in that it does not take into account the fact that the prop-word *one* can be preceded by a prenominal adjective. Due to this problem, several stipulations need to be added, such as "the head of the postposed AP must raise to a position between Art and Num, when the AP does not have its complement."

Thus, an alternative analysis is certainly required in order to get the whole picture of the prop-word *one*. This chapter will provide a good analysis of the prop-word *one* in both syntactic and semantic respects, and even in both synchronic and diachronic respects, focusing on the correlation between the loss of N-adjectives and the rise of the prop-word *one*.

2.1.3. N-adjectives and the Prop-word *One* in the History of English

As briefly mentioned above, it is generally assumed that the loss of adjectival inflection led to the loss of N-adjectives and the rise of the prop-word *one*. Hence, it is plausible that the syntax of N-adjectives is related to that of the prop-word *one*. Haumann (2003) tries to explain the correlation among the loss of adjectival inflection, the decline of N-adjectives, and the rise of the prop-word *one* in the history of English, by postulating phonologically null pronominal *pro* within DP involving N-adjectives, which is an empty category originally proposed by Chao (1987) and further developed and extended by Lobeck (1993). Although I also assume the presence of an empty category associated with N-adjectives, Haumann's analysis is problematic in that she only discusses one subset of constructions involving N-adjectives where postnominal adjectives are preceded by the coordinate conjunctions like *and*, *or*, and

so forth, which she refers to as "postnominal '*and* adjective' constructions." Moreover, the analysis and the syntactic structure of DP she proposes face some serious empirical and theoretical problems, especially because they involve some theoretical devices that are no longer available within the recent Minimalist framework.

Assuming the recent Minimalist framework since Chomksy (2000), the rest of this chapter is organized as follows. Section 2.2 discusses Haumann's (2003) analysis of postnominal "*and* adjective" constructions, pointing out some empirical and theoretical problems. Section 2.3 investigates the distribution of N-adjectives in the history of English by using historical corpora, and tries to account for the result of the investigation within the recent Minimalist framework, by relating it to the loss of adjectival inflection and the rise of the prop-word *one*. Section 2.4 provides empirical evidence for the proposed analysis from the availability of genitive N-adjectives and the distribution of the prop-word *one* in PE. Section 2.5 is the conclusion of this chapter.

2.2. Haumann's (2003) Analysis and Its Problems

2.2.1. Postnominal "*And* Adjective" Constructions and the Prop-word *One*

Haumann (2003) deals with postnominal "*and* adjective" constructions which were widely attested in OE.

(21) a. Soþfæstne man & *unscyldigne* ne acwele ðu þone
righteous person and guiltless not kill you that-one
næfre
never (LAW2,40.45 / Haumann (2003: 58))

b. se legfamblawenda seaþ *&* *se* *fula* … was helle
that vomiting-fire hole and that foul was hell's
tintreges muð
torture's mouth (BEDE,13.432.7 / Haumann (2003: 58))

In example like (21), the second adjective is related to the noun preceding the coordinate conjunction, and such adjectives have been analyzed either as a postnominal (or predicative) modifier a prenominal (or attributive) modifier of the preceding noun (see Haumann (2003: 63) and other works cited there).

Fischer (2000: 175) argues that adjectives in OE can be used as nominal head by presenting the following examples which have the same surface order as Haumann's postnominal "*and* adjective" constructions.

(22) a. ne scyle non mon *siocne monnan and gesargodne*
not must no man(a) sick man and wounded
swencan
oppress (Byrht.M.2 1.80.15 / Fischer (2000: 175))

b. to ðan bliðan wunenessum *ðara hwittra gasta and*
to the joyful dwelling of-the white spirits and
fægra
beautiful (Bede3 1.13.430.37 / Fischer (2000: 175))

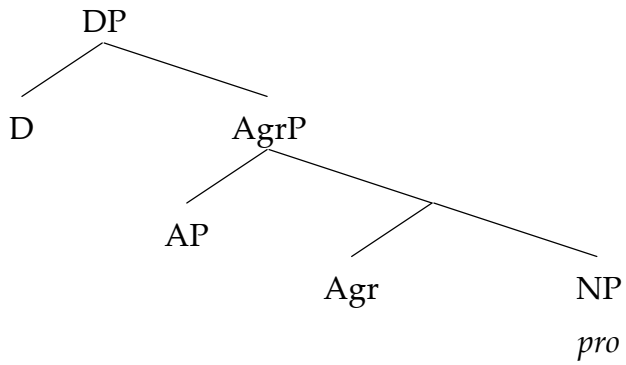
c. … þe wynsumlicor *þa myclan byrþenne and þa hefian*
… the more-joyfully the big burden and the heavy
(BlHom3 1.65 / Fischer (2000: 175))

d. *þæs swetan wætres and þæs ferscan*
of-the sweet water and the fresh
(Alex.1.338 / Fischer (2000: 175))

She points out that these adjectives are clearly used substantially in that the determiner can be repeated before the relevant adjectives like (22c, d). Haumann argues that the second adjectives in postnominal "*and* adjective" constructions are

N-adjectives, whose structure is assumed as in (23).

(23)



In (23), AP is base-generated in Spec, AgrP as a prenominal modifier of the phonologically null pronominal represented as *pro*. Following Lobeck (1993), this empty category, which I will call "ellipsis *pro* (henceforth, E-*pro*)," is licensed and identified under the following conditions, which is proposed for referential DP *pro* by Rizzi (1986).

(24) a. *pro* is governed by X^0_y (Rizzi (1986: 519))

b. Let X be the licensing head of an occurrence of *pro*: then *pro* has the grammatical specification of the features on X coindexed with it. (Rizzi (1986: 520))

E-*pro* is licensed by head-government, and the feature specification of its licensing head is responsible for the identification of E-*pro*, that is, the recovery of its semantic content. Lobeck argues that identification of E-*pro* is implemented by the reconstruction of an LF representation of its antecedent, and that E-*pro* is made visible to the reconstruction when the licensing head is specified for strong agreement, which is formulated as follows in Lobeck (1993: 784).

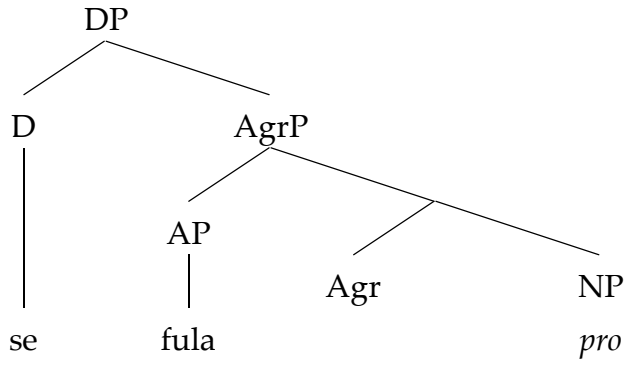
(25) An X-0 is specified for strong agreement iff

a. the X-0 or a phrase or head coindexed with it is specified for agreement, and

b. agreement is morphologically realized on X^0 or on the phrase or head coindexed with it. (Lobeck (1993: 784))

In the structure of postnominal "*and* adjective" constructions in OE, Agr is specified for strong agreement, and it can license the occurrence of E-*pro* and identify its semantic content because, under the spec-head configuration, it enters the checking relation with the AP on which the grammatical information of number and gender is morphologically realized, as shown in (26).

(26)



(cf. Haumann (2003: 74))

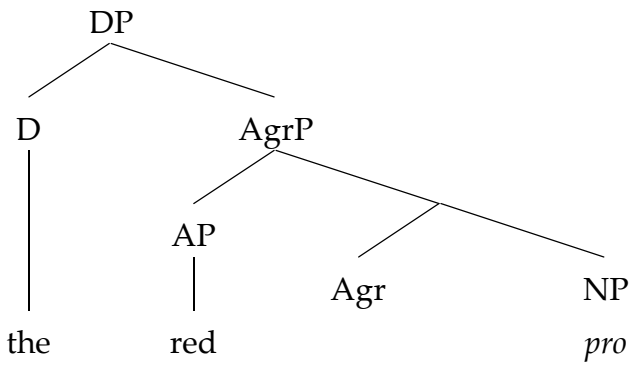
If strong agreement on adjectives is responsible for the possibility of E-*pro*, it correctly predicts the fact that PE does not allow postnominal "*and* adjective" constructions, as illustrated in (27).

(27) a. * I don't like the green bow-tie and the red [*pro*].

b. * Incredible! The yellow tulips and the red [*pro*] have already started to wilt! (Haumann (2003: 77))

E-*pro* is not available in PE since adjectives in PE lack number and gender distinctions. Therefore, Agr is not specified for strong agreement, as in (28).

(28)



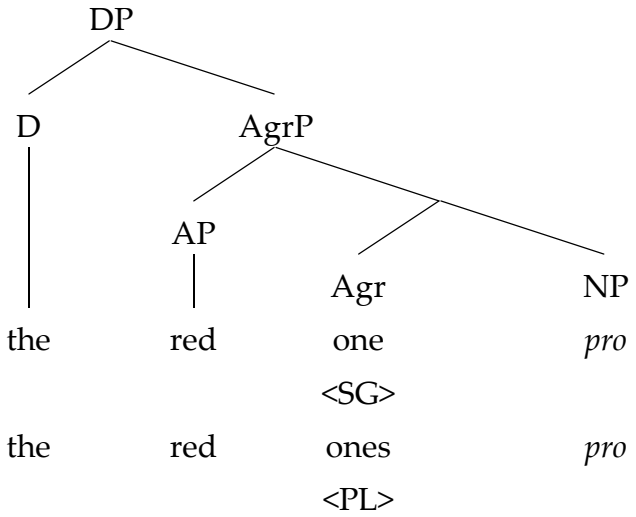
Thus, E-*pro* cannot be licensed and identified in PE.

Finally, Haumann's analysis can explain the rise of the prop-word *one* as long as it is associated with the same DP structure as postnominal "*and* adjective" constructions. Note that the insertion of the prop-word *one* makes the sentences in (27) grammatical, as shown in (29).

(29) a. I don't like the green bow-tie and the red *one*.
b. Incredible! The yellow tulips and the red *ones* have already started to wilt! (Haumann (2003: 77))

The structure in (30) describes the syntactic makeup of *the red one* in (29a) and *the red ones* in (29b), where the prop-word *one* is assumed to be generated in Agr.

(30)



(cf. Haumann (2003: 80))

For the reason that the prop-word *one* has a number distinction, it is taken to be

specified for strong agreement and functions as the licenser and identifier of E-*pro*. Thus, under Haumann's analysis, the prop-word *one* is inserted to salvage the structure of postnominal "*and* adjective" constructions that would otherwise be ruled out because of the failure in the licensing and identification of E-*pro*.

2.2.2. Problems with Haumann's (2003) Analysis

At first sight, Haumann (2003) seems to be successful in accounting for the correlation between the loss of postnominal "*and* adjective" constructions and the rise of the prop-word *one*, but there are some empirical and theoretical problems with her analysis. First, she only discusses postnominal "*and* adjective" constructions, but not typical cases involving N-adjectives in (4), repeated as in (31), although they are commonly regarded as closely related to the rise of the prop-word *one* (Mossé (1952), Lightfoot (1979), Rissanen (1997, 1999)).

(31) a. þætte *ða* *cwican* no genihtsumedon þæt hi
that those quick.PL no longer sufficed that they
ða *deadan* bebyrigdan
those dead.PL bury
'the living no longer sufficed to bury the dead'
(cobede,Bede_1:11.50.3.448: o2)

b. *Se* *blinda* him ondswerede
that blind.SG him answered
'the blind man answered him'
(coblick,HomS_8_[BlHom_2]:15.23.198: o3)

c. *halige* gongað of mægene in mægen;
holy.PL go of virtue in virtue
'The saints shall go from virtue to virtue;'
(cobede,Bede_3:14.212.7.2148: o2)

d. and ðæt ungelærede folc … to *þæm heofenlican*
and that unlearned people to those heavenly.PL
cleopode & laðode
call & invite
'and summoned and invited those ignorant people to those heavenly things' (cobede.Bede_4:28.364.9.3648: o2)

Therefore, it is necessary to take such cases into account, in order to get the whole picture of the development of N-adjectives and its relation to the rise of the prop-word *one*.

Second, it should be noticed in this connection that OE allowed so-called "split constructions," where two conjuncts are split apart and the second conjunct is extraposed with the coordinate conjunction, as shown in (32) (Mitchell (1985: 78) and Iwata (2006)).

(32) a. *Maran cyle* ic geseah *and wyrsan*
more coldness I experienced and worse
'I experienced more and worse coldness'
(ÆCHom ii. 354.21 / Mitchell (1985: 613))

b. æfter þam *Hengest feng* to rice *& Æsc his*
after that Hengest succeeded to kingdom and Æsc his
sunu
son
'and after that Hengest and his son Æsc succeeded to the kingdom' (Chron. 12.2.(455) / Iwata (2006: 1-2))

Especially relevant to the present discussion is that split constructions were attested with the sequence of a determiner and an adjective, as shown in (33).

(33) *þa halwendan* men cwædon, *and þa geleafsuman*, …
those healthful men spoke and those faithful
(BlHom 117.8 / Mitchell (1985: 78))

Furthermore, Haumann (2003) argues that postnominal "*and* adjective" constructions are not restricted to coordination of DPs, representing the following examples in which a preposition is also repeated after the coordinate conjunction.

(34) a. He nolde his heafod befon mid gyldenum
he would not his head clothe with golden
cynehelme, ac *mid þyrnenum*
crown but with thorny
'He would not be clothed in a golden crown, but with a thorny one.' (ÆCHom i.162.13 / Mitchell (1985: 77))

b. to þæmærestandæle & *to þæm mæstan*
to that first part and to that most
'to that first part and to that most part'
(Or 21.1 / Mitchell (1985: 78))

The repeated prepositions seemingly represent the behavior of the second conjunct as an independent nominal expression, but consider the following examples in which both adjectives precede the noun and they are preceded by their own preposition or determiner.

(35) a. mid godum and mid clænum geðohtum
with good and with clean thought
'with good and pure mine'
(ÆCHom i.156.28 / Mitchell (1985: 77))

b. se arfæsta and se mildheorta God
that merciful and that kind-hearted God
'the merciful and kind-hearted God'
(ÆCHom ii.126.4 / Mitchell (1985: 77))

As in (35), a preposition and a determiner can be repeated even if the second adjective precedes the noun. This fact clearly raises a problem with Haumann's treatment of examples in (34) as instances of postnominal "*and* adjective"

constructions: they are in fact split constructions whose underlying structure is like (35). In addition, a finite verb appears in its singular form when it has a postnominal "*and* adjective" construction in a subject position, as in (36).

(36) [se legfamblawenda seað & se fula],
that.NOM vomiting-fire.NOM hole.NOM and that.NOM foul.NOM
þone ðu gesawe, þæt *wæs* helle tintreges muð, …
that.RL you saw that was hell's torture's mouth
'the pit which foamed up with flame and was so foul, which you saw, was the mouth of hell's torment, …'
(BEDE,13.432.7 / cf. Haumann (2003: 58))

The availability of the kind of extraposition in OE and the singular inflection on the verb bring about a serious question: does the second adjective of postnominal "*and* adjective" constructions constitute an independent nominal expression or is it extraposed from the prenominal position? Therefore, the possibility would not be excluded that some cases of postnominal "*and* adjective" constructions are split constructions and their loss is attributed to the loss of extraposition applied to coordinate structures, as discussed by Iwata (2006).[7] If this is correct, it is wrong to link the loss of postnominal "*and* adjective" constructions with the rise of the prop-word *one* in terms of the licensing and identification of E-*pro*, at least for those analyzed as split constructions. This suggests that postnominal "*and* adjective" constructions may not provide a good clue to clarifying the cause of the loss of N-adjectives and its relation to the rise of the prop-word *one*.

Third, Haumann's analysis based on the structure in (23) is problematic both empirically and theoretically. The empirical problem is that she does not provide evidence for the presence of E-*pro* associated with N-adjectives, as well as for the status of the prop-word *one* as Agr. The related theoretical problem is that she

locates the prop-word *one* in Agr, which consists only of uninterpretable formal features and makes no substantial contribution to interface levels (Chomsky (1995b: 349)). This is quite unnatural, given the fact that the number feature of the prop-word *one* is clearly interpretable. Moreover, her analysis depends on concepts like Agr and government that have been abandoned within the recent Minimalist framework (Chomsky (1995b, 2000)).

In the light of these problems, section 2.3 provides an investigation of the historical development of N-adjectives in general, and a Minimalist analysis of the result of this investigation, which is in turn empirically supported in section 2.4, based on the availability of genitive N-adjectives and the distribution of the prop-word *one* in PE.

2.3. The Development of N-adjectives and the Rise of the Prop-word *One*

2.3.1. Historical Data

This section is devoted to investigating the development of N-adjectives and the rise of the prop-word *one* in the history of English, by employing *The York-Toronto-Helsinki Parsed Corpus of Old English Prose* (YCOE), *The Penn-Helsinki Parsed Corpus of Middle English, Second Edition* (PPCME2), and *The Penn-Helsinki Parsed Corpus of Early Modern English* (PPCEME).

First, the frequency of N-adjectives in these three corpora is summarized in the following Table, which represents the frequency of N-adjectives per a hundred thousand words in each period of English.[8,9]

Table 3 The Frequency of N-adjectives (per 100,000 words)

Period	OE	ME	Early ModE
Frequency	193.7	106.6	52.5

As we saw above, it is generally assumed that N-adjectives were widely observed in OE due to the presence of adjectival inflection, and the decline of the former was caused by the loss of the latter. The result in Table 3 indicates that N-adjectives were frequent in OE, but their frequency decreased in ME, and further decreased in Early ModE. Let us have a closer look at the frequency of N-adjectives in ME. The following table represents the frequency of N-adjectives in each subperiod of ME.

Table 4 The Frequency of N-adjectives in ME (per 100,000 words)

Period	M1	M2	M3	M4
Frequency	157.7	397.9	63.5	48.6

This result also indicates that the frequency of N-adjectives gradually decreased in the course of ME.[10] Given that adjectival inflection was lost during ME (Nakao (1972), Lass (1992), and Ukaji (2000)), the decline of N-adjectives roughly coincides with the loss of adjectival inflection, confirming the correlation between the two events.[11] Here follow examples of N-adjectives taken from YCOE, PPCME2, and PPCEME.

(37) a. *untrume* mid þinre trymenisse syn gestrongade
weak.F.PL with your encouragement are strengthened
'the feeble may be strengthened with your encouragement'
(cobede,Bede_1:16.74.7684: o2)

b. Ne screnc ðu *ðone blindan*
not deceive you that blind.M.SG
'Don't you deceive the blind.' (cocura,CP:59.453.1.3261: o2)

(38) a. alle naþeles ben departed in-to two spices: in-to
all natheless are departed into two spieces: into
gostly and *bodily*
ghostly and bodily (CMAELR3,32.184: m2)

b. and hast no maner þynge to gyue to *þe neody*
and has no manner thing to give to the needy
(CMAELR3,36.296: m2)

(39) a. the mightoof *the wicked* were more vnhappye …
(BOETHCO-E1-H,99.604: e1)

b. *the wise* wittely named him Sotto, as one besotted, …
(ARMIN-E2-P1,5.17: e2)

Turning now to the rise of the prop-word *one*, PPCME2 contains six examples of the sequence of an adjective + the prop-word *one*.[12] The first example of the prop-word *one* following an adjective is attested in the M1 period, and all the examples of the prop-word *one* attested in PPCME2 are listed as follows.

(40) a. Nu of *þe earste an* alre earest.
Now of the first one all first
(CMANCRIW-1,II.202.2890: m1)

b. for *þilke on* is only necessarie:
for the+same one is only necessary:
(CMAELR3,35.267: m3)

c. and þat cleueþ to *þylke oon*,
and that cleaves to the+same one (CMAELR3,35.270: m3)

d. *thilke same oon* is thilke that is good
the+same same one is the+same that is good
(CMBOETH,436.C2.319: m3)

e. *An enes on*,
a first one (CMREYNES,166.164: m4)

f. *An enes on*,
a first one (CMREYNES,167.168: m4)

Furthermore, *Oxford English Dictionary* cites the first example of the sequence adjective + *one* from the fourteenth century.

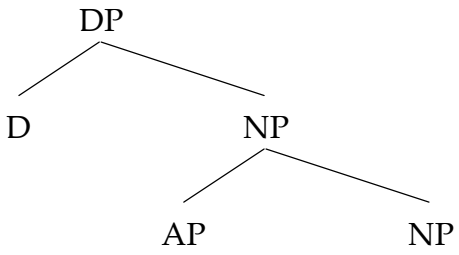
(41) Quat es he? þat sua mightful *ane*?
what is he that so mighty one
(Cursor M. 17993 (Gött.) a1330)

This shows that the prop-word *one* began to appear roughly in the same period that N-adjectives were decreasing. Hence, it seems plausible to conclude that the loss of adjectival inflection led to the decline of N-adjectives, as well as the rise of the prop-word *one*.

2.3.2. A Syntactic Analysis of the Development of N-adjectives and the Rise of the Prop-word *One*

This section proposes a syntactic analysis of the development of N-adjectives and the rise of the prop-word *one* in the history of English. Along the lines of Haumann (2003), the proposed analysis postulates a phonologically null pronominal, i.e. E-*pro*, and links the decline of N-adjectives and the rise of the prop-word *one* with the loss of adjectival inflection. However, unlike Haumann (2003), the internal syntax of DP with N-adjectives is analyzed under the Agree system proposed within the recent Minimalist framework since Chomsky (2000), on the basis of the structure in (42) and the assumptions in (43).

(42)



(43) a. Determiners have a set of unvalued ϕ-features which function as a probe.
b. Adjectives in OE have lexically valued ϕ-features.
c. E-*pro* within DP does not have any ϕ-features.

Some comments are in order with regard to the structure and assumptions just introduced. First, I follow Allen (2003), Haumann (2003), Pysz (2006), Wood (2007), and Ibaraki (2009) in assuming that nominal phrases have been DP headed by a functional category D throughout the history of English. Under the Agree system, the unvalued ϕ-features on D function as a probe and search for a goal, in the same way as other functional categories such as T and *v**, which also have unvalued ϕ-features and search their complement for their goal.

Second, as for the feature specification of adjectives in OE, since they have the rich inflectional system, just like nouns in OE, it would be plausible that they bear lexically valued ϕ-features, just as nouns do. Then, both AP and NP can function as goals for probing in (42). On the other hand, adjectives in PE do not have the inflectional system, so they bear unvalued ϕ-features functioning as a probe within the relevant DP.

Finally, the present analysis also postulates E-*pro* within DP involving N-adjectives, where it is generated in the position of NP as in the case of DP-internal ellipsis discussed by Lobeck (1993, 1995, 1999). Furthermore, although E-*pro* behaves as if it has the status of NP in N-adjectives, it does not bear any ϕ-features. This is because it is an ellipsis site whose properties including ϕ-features are determined/recovered by the preceding adjective and/or the antecedent.

The licensing and identification of E-*pro* must be accounted for without conditions which depend on the notion of government. As discussed in chapter 1,

derivation converges when all unvalued features are valued through Agree and subsequently deleted through Transfer, so E-*pro* within N-adjectives is allowed to occur in the structure when the relevant derivation converges, that is, E-*pro* is licensed based on the Agree system. As for the identification of E-*pro*, strong agreement which is morphologically realized is still responsible for the identification of E-*pro*, although government is not available. E-*pro* is identified and made visible to the recovery of its semantic content at the semantic interface by the Agree relation whose result is morphologically realized on the probe.

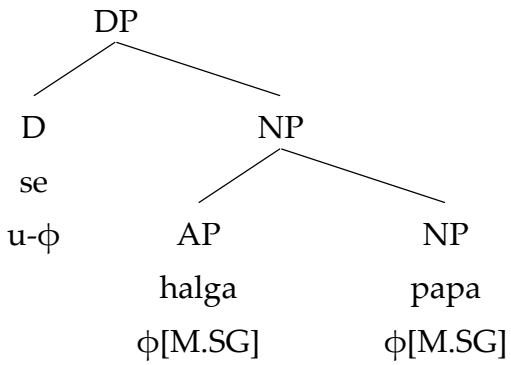
The rest of this section argues that the structure in (42) and the assumptions in (43) conspire to account for the development of N-adjectives and the rise of the prop-word *one* in the history of English, and makes clear what is recovered through reconstruction of the semantic content of E-*pro* and the prop-word *one* at the semantic interface.

2.3.2.1. The Development of N-adjectives

Before discussing the internal syntax of DP with N-adjectives, let us consider an ordinary DP in OE whose NP position is filled by a lexical item carrying phonological contents. Under the present analysis, the structure of (44a) will be analyzed as in (44b).

(44) a. se halga papa
that holy.M.SG pope.M.SG (cobede,BedeHead:1.10.1.26: o2)

b.

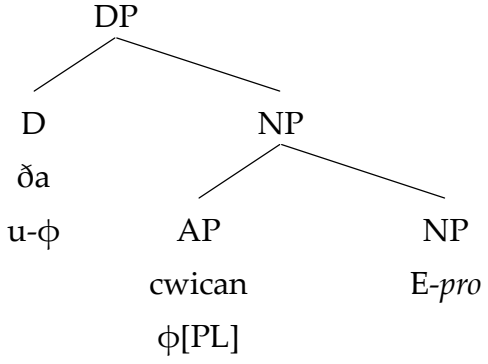


In (44), the determiner *se* bears unvalued ϕ-features, and both the adjective *halga* and the noun *papa* bear lexically valued ϕ-features. The unvalued ϕ-features on D search its complement for their goal in order that unvalued ϕ-features can be valued by the time a syntactic object is sent to the interfaces. In the case of (44), the ϕ-features on AP and NP may function as their goal, and they enters into the Agree relation with ϕ-features on D. The result of the Agree relation is realized on the morphology of the determiner.[13,14]

Turning now to the case of DP with N-adjectives, the present analysis correctly predicts the availability of N-adjectives in OE. The structure of (45a) is analyzed as in (45b).

(45) a. ða cwican
those quick.PL (cobede,Bede_1:11.50.3.448: o2)

b.

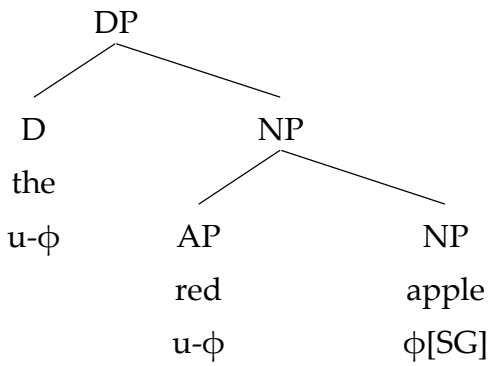


In (45), E-*pro* does not serve as a goal since it does not have any ϕ-features, but the derivation of (45) converges because the lexically valued ϕ-features on AP *cwican* function as a goal for the unvalued ϕ-features on D. Notice that special licensing and identification conditions on E-*pro*, especially those like (24) and (25) that rely on the notion of government, are not necessary here. Under the present analysis, E-*pro* is allowed to occur if the derivation of the relevant DP converges, that is, if the derivation satisfies the interface conditions.[15] Since the result of Agree is morphologically realized on the probe, E-*pro* comes to be visible for the reconstruction at LF; the semantic representation of its antecedent is reconstructed on E-*pro*.[16]

Recall from section 2.3.1 that the frequency of N-adjectives decreased in the course of ME, and they became restricted to fossilized plural expressions denoting a certain social group of people or abstract idea by PE. This is explained in terms of the unavailability of E-*pro* within DP after the loss of adjectival inflection during ME, which induced the reanalysis of feature makeup of adjectives. Before proceeding, let us make clear the internal syntax of an ordinary DP in PE.

(46) a. John bought [DP the red apple]

b.



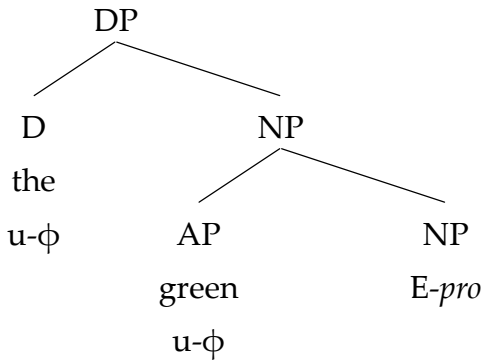
Unlike adjectives in OE, those in PE do not have agreement inflections, so they cannot bear lexically valued ϕ-features. Instead, I follow Chomsky (2001) in

assuming that they have unvalued ϕ-features that function as a probe agreeing with lexically valued ϕ-features. If this is correct, both D and the adjective in (46) have unvalued ϕ-features functioning as a probe and the lexically valued ϕ-features on NP function as their goal, leading to the convergent derivation.

Let us now turn to the case of DP with E-*pro* in PE, as shown in (47).

(47) a. * Bill bought [the green].

b.



It is obvious that the derivation of (47) does not converge, because there are no elements that can serve as a goal for the two sets of unvalued ϕ-features. Thus, E-*pro* is not allowed to occur within DP after the loss of adjectival inflection. In other words, the loss of adjectival inflection induced the reanalysis of adjectives, namely the change of the feature makeup of adjectives from valued ϕ-features to unvalued ϕ-features. And, this analysis can successfully account for the fact that N-adjectives are no longer productive and restricted to fossilized plural expressions in PE. Thus, the reanalysis of adjectives is manifested as the change in the availability of N-adjectives.

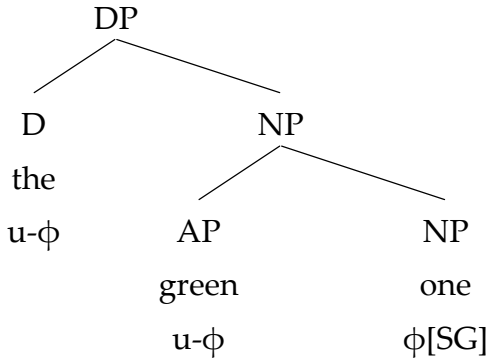
2.3.2.2. The Rise of the Prop-word *One*

Once E-*pro* within DP became unavailable during ME due to the loss of adjectival inflection, the prop-word *one* came to be attested, as we saw in section 2.3.1.

The grammaticality of DP with the prop-word *one* follows immediately from the present analysis. The DP in (47a) becomes acceptable by employing the prop-word *one* in (48).

(48) a. Bill bought [the green *one*].

b.



The derivation of (48) converges, because it contains the prop-word *one* that bears lexically valued ϕ-features including a number feature, which in turn function as a goal for the unvalued ϕ-features on D and AP. Apart from its lexically valued ϕ-features, the semantic interpretation of the prop-word *one* depends on its antecedent as in the case of E-*pro*: the semantic content of the prop-word *one* is recovered through reconstruction of the semantic representation of its antecedent at the semantic interface.

2.3.3. Summary

This section has provided a corpus-based investigation of the historical development of N-adjectives, as well as a syntactic analysis based on the DP structure and assumptions that are compatible with the recent Minimalist framework. This means that we are now free from most of the problems with Haumann (2003) pointed out in section 2.2.2, but there are remaining issues concerning the presence of E-*pro*, the status of the prop-word *one* and the reconstruction of the semantic

representation. These are addressed in the next section.

2.4. Remaining Issues

2.4.1. The Presence of E-*pro*

One of the remaining issues is to provide evidence for the presence of E-*pro* associated with N-adjectives. As assumed by the present analysis, if adjectives in OE as well as nouns have a set of valued ϕ-features, one may claim that it would be sufficient to assume that they are actually categorized into N to head a nominal phrase, but after the loss of adjectival inflection, they had completely diverged from nouns so that they are not capable of functioning as a nominal head. However, such an assumption is not a good solution to explain the distribution of N-adjectives, and evidence for the presence of E-*pro* comes from the availability of genitive N-adjectives. I have investigated the frequency of genitive N-adjectives in the history of English, and the result of this investigation is summarized in Table 5, followed by some examples from OE.

Table 5 The Frequency of Genitive N-adjectives (per 100,000 words)

Period	OE	ME	Early ModE
Frequency	19.2	0.3	0.1

(49) a. forðon ðurh tyn winter full Godes cyricena
because through ten year full God's church
hynnysse and *unsceaððiendra fordemednesse* and
persecution and innocent.PL.GEN condemnation.SG.NOM and
slege haligra martyra unblinnendlice don wæs
fatal stroke holy martyrs incessantly done was
'for with burning of God's churches and condemnation of the innocent and slaughter of holy martyrs it went on incessantly for ten years' time' (cobede,Bede_1:6.34.3.270: o2)

b. þæt is seo stow, in ðære beoð onfangne *soðfæstra*
that is the place where are received truthful.PL.GEN
saula
soul.PL.NOM
'that is the place where the souls of the just are received'
(cobede,Bede_5:13.432.10.4346: o2)

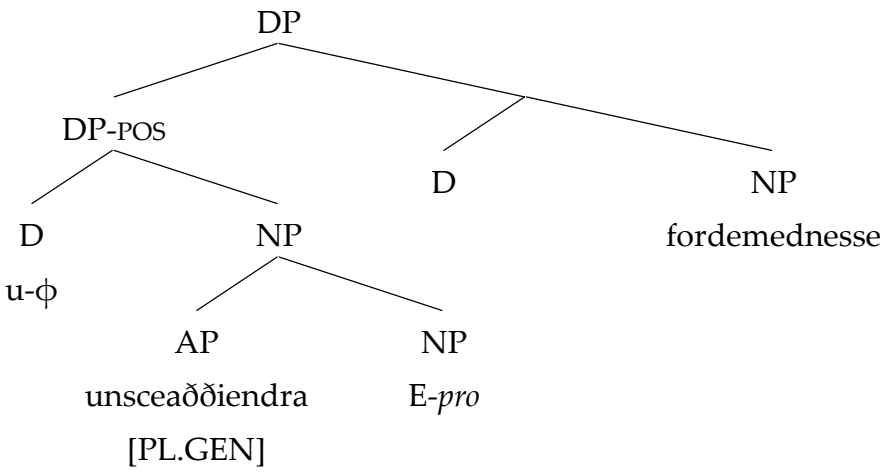
c. he nyle naht eaðe *þæs synfullan*
he not to want not easily that sinful.SG.GEN
deað
death.SG.ACC
'he did not desire death of the wicked easily'
(coaelhom,ÆHom_16:47.2279: o3)

Table 5 shows that N-adjectives could appear in the genitive case in OE, but this became almost impossible after the ME period. In fact, although PE allows a restricted set of N-adjectives, it is argued that they cannot be accompanied by the possessive marker -*'s* (Quirk et al. (1985) and Swan (2005)).

(50) * the poor's problem (Swan (2005: 13))

The availability of genitive N-adjectives in the history of English can be explained in terms of the presence of E-*pro* and the status of the genitive inflection. First, genitive N-adjectives were allowed in OE, because genitive case is realized on lexical items such as nouns and adjectives as their inflectional ending. The internal structure of (49a) will be as in (51).

(51)



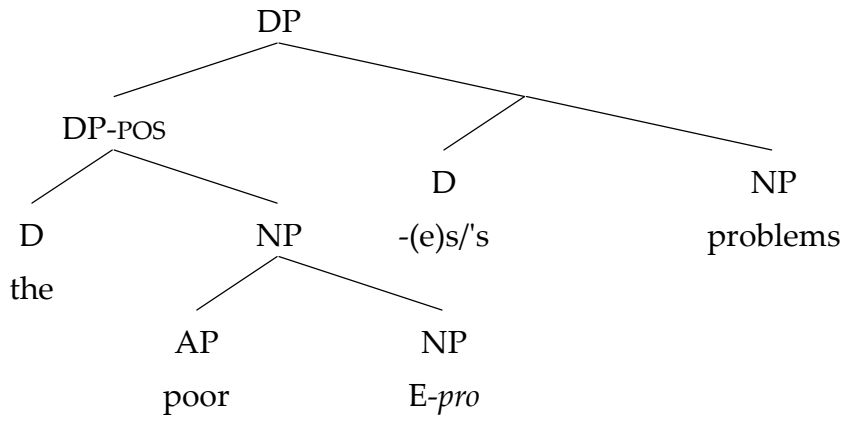
Then, the genitive inflection came to behave like a clitic in ME, as is evidenced by the rise of group genitives as in (52).

(52) but *þe kyng of Fraunces* men weren i-slawe
'But the king of France's men were slain'
(CMPOLYCH, VIII,349.380 / Allen (2003: 16))

This development can be captured by assuming that the genitive inflection came to occupy the position of D and be attached to its specifier as a clitic (Abney (1987) and Anderson (2008)).

The unavailability of genitive N-adjectives after ME immediately follows: E-*pro* intervenes to block the attachment of the genitive inflection *-(e)s* (later, the apostrophe -*'s*) to the preceding adjective, as shown in (53).[17,18]

(53)



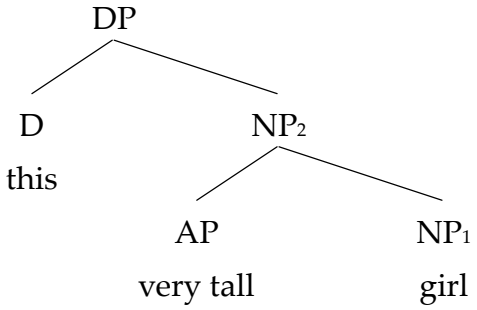
2.4.2. The Distribution of the Prop-word *One* in PE

The present analysis of the prop-word *one* is supported by its distribution in PE. First, consider the following examples.

(54) a. I like this very tall girl more than that *one*. (Radford (1981: 92))
b. They passed through a small clear area, then a larger *one*.
(Yasui and Nakamura (1984: 63))

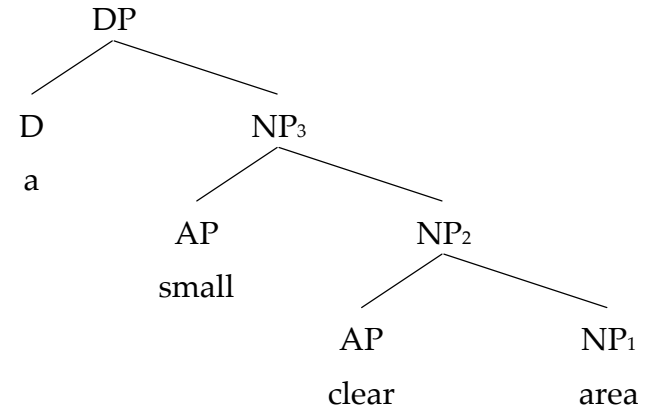
The structure of the DP *this very tall girl* in (54a) is represented in (55). Since the prop-word *one* is interpreted as denoting *very tall girl*, it substitutes for NP_2 in (55).

(55)



On the other hand, the DP *a small clear area* in (54b) will have the following structure. The prop-word *one* is interpreted as denoting *clear area*, so it substitutes for NP_2 in (56), excluding the size modifier.

(56)



These facts are compatible with the proposed structure of DP involving the prop-word *one*, where it occupies the position of NP and prenominal adjectives are

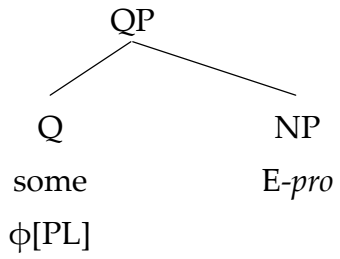
generated as an adjunct to NP.[19]

Next, let us turn to the fact that the prop-word *one* is unavailable in PE in some circumstances. Consider the following examples.

(57) a. They ordered some/several/many/few/two cans of beer.
b. They ordered some/several/many/few/two.
c. * They ordered some/several/many/few/two *ones*.
(Haumann (2003: 78-79))

If the object QP in (57b) contains E-*pro*, it will have the structure in (58).

(58)



Suppose that quantifiers like *some/several/many/few/two* are inherently plural and hence bear lexically valued ϕ-features including a number feature. Then, the derivation of this QP converges even if E-*pro* is employed because there are no unvalued ϕ-features in (58). At the same time, E-*pro* is identified because of the valued ϕ-features on Q. Notice that the prop-word *one* cannot appear in (57c), and this is explained in terms of economy: since the semantic contribution of the prop-word *one* is the same as that of E-*pro*, the element with less feature, i.e. E-*pro*, is selected, because it lacks ϕ-features and phonological features that the prop-word *one* bear.

As overviewed in 2.1.2, Schütze (2001) claims that NP is not projected within the object QP in (57b), because a vacuous projection must be omitted due to the lack of the semantic contribution. However, E-*pro* is certainly generated as NP in such

cases, because it is almost impossible that these expressions *some/several/many/few* occur with the possessive marker *-'s*. Brief investigations are conducted employing *Collins Wordbanks Online*, in order to ensure this fact. The result of the investigations is summarized in the following Table.[20,21]

Table 6 The Occurrence of QP with a Possessive Marker *-'s*

many	several	some	few
2	0	2	10

Here follow examples of QP accompanied by a possessive marker taken from *Collins Wordbanks Online*.

(59) a. But how *many's* patients and how *many's* family?
(BU-XF932426, US Book: 1993)

b. For the first time in the exchange there was *some'* emotion in his voice; a mingling of rage and disbelief.
(BB-M012097, UK Book: 2001)

c. Mary said that her intercourse with *a few'*, such as the Porters, had helped her to overcome the dislike ….
(BB-YF042803, UK Book: 2004)

This illustrates that it is almost impossible for a possessive marker to occur with quantifiers used substantively, and it will be explained in the same way as the unavailability of genitive N-adjectives in PE: the intervention of the null pronominal between the quantifier and the possessive marker.

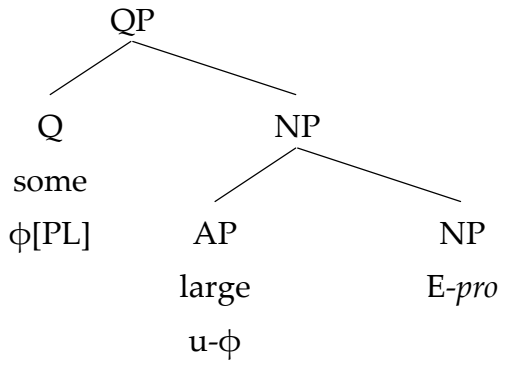
On the other hand, the examples in (60) indicate that the prop-word *one* must be employed instead of E-*pro* when an adjective appears after quantifiers like *some/several/many/few/two*.

(60) a. * They ordered some/several/many/few/two large.

b. They ordered some/several/many/few/two large ones.

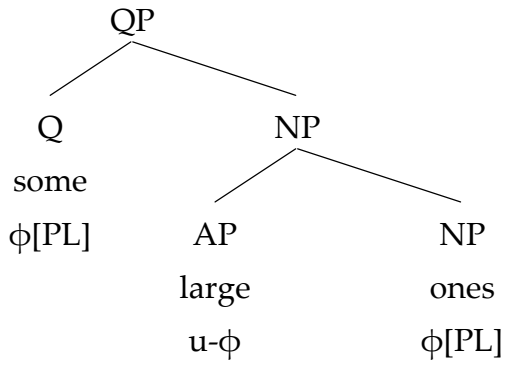
The structure of (60a) is analyzed as in (61), where unvalued ϕ-features are introduced by the adjective *large*.

(61)



While Q has lexically valued ϕ-features, the ϕ-features on AP remain unvalued because their search domain does not contain any elements which can serve as a goal. As a result, the derivation crashes. On the other hand, the insertion of the prop-word *one* salvages the derivation of (61), as in (62).

(62)



The derivation converges because the valued ϕ-features on the prop-word *one* function as a goal for the unvalued ϕ-features on AP.

2.4.3. Reconstruction, Identity of Sense

The analysis proposed here is consistent with the fact that the semantic content of E-*pro* and the prop-word *one* depends on the sense of the antecedent, not the

reference of the antecedent. In (63), the reference of the DP *the red one* is different from that of the DP *the green tie*, but they denote the same kind of entity. This kind of identity of meaning is called "sense identity."

(63) a. I don't like the green tie and the red one.
b. Incredible! The yellow tulips and the red ones have already started to wilt! (Haumann (2003: 77))

Following Higginbotham (1985), I assume that nouns have a thematic grid as a part of their lexical entry like (64), where the lexical entry for the simple noun *dog* includes its pronunciation, part of speech, and thematic grid represented in angled brackets.

(64) dog, -V +N, <1> (Higginbotham (1985: 560))

The position indicated as 1 is an open slot which needs to be saturated. The position 1 can be saturated by a determiner via θ-binding when the noun *dog* is used as an argument. Corver (1997) calls this open slot "referential argument," representing it as R in (65a), and it is θ-bound by a demonstrative *that* in (65b).

(65) a. bed, -V +N, <R> (Corver (1997: 131))
b. [DP [D' [D that]$_i$ [NP bed<Ri>]]] (Corver (1997: 131))

The noun *bed* in (65) denotes each of the various beds, and the reference of the DP is determined in terms of θ-binding by D. In the case of E-*pro* and the prop-word *one*, they are generated as NP and their semantic content will depend on the semantics of their antecedent except for the θ-binder: the copied R argument remains unsaturated. The open slot R within the thematic grid copied into E-*pro* and the prop-word *one* is bound by their own D, not by the D binding the R-slot of the antecedent.

2.4.4. N-adjectives in PE: Human Constructions

After adjectival inflection had lost, N-adjectives are generally interpreted as human constructions as summarized in section 2.1 and note 2. Kester (1996) assumes that human constructions consist of an adjective followed by the phonological null noun *pro*, what she refers to as N-*pro*. She assumes that N-*pro* is specified as [+human, +generic, +plural], unlike E-*pro*. This section does not clarify the kind of the phonologically null element within N-adjectives in PE: it might still be E-*pro*, or E-*pro* is replaced by another null element like N-*pro*.[22] However, if the present analysis is correct, N-adjectives in PE contain a null element, because genitive N-adjectives are almost impossible even in PE, as pointed out in Quirk et al. (1985) and Swan (2005). The brief investigation of the frequency of genitive N-adjectives in PE was conducted employing *Collins Wordbanks Online*. Its result is summarized in the following table.[23]

Table 7 Frequency of Genitive N-adjectives in Present-day English

Period	1990-1994	1995-1999	2000-2001	2002-2003	2004-2005
Raw Freq.	391	420	316	887	762
Per 100,000 word	0.48	0.88	0.69	0.57	0.50

Although genitive N-adjectives seem to be available in PE, its frequency is quite low. And most of them fall under the following types.

(66) **other's** (710 instances)

a. I'm just trying to give each of you *the other's* point of view.
(BB-aM022250, UK Book: 2002)

…-year-old's (673 instances)

b. I was able, through regression, to treat *the nine-year-old's* loneliness. (BB-Ff941273, UK Book: 1994)

Nationality's (381 instances)

c. A Brussels insider described *the German's* shock switch as 'gamekeeper turned poacher.

(NBA-990702, UK Newspaper: 1999)

They comprise 63.7 percent of the instances attested in *Collins Wordbanks Online*. The following table is a revised one which excludes examples like (66).

Table 8 Frequency of Genitive N-adjectives in Present-day English (Revised)

Period	1990-1994	1995-1999	2000-2001	2002-2003	2004-2005
Raw Freq.	140	170	105	312	248
Per 100,000 word	0.17	0.36	0.23	0.20	0.16

Some N-adjectives in these remaining instances may have adjectives which are listed in *Oxford English Dictionary* (OED) as used only as an adjective, as in (67).

(67) a. In this world it rains on the just and the unjust, but the unjust have *the just's* umbrella. (NA2-040806, OZ Newspaper: 2004)

b. The limit was met when *the newborn's* size reached its present value, 385 cubic centimeters. (BU-f951356, US Book: 1995)

On the other hand, the other N-adjectives may have adjectives which are also listed as nouns in OED, as in (68).

(68) a. The random nature of *the alcoholic's* crime may be illustrated by one alcoholic who walked into a liquor store to buy a bottle of whiskey. (BU-Wm951436, US Book: 1995)

b. Yet even at the time I … could see *the invalid's* point of view.

(BB-Yf022006, IRL Book: 2002)

Considering these facts, the frequency of genitive N-adjectives in PE must be lower than that summarized in Table 8, and the fact that genitive N-adjectives are almost impossible is explained by assuming that a phonologically null element is generated

within N-adjectives even in PE and that it prevents the possessive marker -*'s* from attaching to the adjective.

2.5. Concluding Remarks

This chapter concludes the decline of N-adjectives and the rise of the prop-word *one* to be the consequences of reanalysis which was signaled by the loss of adjectival inflection, namely the change in the feature makeup on adjectives.

What has been investigated in this chapter is the correlation among the loss of adjectival inflection, the decline of N-adjectives, and the rise of the prop-word *one* in the history of English. The result of the corpus-based research has revealed that the frequency of N-adjectives decreased in the course of ME, when adjectival inflection was being lost and the prop-word *one* began to be employed.

It is proposed that the correlation among these historical events can be accounted for in terms of the DP structure with E-*pro*, as well as the interpretability of ϕ-features on determiners and adjectives, under the recent Minimalist framework.

Finally, it is shown that the proposed analysis is supported by the unavailability of genitive N-adjectives and the distribution of the prop-word *one* in PE.

Notes on Chapter 2

---

[1] In what follows, examples may contain words or phrases which are italicized to indicate that they are directly relevant for the discussion.

[2] Quirk et al. (1985: 421ff.) claims that N-adjectives typically refer to 'certain fairly well-established classes of persons' (human constructions). In addition, the sequence of a determiner and an adjective denotes nationalities, like *The American*, *The Irish*, *The Dutch*, *The Japanese*, and so forth. Finally, some N-adjectives refer to abstract idea. In this use, the adjectives tend to occur in their superlative form as in (i).

(i) a. *The latest* (thing/news) is that he is going to run for re-election. (Quirk et al. (1985: 424))

b. *The very best* (thing) is yet to come. (Quirk et al. (1985: 424))

Quirk et al. (1985: 424) claims that N-adjectives with abstract sense are restricted chiefly to particular fixed expressions, such as *the supernatural*, *the exotic*, and *the unreal*.

[3] Adjectives in OE inflect weak when they occur with a determiner-like element. On the other hand, they inflect strong when the relevant nominal expression does not have a determiner-like element.

[4] Kester (1996) argues that the semantic interpretation of an N-adjective will be recovered by its antecedent if it is an instance of ellipsis constructions, while it will be determined differently in other constructions. See the discussion in 2.4.4 and Kester (1996) for a detail.

[5] The empty heads are indicated by φ, here.

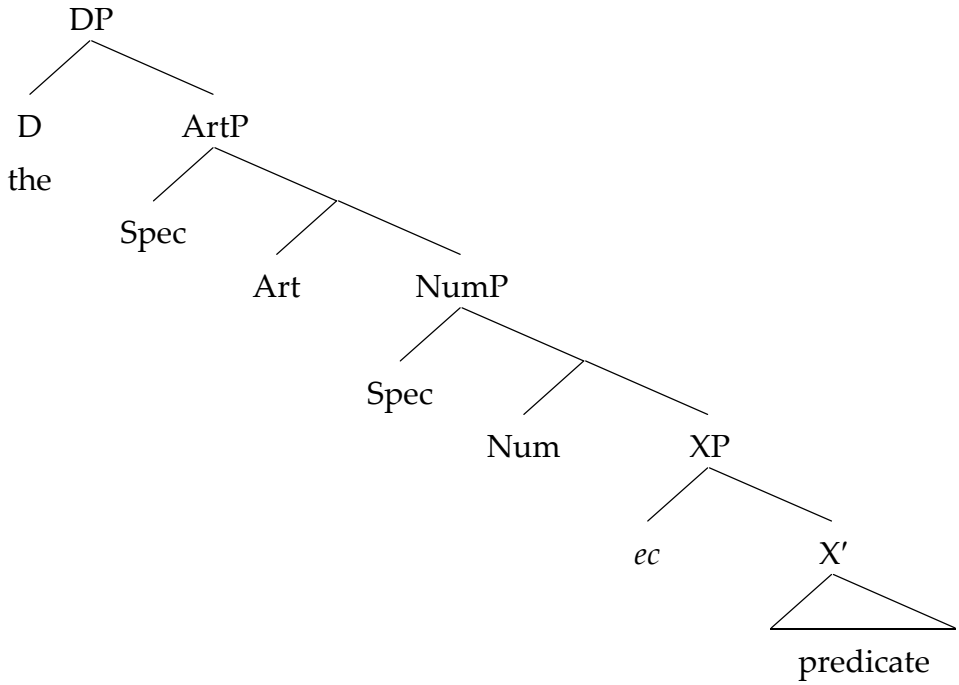
[6] More precisely, Campbell (1996) proposes that the possible complement of Num is

restricted to categories with a subject-predicate configuration, under the Internal Small Clause Hypothesis in (i).

(i) Internal Small Clause Hypothesis (ISCH)
A common noun phrase (CNP) DP contains at its core a subject-predicate configuration (that is, a small clause); the CNP derives its reference from the DP-internal subject.
(Campbell (1996: 43))

In this analysis, Num selects a small clause whose subject is an empty pronoun *ec*, as in (ii).

(ii)



(where XP = NP/PP/AP/Rel-CP)

[7] Iwata (2006: 16) suggests that it was possible for a coordinate structure to be split apart by extraposition in OE and early ME, especially when its size is larger than that of the following phrase. His research shows that split constructions began to decline in late ME in most of their subtypes. See Iwata (2006) and other works cited there for more detailed discussion.

[8] I have collected examples of noun phrases without a head noun that involve at least one adjective, regardless of whether there are determiners like articles or demonstratives within them. In order to exclude Haumann's postnominal "*and* adjective" constructions and split constructions from the range of the investigation, conjoined nominal phrases like (i) are not taken into account in this chapter.

(i) a. Augustinus se wisa & se wordsnotera bisceop
Augustinus this wise & this eloquent bishop
sæde þæt …
said that …
'Augustinus, the wise and eloquent bishop, said that …'
(coaelhom,ÆHom_1:55.36: o3)

b. and mæg underfon ge godne wyllan and yfelne
and may receive either good will and evil
æfter agenum cyre
after own choice
'and is capable of following either a good or an evil desire according to its own choice.'
(coaelive,ÆLS_[Christmas]:173.132: o3)

Furthermore, the investigation excludes idiomatic expressions which are available in PE as well, such as *the same*, *the first*, *the French*, *the other*, *to the contrary*, *at last*, and so forth.

[9] The texts in YCOE, PPCME2 and PPCEME are distributed 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 (1500-1570), E2 (1570-1640), and E3 (1640-1710).

[10] This result apparently shows the greatest frequency in the M2 period. This would be because PPCME2 contains only three texts for the M2 period, one of which

is written in East Midlands dialect. Mossé (1952: 65) notes that adjectival inflection was retained in the Southern and Midlands dialects more than others. The example taken from PPCME2 illustrates adjectival inflection characteristic of these dialects.

(i) and he anheȝed *þe milden* in-to helþe.
and he exalted the mild into health
(CMEARLPS,178.7844: m2)

[11] I have invested the distribution of adjectival inflection in ME by checking the forms of N-adjectives found in PPCME: the percentages of N-adjectives carrying an inflectional ending are 71% (M1), 39% (M2), 64% (M3), and 46% (M4), respectively (the investigation includes ambiguous cases that involve adjectives ending with *-e*, so the precise percentages would be a little lower than those indicated). Apart from the lower percentage than expected in M2, this would be compatible with the result in Table 3 and Table 4, confirming the correlation between the loss of adjectival inflection and the decline of N-adjectives. Although some scholars suggest that once it was reduced to *-e* in Early ME, adjectival inflection lost its original function of expressing grammatical features (Minkova (1991)), the following examples will show that adjectival inflection was still functional in ME in that its presence/absence corresponds to the number distinction of the relevant nun phrases (at least for the ME texts showing the same pattern as in (i)).

(i) a. þe *fals* ancre draȝeð al into hire hole
the false anchor draws all into their hole
(CMANCRIW,II.69.775: m1)

b. þe *false* sikeleres ablendeð þeo þe ham hercnið
the false sickles dazzle those that them listen to
(CMANCRIW,II.69.775: m1)

See Fujiwara (2009) for the observation that the ending *-e* functioned as a plural marker on some kinds of adjectives in the Late ME texts he investigated.

[12] The present investigation also found the nine examples like (i), in which the variants of *one* occur with a possessive marker.

(i) a. for þi beo flesches pine efter *uch anes* euene.
for this is flesh's pain after each one's nature
(CMANCRIW-1,II.107.1334: m1)

b. and in *þat onys* wombe honoure þyn husbonde
and in that one's womb honor your husband
Criste,
Chirst (CMAELR3,40.413: m3)

Although they are tagged as a variant of *one*, I take no account of them because this chapter focuses on the development of N-adjectives.

[13] The paradigm of the determiner-like elements, namely demonstratives, in OE is summarized as follows. Although their syntactic status has been long argued, I assume that they are generated as the head of DP and leave such discussions open.

Table The Paradigm of Demonstratives in OE

	THAT				THIS			
	sg.masc	sg.neut	sg.fem	pl	sg.masc	sg.neut	sg.fem	pl
Nom	se	þæt	seo	þa	þes	þis	þeos	þas
Acc	þone	þæt	þa	þa	þisne	þis	þas	þas
Gen	þæs	þæs	þære	þara	þisses	þisses	þisse	þissa
Dat	þæm	þæm	þære	þæm	þissum	þissum	þisse	þissum
Inst	þy/þon	þy/þon			þys	þys		

[14] Since adjectives in OE show agreement with the noun which they modify, one might claim that they do bear unvalued ϕ-features to which the appropriate value is assigned through Agree, contrary to the present analysis. However, I assume that

adjectives in OE must bear lexically valued ϕ-feature with the same value as the relevant noun in order to avoid a conflict over being a goal. Only the configuration in which AP and NP have lexically valued ϕ-features with the same value converges at interfaces.

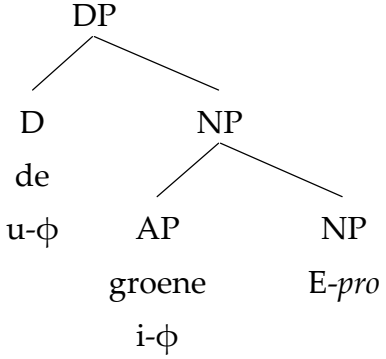
[15] I do not claim that E-*pro* is allowed to occur *everywhere* in DP whenever the derivation of the relevant DP converges, because such a claim predicts that E-*pro* are reconstructed as other categories than NP, such as an adjunct PP. Such a prediction should be ruled out in some way. One possibility is to assume that E-*pro* is categorically underdetermined until it is selected by a functional category which determines the phrasal character of its complement. Therefore, E-*pro* will be identified as NP when it is selected by D, and it may be identified as VP when it is selected by *v*. The possibility of the latter case will be discussed in chapter 3.

[16] As predicted by the present analysis, examples like (i) involving N-adjectives are fully grammatical in Dutch, where adjectives are inflected for number and gender, as discussed in 2.2.1.

(i) Jan kocht de rode auto en [*de groene*].
John bought the red car and the green
'John bought the red car and the green one' (Kester (1996: 58))

The N-adjective in (i) is analyzed as in (ii).

(ii)



Since Dutch adjectives have the inflectional system, they have lexically valued ϕ-features functioning as a goal of u-ϕ on D.

[17] Interestingly, N-adjectives in Dutch do not allow the diminutive suffix *-tje*, as in (i).

(i) a. een blinde
'a blind (person)'
b. * een blindetje
a blind-DIM (Kester (1996: 63))

This fact is compatible with the present analysis: the diminutive suffix cannot attach to N-adjectives because E-*pro* intervenes between them. Furthermore, Radford (2004: 111ff.) argues that a null element interferes cliticization by illustrating the following example.

(ii) a. He could have helped her, or [she have helped him].
(Radford (2004: 111)
b. * He could have helped her, or *she've* helped him.
(Radford (2004: 113)

The second conjunct in (iia) is assumed to be an instance of gapping which is one of ellipsis constructions in which a certain head is omitted. In this case, a modal *could* is deleted, judging from the lack of concordance between the pronominal *she* and the auxiliary *have*. Since there is a null modal between *she* and *have*, the contracted form*'ve* fails to meet the adjacent condition of the cliticization, in which a clitic and its host must be immediately adjacent and no constituent cannot intervene between them (Radford (2004: 113)).

[18] It has been observed that group genitives began to be attested in Late ME (Allen (2003)), while the radical decrease of genitive N-adjectives took place in Early ME, as

we saw in Table 3 and 4. Allen (2008) states that the genitive inflection sometimes behaves like a clitic in Early ME, based on the rise of constructions like (i), where the genitive inflection only appears on the prenominal appositive phrase, but not on the postnominal one.

(i) for *þes* *eorles* sunu Rotbert of Normandi
for the:M.GEN.SG duke:M.GEN.SG son Robert of Normandy
'because of the son of duke Robert of Normandy …'
(CMPETERB, 45.122, annal 1124.19, First Continuation / Allen (2008: 140))

If this is correct, it might be suggested that the genitive inflection began to change its status into a clitic occupying the position of D in Early ME, thereby triggering the radical decrease of genitive N-adjectives.

[19] The ungrammaticality of the following examples demonstrates that the prop-word *one* does not substitute for the head N and the whole DP.

(i) a. * The students of physics are smarter than the *ones* of chemistry.
(ones = students)
b. * Toscanini recorded Wagner's Faust overture, and Furtwängler recorded *one* too. (one = Wagner's Faust overture)
(McCawley (1988: 185-186))

These examples are not acceptable because the prop-word *one* excludes the complement of N in (ia) and includes the whole DP in (ib).

[20] *Collins Wordbanks Online* is a corpus of Present-day English, which contains a wide range of texts from various sources. Its total tokens amount to 553,171,489.

[21] *Collins Wordbanks Online* contains 96 instances of the sequence of the numeral *two* and the possessive marker *-'s*. Though, it seems that not all instances are used within a DP containing no nominal head, given examples like the following.

(i) a. *Division two's* top clash sees third-placed Strathmore travel to second top Kelburne. (MB6-020518, UK Magazine: 2002)

b. That's *number two's* target. (BU-M012096, US Book; 2001)

Furthermore, instances of group genitive appear to behave contrary to expectation, as shown in (ii).

(ii) a. *The mom of two's* efforts have helped animal welfare groups, sufferes of cancer and multiple sclerosis.
(NBA-991109, UK Newspaper: 1999)

b. Crown Prosecution Service has said there were no grounds for criminal charges relating to *the dad of two's* death.
(NBA-020806, UK Newspaper: 2002)

[22] One may claim that E-*pro* may be employed within N-adjectives in OE and ME which correspond to DPs with the prop-word *one* in PE, while a null noun, like N-*pro*, specified for [+human, +generic, +plural] may be employed in other N-adjectives. However, N-adjectives in (4) show that they are not restricted to human, generic and plural expressions, but the information of their referent is clearly recovered by morphological realization of their determiner or adjective, rather than their stipulated feature specification. So, it would be preferable to assume that N-adjectives in OE and ME have a null pronominal whose feature specification is underdetermined, just like E-*pro* I proposed.

[23] The amount of words in each sub-period in Table 7 is summarized as follows: 1990-1994 (68,663,660 words), 1995-1999 (860,448,336 words), 2000-2001 (43,229,844 words), 2002-2003 (109,467,483 words), 2004-2005 (93,197,315 words).

Chapter 3

A Minimalist Approach to VP-ellipsis in the History of English: Base on the LF-copy Approach

3.1. Introduction

It is a well-known fact of Present-day English (PE) that VP-ellipsis (VPE) is allowed in the complement position of modals, but not lexical verbs, as shown in (1).

(1) a. Because she shouldn't, Mary doesn't smoke.
(cf. Lobeck (1995: 47))

b. * Because Mary continued, John also started speaking French.
(cf. Lobeck (1995: 48))

This fact has been accounted for by assuming that ellipsis of the target VP is licensed by the functional head T on which the inflection is phonologically realized. So, VPE in (1a) is legitimate due to the fact that the target VP is adjacent to the T filled by the auxiliary *shouldn't*, while that in (1b) is not allowed since T is not lexically filled and the target VP fails to be adjacent to the appropriate T. In addition to this fact, Doron (1999) and Goldberg (2005) report that a lexical verb can be the remnant of VPE in languages like Hebrew, Irish and Swahili where V-to-T movement is attested, which is called V-stranding VPE, as illustrated in (2) from Hebrew.

(2) a. Q: at saragt et ha-sveder ha-ze
Q: you knit ACC the-sweater this
'Did you knit this sweater?'
b. A: lo, ima Seli sarga
A: no, mother my knit
'No, my mother did.' (Doron (1999: 128))

In (2b), the direct object of the lexical verb *sarga* is missing. According to them, a lexical verb can survive VPE in these languages because it undergoes V-raising to the T position which is structurally higher than the target of deletion: the lexical verb *sarga* in (2b) is realized on T as a result of V-to-T movement, so it remains undeleted while its direct object is deleted.

If these observations are correct, it will make the following prediction: if a language has VPE and V-to-T movement, it can produce sentences with "Lexical-V-stranding VPE" as in (2); if another language has VPE but not V-to-T movement, it can only produce sentences with "Modal-stranding VPE" as in (1). However, this prediction does not hold for the empirical fact that only Modal-stranding VPE was allowed even in Old English (OE) and Middle English (ME) which had both VPE and V-to-T movement.

Focusing on the empirical fact in OE and ME, this chapter aims to extend the E-*pro* analysis discussed in the previous chapters in order to give an explanation of VPE and provide a theoretical account for this apparently contradictory fact within the recent Minimalist framework (Chomsky (2000, 2001)). Section 3.2 overviews the feature-driven deletion approach to VPE and points out its theoretical problems. Section 3.3 reviews the arguments that modals were categorized as lexical verbs and V-to-T movement was attested in OE and ME, pointing out that the absence of Lexical-V-stranding VPE in these periods poses the empirical problem for the

feature-driven deletion approach to VPE. Section 3.4 proposes that the LF-copy analysis built on the Agree system overcomes these theoretical and empirical problems, and neatly accounts for the development of VPE in the history of English. Section 3.5 gives further consideration to VPE with multiple auxiliaries and VPE within an infinitival clause. Section 3.6 makes a comment on French Modal Ellipsis. Section 3.7 is the conclusion of this chapter.

3.2. The Feature-driven Deletion Approach to VPE and Its Problems

In PF-deletion approaches, it is assumed that VPE is derived by deletion of a full-fledged structure of VP only when the target VP is identical to its antecedent in some way. Sag (1976), employing λ-expressions and the notion of "alphabetic variant," proposes that deletion of VP depends on the identity of logical forms so that recoverability condition can be met: VP can be deleted only if it is an alphabetic variant of its antecedent. The definition of alphabetic variants is summarized in Lobeck (1995), as follows.

(3) For two λ-expressions, λx(A) and λx(B), to be alphabetic variants,
   a. Every occurrence of x in (A) must have a corresponding occurrence of y in (B), and vice versa.
   b. Any quantifier in A that binds variables (in A) must have a corresponding (identical) quantifier in B that binds variables in all the corresponding positions (in B).
   c. If there are any variables in A that are bound by some quantifier outside of λx(A), then the corresponding variable in λy(B) must be bound by the same operator in order for alphabetic variance to obtain. (Lobeck (1995: 31))

The following pairs of λ-expressions are given to illustrate alphabetic variants in Sag (1976). In (4), two λ-expressions are identical except for a variable represented as *x*

and *y*.

(4) a. λx(x is happy) = λy(y is happy)
b. λw(w loves John) = λz(z loves John)
c. λw((∀y)[w likes y]) = λz((∀q)[z likes q])
d. λw((∃z)[w ate z]) = λq((∃r)[q ate r])
e. λx(x said [Mary, λy(y likes x)]) = λz(z said [Mary, λw(w likes z)])
f. λx(x loves y) = λz(z loves y) as in
(∀y)[John, λx(x loves y) ➔ Bill, λz(z loves y)]
(Sag (1976: 104-105))

On the other hand, the following λ-expressions are not alphabetic variants, and then deletion is not applicable.

(5) a. λx(x is happy) ≠ λy(y is sad)
b. λw(w loves John) ≠ λz(z loves Mary)
c. λx(x likes y) ≠ λ(w likes z) as in
(∃y)[John, λx(x likes y)] & (∀z)[Bill, λw(w likes z)] or in
John, λy(y said [Mary, λx(x likes y)]) &
Bill, λz(z said [Mary, λw(w likes z)]) (Sag (1976: 105))

Similarly, Merchant (2001) proposes a PF-deletion approach in which deletion of the VP is driven by the [E] feature on a functional category, which deletes (or nullifies the phonological realization of) its complement. Under Merchant's feature-driven deletion approach, deletion is applied to a certain constituent based on the focus condition that the target of deletion is e-GIVEN. The definition of e-GIVENness and the relating notion F-closure are formulated in Merchant (2001), as follows.

(5) e-GIVENness
An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo ∃-type shifting,
(i) A entails F-clo(E), and
(ii) E entails F-clo(A) (Merchant (2001: 26))

(6) F-closure
The F-closure of α, written F-clo(α), is the result of replacing F-marked parts of α with $\exists$-bound variables of the appropriate type (modulo $\exists$-type shifting). (Merchant (2001: 14))

Thus, it is assumed that a particular VP is deleted when the semantic representation of the antecedent VP and that of the elided VP entail each other. In this sense, the elided VP is interpreted as carrying information old enough to be deleted. With these theoretical devices, the elided VP in (7) is derived from (8a), but never from (8b).

(7) Abby called Chuck an idiot after BEN did. (Merchant (2001: 27))

(8) a. = … after BEN did ~~call Chuck an idiot~~.
b. ≠ … after BEN did ~~insult Chuck~~. (Merchant (2001: 27))

The VP in (8a) can be interpreted as e-GIVEN if and only if the target VP and its antecedent VP entail each other. First, under (5i), the semantic representation of the antecedent VP *call Chuck an idiot* must entail the F-closure of the elided VP, which is ensured in (9).

(9) a. $VP_A' = \exists x.x$ called Chuck an idiot
b. F-clo(VP_E) = $\exists x.x$ called Chuck an idiot (cf. Merchant (2001: 27))

Also, under (5ii), the semantic representation of the target VP must entail the F-closure of the antecedent VP, as in (10).

(10) a. $VP_E' = \exists x.x$ called Chuck an idiot
b. F-clo(VP_A) = $\exists x.x$ called Chuck an idiot (cf. Merchant (2001: 28))

Thus, deletion of VP depends on the semantic identity between the elided VP and its antecedent. This idea seems to take over from the traditional deletion analyses in

which the relevant VPs are elided by deletion rules only when it is semantically identical to its antecedent VP.

What is notable in Merchant's approach is that deletion is driven by the [E] feature. Since the semantics of the [E] feature is formulated as in (11), the head carrying it always selects an e-GIVEN complement, and the existence of the [E] feature always induces deletion of the complement.

(11) $\llbracket E \rrbracket = \lambda p : p \text{ is e-GIVEN} . p$ (Merchant (2001: 61))

As a result of these assumptions, the introduction of the [E] feature always requires the configuration in (12), in which a functional head carrying the [E] feature takes an informationally-new, focused element as its specifier position and an informationally-old, nonfocused element as its complement.

(12) [FP [YP Focused Element] [F' F[E] [XP Nonfocused Element]]]

In this configuration, the [E] feature makes the complement XP unpronounced. For example, the [E] feature lies in T and its complement VP is deleted at PF in (13).

(13) a. Abby called Chuck an idiot after BEN did. (Merchant (2001: 27))
b. … after [TP Ben [T' did[E] [VP call Chuck an idiot]]]

Adopting this approach, Goldberg (2005) tries to explain Lexical-V-stranding VPE which is observed in languages with V-to-T movement. Here follow examples of Lexical-V-stranding from Hebrew.[1]

(14) a. dani amar Se- ha- seret tov, aval moSe lo amar
Dani said that the movie good, but Moshe not said
'Dani said that the movie is good, but Moshe didn't.'
(cf. Doron (1999: 128))

b. Q: (Ha'im) Tamar kanta kafe?
Q Tamar buy[Past3Fsg] coffee
'(Did) Tamar buy coffee?'
A: Ken, hi kanta.
yes she buy[Past3Fsg]
'Yes, she bought (~~coffee~~).' (Goldberg (2005: 36))

In fact, Hebrew also allows Null Object constructions (Doron (1999), Goldberg (2005)), so the examples in (14) seem ambiguous between Lexical-V-stranding VPE and Null Object constructions. However, Goldberg represents the following example as a typical null object instance, which cannot be analyzed by deletion of VP.

(15) Dani'el šalax me'ilim la-yeladim, ve-Šira
Daniel send[Past3Msg] coats to-the-children and-Shira
natna la-mevugarim.
give[Past3Fsg] to.the-adults
'Daniel sent coats to the children, and Shira gave (~~coats~~) to the adults.'
(Goldberg (2005: 46))

If the gap in (15) was derived by deletion of VP, the internal argument *la-evugarim* 'to the adult' would not be present, because deletion of VP elides will elide two internal arguments including another one *me'ilim* 'coats.' Thus, the presence of *la-mevugarim* in (15) illustrates that this is an instance of null object constructions.[2]

Furthermore, it is argued that VP-internal constituents other than direct objects cannot be elided independently in Hebrew, as in the example in (16).

(16) Locative Argument

Karmela natna et ha-sefer le-Xagit, ve-Yosef
Karmela give[Past3Fsg] ACC the-book to-Chagit and-Yosef
zarak et ha-kadur.
throw[Past3Msg] ACC the-ball
'Karmela gave the book to Chagit, and Yosef threw the ball (*to her).'
(cf. Goldberg (2005: 45))

The second conjunct in (16) lacks a locative argument, and it is interpreted as it is: there is no recovery of the interpretation of the missing element. Similarly, although a manner adverbial PP or a benefactive PP in (17) and (18) are not recovered from the first conjunct to the second conjunct.

(17) Manner Adverbial PP

Tamar avda be-xaricut, ve-Avi katav.
Tamar work[Past3Fsg] in-effiency and-Avi write[Past3Msg]
'Tamar worked efficiently, and Avi wrote (*efficiently).'
(cf. Goldberg (2005: 45))

(18) Benefactive PP

Kaniti matana bišvil Miryam, ve-Natan asaf
buy[Past1sg] present for Miryam and-Natan gater[Past3Msg]
peraxim.
flowers
'(I) bought a present for Miryam, and Natan gathered flowers (*for her).' (cf. Goldberg (2005: 45))

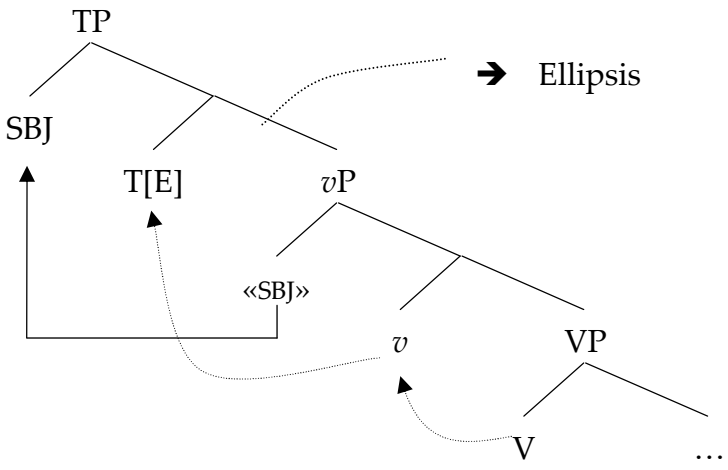
Considering the availability of Null Object constructions and the unavailability of the independent deletion of a particular type of arguments, the answer sentence in (19) should be analyzed as an instance of deletion of a whole VP.

(19) Q: (Ha-'im) Miryam hisi'a et Dvora
Q Miryam drive[Past3Fsg] ACC Dvora
la-makolet?
to.the-grocery.store
'(Did) Miryam [drive Dvora to the grocery store]?'
A: Ken, hi hisi'a.
yes she drive[Past3Fsg]
'Yes, she drove [Dvora to the grocery store].'
(Goldberg (2005: 53))

As we can see in (19), both a direct object *Dvora* and a directional phrase *la-makolet* 'to the grocery store' are missing in the answer sentence; however, they are included within the interpretation, in other words, recovered from the antecedent sentence.

Unlike Modal-stranding VPE in PE, in which the lexical verb remains in its base-generated position and then undergoes deletion, the lexical verb *hisi'a* in Hebrew example in (19) is assumed to lie outside the complement of T with the [E] feature after V-to-T movement, so it can be left as the remnant of VPE, as illustrated in (20).

(20)

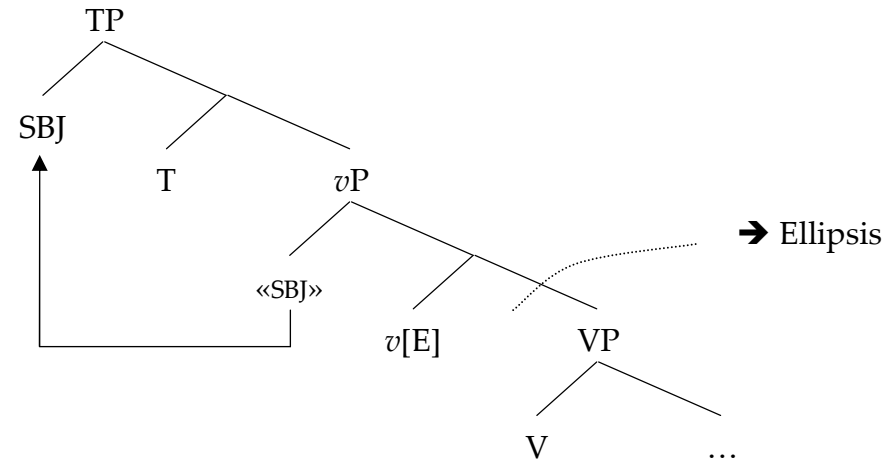


At first sight, this feature-driven deletion approach seems to be successful in accounting for both Modal-stranding VPE and Lexical-V-stranding VPE: the former

is attested in languages without V-to-T movement like PE, whereas the latter is attested in languages with V-to-T movement like Hebrew. However, as long as we accept this approach, we will suffer from some theoretical and empirical problems relating to the syntactic position of the [E] feature, the notion of e-GIVENness, and the lack of Lexical-V-stranding VPE in OE and ME.

First, the syntactic position of the [E] feature is arbitrarily determined depending on the surface word order of each elliptical construction. This arbitrariness gives rise to an empirical problem related to the size of the elided constituents and the distribution of a floating quantifier. Unlike Merchant's (2001) analysis, Gengel (2005) and Merchant (2008) assume the following structure for VPE, in which the [E] feature lies in *v* and its complement VP is deleted at PF.

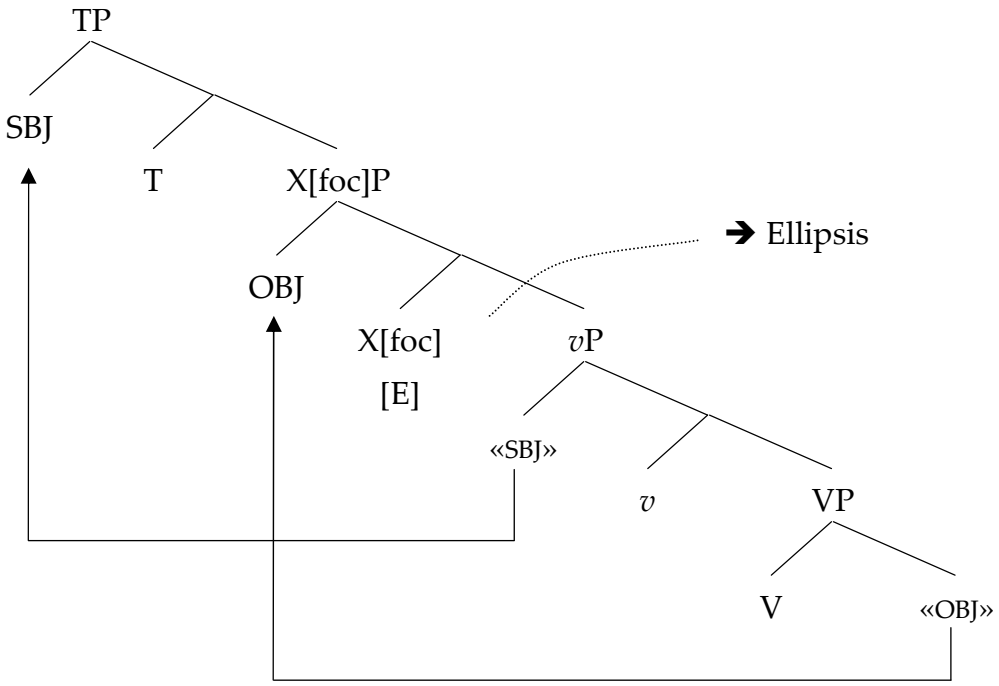
(21)



The remnants of VPE, i.e. the subject DP in Spec, TP and the auxiliary in T, are excluded from the elided constituent VP, yielding the same surface word order as the analysis in (13). On the other hand, the two authors argue that pseudogapping should be derived by the same feature-driven deletion approach based on the [E] feature. In pseudogapping like (22), they posits the [E] feature on the head of a focus phrase (X[foc]P), as in (23).

(22) Some bought roses, and others did lilies. (Merchant (2008: 174))

(23)



In addition to the subject TP and the T-element, the object DP is also left as the remnant in pseudogapping. In (23), the object moves to Spec, X[foc]P. After this evacuation of the object, the [E] feature of X[foc] serves to delete its complement, namely *v*P. A consequence of this analysis is the difference in the size of the elided constituent between VPE and pseudogapping. However, Tanaka (2011) provides the following example which does not support this consequence: there is no such difference in the size of deletion between VPE and pseudogapping.

(24) a. Many of them have turned in their assignment already, but they haven't *all* yet.

b. ? Many of them have turned in their take-home already, but they haven't *all* yet their paper. (cf. Tanaka (2011: 474))

If the floating quantifier *all* associated with a subject lies in its base-generated position, namely Spec, *v*P (Sportiche (1988)), it could not survive pseudogapping, contrary to fact.[3] Thus, the position of the [E] feature is intended to account for the

derivation of VPE and pseudogapping in Gergel (2005) and Merchant (2008), but such an attempt apparently fails.[4]

Second, as pointed out by Hartman (2009) and Sag and Nykiel (2011), the ungrammaticality of the following example poses a challenge for Merchant's (2001, 2008) analysis based on e-GIVENness.

(25) * John will beat someone at chess, and then Mary will ~~lose to someone at chess~~. (Sag and Nykiel (2011: 193))

In (25), the verb *beat* in the antecedent VP and the verb *lose* in the target VP are relational opposites, that is, they are antonyms but entail each other: "If someone will beat someone at chess, then someone will lose to someone at chess, and vice versa." The deletion of the VP in the second conjunct in (25) is not allowed, although the mutual entailment is satisfied. To avoid this problem of the semantic identity, one may follow Goldberg's "verbal identity requirement" of all types of VPE in (26).

(26) The Verbal Identity Requirement
The antecedent- and target-clause main Vs of VP Ellipsis must be identical, minimally, in their root and derivational morphology. (Goldberg (2005: 171))

This requirement will solve the problem pointed out in (25): the lexical verb in the antecedent clause (*beat*) is not identical to that in the target clause (*lose*), and then ellipsis is not allowed even though the mutual entailment is satisfied. However, this argument amounts to claim that the semantic identity is not so responsible for VPE as expected; rather it depends on the morphological identity. Thus, there seems to be no sense assuming the [E] feature which is posited on a functional category and requires the semantic identity of the elided VP and its antecedent VP.

Finally, in addition to these problems, the feature-driven deletion approach is

also empirically problematic in that it is not able to explain the fact that only Modal-stranding VPE has been allowed throughout the history of English, despite the availability of VPE and V-to-T movement before the sixteenth century, as we will see in the next section.

3.3. The Historical Background of Modals, V-to-T Movement and VPE

Let us review the previous studies on the status of pre-modals/modals and the availability of V-to-T movement in the history of English: ancestors of modals in PE, namely pre-modals, show similar behaviors to other lexical verbs, and V-to-T movement was attested until sixteenth century. These historical facts will show that the PF-deletion analysis proposed by Merchant (2001, 2008) and Goldberg (2005) do not properly capture the historical facts of VPE in English.

3.3.1. The Lexical-V-like Behavior of Pre-modals

It is the standard analysis that modals are categories of T in PE. Roberts and Roussou (2003) summarize the peculiarities of modals in PE as follows: unlike lexical verbs, modals lack non-finite forms (27a), cannot be iterated (27b), and cannot take other complements than bare infinitives (27c).[5]

(27) a. * To can swim is useful.
b. * He shall must do it.
c. * I shall you a penny. (cf. Roberts and Roussou (2003: 36-37))

Contrary to modals in PE, there is a reason to assume that they belonged to the same category as lexical verbs in OE, which is supported by the following examples taken from *The York-Toronto-Helsinki Parsed Corpus of Old English Prose* (YCOE).

(28) a. Ælc cristen man sceal *cunnan* his paternoster and
each Christian man shall can his Lord's prayer and
his credan
his belief
'each Christian man will know his prayer and his belief.'
(coaelive,ÆLS[Ash_Wed]:261.2850: o3)

b. he soðlice ne *cuðe* þære soðfæstnysse weg
he really not could that faithfulness way
'he really did not know a way of the faithfulness'
(coaelhom,ÆHom_4:252.658: o3)

In (28a), a pre-modal *cunnan* appear in its infinitive form, and it is selected by another pre-modal *sceal*. Furthermore, pre-modals can take other kind of complements than infinitives, as in (28b). These properties were also observed in the ME period, as illustrated in (29).

(29) a. but it sufficeth to hem to *kunne* her Pater Noster, …
'but it suffices to them to know their Pater Noster, …'
(?c1425 (?c1400) Loll. Serm. 2.325 / Denison (1993: 310))

b. Who this booke shall *wylle* lerne …
'He-who this book shall wish learn …'
(c1483(a1840) Caxton,Dialogue 3.37 / Roberts and Roussou (2003))

c. euerych bakere of þe town … *shal* to þe clerke of þe town a penny
'every baker of the town … owes to the clerk of the town a penny'
(a1400: Usages of Winchester (Engeroff), p.64 / Visser (1963: 498))

The pre-modals *kunne* and *wylle* in (29a, b) appear in their infinitive form, and the pre-modal *shal* takes a nominal phrase and a prepositional phrase as its complement in (29c). Thus, pre-modals patterned with lexical verbs in these morphological and syntactic respects in OE and ME, which has led many authors to assume that

pre-modals were categories of V in these periods (Lightfoot (1979) and Roberts (1993, 2007) among others).

Moreover, the following examples provide a clue to determine the type of lexical verbs which pre-modals belonged to.

(30) a. ða cwæð ic: Hwy ne sceolde me swa ðyncan?
then said I: Why neg should me so seem
'Then I said: Why should it not seem so to me?'
(coboeth,Bo:38.119.9.2369: o2)

b. Me mæig … gif hit mot gewiderian, mederan settan
One can … if it must be-fair-weather, madder plant
'One can, in case of fair weather, plant madder'
(colawger,LawGer:9.23: o3)

c. … agens whom it schal be argued and concluded …
… against whom it shall be argued and concluded …
(c1443: Pecock, Reule 96 / Visser (1969: 1588))

d. Hu … may it be þat vr langage spek þai þus?
How … may it be that our language speak they thus
(c1300: Havelok 18966 / Visser (1969: 1780))

Expletives could appear as the subject of the modals in OE. The null expletive and the expletive *it* are employed as the subjects of the modals in (30a) and (30b), respectively. Since the impersonal verb *ðyncan* lacks θ-role for its subject position, its subject position is filled by a null subject, instead of the overt nominative subject, which is sometimes called expletive *pro*-drop (Bennis (1986), Hulk and van Kemenade (1993), Fischer et al. (2000: 268)). In (30b), the expletive *it* is introduced by the weather verb *gewiderian*. The examples in (30c, d) illustrate that pre-modals occur with expletive subjects in ME as well. This indicates that pre-modals do not take its own external argument like unaccusative verbs, so it is reasonable to assume that they are raising verbs taking infinitival complements in OE and ME (Roberts

(1993)).

3.3.2. The Categorical Change of Modals and the Reanalysis of Feature Makeup of T: the Loss of V-to-T Movement

Now, let us turn to the availability of V-to-T movement. It has been generally argued that lexical verbs moved to T and further to C in some cases in OE and ME. This is illustrated the following examples, taken from *The Penn-Helsinki Parsed Corpus of Middle English, Second Edition* (PPCME2).

(31) a. …he *takþ* *not* vengaunce of his turmentours as a man
…he takes not avenging act of his torturer as a man
(CMAELR3,47.666: m3)

b. …, hou *disseruedist* *thou* to come to this grace?
…, how deserve you to come to this grace
(CMAELR4,20.587: m4)

In (31), the lexical verb *takþ* precedes the negative marker, and the lexical verb *disseruedist* is inverted with the subject in the *wh*-question in ME.[6] The same holds of pre-modals in ME, as illustrated in (32).

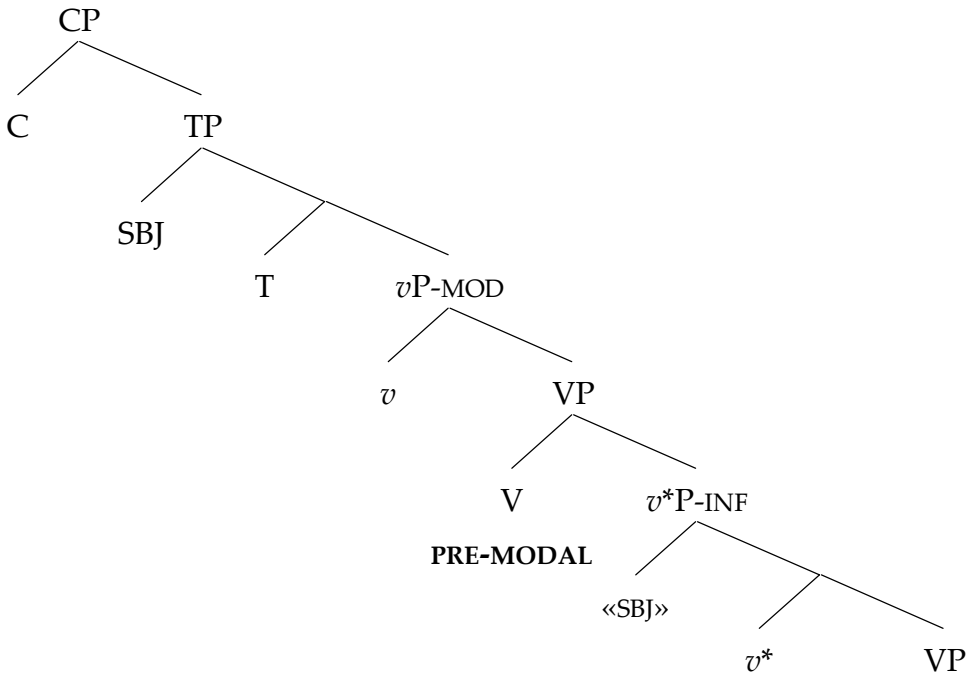
(32) a. A blynde man *kan* *nat* juggen wel in hewis
A blind man can not judge well in colours
(c1387: Chaucer, Troilus 2, 21 / Roberts (1993: 311))

b. *Wilt* *thou* ony thinge with hym?
Wilt thou [do] any thing with him?
(1470-85, Malory, Morte d'Arthure III, iii, 120 / Visser (1963: 503))

It is widely assumed that movement of finite verbs to T is associated with their rich verbal morphology. Let us assume that T attracts the head of its complement when it is specified for strong inflectional features.[7] Just as we saw above, pre-modals

behave in the same way as other lexical verbs. This illustrates that the features on T are strong enough to attract pre-modals as well as other lexical verbs. Along the lines discussed so far, I propose the following structure of a sentence with a pre-modal in OE and ME.

(33) Pre-modals in OE and ME

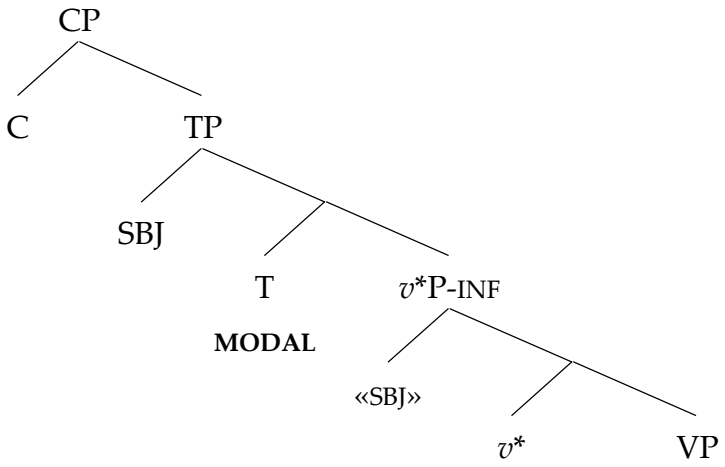


A pre-modal in (33) is a raising verb taking an infinitival *v**P complement, and undergoes V-to-T movement in OE and ME. Here, the overt subject of this sentence is base-generated in the specifier of the infinitival *v**P.

Lightfoot (1979) insists that pre-modals changed to modal auxiliaries in the sixteenth century. He assumes that this categorical change was invoked by the accumulation of properties which made pre-modals distinct from other lexical verbs. First, pre-modals lost their argument structure and quit taking a direct object. This property was characteristic of the pre-modals, considering other lexical verbs taking a direct object. Second, since pre-modals were the last group belonging to an inflectional class of "preterit-present," they had different morphological behavior

from other lexical verbs in that they lacked the third person singular ending in the present tense (*-eþ*).[8] Third, their past tense form lost a past meaning in ME. For example, *he might do it* does not mean "he was permitted to do it," even though *might* is the past tense form of *may*. Fourth, unlike other lexical verbs, pre-modals did not take *to*-infinitives as their complement, although *to*-infinitives took over bare infinitives in most places. The peculiarities listed above made it impossible to treat pre-modals as belonging to the same category as other lexical verbs. As a result, they began to be generated on T, which caused the change of the structure with a modal as in (34).

(34) Modals since the sixteenth century



However, remember that this categorical change would not cause any change in the word order in the language with V-to-T movement: both the modals and the other lexical verbs finally reached the same position, namely T. This categorical change would have been manifested when the reanalysis of the feature makeup on T happened, as Roberts' (2007) analysis of the loss of V-to-T movement argued. Along the lines of Roberts (2007), the loss of V-to-T movement is first caused by the loss of the rich verbal inflectional morphology which clearly expressed that ϕ-features on T were strong enough to attract V in OE and ME. This argument is based on the

generalization originally proposed by Vikner (1997) and later developed by Roberts (2007: 137), in which T attracts V if ϕ-features on T, especially person feature, are morphologically realized in all simple tenses.[9]

Therefore, once verbs lost their rich inflectional morphology (about 1500), they failed to signal the strength of ϕ-features on T, which led most sentences to be ambiguous, i.e. strongly P-ambiguous, about the application of V-to-T movement. After the categorical change of modals, V-to-T movement cannot occur when a modal occupies the T position, as in the example in (35) taken from PPCEME.

(35) But yf thou *wylt* gyue nature that she nedeth, …
'But if you will give that which she needs to nature, …'
(BOETHCO-E1-P1,42.430: e1)

If a modal was not employed, the sentence was P-ambiguous about the application of V-to-T movement. Interestingly, the following example also taken from PPCEME contains both the strongly P-ambiguous sentence and the one unambiguous in respect to the P-ambiguity.

(36) though I *lacke* Authoritie to giue counsell, yet I *lacke not* good will to wisshe,
'though I lack the authority to give counsel, yet I do not lack a good will to which.' (ASCH-E1-H,19R.100)

The lexical verb *lacke* precedes the negative maker *not*, which illustrates V-to-T movement. On the other hand, the string *I lacke Authoritie* can be attained regardless of V-to-T movement.[10] Although the intervention of negation between a lexical verb and its complement like (36) was still a strong clue for language learners to acquire V-to-T movement, the reanalysis of the feature makeup on T would have happened in order to resolve the increasing ambiguity. Instead of strong features which are

related to the rich inflectional morphology and able to attract V, weak features began to be introduced into T to make the analysis of sentences simpler than before. The introduction of weak features resulted in clarifying the difference of elements of T (modals) and elements of V (lexical verbs); modals always appear in T, while lexical verbs stay in their base-generated position, or at least within the verbal domain.[11]

With these considerations in mind, the next subsection points out a problem which confronts the feature-driven deletion approach to VPE reviewed in the previous section: it wrongly predicts that Lexical-V-stranding VPE was available in OE and ME, contrary to the fact that only Modal-stranding VPE has been available throughout the history of English.

3.3.3. Empirical Problems with the Feature-driven Deletion Approach

Warner (1993) observes that VPE is allowed in the complement position of pre-modals in OE and ME. This is supported by the investigation based on YCOE and PPCME2. The result is summarized in Table 1, followed by examples from each corpus.

Table 1 The Occurrence of Modal-stranding VPE in YCOE and PPCME2

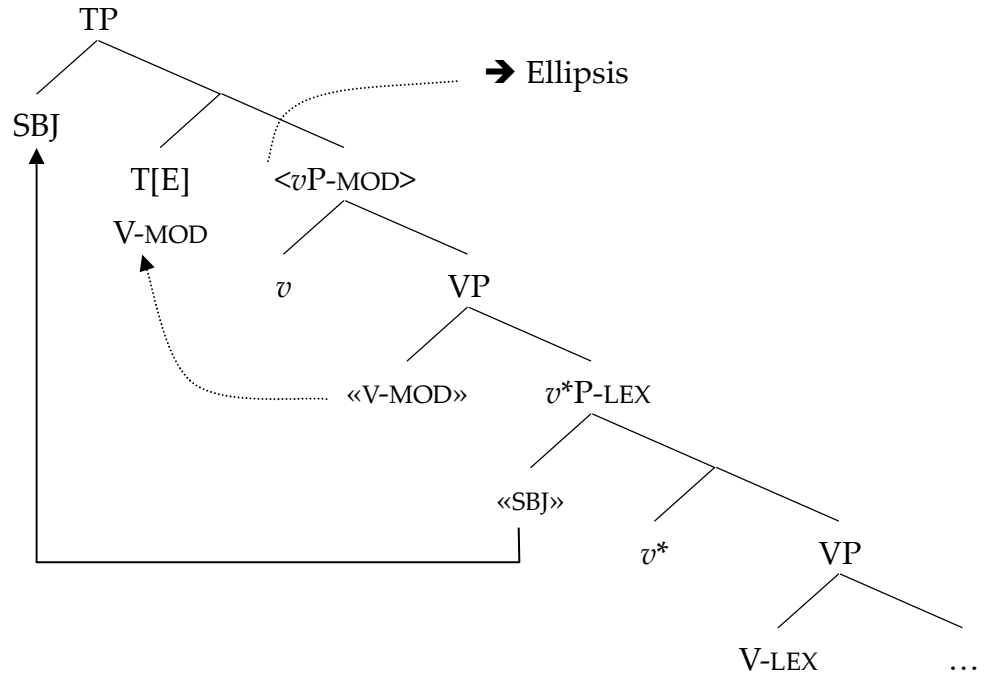
	YCOE	PPCME2
Raw Freq.	639	528
Per 100,000 words	44.06	45.68

(37) a. & he wolde þone weðer forlætan, ac he *ne* *mihte*,
and he would that wether relinguish, but he not might
'and he would relinguish that sheep, but he might not,'
(cogregdC,GDPref_and_3_[C]:22.224.25.3075: o4)

b. A, good ser, I pray 3ow dryuyth hym away fro me,
Ah, good sir, I pray you drives him away from me,
God knowyth I would ryth fawyn don wel & plesyn
God knows I would right gladly do well and please
hym for yf I *cowde*.
him for if I could
'Ah, good sir, I pray that you drive him away from me, for God know I would do well willingly and please him if I could.'
(CMKEMPE,85.1921: m4)

Pre-modals *mihte* and *couwd* lack their infinitival complement in (37). The examples in (37) are tagged in PPCEME as elliptical constructions whose interpretation depends on that of their antecedent clauses. Consider the following derivation of Modal-stranding VPE in OE and ME under the feature-driven deletion approach to VPE.

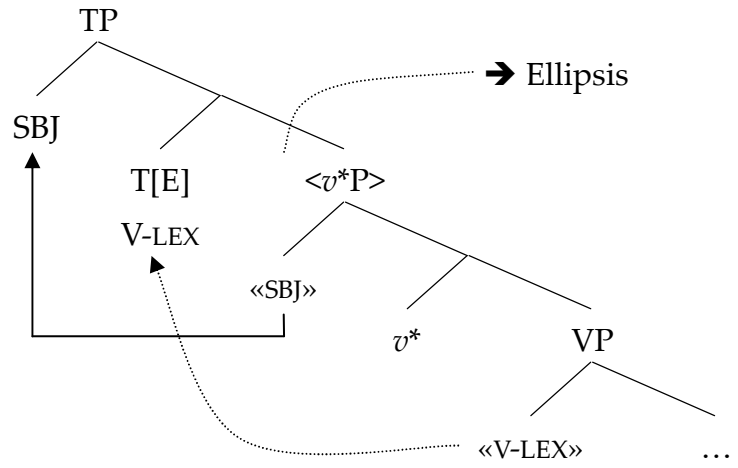
(38)



In (38), the pre-modal base-generated in V raises to T, and the [E] feature serves to delete the complement of T, namely *v*P-MOD, which is marked with the angled brackets. This accounts for the grammaticality of Modal-stranding VPE, as desired.

However, given that OE and ME have V-to-T movement, it would be wrongly predicted that Lexical-V-stranding VPE is allowed in these periods like Hebrew, because the *v**P complement of T (marked with the angled brackets) could be deleted to strand a lexical verb that has raised to T, as shown in (39).

(39)



Therefore, apart from the problems pointed out in the previous section, the feature-driven deletion approach to VPE faces the empirical problem in accounting for the fact that Lexical-V-stranding VPE is impossible in OE and ME. In order to explain the empirical facts of Modal-stranding VPE in English, an LF-copy analysis of VPE is proposed in the next section, based on Lobeck's (1995) analysis of elliptical constructions.

3.4. The Development of VPE in the History of English

3.4.1. Formal Licensing and Identification of E-*pro*

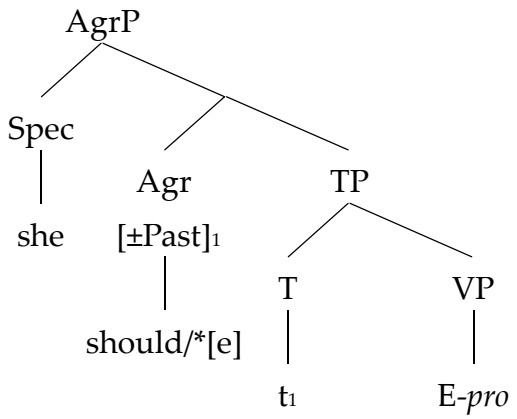
As reviewed in chapter 1 and 2, Lobeck (1993, 1995) proposes that the ellipsis site is not derived by a deletion operation, but is occupied by an empty, non-arbitrary pronominal *pro*, which I refer to as E(llipsis)-*pro*. E-*pro* is licensed and identified under the following condition in Lobeck (1995).

(40) Licensing and Identification of *pro*
An empty, non-arbitrary pronominal must be properly head-governed, and governed by an X-0 specified for strong agreement.
(Lobeck (1995: 20))

In the case of VPE under consideration, E-*pro* is allowed to occur only when it is head-governed by a functional category specified for the [+Tense] feature, which is strong in the sense that it is morphologically realized. Therefore, VPE in (41) is well-formed with the relevant functional category, i.e. Agr, realized as *should*, while the lack of a T element causes the ungrammaticality of (41) since the Agr is not lexically filled.

(41) a. Because she *(shouldn't) [VP e], Mary doesn't smoke.
(cf. Lobeck (1995: 47))

b.



(cf. Lobeck (1995: 145))

Under this analysis, the semantic content of E-*pro* is recovered by copying that of its antecedent at the semantic interface: the reconstruction of λ-expression of the antecedent VP.

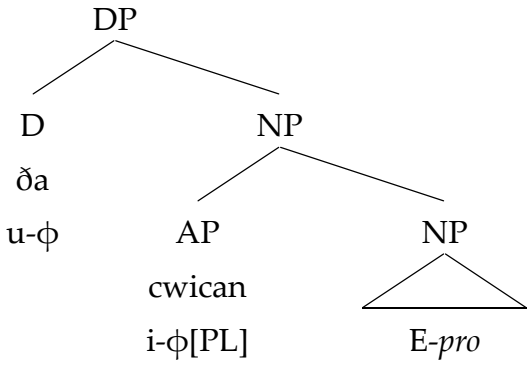
Although VPE is analyzed successfully under Lobeck's (1995) analysis, it is problematic in that some notions in her analysis have been abandoned within the Minimalist framework, such as the functional category Agr in the proposed structure of VPE and the notion of government in the licensing and identification condition of

E-*pro* in (40). Also, her analysis is empirically problematic in that it wrongly rules out the availability of Modal-stranding VPE in OE and ME, because she assumes that VPE is not allowed in languages with V-to-T movement, such as French and German (see 3.6 for discussion in detail). Following the analysis updated within the Minimalist framework in the previous chapter, the remainder of this section proposes a new LF-copy analysis of VPE, based on the syntactic operation Agree in the sense of Chomsky (2000, 2001).

In order to develop such an analysis, this chapter extends the mechanism of licensing and identification of E-*pro* argued in chapter 1 and 2. As we saw in chapter 2, E-*pro* is generated within adjectives used as nouns (N-adjective) in OE like (42), where the head noun is elided after the adjective within DP.

(42) a. ða cwican
those quick.PL (cobede,Bede_1:11.50.3.448: o2)

b.



Here, D has a set of uninterpretable, unvalued ϕ-features (u-ϕ) which functions as a probe in the same way as other functional categories like T and *v**. Furthermore, since adjectives in OE have the rich inflectional system just like nouns, they have a set of interpretable, valued ϕ-features (i-ϕ) which serves as a goal. E-*pro* itself does not have any formal features such as ϕ-features or Case features. It is allowed to occur within DP as long as the derivation of the DP with E-*pro* converges. The

derivation of DP in (42) converges under the Agree relation between u-ϕ on D *ða* and i-ϕ on AP *cwican*, therefore the E-*pro* is licensed. The Agree relation whose result is morphologically realized on a probe identifies E-*pro* and makes it visible for reconstruction at the semantic interface. In this case, E-*pro* is successfully identified by the morphology of D. This mechanism of licensing and identification of E-*pro* is summarized in (43).

(43) Licensing and Identification of E-*pro*

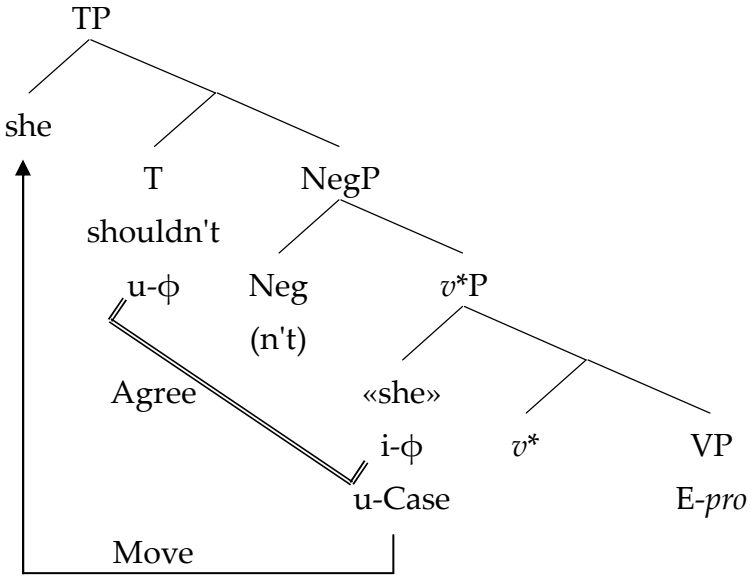
a. E-*pro* is licensed if the derivation of its host phrase converges.

b. E-*pro* is identified and made visible for LF-copying by the Agree relation whose result is morphologically realized on its probe.

Let us consider how the grammaticality of Modal-stranding VPE in PE is accounted for under the analysis based on (43). E-*pro* is treated as VP in VPE since it is generated as the complement of *v**, as shown in (44).

(44) a. Because she shouldn't [e], Mary doesn't smoke.

b.



In (44), T enters into the Agree relation with the subject *she*, valuing u-ϕ on T and the unvalued Case feature (u-Case) on the subject. Subsequently, the subject moves to

Spec, TP. This Agree relation deletes all the unvalued features within the relevant *v**P, so its derivation converges and hence, E-*pro* is licensed in respect of the condition in (43a). In addition, the Agree relation between T and the subject is morphologically realized as *shouldn't* on T, so that E-*pro* is successfully identified and made visible for reconstruction at the semantic interface under the condition in (43b). As a result, the content of E-*pro* including its formal features is recovered by copying that of the antecedent VP at the semantic interface.

The present analysis does not have to stipulate a rule like the verbal identity requirement in (26), and the semantic identity of the elided VP and its antecedent VP is naturally obtained under the LF-copy approach. Suppose that verbs have a thematic grid as a part of their lexical entry. For example, the lexical entry for the verb *see* includes its pronunciation, part of speech and thematic grid represented in angled brackets, as in (45) (Higginbotham (1985)).

(45) see, +V -N, <1,2,E> (Higginbotham (1985: 555))

The positions indicated as 1 and 2 are open slots which will be saturated by an external argument and an internal one, respectively. For example, within a sentence *John saw Mary*, the slot 1 is saturated by *John*, and the slot 2 is by *Mary*. The position E is an event argument which will be bound by Tense, namely [+Past] in the relevant case.

At the time the interpretation of E-*pro* as VPE is recovered, the interpretation of the antecedent VP is reconstructed. In other words, E-*pro* inherits the thematic grid of the antecedent VP. Suppose that the internal argument is generated within VP, but the external argument is generated at Spec, *v**P. Therefore, the E-*pro* is interpreted as the VP whose internal argument position is already saturated, but its

external argument and event argument positions are not because these position is to be saturated outside of VP, possibly at *v**P and TP. This can also be expressed by λ-expressions reviewed in 3.2. For example, the antecedent VP has the λ-expression in (46b), and E-*pro* will be interpreted as in (46c) by assuming that reconstruction of interpretation is to copy the λ-expression of the antecedent VP and make it an alphabetic variant.

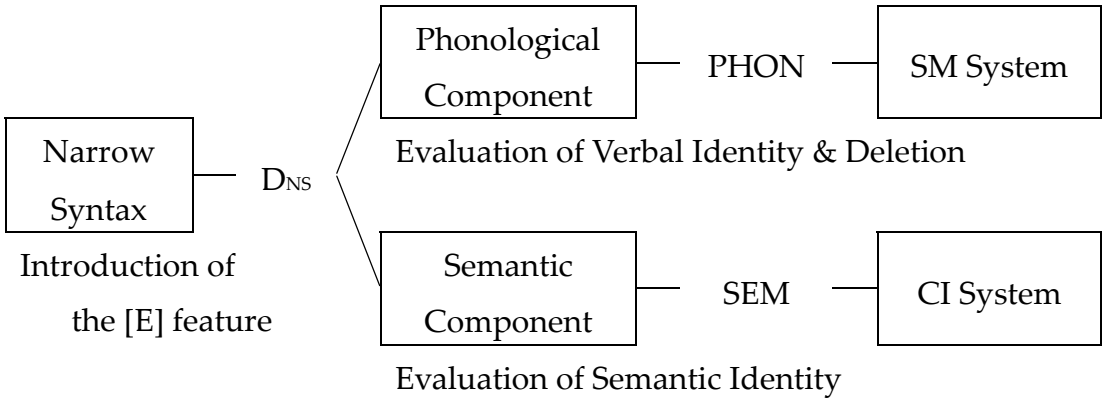
(46) a. John [+Past] [$_{v^*P_A}$ «John» [catch a big fish]], but Mary didn't [$_{v^*P_E}$ «Mary» *v** [$_{VP}$ E-*pro*]]
b. VP_A: λx(x catch <u>a big fish</u>)
c. VP_E: λy(y catch <u>a big fish</u>)

The internal argument of the verb *catch* is already saturated by the nominal expression *a big fish*, and so the internal argument position of the reconstructed λ-expression is already saturated, as well. Their external argument and past tense interpretation is determined by each context.[12]

Adopting the LF-copy approach is also preferable in Minimalist perspectives, in which it is generally assumed that the semantic interface and the phonological interface are independent of each other. The PF-deletion approach reaches the same results as the LF-copy approach, but the former involves redundant steps to legitimate elliptical constructions: it assumes that deletion of VP does not occur until the semantic identity and the morphological identity are evaluated in the relevant interfaces. Let us consider that the [E] feature is introduced into the derivation at narrow syntax. The computation in narrow syntax is carried out, using only formal features. Narrow syntax feeds constructed information to either the semantic component or the phonological component. As defined in (11), the head carrying the [E] feature requires an e-GIVEN constituent as its complement; however

e-GIVENness must be evaluated in the semantic interface, not in narrow syntax, because it is a matter of the semantic representations. Similarly, the morphological identity must be evaluated in the phonological component/interface because phonological features are not visible to narrow syntax. As schematized in (47), these two evaluations are made independently in each component/interface.

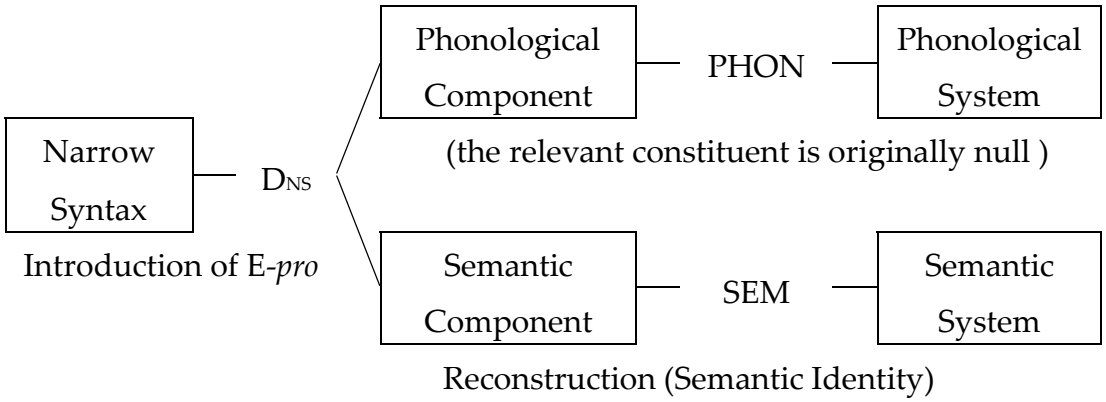
(47)



Because of the presence of the [E] feature, deletion by the [E] feature occurs and the derivation converges at the phonological interface, no matter what the semantic interface is fed by narrow syntax. Therefore, the derivation may crash at the semantic interface if the complement of the [E] feature is not e-GIVEN. Given that the derivation must converge at all interfaces (Chomsky (2001)), the derivation illegitimate at the semantic interface must be discarded even if the deletion has been already applied at the phonological component/interface. Thus, the PF-deletion approach needs too many mechanisms to derive legitimate elliptical constructions.

However, the LF-copy approach does not suffer from this kind of redundancy, as schematized in (48).

(48)



Since the missing VP is null in narrow syntax, we do not have to take the morphological identity into account. Once the derivation with E-*pro* converges, the semantic content of E-*pro* is always identical to that of its antecedent since E-*pro* receives the same semantic representation as its antecedent. Thus, the LF-copy approach can dispense with the dual-evaluation system which must be incorporated with the feature-driven deletion approach.

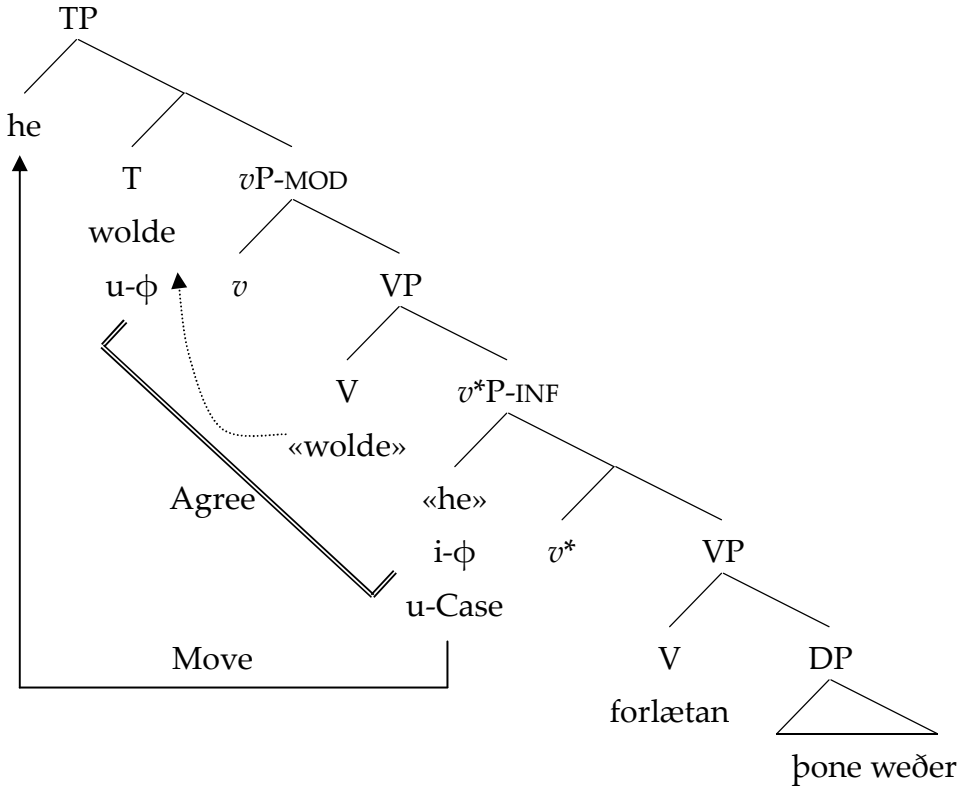
The following sections try to explain the empirical fact that OE and ME allows Modal-stranding VPE, but not Lexical-V-stranding VPE. This fact is successfully explained under the LF-copy analysis based on the formal licensing and identification of E-*pro*.

3.4.2. Modal-stranding VPE in OE and ME

This section considers the possibility of Modal-stranding VPE in OE and ME, beginning with the derivation of non-elliptical sentences with pre-modal. The first conjunct of the example in (37a), repeated here as (49), has the structure in (50), where the pre-modal is analyzed as a raising verb taking an infinitival *v**P complements, as argued in section 3.3.2.

(49) & he wolde þone weðer forlætan, ac he ne mihte
and he would that wether relinguish, but he not might
'and he would relinguish that sheep, but he might not.'
(cogregdC,GDPref_and_3_[C]:22.224.25.3075: o4)

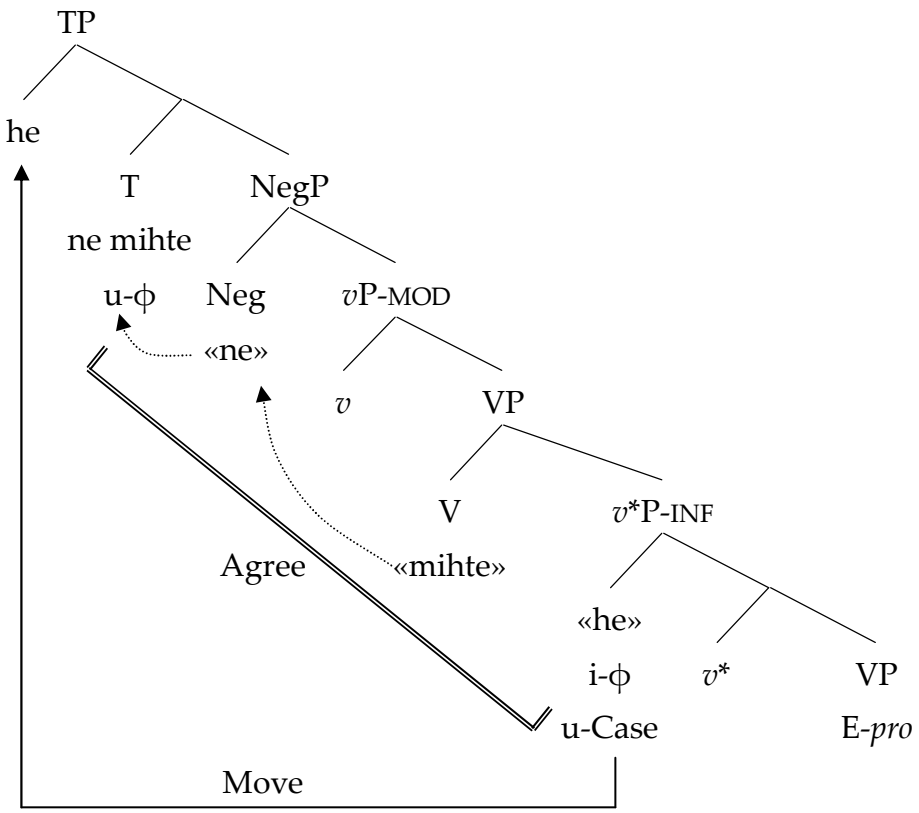
(50)



In (50), the pre-modal *wolde* undergoes V-to-T movement, and the subject *he* generated in Spec, *v**P-INF raises to Spec, TP under the Agree relation with T. This Agree relation values both u-ϕ on T and u-Case on the subject, leading to the convergent derivation.

With this in mind, consider now the derivation of Modal-stranding VPE in OE and ME. It can be assumed that the second conjunct of the example in (49) has the structure in (51), where the relevant infinitival *v**P contains E-*pro*.[13,14]

(51)



Again, T enters into the Agree relation with the subject *he*, which induces valuation of u-ϕ on T and u-Case on the subject. As a result, the derivation converges, so E-*pro* is licensed under the condition in (43a). At the same time, E-*pro* is successfully identified under the condition in (43b), since the Agree relation between T and the subject is morphologically manifested on T which is lexically filled by the pre-modal.

Thus, the present analysis can account for the fact that Modal-stranding VPE has been available throughout the history of English. Although the structure with modals with VPE changed from (51) to (44) under the categorical change of modals and the loss of V-to-T movement in the sixteenth century, this did not affect the availability of VPE (namely, licensing and identification of E-*pro*), since the Agree relation relevant for Modal-stranding VPE is still morphologically realized on T.

3.4.3. The Impossibility of Lexical-V-stranding VPE in OE and ME

Recall from section 3.3.3 that the feature-driven deletion approach mistakenly predicts that Lexical-V-stranding VPE was possible in OE and ME: a lexical verb can be the remnant of VPE by evacuating from the elided constituent through V-to-T movement which was attested in OE and ME. This section addresses the question why Lexical-V-stranding VPE is impossible in OE and ME.

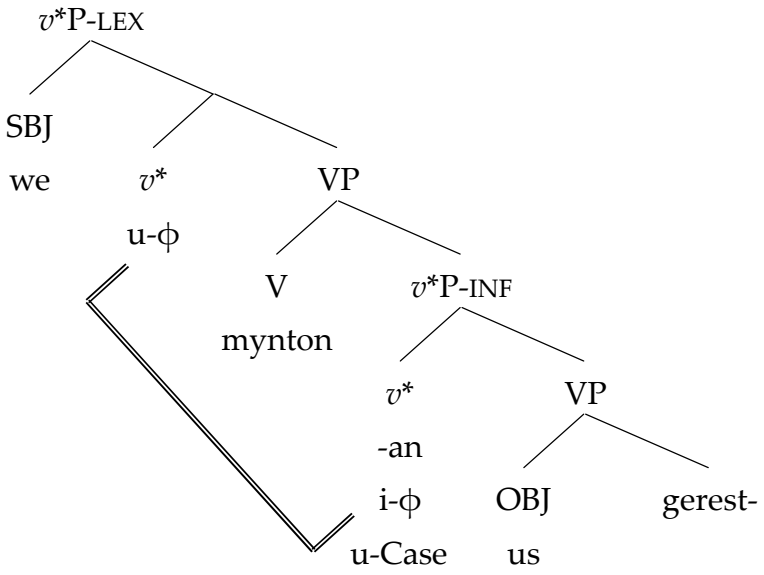
3.4.3.1. Ellipsis of Infinitival Complements of Lexical Verbs

Bare infinitives in OE and ME could appear not only as raising complements of modals but also as control complements of lexical verbs, as illustrated in (52).

(52) ,Þa mynton we us *gerestan*,
,then intended we ourselves repose
'then we intended to repose ourselves' (coalex,Alex:19.2.215: o3)

Assuming with Tanaka (2009) that a control complement in OE and ME has its external argument realized as the infinitival morpheme *-an* occupying *v**, the structure of lexical verbs taking control complements will be analyzed as follows.[15]

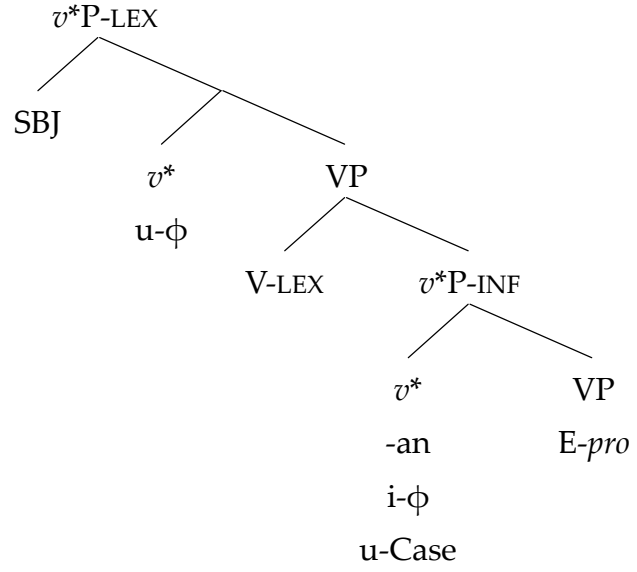
(53)



In (53), the infinitival morpheme *-an* is assigned accusative Case by the matrix verb.[16] The matrix *v** enters into the Agree relation with the infinitival morpheme. This Agree relation values u-ϕ on the matrix *v** and u-Case on the infinitival morpheme, leading to the convergent derivation.

Now, consider what happens if VP is replaced by E-*pro* in (53), that is to say, control complements are elided.

(54) *

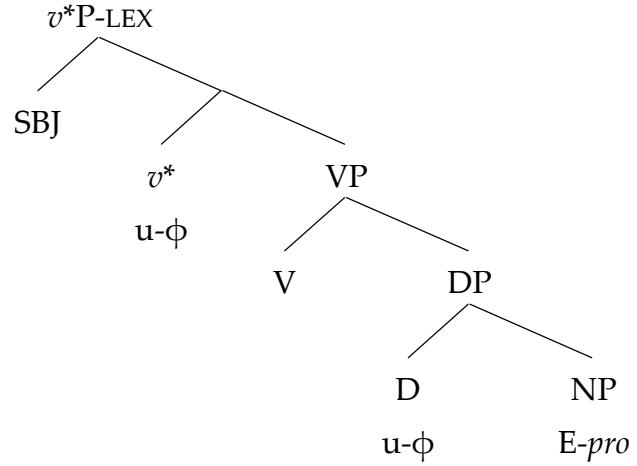


In (54), E-*pro* is licensed because the derivation of the matrix *v**P converges in the same manner as in (53). However, it is not successfully identified in this structure, because the Agree relation between the matrix *v** and the infinitival morpheme is not morphologically realized on the matrix *v**: OE and ME do not have the verbal inflection associated with accusative Case assignment, namely object-verb agreement. This results in the failure of the identification of E-*pro*, and therefore Lexical-V-stranding VPE is impossible in control complements of lexical verbs in OE and ME.

3.4.3.2. Ellipsis of Nominal Complements of Lexical Verbs

Next, consider the case in which nominal complements of lexical verbs are elided. The absence of Lexical-V-stranding VPE in this case follows immediately from the present analysis, if we assume that D carries u-ϕ just like other functional categories such as T and *v** (see section 3.4.1). The relevant structure of VPE will be like (55).

(55) * *v**P-LEX



Given that E-*pro* does not have any formal features (see section 3.4.1), u-ϕ on D does not have an appropriate goal in this configuration, so the derivation does not converge and hence E-*pro* is not licensed. Thus, together with the conclusion in the previous section, the present analysis can provide a proper account for the general impossibility of Lexical V-stranding VPE in OE and ME.

3.5. Further Consideration of E-*pro* within VPE

3.5.1. VPE with multiple auxiliaries in PE

As represented in (56), VPE in PE allows both a modal and an aspectual auxiliary to be left as the remnants.

(56) José Ybarra-Jaegger should have eaten rutabagas, and Holly should have Δ too. (Johnson (2001: 439))

According to Gergel (2009), the cooccurrence of them in VPE was not allowed in earlier English and it began to be attested during the ME period. He explains this change by assuming that a lexical verb *have* underwent the categorical change to a head of a predicate phrase, i.e. PrP, which is proposed by Bowers (2001). After the categorical change, both a modal on T and *have* on Pr function as co-licenser of VPE.

This empirical fact can be accounted for under the present E-*pro* analysis. Unlike Gergel's (2009) proposal, I just assume that a transitive verb *have* lost its argument structure in the course of its categorical change to an auxiliary. It follows that the auxiliary *have* also lost u-ϕ responsible for Case assignment. As pointed out by Mizudori and Yonekura (1997: 64), and McFadden and Alexiadou (2010: 392), the origin of the perfect auxiliary *have* is assumed to be a resultative verb *have* like *I have my bags packed*. Consider the following example taken from YCOE.

(57) & hie hæfdun hiera cyning aworpenne Osbryht,
and they had their king.ACC rejected Osbryht,
'and they had their king Osbryht rejected.'
(cochronA-1,ChronA_[Plummer]:867.1.765: o3)

In this case, the lexical verb *hæfdun* seems to assign accusative to their complement *hiera cyning*, so the matrix *v** hosting the lexical verb would have u-ϕ to match i-ϕ on the direct object. As discussed above, Agree induced by u-ϕ on *v** can license E-*pro*; however it fails to identify E-*pro* since its result is not realized as the verbal inflection on the *v**. Therefore, the resultative *have* cannot appear as the remnant of VPE since u-ϕ associated with the resultative *have* can license but cannot identify E-*pro* generated in its complement.

However, the categorical change of *have* makes possible the licensing of E-*pro* by u-ϕ on T. The lexical verb *have* lost its argument structure including the ability to take an external argument, and at the same time, it lost u-ϕ responsible for the accusative Case assignment to its complement, just like pre-modals in OE and ME. Thus, once the perfect auxiliary *have* began to be used independently of the resultative *have*, E-*pro* generated in its complement began to be licensed by the Agree relation induced by u-ϕ on T. In addition, the E-*pro* is identified by the relevant Agree relation because its result is realized as subject-verb agreement. This scenario is summarized as follows.

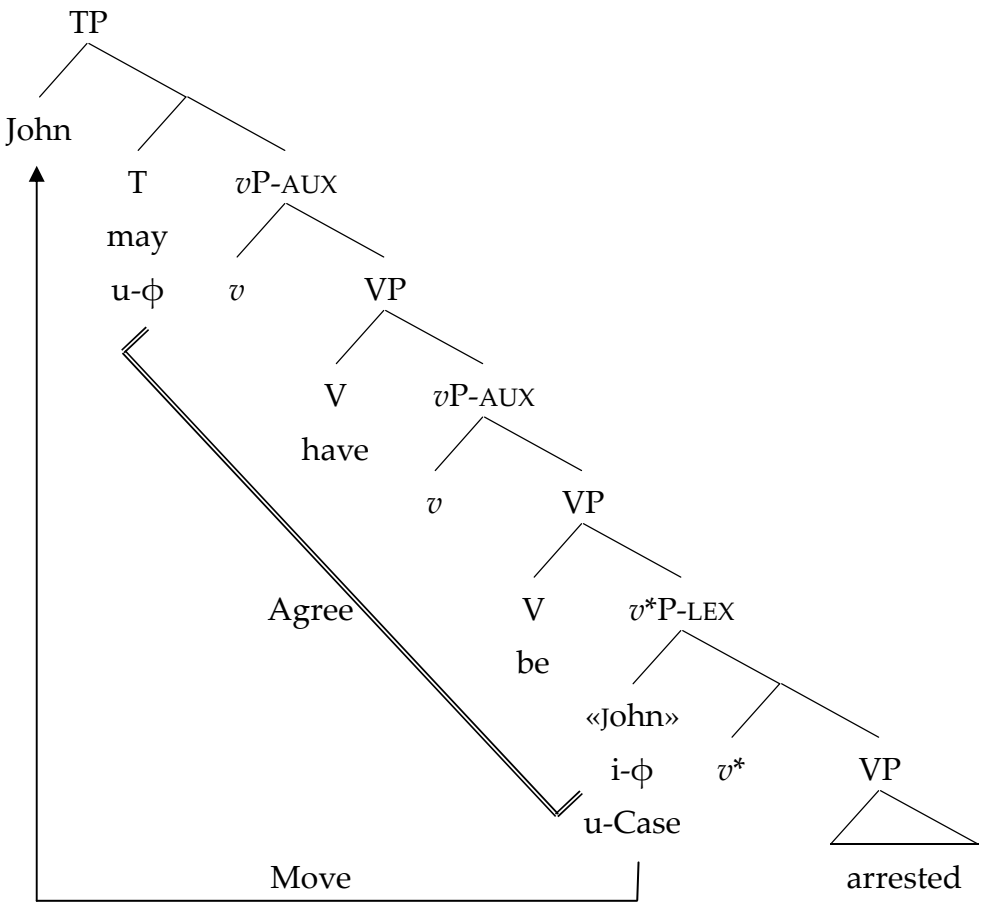
(58) a. * [$_{CP}$ C [$_{TP}$ T[u-ϕ]…[$_{v*P}$ SBJ [$_{v*'}$ *v**[u-ϕ] [$_{VP}$ habban [$_{SC}$ E-*pro*]]]]]] ➔
b. [$_{CP}$ C [$_{TP}$ T[u-ϕ]…[$_{vP\text{-}AUX}$ SBJ [$_{v'}$ *v* [$_{VP}$ have [$_{v*P}$ «SBJ» *v** [$_{VP}$ E-*pro*]]]]]]]

Thus, the present E-*pro* analysis is compatible to the empirical fact reported by Gergel (2009).

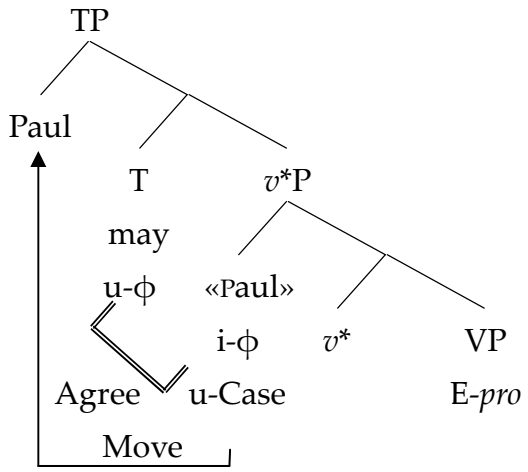
Furthermore, the E-*pro* analysis can also account for cases in which a stranded modal occurs with other auxiliaries. The examples in (59) are analyzed as in the structures in (60).

(59) John may have been arrested
a. and Paul may ~~have been arrested~~ too.
b. and Paul may have ~~been arrested~~ too.
c. and Paul may have been ~~arrested~~ too. (Rouveret (2012: 56))

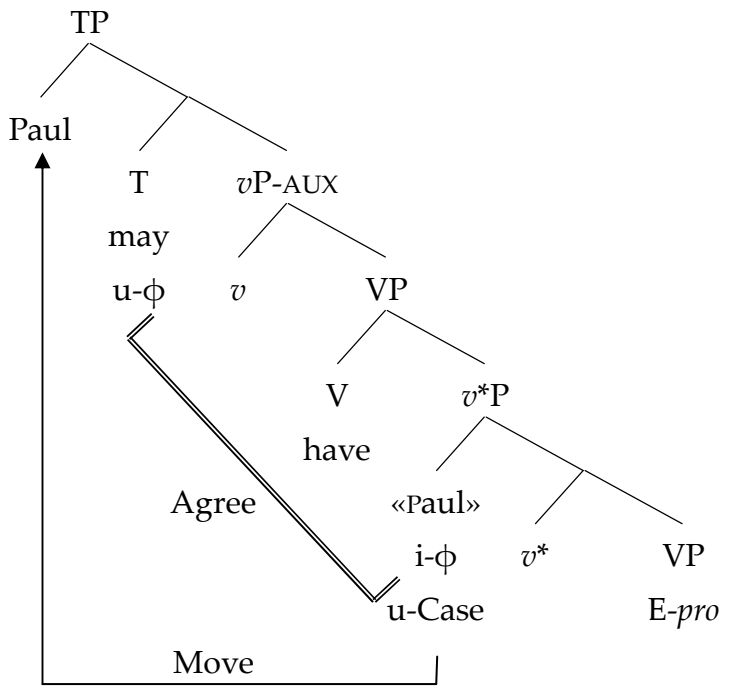
(60)


TP
John
T
may
u-ϕ
vP-AUX
v
VP
V
have
vP-AUX
v
VP
V
be
v*P-LEX
«John»
i-ϕ
u-Case
v*
VP
arrested
Agree
Move

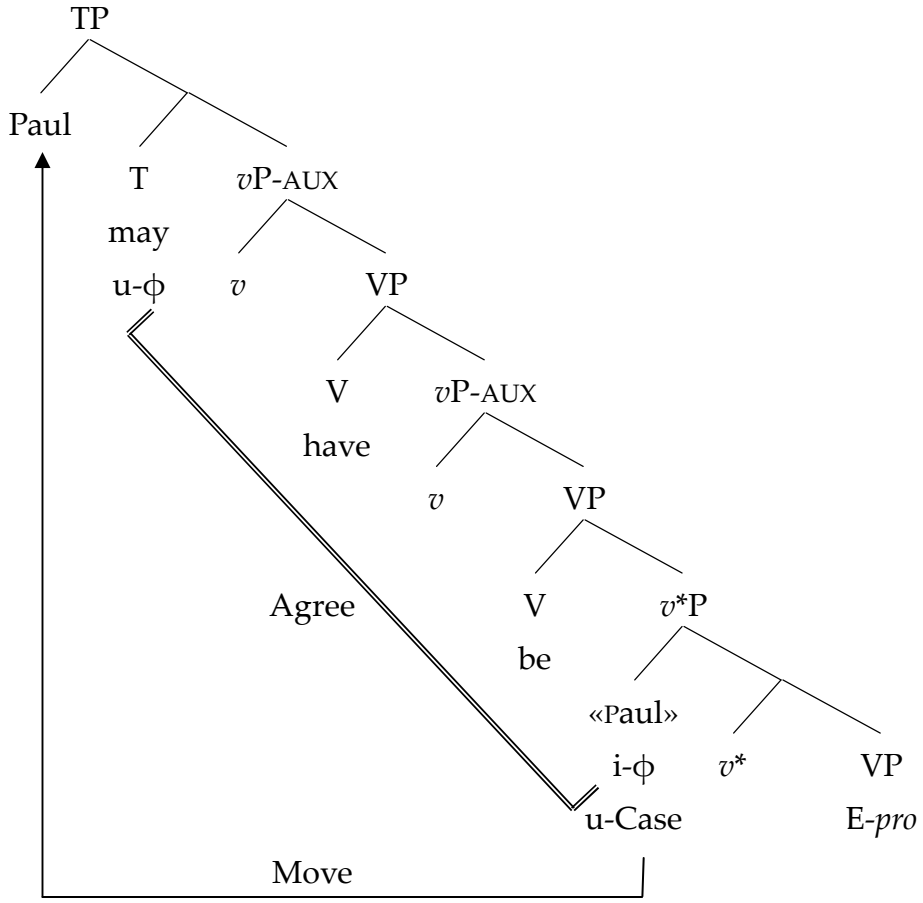
a.


TP
Paul
T
may
u-ϕ
v*P
«Paul»
i-ϕ
u-Case
v*
VP
E-pro
Agree
Move

b.



c.



Suppose that the auxiliaries *have* and *be* head verbal projections. As in (60), *v**P containing E-*pro* can be selected by passive *be* or perfect *have*, as well as by a modal.

Since these auxiliaries do not have their own argument structure and lack u-ϕ responsible for Case assignment, they do not block u-ϕ on T from licensing and identifying E-*pro*.

3.5.2. VPE within Infinitival Complements in PE

Unlike VPE in OE, VPE in PE can be attested in an infinitival complement of control verbs as in (61).

(61) a. Kim isn't sure she can [VP solve the problem], but she will try [PRO [T to] [VP e]].
b. Rebecca wanted Jill to [VP join the team], so Pam persuaded her [PRO [T to] [VP e]]. (Martin (2001: 154))

On the other hand, VPE cannot occur in an infinitival complement of ECM verbs even in PE, as in (62).

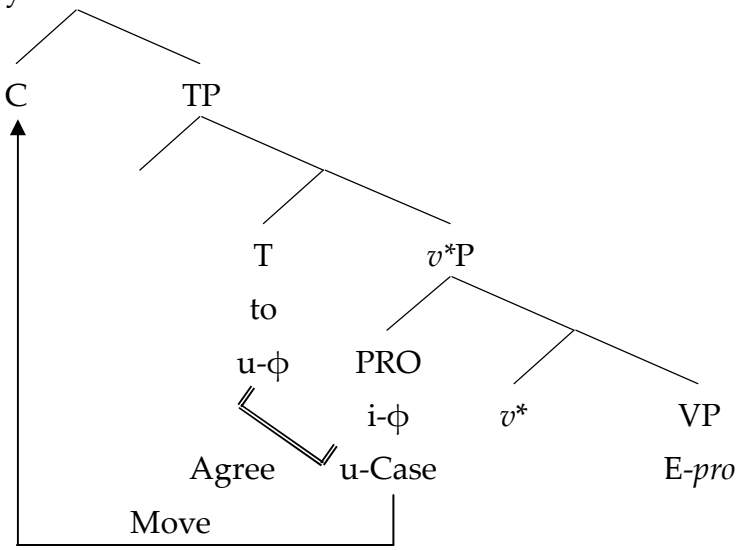
(62) a. * I consider Pam to [VP like soccer], and I believe [Rebecca [T to] [VP e]] as well.
b. * Bill believes Sarah to be [AP honest], and he believes [Kim [T to] [VP e]] as well. (Martin (2001: 154))

The present analysis will explain this contrast by appealing the difference in the feature makeup of T, although the infinitival marker *to* is generated on T in both cases.

In the case of control infinitives in (61), the infinitival T is specified for u-ϕ which is responsible for Case assignment. The relevant control infinitives contain PRO as their understood subject, and this empty category is assumed to have null Case feature to be checked (or valued) under the C-T configuration (Chomsky (2007, 2008)). Since the beginning of the control theory, infinitival complements of control

verbs have generally been analyzed as CP, so it is natural to assume that E-*pro* is licensed and identified within the infinitival complement of control verbs in the same way as other finite CPs. Hence, the structure of (61a) will be analyzed as (63), in which *v**P containing E-*pro* is selected by the infinitival C-T configuration,

(63) but she will try

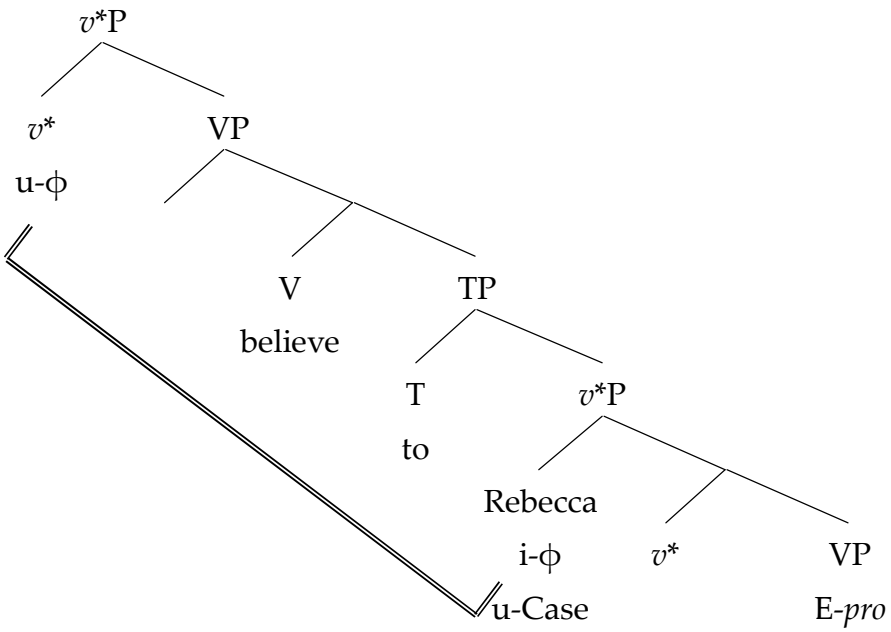


Following Radford (2009: 266ff.), PRO as an understood subject of control infinitives is base-generated in an external argument position. Hence, it is generated in Spec, *v**P.[17] Just like other lexical subjects with phonological contents, PRO is specified for i-ϕ and u-Case; the Agree relation is established between u-ϕ on T and i-ϕ on PRO, subsequently inducing A-movement of PRO to Spec, TP. Thus, the derivation successfully converges, and at the same time, E-*pro* within the *v**P is licensed and identified successfully. Although there seems to be no morphological realization as a result of the Agree relation, it suffices to say that the relevant T is lexically filled by the infinitival marker *to*.

The present analysis also makes a right prediction about the impossibility of VPE in ECM infinitives, in which T is filled by the infinitival marker *to* as well. Unlike control infinitives, ECM infinitives have generally been analyzed as TP

headed by defective T, lacking CP (Chomsky (2001DBP)). In this case, their matrix verb is responsible for the Case assignment of the understood subject of ECM infinitives. In the recent Minimalist framework, this will amount to assume that u-ϕ on the matrix *v** is responsible for Case-assignment of the understood subject of ECM infinitives. With this in mind, the structure of (62a) will be analyzed as (64).

(64)



Here, the Agree relation is established between u-ϕ on the matrix *v** and i-ϕ on the understood subject *Rebecca*, and subsequently inducing the valuation of u-Case.[18] As we saw above, the Agree relation with u-ϕ associated with the lexical verb cannot identify E-*pro* since English has lacked object-verb agreement. Thus, VPE is impossible in ECM infinitives even though the infinitival T is lexically filled.

Martin (2001) further points out that VPE can occur in the infinitival complement of subject raising constructions when a lexical subject is employed, as in (65).

(65) Kim may not leave but Sally is likely/certain to [VP e].

(Martin (2001: 160))

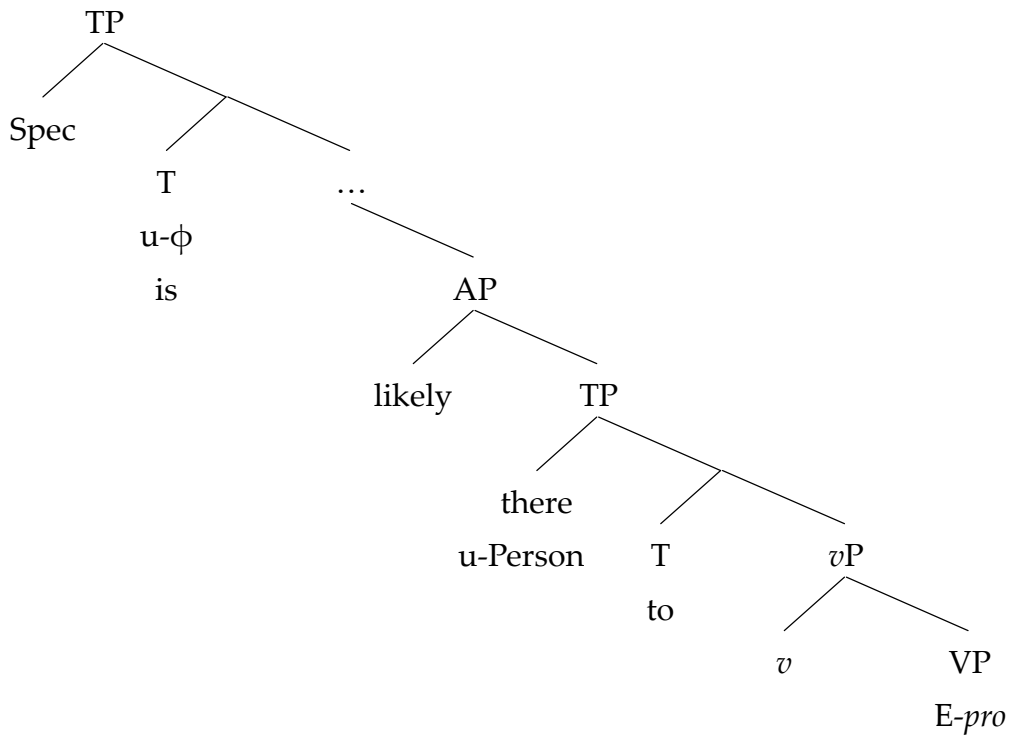
On the other hand, VPE is not allowed in the same construction when expletive subjects are employed, as in (66).

(66) a. * It was announced that there may be a riot, so everyone believes there is likely to [VP e].
b. * There is likely to be someone in the room, but there is not certain to [VP e]. (Martin (2001: 160))

Considering the contrast between (65) and (66), the infinitival complement of raising adjectives such as *likely* or *certain* seems to be analyzed as either CP or TP. In (65), the infinitival complement may be CP due to the availability of VPE, so that PRO must be generated as its understood subject. On the other hand, the unavailability of VPE in (66) shows that the relevant infinitival complement may be analyzed as TP, so that the understood subject must not be PRO.

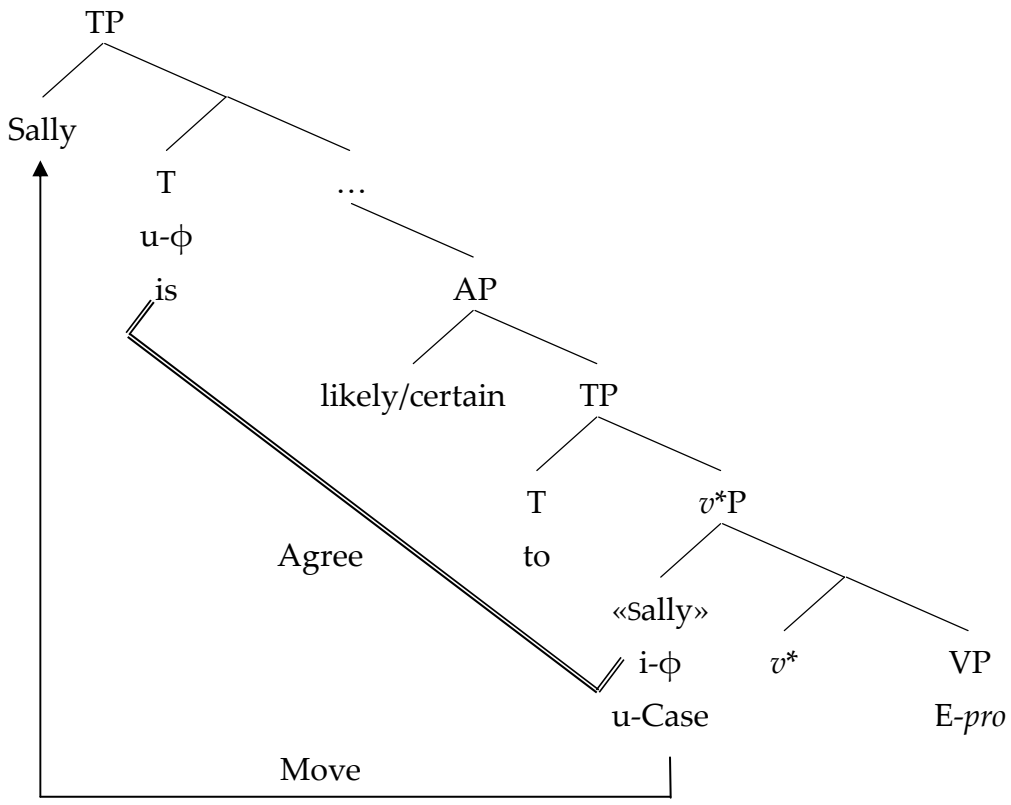
Although, in order to explain the contrast of licensing VPE, Martin (2001) proposes that raising adjectives may take either control infinitives or raising infinitives, this puzzle can be solved under the analysis proposed in this chapter, by appealing to the difference in feature makeup between lexical subjects and expletive subjects.[19] As Chomsky (2000, 2001) argued, unlike a lexical subject *Sally* in (65), expletive subjects *there* in (66) are specified for an incomplete set of u-ϕ: they have only the u-Person feature. In addition, they are directly inserted in Spec, TP, as in (67).

(67)



In (67), there is no element functioning as a goal to provide a value for the probes such as u-Person on *there* and u-ϕ on T, which causes the nonconvergent derivation and the failure to license E-*pro*. In the case of (65), on the other hand, the derivation converges since a lexical subject carries a complete set of i-ϕ, which provides values for a probe on T, even if E-*pro* is employed, as in (68).

(68)



After establishing the Agree relation between u-ϕ on T and i-ϕ on the lexical subject, it moves to Spec, TP. E-*pro* is licensed because the derivation converges. At the same time, E-*pro* is identified because the result of the Agree relation is morphologically realized on the probe. Thus, the contrast between (65) and (66) is successfully explained without assuming two types of complementation of raising adjectives under the present analysis.

3.6. French Modal Ellipsis and the LF-copy Approach

Lobeck (1995, 1999) argues that English-type VPE is not allowed in French, as illustrated in (69).

(69) a. * Claudine est une bonne étudiante, et Marie est [VP e] aussi.
'Claudine is a good student, and Marie is, too.'

b. * On a demandé si ils ont déjà mangé, et ils ont [VP e].
'We asked if they had already eaten, and they had.'

c. * On peut demandé si ils ont déjà mangé, et on doit [VP e].
'One can ask if they have already eaten, and one should.'
(Lobeck (1995: 156))

Lobeck (1995) insists that VPE is impossible in French because features responsible for licensing and identification of E-*pro* are already checked (and may be deleted) because of obligatory V-to-T movement. As in (70) and (71), French lexical verbs and auxiliaries undergo overt movement to a higher position than its base-generated position.

(70) a. Jean ne mange pas.
John NEG eats not.
'John doesn't eat.'
b. * Jean ne pas mange.
John NEG not eats.
'John doesn't eat.'
c. Mange-t-il?
Eats he?
'Does he eat?' (Lobeck (1995: 159)'

(71) a. Jean a mangé.
'John has eaten.'
b. Jean n'a pas mangé.
John NEG-has not eaten
'John has not eaten.'
c. A-t-il mangé?
'Has he eaten?' (Lobeck (1995: 159))

Given that the negative morpheme *pas* heads NegP like *not* in English (Pollock (1989), Chomsky (1993)), the contrast between (70a) and (70b) illustrates the raising of the lexical verb *mange* to the higher position than NegP. The raising of an auxiliary is also illustrated in (71a, b). In the interrogative sentence, the subject is preceded by

the main verb in (70c) and the auxiliary in (71c). All these facts illustrates that lexical verbs as well as auxiliaries undergo V-to-T movement in French.

It is assumed that the overt movement of French lexical verbs and auxiliaries is driven by strong features generated on Agr. Since they are visible at PF, the derivation crashes at PF in case they are unchecked (Chomky (1995)). Therefore, the application of V-to-T movement is obligatory in French before the derivation reaches PF, namely, at syntax. Lobeck (1995) proposes that only unchecked features are responsible for licensing and identification of E-*pro*. Hence, VPE is not allowed in French because strong features on Agr are checked prior to the stage at which E-*pro* is licensed and identified. On the other hand, since English does not have overt V-raising, its Agr has weak features which are invisible at PF, and the derivation does not crash even if they are unchecked. Then, VPE is possible in PE due to the unchecked features, which are to be checked at the same level as the licensing and identification of E-*pro*.

However, unchecked (unvalued) features should not reach interface levels under the legibility condition within the recent Minimalist framework (Chomsky (2000: 95)). Furthermore, Dagnac (2008) and Authier (2011) argue that French has modal ellipsis, as in (72).

(72) a. Jean a pu parler à Pierre mais Marie n'a pas pu __
[= 'parler à Pierre']
'Jean could talk to Pierre but Mary couldn't.'
(cf. Dagnac (2008:1))

b. Elle voulait venir me voir, mais elle n'a pas
she wanted to-come me to-see but she NEG-has not
pu __.
been-able
'She wanted to come and see me, but she wasn't able to'
(cf. Authier (2011: 176))

c. Il a réoccupé le Rhin alors qu'il aurait
he has reoccupied the Rhine although-he would-have
pas dû __.
not had-to
'He has reoccupied the Rhine, although he shouldn't have.'
(cf. Authier (2011: 176))

d. Même si tu avais voulu __, tu aurais pas
even if you had wanted you would-have not
pu le voir.
been-able him to-see
'Even if you had wanted to, you wouldn't have been able to see him.' (cf. Authier (2011: 176))

Verbs in French like *pourvoir*, *devoir*, and *vouloir*, equivalent to *to be able to*, *to have to*, and *to want to* respectively, are called modal verbs, and their bare infinitive complement can be elided (Rowlett (2007), Dagnac (2008), and Authier (2011)).[20] They are analyzed as raising verbs which select a bare infinitive headed by T, and Dagnac assigns the structure in (73b) to a modal verb *peut* in (73a).[21]

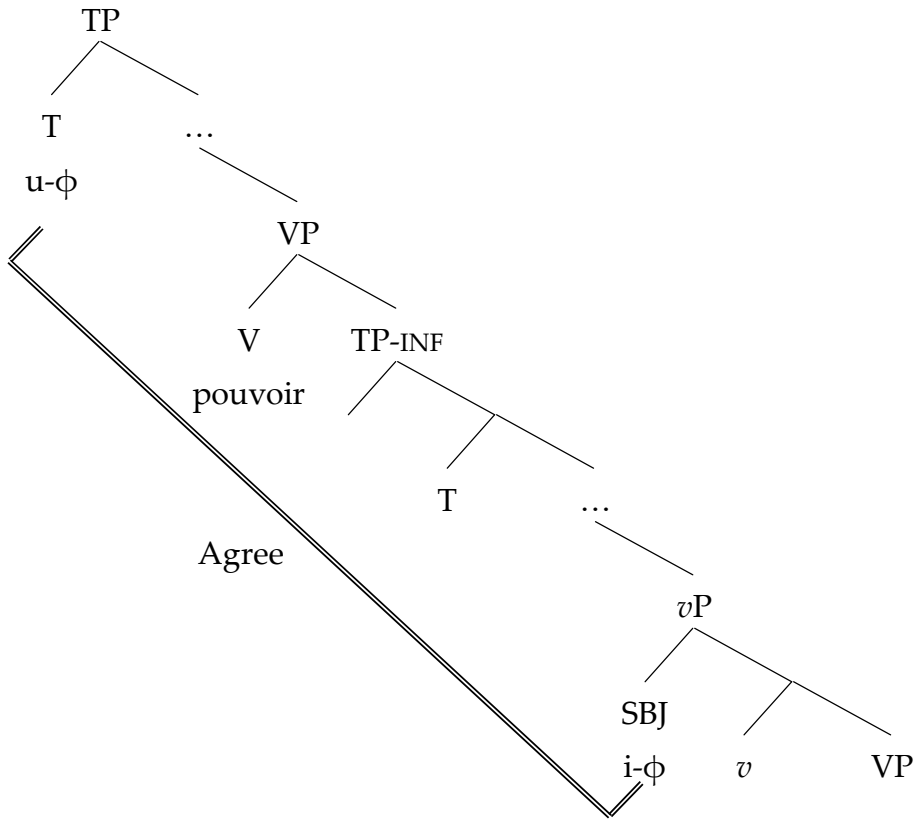
(73) a. Paul peut ne pas avoir quitté son bureau à 8 heures.
'Paul is allowed [not to have left his office at 8pm]'

b. … [$_{VP}$ pouvoir [$_{TP}$ t_{SBJ} [(ne pas) T … [$_{AspP}$ … [$_{v}$P t_{SBJ} [$_{VP}$ …]]]]]]
(cf. Dagnac (2008: 5))

Adopting the focus condition of elliptical constructions within Merchant's feature-driven deletion approach, Dagnac (2008) assumes that ellipsis of bare infinitive complement in (72) is deletion of TP (henceforth, TPE).

Without the focus condition proposed by Merchant, the present analysis can accounts for the fact of TPE observed in French in the same way as Modal-stranding VPE in OE and ME with the following structure.

(74)



Given that the modal verb *pouvoir* is a raising verb, the subject of the sentence is base-generated at the specifier position of the infinitival *v*P, and then attracted to the specifier position of the matrix TP as a result of Agree. In (73a), the result of Agree between u-ϕ on the matrix T and i-ϕ on the subject is morphologically realized as *peut* on T. In this configuration, the derivation converges even if E-*pro* is employed since u-ϕ on T enters into the Agree relation with i-ϕ on the subject. In (72a), the result of Agree between T and the subject is morphologically realized as *a pu*. Thus, the present analysis successfully accounts for the fact observed in French, without any theoretical and empirical problems which the feature-driven deletion approach

suffered, as pointed out in section 3.2.[22]

3.7. Concluding Remarks

This chapter has investigated the mechanism of VPE in English, focusing on the fact that only Modal-stranding VPE has been allowed throughout its history. This fact has been successfully accounted for in terms of the *v**P structure with E-*pro*, which is licensed and identified under the Agree system within the recent Minimalist framework. The present analysis has succeeded in explaining the availability of Modal-stranding VPE, which is wrongly ruled out in Lobeck (1995). It has also succeeded in ruling out the possibility of Lexical-V-stranding VPE in OE and ME, which is wrongly predicted to be possible by the recent PF-deletion approach proposed by Merchant (2001, 2008) and Goldberg (2005). It was suggested that the present analysis is also able to explain some facts related to VPE, such as VPE with multiple auxiliaries, VPE within control infinitives, and French Modal Ellipsis.

Notes on Chapter 3

---

[1] Goldberg (2005: 42) presents the following examples to illustrate the fact that finite verbs in Hebrew obligatorily undergo V-to-T movement. Given that manner adverbials and floating quantifiers are placed on the edge of VP (Pollock (1989)), the relative word order of finite verbs and them implies that the finite verbs moved to the higher position than their base position.

(i) a. Dani patax be-'adinut et ha-delet
Dani open[Past3Msg] in-gentleness ACC the-door
'Dani opened gently the door.'

b. * Dani be-'adinut patax et ha-delet
Dani in-gentleness open[Past3Msg] ACC the-door
'Dani gently opened the door.' (Goldberg (2005: 43-44))

(ii) a. Ha-yeladim katvu kulam mixtav.
the-children[Mpl] write[Past3pl] all[3Mpl] letter
'The children all wrote a letter.'

b. Ha-yeladim yašnu kusam.
the-children[Mpl] sleep[Past3pl] all[3Mpl]
'The children all slept.'

c. Ha-yeladim nišku šneyhem et Dina.
the-children[Mpl] kiss[Past3pl] both ACC Dina
'The children both kissed Dina' (Goldberg (2005: 44))

[2] Goldberg (2005) points out that null direct objects in Hebrew are possible only when they are inanimate, as illustrated in (i).

(i) a. * Šmu'el hošiv et ha-yeladot al ha-mita,
Shmuel sit[Past3Msg] ACC the-girls on the-bed
ve-Dina hilbiša be-simlot.
and-Dina dress[Past3Fsg] in-dresses
'Shmuel sat the girls on the bed, and Dina dressed (~~them~~) in dresses.' (Goldberg (2005: 48))

b. * Rina hisi'a et Gil ha-'ira ve-horida
Rina drive[Past3Fsg] ACC Gil the-town and-drop[Past3Fsg]
le-yad ha-bayit.
to-near the-house
'Rina drove Gil to town and dropped (~~him~~) near his home.'
(Goldberg (2005: 49))

c. Q: Eyfo ha-'iš še-'amad po lifney
where the-man that-stand[Past3Msg] here before
rega?
moment
'Where (is) the man who stood here a moment ago?'
A: * Miryam hovila la-misrad.
Miryam lead[Past3Fsg] to.the-office
'Miryam led (~~him~~) to the office' (Goldberg (2005: 49))

d. * Hine ha-yeladot šeli. Šošana hisi'a
here the-girls of.me Shoshana drive[Past3Fsg]
le-Tel-'Aviv etmol.
to-Tel-Aviv yesterday
'Here (are) my daughters. Shoshana drove (~~them~~) to Tel-Aviv yesterday' (Goldberg (2005: 49))

Compare them with the following grammatical instances of null objects referring to inanimate entities.

(ii) a. Yosef masar et ha-yayin le-Miryam, ve-Sara
Yosef hand[Past3Msg] ACC the-wine to-Miryam and-Sara
masra le-Yicxak.
hand[Past3Fsg] to-Yitschak.
'Yosef handed the wine to Miryam, and Sara handed (~~it~~) to Yitschak.' (Goldberg (2005: 50))

b. Sara raxca et kol ha-calaxot
Sara wash[Past3Fsg] ACC all the-plates
ve-xilka la-'orexim.
and-distribute[Past3Fsg] to.the-guests
'Sara washed all (of) the plates and distributed (~~them~~) to the guests.' (Goldberg (2005: 50))

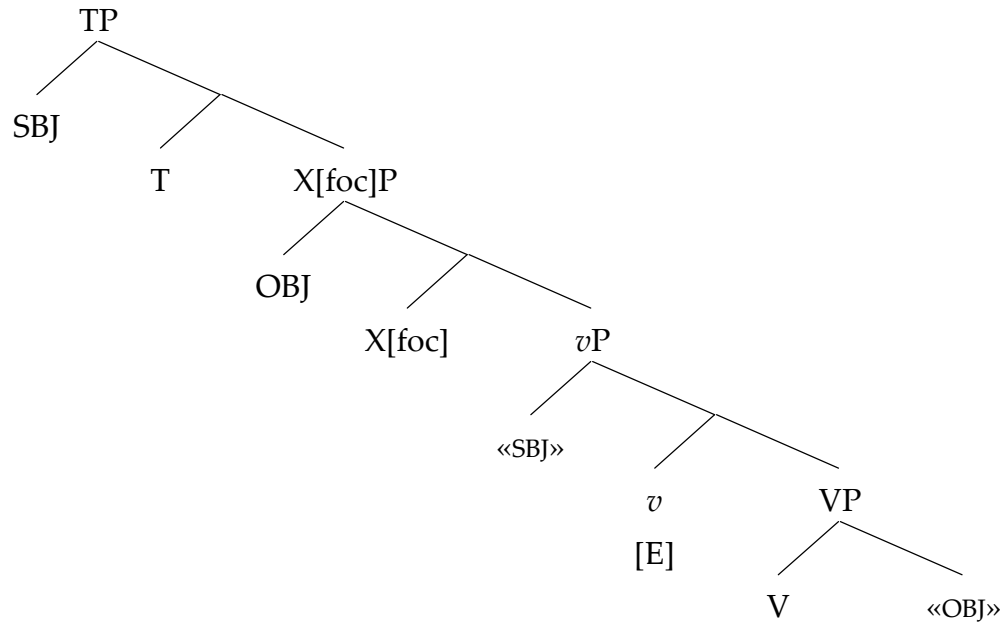
c. Q: Ha-memšala sipka et ha-maxbarot
the-government supply[Past3Fsg] ACC the-notebooks
la-'universita?
to.the-univ.
'(Did) the government supply the notebooks to the university?'
A: Lo, anaxnu konim me-ha-xanut.
no we buy[BniMpl] from-the-store
'No, we buy (~~them~~) from the store.'
(Goldberg (2005: 50))

[3] Under the VP internal subject hypothesis, Sportiche (1988) assumes the following two French sentences to be "identical at some level of syntactic representation."

(i) a. Tous les enfants ont vu ce film.
all the children have seen this movie
b. Les enfants ont tous vu ce film
the children have all seen this movie
(Sportiche (1988: 426))

[4] One may claim that the [E] feature is always posited on the head of *v*P when deletion occurs within a verbal domain, even in pseudogapping, as in (i).

(i)



This structure seems to be able to account for the pseudogapping in (24b), because the floating quantifier on Spec, *v*P can survive deletion. Therefore, VPE and pseudogapping can seemingly be derived under the unified analysis. Note, however, that the feature-driven deletion analysis does not allow the [E] feature to be posited in a lower position than X[foc] in pseudogapping. Considering the semantics of the [E] feature given in (11), a focused element, namely the direct object in (24b), must enter into the specifier-head position with the functional head carrying the [E] feature. However, the relevant position in (i) is filled by the copy of the subject, instead.

Furthermore, although the external argument is also one of the remnants of pseudogapping, it does not seem to be interpreted as a focused element, because pseudogapping generally requires a subject coreferential to the one in its antecedent clause (the like-subject constraint in Levin (1979)). The following example is judged as unnatural partly because this pseudogapping does not occur in a desirable environment, namely a clause with a coreferential subject.

(ii) ?*Robin will eat lima beans, and Kim will ~~eat~~ rutabagas.
(Agbayani and Zoerner (2004: 186))

[5] I leave the following properties out of the discussion.

(i) a. Modals are in complementary distribution with *do*-support and always precede *not*:
* I don't can speak Chinese.
* Do you can speak Chinese?
* I not can speak Chinese.

b. Modals always move to C in inversion contexts:
* How many languages (do) you can speak?

c. Modals, unlike main verbs, can license VP fronting (and also VP ellipsis):
Win the election, I thought she would (*win) __.

d. Modals, unlike main verbs, can phonologically contract:
We can fish. -- ambiguous ('we are able to fish' or 'we put fish in cans')
We c'n (/kən/) fish. -- unambiguous (only 'we are able to fish.')
(cf. Roberts and Roussou (2003: 37))

[6] Here follow examples of V-to-C movement via T in OE.

(i) a. We *habbað* hwæðere þa bysne on halgum bocum
'We have, nevertheless, the examples in holy books'
(ÆCHom I, 31.474.33 / (Fischer et al. (2001: 49))

b. Hwæt *scealt* þu þinum hlaforde?
what owe you your lord
'What do you owe your lord?'
(ÆHom 17.142 / Fischer et al. (2001: 49))

c. On ðam dæge *worhte* God leoht, and merigen, and æfen
on that day made God light and morning and evening
'On that day God made light, morning, and evening'
(ÆCHom I, 6.100.5 / Fischer et al. (2001: 50))

Especially in (ic), the lexical verb *worhte* precedes the nominal subject, although it is

not an interrogative. Considering the general assumption that the nominal subject is posited in Spec, TP, the lexical verbs move from their base-generated position to the position higher than TP, i.e. C, in these examples.

[7] The difference in the strength of inflectional features has been assumed within the generative syntax. It is employed to explain the fact that lexical verbs in French precede an adverb and a negative marker, whereas those in PE follow them, as in (i) and (ii).

(i) a. Jean *embrasse souvent* Marie.
Jean kisses often Marie
a′. * Jean *souvent embrasse* Marie.
b. Jean (ne) *mange pas* de chocolat.
Jean (NEG) eats not the chocolate
b′ * Jean (ne) *pas mange* de chocolat. (cf. Roberts (2007: 42))

(ii) a. * John *kisses often* Mary.
a′. John often kisses Mary.
b. * John eats not chocolate.
b′. John does not eat chocolate. (cf. Roberts (2007: 41))

It has been assumed that strong Agr in French attracts lexical verbs, while weak Agr in English cannot do it (Chomsky (1995b)). Here, the "strong" inflectional features are not necessarily the same as the strong agreement introduced in chapter 2 for the purpose of the licensing and identification of E-*pro*. The former is related to the rich verbal inflection and responsible for V-raising, while the latter is related to the agreement feature which is morphologically realized regardless of its richness.

[8] Preterit-present verbs "have a strong past tense with a present meaning … and a new weak past tense" (Mitchell (1964: 49)).

[9] The original statement of Vikner's generalization revised by Roberts is as follows.

(i) If (finite) V is marked with person agreement in all simple tenses, this expresses a positive value for the V-to-T parameter.

Unlike Vikner's original version, this revised version does not exclude the possibility that a language with V-to-T movement does not show the person agreement morphology.

[10] Another clue to V-to-T movement is the intervention of an adverb between the lexical verb and its complement, as in (i).

(i) The Turkes … **made anone redy** a grete ordonnaunce.
'the Turks … soon prepared a great ordnance.'
(c1482: Kay, The Delectable Newsse of the Glorious Victorye of the Rhodyans agaynest the Turkes / Roberts (2007: 57))

[11] Roberts (2007: 138) summarizes Warner's (1997: 382-383) chronology for the loss of V-to-T movement in English. In period 1 (up to 1500), T attracts V. In period 2, between 1500 and roughly 1700, T quits attracting V. In period 3, between 1700 and 1750, V-to-T movement is not attested any more although there ware some exceptions. In period 4, from 1750 to now, there is no V-to-T movement.

[12] The present analysis will derive the sloppy interpretation of the elided pronoun *his* in (i).

(i) a. John visits his children on Sunday and Bill does, too.
b. … and Bill does [VP visit *his* children], too.

This example is ambiguous in two ways: the pronoun *his* in the elided VP can refer to *John* or *Bill*. The former interpretation is called the strict interpretation, and the latter is called the sloppy interpretation. The strict interpretation will be derived by the simple copy of the λ-expression of the antecedent VP in (ii).

(ii) VP: λx(x visit his children)

In this case, the referent of *his* is *John* even in the elided VP. On the other hand, the sloppy interpretation will be derived by converting the bound pronoun into a variable prior to copying the λ-expression, as in (iii).

(iii) VP: λx(x visit x's children)

Here, the referent of *his* is determined by a binder of a variable x, so it can refer to *Bill* in the sentence with VPE.

[13] This paper assumes that the first merge (External Merge) is not conditioned on the satisfaction of argument structure, but elements can freely be merged in the syntax and the evaluation of created configurations is taken place at the semantic interface. Hence, the subject can be merged in Spec, *v**P in (51) even though the semantic content of VP is empty in the syntax. In addition, note that *v** selecting E-*pro* does not have u-ϕ which is responsible for accusative assignment, like *v** in unergative sentences.

[14] Following Pollock (1989) and Chomsky (1991), I assume NegP above VP. In addition, Mizoguchi (2007) argues that the negation *ne* in OE is generated as the head of NegP and cliticizes to lexical verbs or pre-modals which undergo V-to-T movement via Neg. In (51), the pre-modal *mihte* undergoes V-to-T movement through the head of NegP, and as a result, the negation *ne* cliticizes to the pre-modal.

[15] Tanaka (2009) argues that functional categories should not be postulated for bare infinitive complements in earlier English by presenting the following examples, where expletive *it* or *there* does not appear within the bare infinitive complements.

(i) a. he læt rinan ofer þa rihtwisan & ofer þa unrihtwisan
he lets rain over the righteous and over the unrighteous
'he lets it rain on the just and the unjust'
(Mt (WSCp) 5. 45 / Denison (1993: 190))

b. þe sunne drach up þene deu and makeð þer of kume reines
the sun draws up the dew and makes thereof come rains
'the sun draws up the dew and makes rains come thereof'
(CMLAMB1 159.518: m2 / Tanaka (2009: 480))

Since it is generally assumed that expletives are inserted to satisfy the EPP feature of a certain functional category (Chomsky (2000, 2001)), the absence of expletives in (12) supports the argument that bare infinitive complements did not contain a functional categories in earlier English.

[16] See also Kageyama (1992) for extensive discussion on the absence of PRO in OE infinitives.

[17] Radford (2009) assumes that an external argument is generated in Spec, VP. However, I follow other assumptions that an external argument is introduced by *v** (Chomsky (2007)).

[18] Possibly, the understood subject *Rebecca* undergoes A-movement to Spec, VP. The discussion about the intermediate landing sites of the understood subject is not taken into account, because it is beyond the scope of this thesis. What is important here is the fact that the relevant Agree is induced by u-ϕ on the matrix *v** which is responsible for accusative Case assignment.

[19] Martin (2001) points out that VPE cannot appear in the infinitival complement of

raising verbs such as *seem* or *appear*, as in (i).

(i) a. ?* John does not like math but Mary seems to [VP e].
b. ?* Harry may not be as happy as he appears to [VP e].
(Martin (2001: 162))

Unlike raising adjectives, VPE is not possible even though lexical subjects are employed, which does not fall under the present analysis. However, this paper leaves this problem open.

[20] In Rowlett (2007), these verbs are referred to as pseudo-modal verbs, because they "can appear with a thematic subject and a pronominal direct object," as follows (Rowlett (2007: 39)).

(i) Puisque nous le pouvons, alors nous le devons.
since we it are.able.to so we it have.to
'Since we can, we must.' (Rowlett (2007: 39))

[21] Bare infinitive complements of modal verbs in French are often analyzed as having the TP structure. This argument is supported by the following examples of cliticization.

(i) a. Il doit [l'aimer].
he must it-love
'He must love it.' (Rowlett (2007: 159))
b. Tu peux [lui parler].
you can to.him speak
'You can speak to him.' (Rowlett (2007: 159))

(ii) a. * Il le doit aimer.
he it must love
b. * Tu lui peux téléphoner.
you him can telephone (Rowlett (2007: 160))

Where the argument of the infinitive is realized as a clitic, it attaches to the infinitive as in (i). Clitics cannot attach to modal verbs as shown in (ii) since cliticization is a clause-bound phenomenon. In addition, the infinitive can occur with sentential negation independently of the modal verbs, as in (iii).

(iii) a. Je veux ne pas aller.
I want NEG not leave
'I want not to leave.'
b. Il doit ne pas l'aimer.
he must NEG not it-love
'He must not love it.' (Rowlett (2007: 160))

[22] The one remaining issue concerning ellipsis constructions in French is how to explain the ungrammaticality of (69a, b). The present analysis predicts that E-*pro* is licensed since the derivation is apparently convergent even if E-*pro* is employed, and that it is identified since the copular in (69a) and the aspectual auxiliary in (69b) occur in their inflected form, such as *est* and *ont*, respectively. I leave this question open at this time.

However, as for (69b), a similar instance can be found in PE, as in (i).

(i) Sally might have eaten rutabagas, but Holly shouldn't Δ.
(Johnson (2001: 442))

In this case, the interpretation of the elided constituent is reconstructed as *eat rutabagas*, but not as *have eaten rutabagas*. It might be that the sequence of *should* + *have* functions as a past tense variant of a modal *should*, compensating the past tense interpretation which the past tense forms of modals had lost. Hence, they cannot be separated for the morpho-semantic reason. Similarly, the past tense is represented by an auxiliary *avoir* and a past participle of a lexical verb in French, so they may not

be separated for the same reason.

Chapter 4

A Study of Pseudogapping in the History of English

4.1. Introduction

This chapter aims to explore the derivation of pseudogapping. Pseudogapping is another case of elliptical constructions relating to verbal phrases, as in (1).

(1) a. John read the books and Mary did [e] the magazines.
(Lobeck (1999: 99))

b. I didn't expect your mother to like the picture; but I did you.
(Jayaseelan (1990: 67))

The PF-deletion approach to elliptical constructions has treated this construction as an instance of VP-ellipsis (VPE) like (2a), which is derived by deleting a VP from the full-fledged structure in (2b).

(2) a. John read the books and Mary did Δ too.

b. John read the books and Mary did [VP read the books] too.

Just like VPE, pseudogapping has a subject and an auxiliary as its remnants on the left of an ellipsis site, but unlike VPE, it also has an extra remnant, such as a direct object, on the right of the ellipsis site. It has been widely assumed that the direct object as the remnant moves from its base-generated position to escape from the constituent to which the deletion operation involved in VPE is applied. Following this traditional approach, so-called "movement-cum-deletion" approach, this chapter

assumes that a deletion operation at the phonological interface is involved with the derivation of pseudogapping.

Chapter 3 has clarified that VPE is successfully explained by the LF-copy analysis based on an empty, non-arbitrary pronominal E-*pro*, but this analysis should not be extend to the analysis of pseudogapping, because of the following empirical facts, which would distinguish VPE from pseudogapping. First, pseudogapping cannot occur within clausal complements, while VPE can, as in (3).

(3) a. * Mary will buy a skateboard and she thinks that Sam should [e] a bicycle. (Lobeck (1999: 101))
b. Mary bought a skateboard and she thinks that Sam should [e] too. (Lobeck (1999: 101))

Indeed, Hoeksema (2006) also argues that pseudogapping cannot occur in deeply embedded clauses, where VPE can occur, as illustrated in (4).

(4) a. * Since tornados petrify Harold, I can't for the life of me figure out why he's so surprised about the fact that they do me, too. (Hoeksema (2006: 338))
b. Since tornados petrify Harold, I can't for the life of me figure out why he's so surprised about the fact that hurricanes do, too. (Hoeksema (2006: 338))

These facts apparently illustrate that pseudogapping is not derived from the same operation as VPE.

Furthermore, pseudogapping cannot occur within infinitival complements, while VPE can, as in (5). The unified approach wrongly predicts that pseudogapping in (5a) would be grammatical because its VPE counterpart in (5b) is grammatical, contrary to fact.

(5) a. * I wrote his papers, but I did not want to his dissertation.
(Hoeksema (2006: 338))

b. I wrote his dissertation, but I did not want to.
(Hoeksema (2006: 338))

Finally, backward deletion is not allowed in pseudogapping, while it is possible in VPE, as in (6): the fronted adverbial clause cannot contain pseudogapping, unlike VPE.

(6) a. * Although it doesn't me, it takes Karen a long time to clean the hamster's cage. (Hoeksema (2006: 338))

b. Although it doesn't always, it sometimes takes a long time to clean the hamster's cage. (Hoeksema (2006: 338))

All these factors show that pseudogapping should not be analyzed in the same way as VPE, because the unified analysis of pseudogapping and VPE leads to the prediction that pseudogapping would be always possible wherever VPE is allowed to occur.[1]

Another fact to take into account is the fact that pseudogapping has been possible throughout the history of English, as well as VPE. Warner (1993) argues that elliptical constructions were attested in OE which patterned with pseudogapping in PE: a pre-modal was adjacent to the complement of an infinitive, but the infinitive itself did not appear.

(7) a. We magon monnum bemiðan urne geðonc & urne
we may from-men hide our thought and our]
willan, *ac we ne magon Gode*
will but we not may from-God
'We can hide our thoughts and our desires from men, but we cannot from God.' (CP 39.12)

b. se ðe wille godcundne wisdom secan *ne*
that that-REL will heavenly wisdom try to find not
mæg he hine wiþ ofermetta.
may he it with arrogance.
'that man who will seek hevenly wisdom may not it with arrogance.' (Bo 12.26.22)

c. Be ðæm is awriten ðæt Dryhten besawe to
Concerning that is written that Lord had-regard for
Abele & to his lacum, & *nolde to Caine ne*
Abel and for his gifts, and would-not for Cain nor
to his lacum.
for his gifts.
'Therefore, it is written that the Lord regarded Abel and his gifts, but not Cain and his gifts.' (CP 234.5)

d. Hu mæg he bion ðonne butan gitsunge, ðonne
how may he be then without covetousness, when
he sceal ymb monegra monna are ðencean, gif he
he shall about many men's benefit think, if he
nolde *þa þa he moste ymb his anes*
was-not-willing when he must about his alone
'How can he be without covetousness when he has to consult the interests of many, if formerly he would not avoid it when he had to consult his own interests alone.' (CP 56.21)
(cf. Warner (1993: 114-115))

In addition, he points out that this elliptical construction was also attested in ME, as in (8).

(8) a. andette his sennen him ðe ware necst him … oððer ȝif he ware all hone, ðanne *most he to godd ane*.
'if a man were suddenly upon his death, and he could have no priest,] he-ought-to-confess his sins to-him who is nearest to-him; … or if he were alone, then he must [sc. confess] to God only.' (a1225 (c1200) Vices and Virtues 123.18)

b. Iloren ich haue Iosep, … & nou *ich ssal Beniamin*
[Jacob speaks] 'I have lost Joseph, … and now I am-going-to [sc. lose] Benjamin' (?a1300 Iacob and Iosep 462)

c, [we] habbeð iy useuð twa uers. and *wule nu þe þet þridde*.
'We have told you two verses and will now [sc. tell you] the third.' (a1225 The Lambeth Homilies 77.16)
(Warner (1993: 115-116))

This chapter tries to explain this unchanged property of pseudogapping: pseudogapping has been attested throughout the history of English where modals or pre-modals are employed. Since OE and ME allow for V-to-T movement, there is a possibility that a lexical verb is evacuated from the constituent to be deleted. A theory of pseudogapping must rule out such a possibility.

This chapter proposes that pseudogapping is successfully accounted for by the movement-cum-deletion approach, unlike VPE, and clarifies the derivation of pseudogapping, especially the type of movement involved in pseudogapping. Furthermore, the proposed analysis will explain the empirical facts that pseudogapping has been possible in the complement of pre-modals throughout the history of English, regardless of the existence of V-to-T movement.

The organization of this chapter is as follows. Section 4.2 summarizes previous studies of pseudogapping, pointing out some problems with them. Section 4.3 proposes an alternative analysis which does not contain something special to the derivation of pseudogapping. Section 4.4 tries to explain that pseudogapping was possible in OE and ME only when a pre-modal was employed. Section 4.5 is concluding remarks.

4.2. Movement-cum-deletion Approaches to Pseudogapping

Under the movement-cum-deletion approach, the syntactic component provides a full-fledged VP structure and then movement must be applied to the remnant prior to the application of deletion as long as the operation of deletion affects only a constituent. It is assumed that the syntactic component feeds the complete VP like (9a) to the phonological component, but the direct object *the magazines* must move out of the elided constituent, namely VP, to be left as the remnant of pseudogapping as in (9b).

(9) a. John read the books and Mary did [VP read the magazines].
(Lobeck (1999: 99))

b. John read the books and Mary did [e] the magazines.

There has been some controversy as to the nature of this extraction: the direction of movement (rightward or leftward), or the type of movement (A-movement or A′-movement). In this section, some representational analyses are summarized, and their problems are pointed out.

4.2.1. A Rightward Movement Approach to Pseudogapping

Jayaseelan (1990) proposes that heavy NP shift (HNPS) is involved in pseudogapping in (10a), as illustrated in (10b).

(10) a. Mary hasn't dated Bill, but she has Δ Harry. (Δ = dated)
(Jayaseelan (1990: 64))

b. [Mary hasn't [VP [VP dated t_i] Bill$_i$], but she has [VP [VP dated t_j] Harry$_j$]
(Jayaseelan (1990: 65))

In this case, HNPS is applied to the direct objects both in the antecedent VP and the elided VPE, namely *Bill* and *Harry*. They right-adjoin to their own VP, and as a

result, focus interpretation is assigned to them at their landing sites. Since the landing site of HNPS is the A′-position, this rightward movement is assumed to be an instance of A′-movement.

The HNPS approach to pseudogapping is consistent with the fact that an object of a preposition cannot be the remnant of pseudogapping, as in (11), because it cannot be extracted by HNPS, as in (12).[2]

(11) a. * You can't count on a stranger; but you can ~~count on~~ a friend.
(Lasnik (1999: 144))

b. * Sally will stand near Mag, but he won't ~~stand near~~ Holly.
(cf. Johnson (2001: 460))

(12) a. * John counted on *t* for support a total stranger.
(Lasnik (1999: 144))

b. * Sam stood near yesterday every one of the women we'd been discussing. (Johnson (2001: 460))

The fact that preposition stranding is possible in passive as in (13) illustrates that extraction involved in pseudogapping is an instance of A′-movement.

(13) A total stranger was counted on *t* for support. (Lasnik (1999: 144))

Thus, pseudogapping can be derived by the application of HNPS and deletion.

However, this approach is sometimes challenged because a constituent which is unable to be extracted by HNPS can be the remnant of pseudogapping. Consider the following contrast.

(14) a. John gave Bill yesterday *more money than he had ever seen*.
(cf. Lasnik (1999: 143))

b. Although John wouldn't give Bill the book, he would ~~give Bill~~ *the paper*. (Takahashi (2004: 572))

(15) a. * John gave a lot of money *the fund for the preservation of VOS languages*. (cf. Lasnik (1999: 143))

b. Although John wouldn't give Bill the book, he would ~~give~~ *Susan* ~~the book~~. (Takahashi (2004: 573))

In (14a), the direct object of double object constructions can be affected by HNPS, and so the HNPS approach successfully predicts the grammaticality in (14b). On the other hand, in (15a), it is impossible to apply HNPS to the indirect object, while it can be the remnant of pseudogapping, as in (15b).[3]

Furthermore, pronouns can also be the remnant of pseudogapping, while HNPS is unable to move them, as in the contrast between (16a) and (16b).

(16) a. While Truman didn't visit me, he did Δ you. (Johnson (2001: 461))

b. * Truman visited yesterday you. (Johnson (2001: 461))

Finally, HNPS cannot affect more than one constituent at the same time, whereas multiple-remnant pseudogapping is acceptable. Compare the multiple HNPS in (17a) with the multiple-remnant pseudogapping in (17b).[4]

(17) a. * Sue gave t_1 t_2 yesterday [the tall man]$_1$ [the book written by the professor at MIT]$_2$ (Takahashi (2004: 573))

b. ? John would give Bill a book more often than he wouldn't give Susan a paper. (Takahashi (2004: 573))

Thus, all the property of pseudogapping cannot be fully explained by the HNPS approach alone, although this approach has an advantage over the others that will be overviewed below in that the extraction of the remnant out of the elided constituent is independent of the application of deletion itself.

4.2.2. Leftward Movement Approaches to Pseudogapping

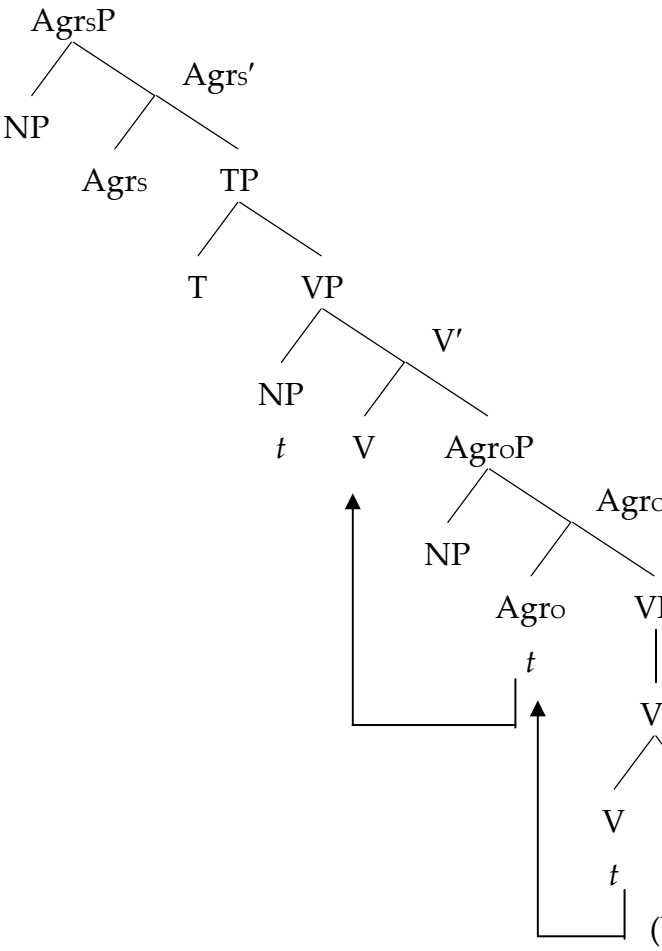
4.2.2.1. Leftward A-movement Analysis

Lasnik (1999) tries to explain the extraction of the remnant out of the elided VP in terms of overt A-movement to Spec, AgrOP, which is assumed to be obligatory in English. Consider the following example of pseudogapping. The non-elliptical sentence in (18a) is analyzed by the structure in (18b).

(18) a. Mary hasn't dated Bill, but she has Harry [~~VP dated *t*~~]

(Lasnik (1999: 147))

b.

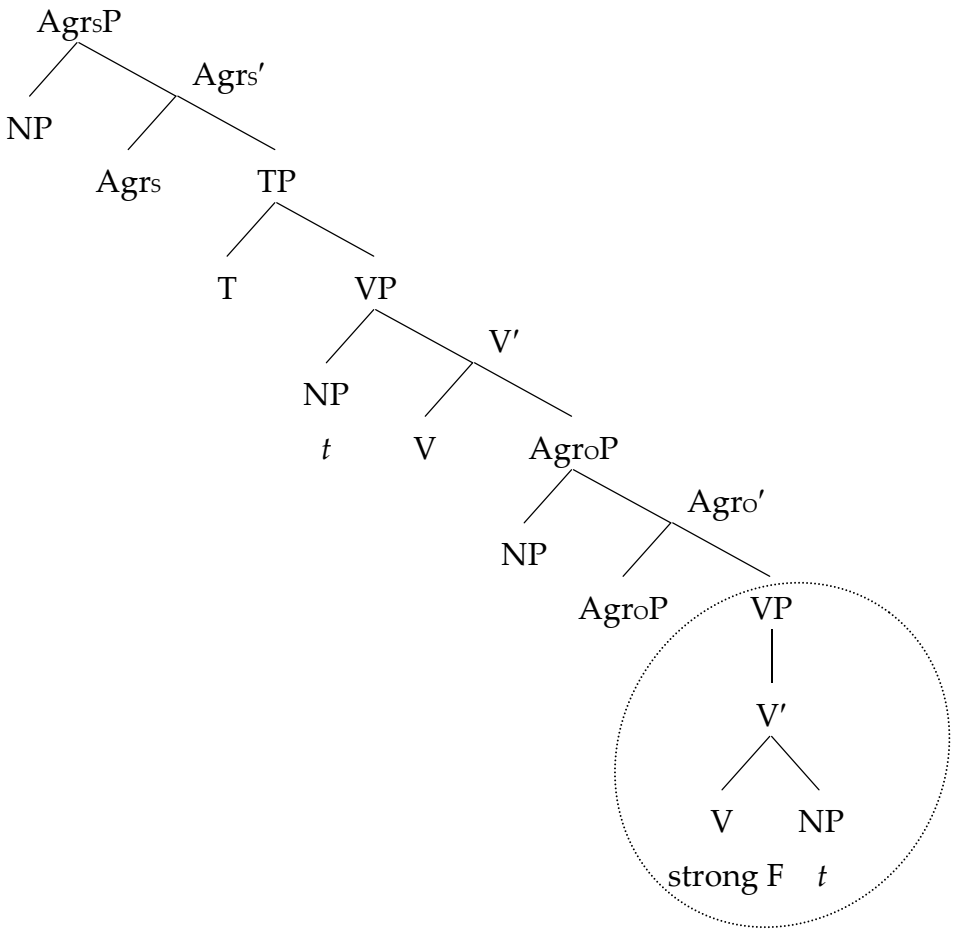


(Lasnik (1999: 147))

Following Koizumi (1993, 1995), Lasnik assumes that the direct object must undergo the overt A-movement to check and delete accusative Case features on V and NP in (18b), because those features are assumed to be a strong feature which is visible at PF, and thus the uncheck Case feature causes the derivation to crash at PF (Chomsky

(1993)). Here, their Case feature is not checked until the specifier-head configuration is established through V-raising to AgrO and NP-movement to Spec, AgrOP. In (18b), the lower lexical V further moves to the higher V via Agr in order to eliminate another strong feature.[5] On the other hand, pseudogapping has the structure schematized in (19), where the lexical V must remain with the lower VP.

(19)



(Lasnik (1999: 148))

The overt A-movement of the direct object is obligatory, and the lexical V must also undergo head-movement in order to establish the specifier-head configuration at AgrOP. However, the lexical V with strong features must stay in its base-generated position, where it must be deleted. The apparently illegitimate derivation in (19) which otherwise would induce the PF crash is salvaged by the deletion of the lower

VP with unchecked strong features.

As well as the HNPS approach, this A-movement approach can also explain the fact that an object of a preposition cannot be the remnant of pseudogapping, as in (11) repeated as (20).

(20) a. * You can't count on a stranger; but you can ~~count on~~ a friend.
(Lasnik (1999: 144))

b. * Sally will stand near Mag, but he won't ~~stand near~~ Holly.
(cf. Johnson (2001: 460))

This can be explained by assuming that the object cannot be the remnant of pseudogapping when it is Case-marked by the preposition. This argument appears to be supported by the fact that there are some cases in which the object can be the remnant of pseudogapping, particularly when relevant prepositions form a constituent with preceding verbs, but not their object, i.e. reanalysis of the constituency (Levin (1979)). The complex functions as a single verb which is responsible for Case-checking of its relevant object. Here follows an example which is seemingly an instance of pseudogapping with an object of a preposition.

(21) You have to sign onto it [= the printer] like you do Δ the terminal.
(cf. Lasnik (1999: 144))

The following examples are more extreme instances of this kind of reanalysis.

(22) a. Bill was taken advantage of by John.

b. John took advantage of Bill and Mary will Susan.
(Lasnik (1999: 145))

The preposition *of* can be stranded in the passive sentence in (22a). Also, it can be stranded within the elided constituent in pseudogapping in (22b). Thus, the object appears to be the remnant of pseudogapping.

In addition, the A-movement approach does not suffer from problems which the HNPS approach faces: an indirect object in double object constructions and pronouns can be the remnant of pseudogapping, as we saw in (15) and (16) repeated as (23) and (24), respectively.

(23) a. * John gave a lot of money *the fund for the preservation of VOS languages*. (cf. Lasnik (1999: 143))
b. Although John wouldn't give Bill the book, he would ~~give~~ *Susan* ~~the book~~. (Takahashi (2004: 573))

(24) a. While Truman didn't visit me, he did Δ you. (Johnson (2001: 461))
b. * Truman visited yesterday you. (Johnson (2001: 461))

Although the indirect object and the pronoun cannot be extracted by HNPS as in (23a) and (24b), they can be the remnant of pseudogapping as in (23b) and (24a). Note, however, that they always move to Spec, AgrOP to check their Case feature. Therefore, it is natural that both the indirect object in (23b) and the pronoun in (24a) can be the remnant of pseudogapping. Thus, the A-movement approach appears to be more appropriate for an analysis of pseudogapping than the HNPS approach.

This approach seems plausible because any extra assumption is not needed to explain the possibility of the extraction of the remnant of pseudogapping; the relevant extraction is an obligatory movement both in the antecedent VP and the elided VP. However, in addition to some notions already abandoned within the recent Minimalist framework, such as Agr, this analysis has a problem that Lasnik assumes the lexical V must remain in its base-generated position when it is introduced in the elided VP of pseudogapping, although it otherwise must undergo head-movement to Agr.[6] Furthermore, it is clear that this obligatory suppression of

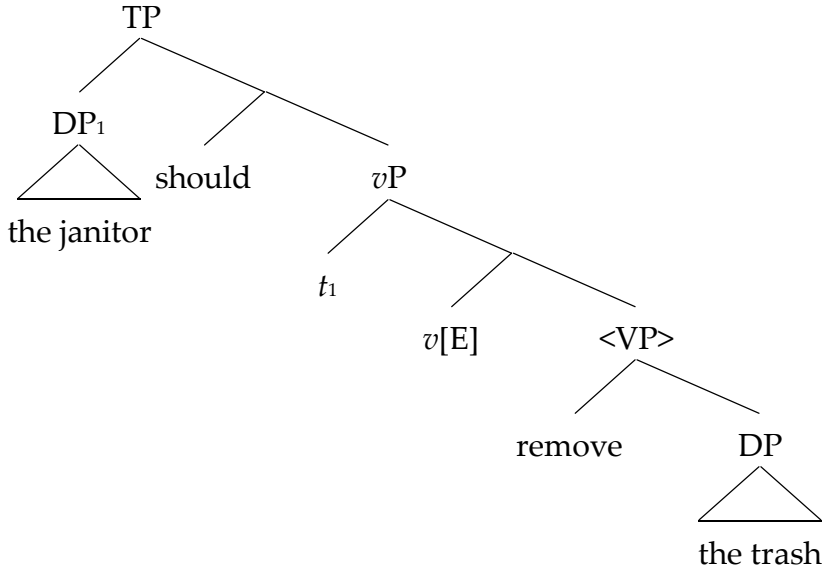
V-raising causes the accusative Case feature on the direct object NP to remain unchecked, since accusative Case-checking occurs only after establishing the specifier-head configuration through V-raising and NP-movement. Hence, deletion of the lower VP fails to avoid the PF crash induced by the unchecked accusative Case feature on the direct object NP.[7]

4.2.2.2. Leftward A′-movement Analysis

Unlike Lasnik's A-movement analysis of pseudogapping, some propose that the extraction of the remnant in pseudogapping is leftward A′-movement (Gengel (2005) and Merchant (2008)). As reviewed in chapter 3, Merchant (2008) tries to give a unified mechanism of deletion to both VPE and pseudogapping. Deletion of a constituent is induced by the [E] feature, and this feature is posited on a particular functional head. VPE in (25a) is analyzed by the structure in (25b), where the elided constituents are marked with the angled brackets.

(25) a. Bill shouldn't remove the trash -- the janitor should.

b.

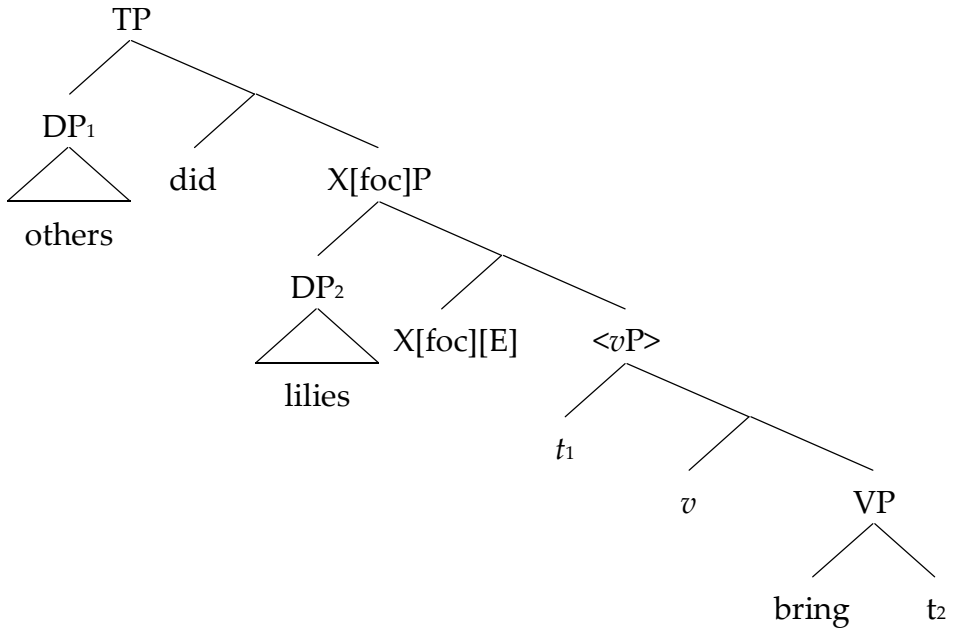


(cf. Merchant (2008: 171))

In (25b), the [E] feature on *v* deletes its complement VP which contains a lexical verb *remove* and its direct object *the trash*, thus is VPE derived. On the other hand, pseudogapping in (26a) is analyzed as in (26b).

(26) a. Some brought roses, and others did lilies.

b.



(cf. Merchant (2008: 174))

Unlike VPE, in (26b), the direct object *lilies* is evacuated from the elided constituent. It moves to Spec, X[foc]P, prior to the deletion induced by the [E] feature: the direct object undergoes A′-movement at narrow syntax, and deletion is subsequently applied at the phonological component.

As well as Lasnik's (1999) obligatory restriction of V-raising, the focus phrase X[foc]P is introduced only in pseudogapping. However, the introduction of X[foc]P is justified by the fact that VPE allows voice mismatches between an elided VP and its antecedent VP, while pseudogapping does not, as in the following examples.

(27) Passive antecedent, active ellipsis in VPE

a. This problem was to have been looked into, but obviously nobody did. <look into this problem>

b. The system can be used by anyone who wants to. <use it>
(cf. Merchant (2008: 169))

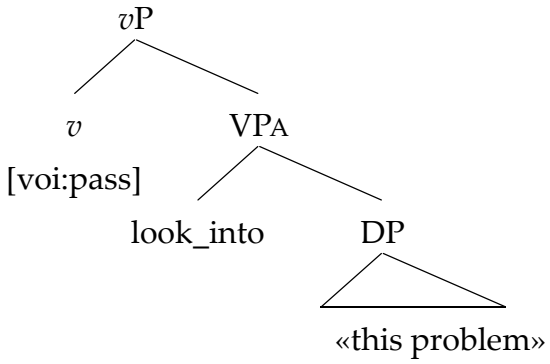
(28) Active antecedent, passive ellipsis in VPE
a. Actually, I have implemented it [= a computer system] with a manager, but it doesn't have to be. <implemented with a manager>
b. The janitor must remove the trash whenever it is apparent that it should be. <removed> (cf. Merchant (2008: 169))

(29) Passive antecedent, active ellipsis in Pseudogapping
a. * Roses were brought by some, and others did lilies. <bring>
b. * Klimt is admired by Abby more than anyone does Klee. <admire>
c. * Hundertwasser's ideas are respected by architects more than most people do his work. <respect>
d. * More people were invited to Beth's reception by her mother than Beth herself did to her wedding! <invite>
(cf. Merchant (2008: 170))

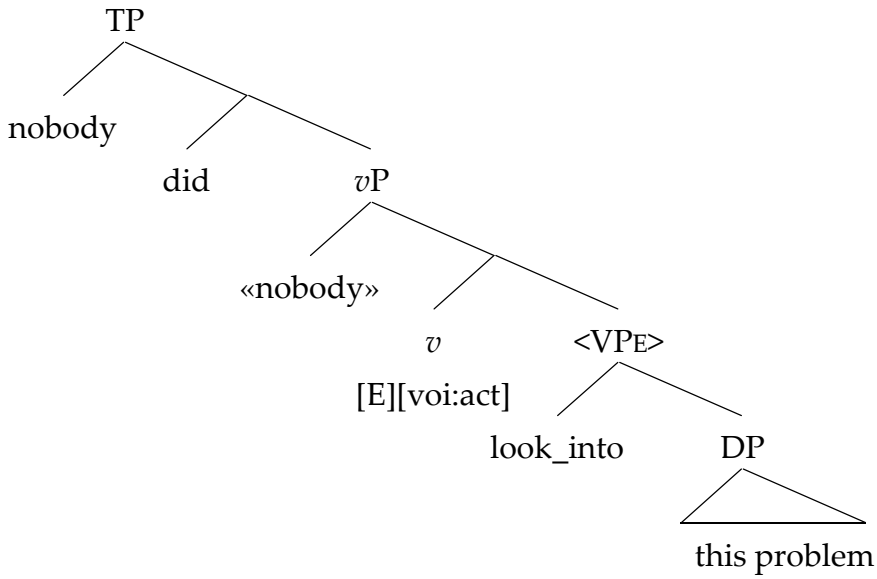
(30) Active antecedent, Passive ellipsis in Pseudogapping
a. * Some brought roses, and lilies were by others. <brought>
b. * Abby admires Klimt more than he is by anyone else. <admired>
c. * Laypeople respect Hundertwasser's work more than his ideas are by architects. <respected>
d. * Beth's mother invited more people to her wedding than were by Beth herself! <infited> (cf. Merchant (2008: 170))

By adopting a voice feature on v (Kratzer (1996)), this contrast is explained by the difference in the position of the [E] feature between VPE and pseudogapping. Since v is outside of the elided constituent in VPE, the identity of the voice features on v is not taken into account. The structure of the antecedent VP in (27a) is analyzed as in (31a), and that of the elided VP is as in (31b).[8]

(31) a. [DP This problem] was to have been *v*P



b.

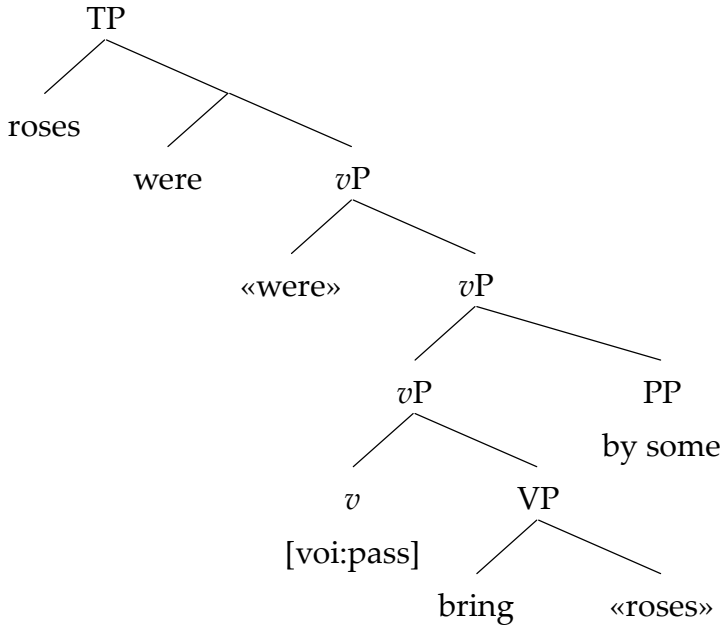


(cf. Merchant (2008: 171-172))

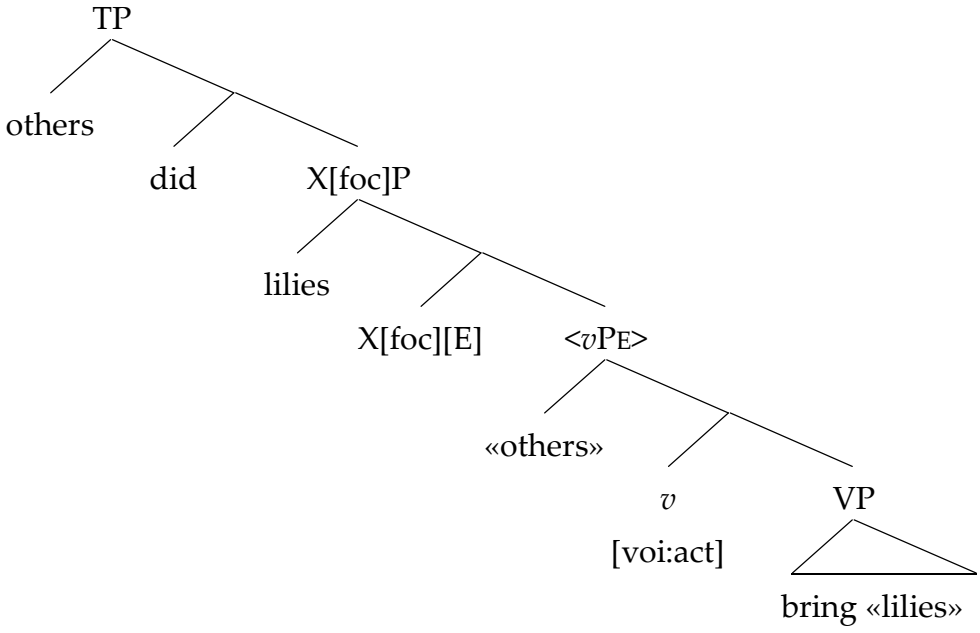
On the other hand, the voice feature on *v* lies within the elided constituent in pseudogapping, and so the voice features on *v* must be identical. The structure of the antecedent VP in (29a), repeated as in (32a), is analyzed as in (32b), and that of the elided VP is as in (32c).

(32) a. * Roses were brought by some, and others did lilies.

b.



c.



(cf. Merchant (2008: 175))

The pseudogapping in (32a) is not acceptable since the voice feature on *v* of the antecedent VP in (32b) has a different value from that on *v* of the elided VP in (32c). Thus, Merchant suggests that it is plausible to introduce an additional functional phrase even though it is something special to pseudogapping.

This kind of a unified analysis of pseudogapping and VPE seems desirable for

the generative linguistics, but it is problematic in that the analysis based on the [E] feature is designed only to derive a desired surface word order. As a consequence of this analysis, it would be that the size of the elided constituent is different between VPE and pseudogapping (VP or *v*P). However, Tanaka (2011) points out that there is no such difference between them by presenting the following examples, in which a floating quantifier *all* survives deletion.

(33) a. Many of them have turned in their assignment already, but they haven't all yet.
b. ? Many of them have turned in their take-home already, but they haven't all yet their paper. (Tanaka (2011: 474))

Given that the floating quantifier related to a subject is base-generated in its base-generated position, i.e. Spec, *v*P (Sportiche (1988)), it could not survive pseudogapping in which *v*P is deleted in (33b) (see section 3.2 for a discussion of other problems with the feature-driven deletion approach).

In addition, the possibility of the multiple-remnant pseudogapping also provides a problem for this approach. Since Merchant assumes that the additional functional phrase XP is specified for the focus feature, he apparently follows the assumption that focus interpretation is assigned to the remnants of pseudogapping at their landing sites (Jayaseelan (1990)). As a result, Focus phrases are necessary to each remnant in the structure of the multiple-remnant pseudogapping. However, given Rizzi's (1997) articulated CP periphery and its extension to a *v*P domain (Maeda (2010)), only one Focus phrase is available for each phase, as in (34).

(34) a. $[_{ForceP}$ Force^0 $[_{TopP*}$ Top^{0*} $[_{FocP}$ Foc^0 $[_{TopP*}$ Top^{0*} $[_{FinP}$ Fin^0 $[_{TP}$ T^0]]]]]] (Rizzi (1997: 297))
b. $[_{TP}$ T^0 $[_{ForceP}$ Force^0 $[_{FocP}$ Foc^0 $[_{VP}$ V^0 …]]]] (cf. Maeda (2010: 292))

Under this configuration, the multiple-remnant pseudogapping cannot be possible at all because FocP cannot be iterated.

Furthermore, Tanaka (2011) points out that the VPE counterpart of (35a) is also ungrammatical, as in (35b).

(35) a. * Roses were brought by some, and others did ~~bring~~ lilies.
(Tanaka (2011: 474))

b. * Roses were brought by some, and others did ~~bring roses~~, too.
(Tanaka (2011: 475))

The same holds for cases where pseudogapping occurs in a passive sentence and its antecedent is the active voice, as in (36).

(36) a. * Some brought roses, and lilies were ~~brought~~ by others.

b. * Some brought roses, and lilies were ~~brought by some~~, too.
(Tanaka (2011: 475))

However, non-elliptical counterpart of (35) is acceptable as in (37).

(37) Roses were brought by some, and others did bring lilies.
(Tanaka (2011: 474))

Thus, the ungrammaticality of pseudogapping with voice mismatches appears to have other reasons than Merchant expects.

4.2.3. An Eclectic Approach to Pseudogapping: Takahashi (2004)

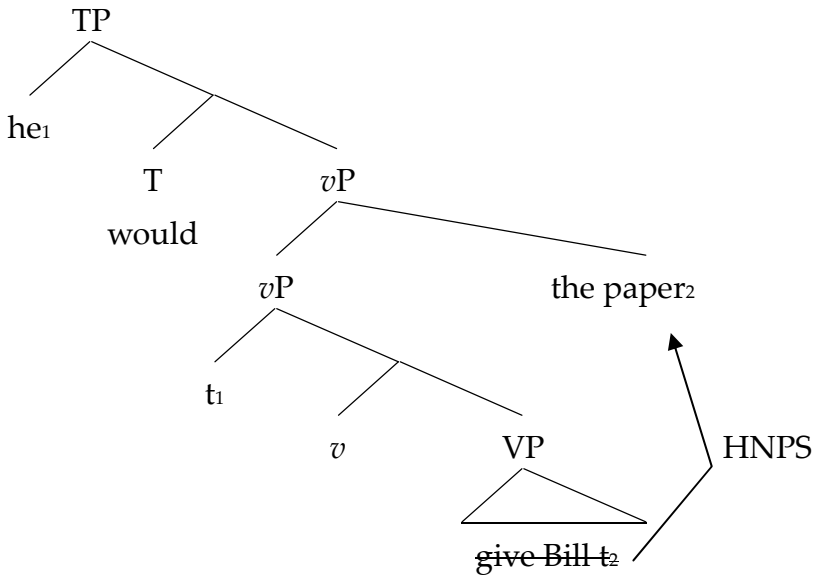
Takahashi (2004) proposes an eclectic approach to pseudogapping, in which both rightward A′-movement (HNPS) and leftward A-movement (Scandinavian-style Object Shift) are involved in the derivation of pseudogapping. Pseudogapping in the following examples is derived by different movement operations.

(38) a. Although John wouldn't give Bill the book, he would ~~give Bill~~ the paper.

b. Although John wouldn't give Bill the book, he would ~~give~~ Susan ~~the book~~. (Takahashi (2004: 577))

In (38a), the direct object *the paper* is extracted from its base-generated position by HNPS and adjoins to the right side of *v*P, as in (39).

(39)



(cf. Takahashi (2004: 577))

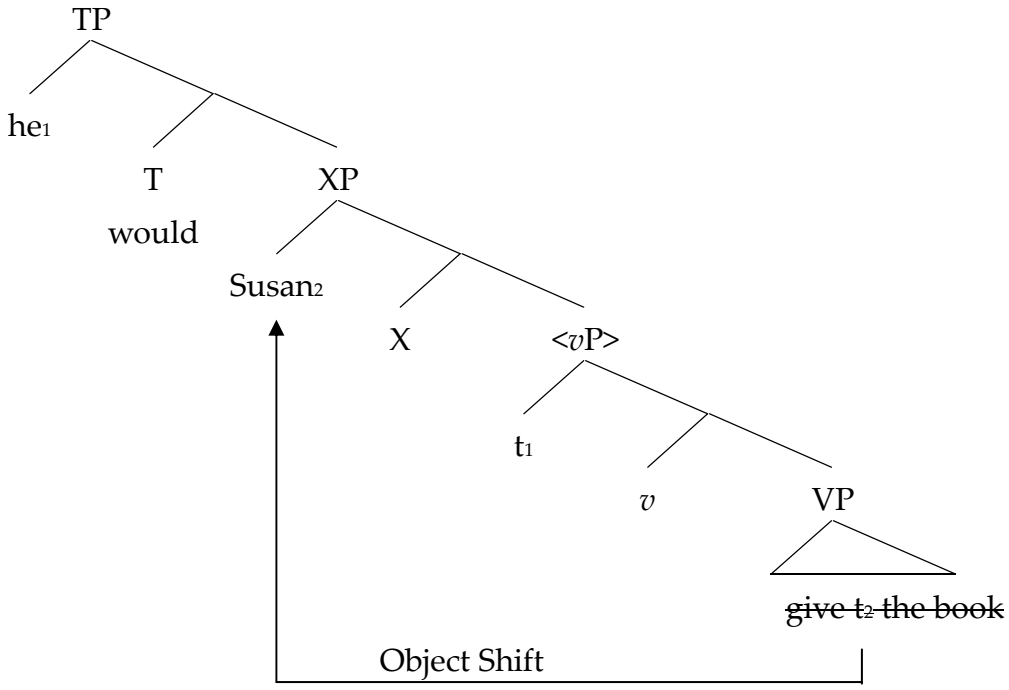
Although an indirect object cannot be extracted by HNPS, as in (15a) repeated in (40), it can be the remnant of pseudogapping, as illustrated in (38b).

(40) * John gave a lot of money the fund for the preservation of VOS languages. (Lasnik (1999: 143))

Since the HNPS approach does not account for pseudogapping with an indirect object as the remnant, Takahashi proposes that pseudogapping in (38b) is derived by Scandinavian-style Object Shift like (41) which extracts the indirect object from its base position to an A-position higher than *v*P, as in (42).

(41) a. Han visade henne inte den. (Swedish)
he showed her not it
'He did not show it to her.'
b. Han gav den inte henne.
he gave it not her
'He did not give it to her.' (Takahashi (2004: 574))

(42)



(cf. Takahashi (2004: 577))

On the fact that a direct object cannot be passivized across an indirect object, Takahashi assumes that English can be classified in the same group as Icelandic according to the application of Scandinavian-style Object Shift. In Icelandic, the direct object *bókunum* cannot be passivized across the indirect object *Jóni* as in (43b), while the opposite is possible as in (43a).[9]

(43) a. *Jóni* var skilað bókunum (Icelandic)
John-DAT was returned the-book-DAT
b. * *Bókunum* var skilað Jóni.
the-book-DAT was returned John-DAT
'The book was returned to John' (Takahashi (2004: 575))

In addition, the indirect object can move across the direct object through Object Shift as in (44a), while the direct object cannot be shifted across the direct object as in (44b).[10]

(44) a. Ég skilaði *manninum* ekki bókinni. (Icelandic)
I returned the-man-DAT not the-book-DAT
b. * Ég skilaði *bókinni* ekki manninum.
I returned the-book-DAT not the-man-DAT
'I did not return the book to the man.' (Takahashi (2004: 574))

In the English passive, the same as (43) is observed, as in (45), where the indirect object *Mary* is passivized across the direct object *a book* in (45a), while the opposite is impossible as in (45b).

(45) a. Mary was given a book.
b. * A book was given Mary. (cf. Takahashi (2004: 575))

Therefore, it is predicted that pseudogapping in English can be derived by Object Shift of the indirect object like (46a), but Object Shift of the direct object like (46b) must be prohibited.

(46) a. he would [Susan$_1$ ~~[give t$_1$ the book]~~]
b. he would [the paper$_1$ ~~[give Bill t$_1$]~~] (Takahashi (2004: 574))

This eclectic approach seems to be strongly supported by the possibility of the cooccurrence of pseudogapping and a parasitic gap, illustrated in (47).

(47) a. Although John didn't file a recent article about HNPS, he did [without reading e$_1$] [a recent article about Object Shift]$_1$.
(Takahashi (2004: 580))
b. * Although John didn't kiss Mary, he did Sally$_i$ without looking at e$_i$. (Baltin (2003: 241))

The parasitic gap is licensed in (47a), while it is not in (47b). This contrast can be explained by assuming that different movement operations are involved with pseudogapping in (47). As Engdahl (1983) reports, HNPS can occur with the parasitic gap as in (48), which illustrates that the relevant movement is A′-movement under the licensing condition of parasitic gaps in (49).[11]

(48) John offended *t* by not recognizing *e* immediately, his favorite uncle from Cleveland. (Chomsky (1982: 47))

(49) A parasitic gap *e* is licensed by a gap *t* if
a. *t* is locally A′-bound by its filler
b. *t* does not c-command *e* (cf. Chomsky (1982: 40))

Thus, the grammaticality of (47a) will be attributed to the application of HNPS, whereby the direct object adjoins to the rightmost side of the verbal phrase. On the other hand, the failure to license a parasitic gap in (47b) illustrates that the relevant movement is an instance of A-movement, considering the licensing condition in (49). This argument is supported by the fact that Scandinavian-style Object Shift does not license a parasitic gap, as illustrated in the following Icelandic example.

(50) * Þú setur [Þetta blað]$_1$ ekki t_1 á borðið [án Þess að lesa e_1].
you put this paper not on the table without reading
'You didn't put this book on the table without reading.'
(Jónsson (1996: 72))

Thus, it seems plausible that the direct object *Sally* is extracted by Scandinavian-style Object Shift in (47b).

As long as the types of movement involved in pseudogapping are distinguishable in terms of the relative word order of an extracted element and an adjunct hosting a parasitic gap, the eclectic approach has an interesting consequence

with respect to the licensing of a parasitic gap in double object constructions with pseudogapping. A parasitic gap is licensed only if the direct object is extracted by HNPS as in (51), while it is not by any movement of the indirect object as in (52).

(51) Although John didn't give the boy a short paper, he did [without reading e_1] [a long paper]$_1$. (Takahashi (2004: 581))

(52) a. * Although John didn't give the tall boy a book, he did [without meeting e_1] [the short boy]$_1$.
b. * Although John didn't give the tall boy a book, he did [the short boy]$_1$ [without meeting e_1]. (Takahashi (2004: 581))

Pseudogapping in (52a) is ruled out since HNPS cannot extract the indirect object, and that in (52b) is also ungrammatical since Scandinavian-style Object Shift of the indirect object does not license a parasitic gap due to its A-movement property.

Takahashi's eclectic approach seems to explain the derivation of pseudogapping successfully, but his analysis suffers from a crucial theoretical problem with the mechanism of deletion. He appeals to Fox and Pesetsky's (2003, 2005) cyclic linearization theory for the motivation of deletion in pseudogapping. Fox and Pesetsky explain Holmberg's generalization that Scandinavian Object Shift is dependent on verb movement, as illustrated in Swedish examples in (53).[12]

(53) a. Jag kysste henne inte [$_{VP}$ t_V t_O].
I kissed her not
a′. (*) Jag har henne inte [$_{VP}$ kysst t_O].
I have her not kissed
b. * Jag har henne inte [$_{VP}$ kysst t_O].
I have her not kissed
b′. Jag har inte kysst henne
I have not kissed her

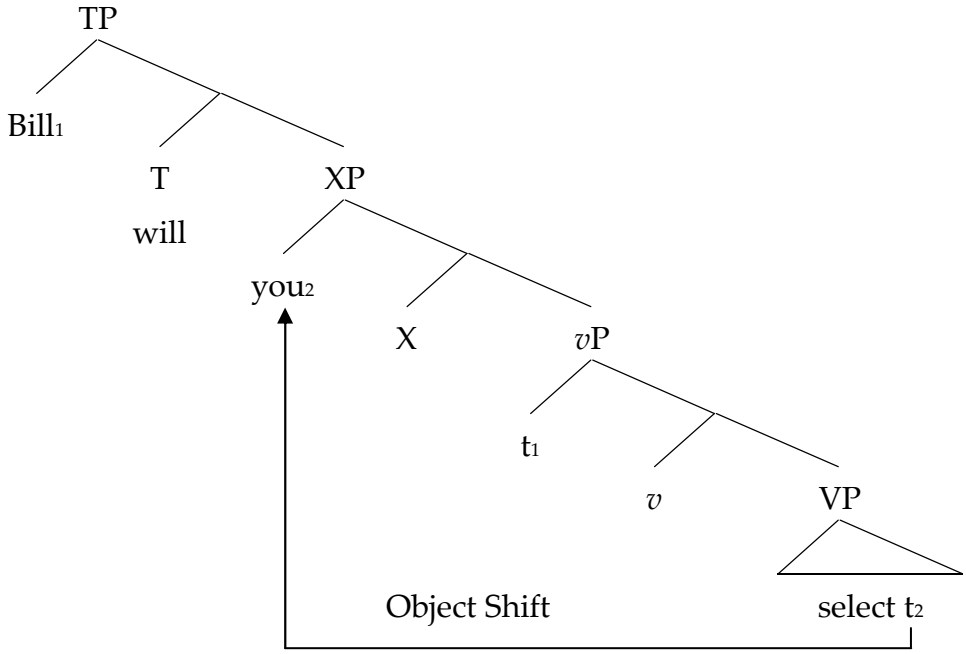
c.	* …	att	jag	henne	inte	[VP kysste	to].	
		that	I	her	not	kissed		
c′.	…	att	jag	inte	kysste	henne.		
		that	I	not	kissed	her		(cf. Holmberg (1999: 1))

In (53a), V-to-C movement is responsible for the legitimate Object Shift. On the other hand, Object Shift is illegitimate in (53b, c) because of their unmoved verbs. Under Fox and Pesetsky's cyclic linearization theory, the ordering of words is fixed at each Spell-out domain, namely VP and CP, and the word order established in a previous Spell-out domain must be preserved in a later Spell-out domain. So, Object Shift in (53a) is legitimate because the lexical verb *kysste* undergoes V-to-C movement, and the lexical verb *kysste* comes to precede the direct object *henne* in both VP and CP. On the other hand, Object Shift in (53b) is illegitimate because the lexical verb *kysst* remains in situ, which results in the failure of the ordering preservation: *kysst* precedes *henne* at VP but the former follows the latter at CP.

Takahashi (2004) proposes that deletion of *v*P in pseudogapping like (54) salvages the derivation containing Scandinavian-style Object Shift which is otherwise illegitimate in English.

(54) a. John will select me, and Bill will ~~select~~ you.

b.



(cf. Takahashi (2004: 578))

Since English does not allow V-to-C movement, Scandinavian-style Object Shift gives rise to the same ordering problem as in (53b): the verb *select* must precede and follow its direct object *you* at the same time. Deletion of *v*P avoids this conflict: the verb comes to be ignored with respect to linearization.

This approach is obviously problematic in that Scandinavian-style Object Shift must be applied to English only in pseudogapping. As pointed out above, Takahashi argues that English is classified in the same group as Icelandic according to the application of Scandinavian-style Object Shift. Although English and Icelandic show the similar behavior with regard to the application of passivization to double object constructions, as in (43) and (45), these facts do not prove the presence of Scandinavian-style Object Shift in English, and what is more, such movement is impossible in English, as in (55).

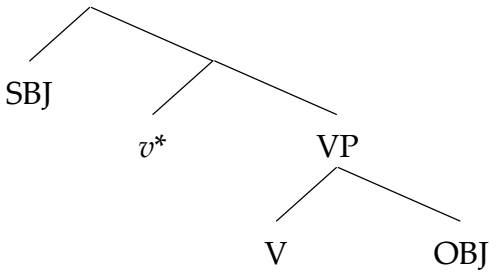
(55) * John$_1$ [$_{XP}$ Mary$_2$ [$_{vP}$ t$_1$ gave t$_2$ the book]] (Takahashi (2004: 583))

Takahashi (2004) tries to justify Scandinavian-type Object Shift in English by claiming that it is usually ruled out, but licensed by deletion of the conflicting ordering information. But it is clearly problematic because the shifted object in Scandinavian languages is not consistent with the remnant of pseudogapping in English with respect to their semantic properties. As pointed out in Holmberg (1999), Scandinavian Object Shift does not affect all types of objects, but it generally affects definite, light, and nonfocused nominals, and weak pronouns, although some crosslinguistic variation is attested in Scandinavian languages.[13] According to Holmberg (1999), Icelandic is exceptional among the Scandinavian Languages because both full DPs and weak pronouns can be shifted by Object Shift. However, it is applicative only when the full DP is not focused. However, the remnant of pseudogapping is not restricted to such types of nominal expressions. It receives contrastive focus, and further, it should not be an unstressed pronoun (Jayaseelan (1990: 65)), as illustrated in the contrast of (56).

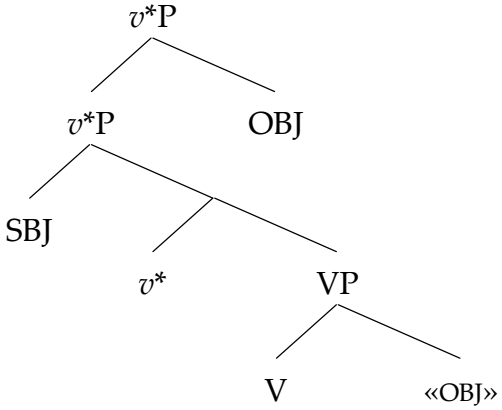
(56) a. Is she suing the hospital? -- She is ~~suing~~ the doctor.
b. Is she suing the hospital? -- * Yes, She is ~~suing~~ it.
(cf. Jayaseelan (1990: 64-65))

In addition to these problems, the cyclic linearization theory cannot explain why deletion occurs in pseudogapping derived by HNPS, which does not bring about the conflict to be avoided by deletion. The VO order determined at the VP domain is persisted even after the application of HNPS which right-adjoins the element to the relevant verbal phrase, i.e. VP or *v*P, as in (57).

(57) a. (Before applying HNPS)



b. (After applying HNPS)



Instead, Takahashi's eclectic approach must appeal to Scandinavian-style Object Shift which is a quite unusual, special device for deriving pseudogapping in English.[14]

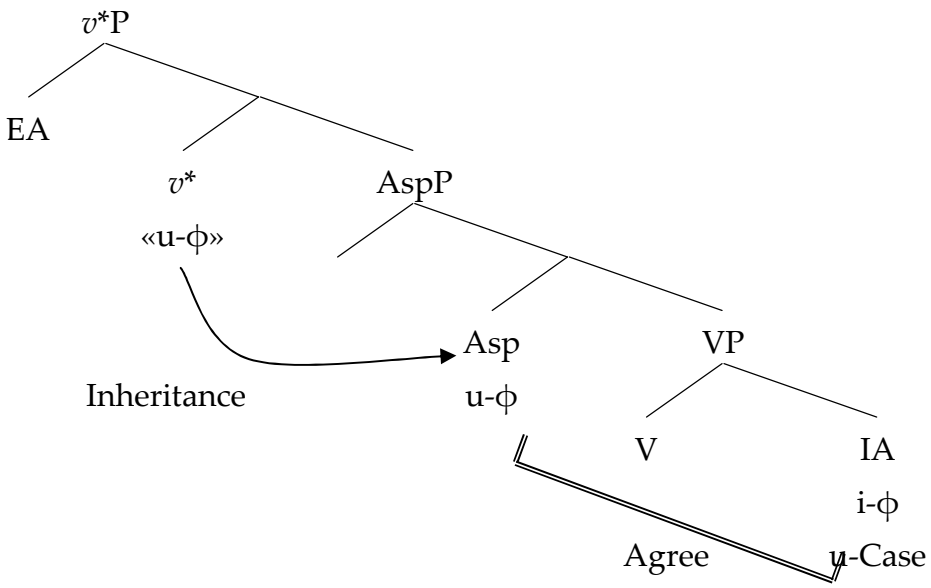
The following section proposes an alternative analysis of pseudogapping, which assumes with Takahashi (2004) that both leftward and rightward movement is involved in pseudogapping, but does not assume a movement operation specifically devised for pseudogapping.

4.3. An Alternative Analysis of Pseudogapping

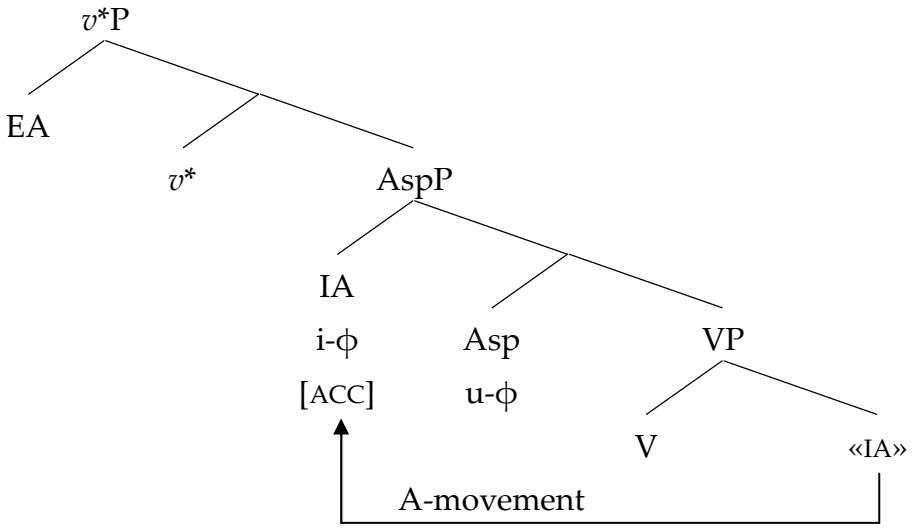
4.3.1. An Alternative Architecture of an Eclectic Approach

This thesis analyzes pseudogapping in terms of both the rightward A′-movement and the leftward A-movement, based on the following structure of *v**P under the recent Minimalist framework.

(58) a.



b.

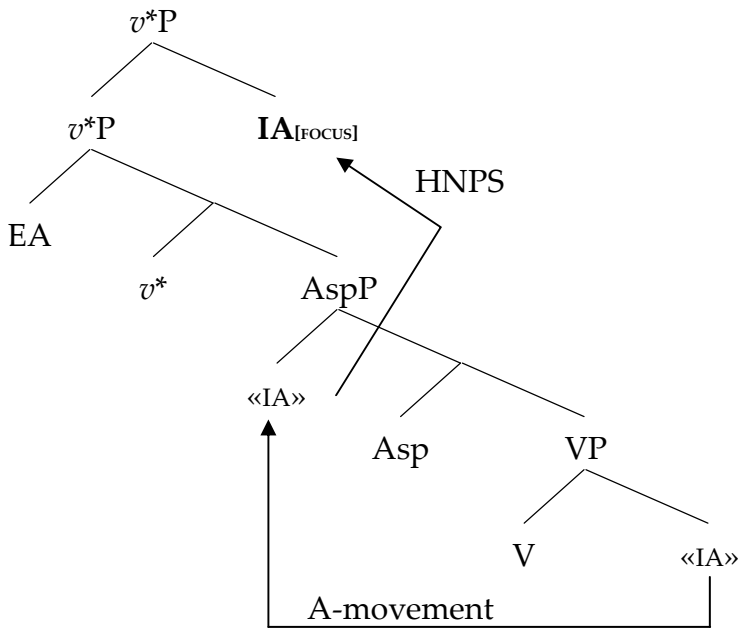


A phase head *v** takes Aspect Phrase (AspP) as its complement, and the functional head Asp inherits unvalued ϕ-features (u-ϕ) on *v**, as in (58a).[15,16] The u-ϕ inherited by Asp functions as a probe and enters into the Agree relation with i-ϕ on the internal argument (IA), which consequently undergoes overt A-movement to Spec, AspP, as in (58b). This movement of the IA is always applied when *v** is specified for u-ϕ, just as proposed in Koizumi (1993, 1995) and Lasnik (1999).[17] The VO order in English is attained from an obligatory movement of the lexical verb V to *v** via Asp at the post-syntactic component, namely the phonological component.

Following Ross (1986) and Hirai (2004), a constituent extracted by HNPS

right-adjoins to *v**P to be interpreted as focus, as in (59).

(59)

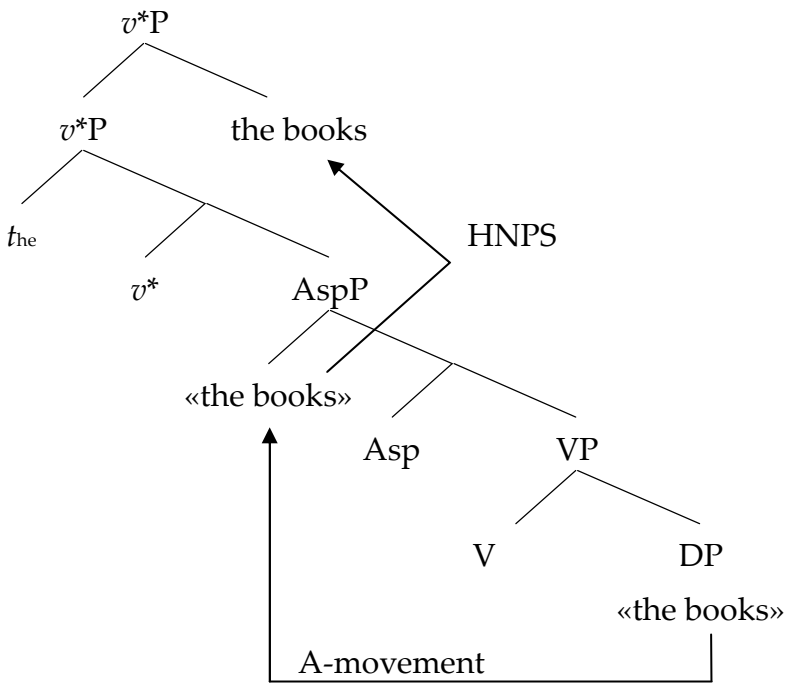


This operation is completely independent of deletion at the phonological component. The structure in (59) can be the input to the deletion operation, whereby pseudogapping is derived. For example, pseudogapping in (60) is analyzed as in (61); the structure of the antecedent *v**P is analyzed as in (61a), and that of the elided *v**P is as in (61b).

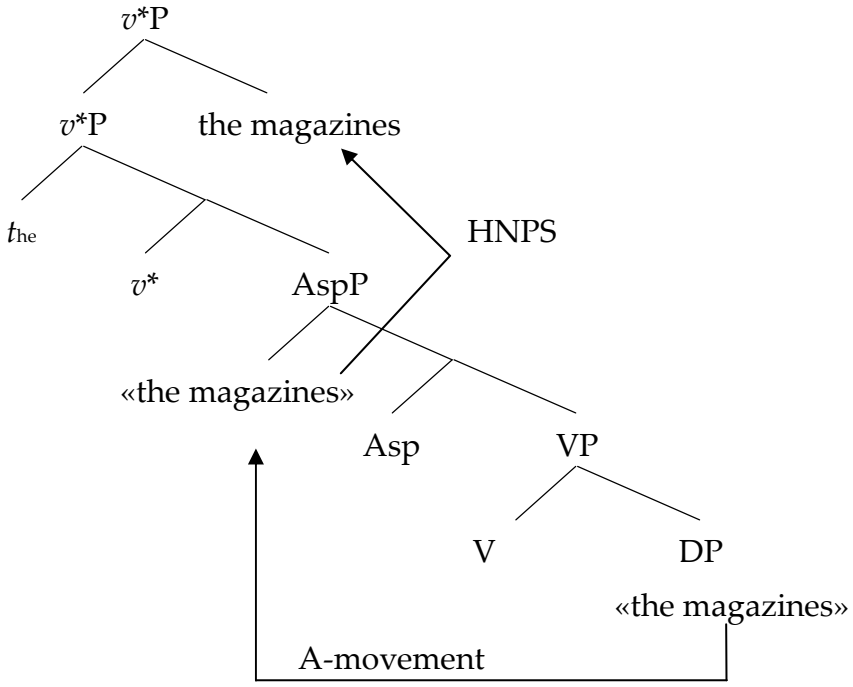
(60) John read the books and Mary did [e] the magazines.

(Lobeck (1999: 99))

(61) a.



b.



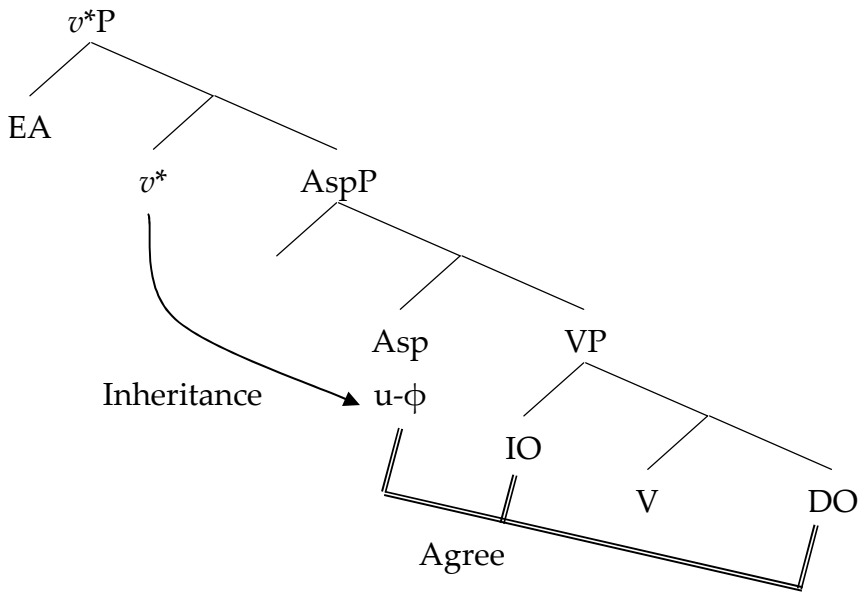
In this case, AspP is deleted under identity at the phonological component: the identity of the phonological information.[18] Following Chomsky (2001), I assume that head-movement occurs at the phonological component. Then, the deletion occurs prior to head-movement of the lexical V to *v**. On the other hand, the extraction of the IA is required prior to the application of deletion. Under this

analysis, the leftward A-movement of the IA to Spec, AspP is implemented by the Agree relation of ϕ-features, which is independent of deletion. In addition, the rightward A′-movement, i.e. HNPS, is also independent of deletion.

4.3.2. Pseudogapping and Double Object Constructions

The present analysis can explain not only pseudogapping but also multiple-remnant pseudogapping in double object constructions, observed in Bowers (1998), Baltin (2003) and Takahashi (2004). The structure of the double object construction is analyzed as in (62).[19]

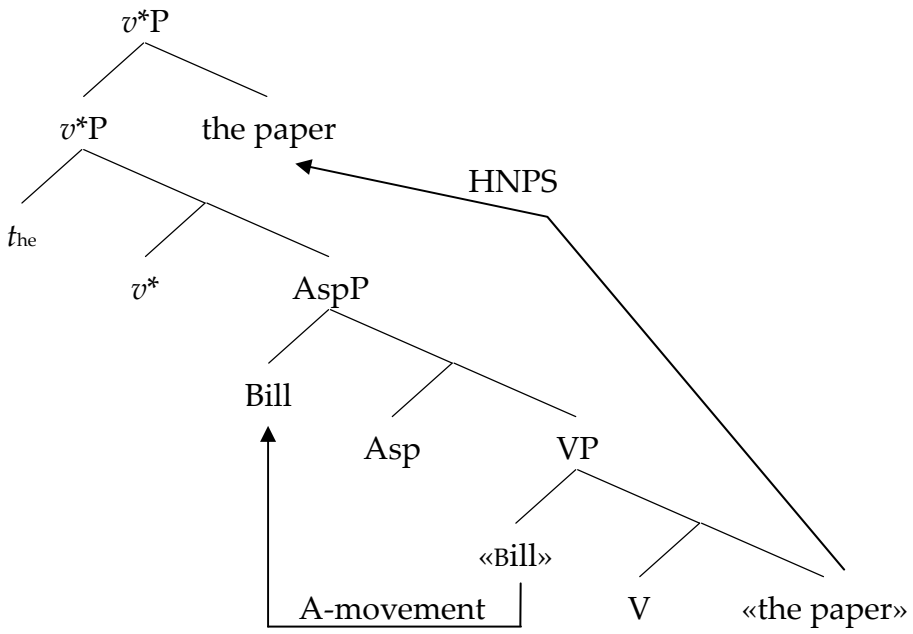
(62)



The two internal arguments of the ditransitive verb are base-generated within VP: the indirect object is generated in Spec, VP and the direct object is in Comp, VP. In this case, the u-ϕ inherited from *v** to Asp serves as a probe, entering into the Agree relation with i-ϕ on the indirect object and the direct object, and then the former moves to Spec, AspP since it is closer to the probe than the other.[20] Pseudogapping involving the direct object as the remnant like (63) is analyzed as in (64).

(63) Although John wouldn't give Bill the book, he would ~~give Bill~~ the paper. (Takahashi (2004: 572))

(64)

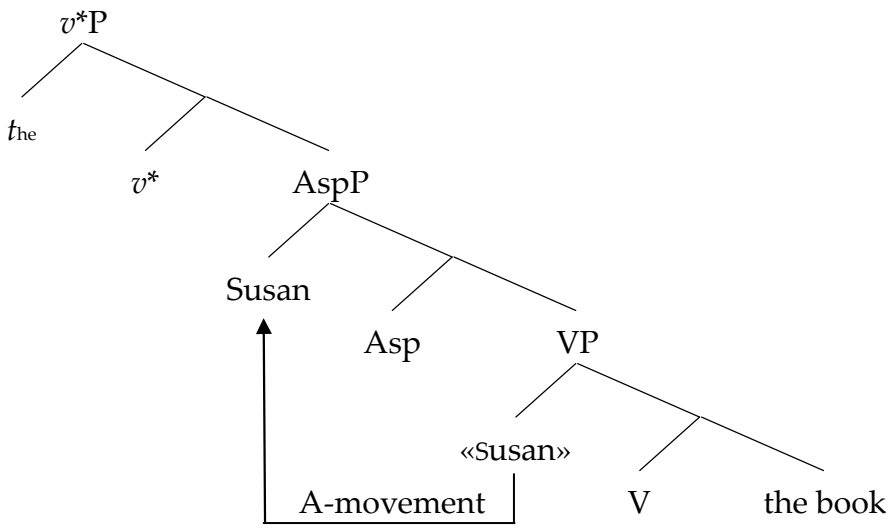


The inherited u-ϕ on Asp enters into the Agree relation with i-ϕ on the indirect object *Bill* and i-ϕ on the direct object *the paper*, whereby u-ϕ on Asp and u-Case on the two internal arguments are valued. As a result of this Agree, the indirect object, the closest target, moves to Spec, AspP, and the direct object undergoes HNPS and right-adjoins to *v**P. Then, AspP will be deleted under identity.

When pseudogapping involves the indirect object as the remnant like (65), the structure will be as in (66).

(65) Although John wouldn't give Bill the book, he would ~~give~~ Susan ~~the book~~. (Takahashi (2004: 573))

(66)

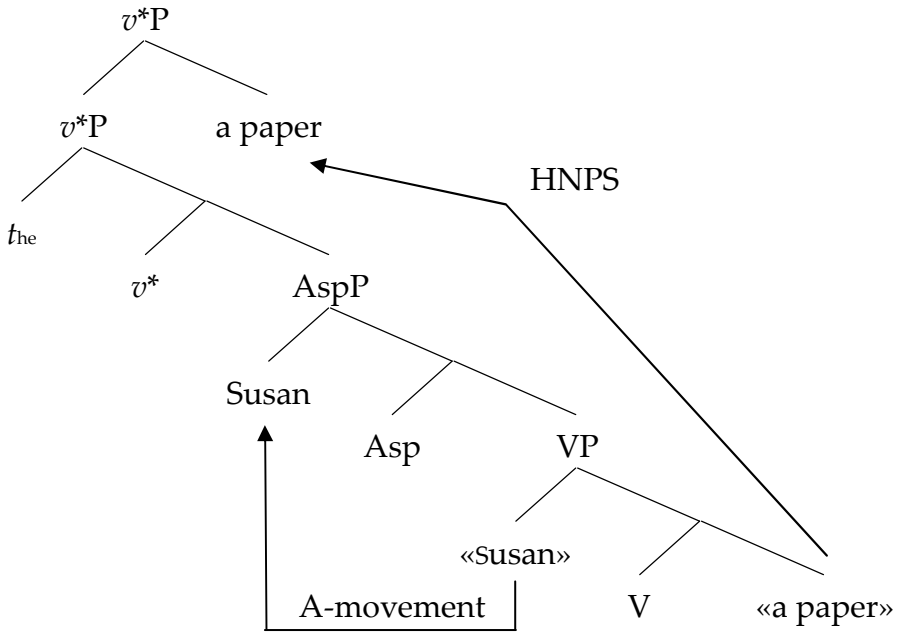


Again, the Agree relation is established between u-ϕ inherited by Asp and i-ϕ on the indirect object *Susan* and the direct object *the book*. As a result, the indirect object moves to Spec, AspP, but HNPS is not applicable in this case. This configuration suffices to derive pseudogapping because VP is deleted under identity.

Finally, pseudogapping with multiple remnants is possible, as in like (67). It is analyzed as in (68).

(67) ? John would give Bill a book more often than he would ~~give~~ Susan a paper. (Takahashi (2004: 573))

(68)



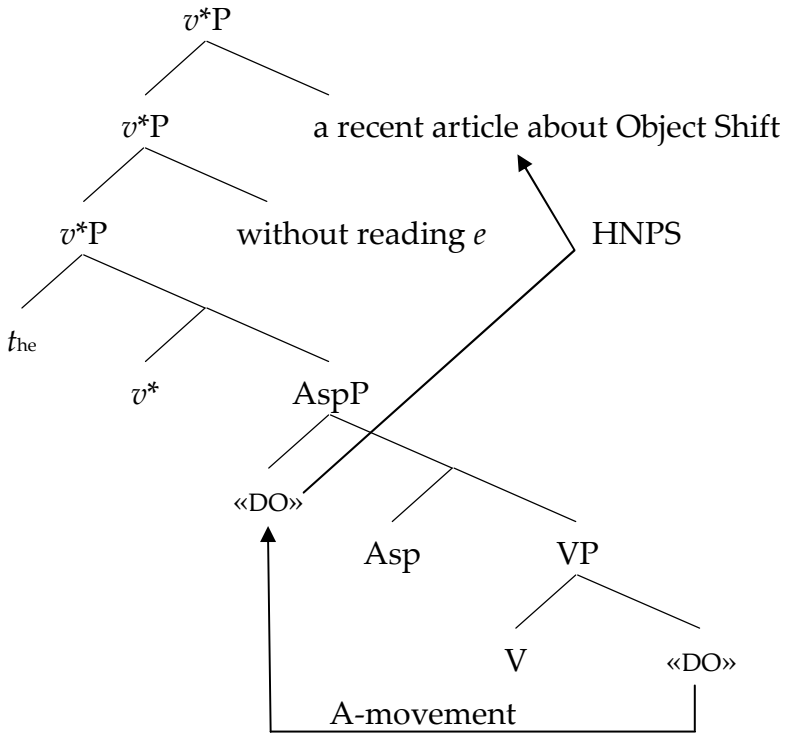
In (68), the indirect object *Susan* moves to Spec, AspP as a result of Agree, and the direct object *a paper* undergoes HNPS and right-adjoins to *v**P. In this case, VP is deleted under identity.

4.3.3. Pseudogapping and Parasitic Gaps

Finally, the analysis proposed here also successfully accounts for the availability of the cooccurrence of pseudogapping and parasitic gaps. As Takahashi (2004) points out, a parasitic gap is licensed when pseudogapping involves HNPS (A′-movement). In (69), an adjunct hosting a parasitic gap appears on the left of a remnant right-adjoining to *v**P, so that the structure of such pseudogapping will be as in (70).

(69) Although John didn't file a recent article about HNPS, he did [without reading e_1] [a recent article about Object Shift]$_1$. (Takahashi (2004: 580))

(70)

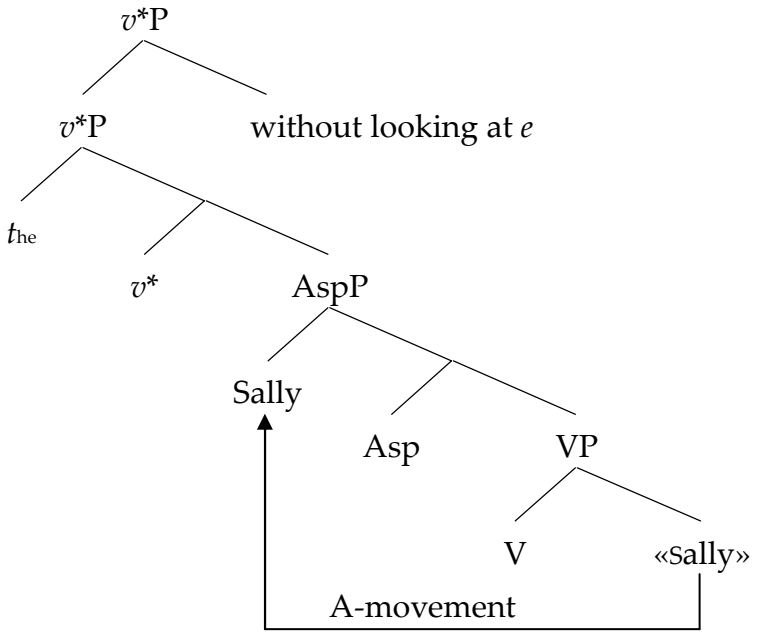


Here, this remnant in the A′-position c-commands the adjunct hosting a parasitic gap,

so that a parasitic gap can be licensed in this configuration, meeting the licensing condition of parasitic gaps in (49) because the shifted object *a recent article about Object Shift* A′-binds its own trace (or copy) within a local domain *v**P, and the latter does not c-command a parasitic gap. On the other hand, a parasitic gap is not licensed when the relevant adjunct appears on the right of the remnant, as in (71). This is successfully accounted for under the structure in (72).

(71) * Although John didn't kiss Mary, he did Sally$_i$ without looking at e$_i$
(Baltin (2003: 241))

(72)



This parasitic gap is not licensed in this configuration because the direct object *Sally* does not undergo HNPS: the direct object *Sally* undergoes A-movement, so it does not A′-bind its own trace.

Furthermore, this analysis straightforwardly explains the fact, originally pointed out in Takahashi (2004), that a parasitic gap is not licensed when the remnant is the indirect object of double object construction regardless of the type of the extraction as in (73), while it can be licensed when the remnant is the direct object which

undergoes HNPS as in (74).

(73) a. * Although John didn't give the tall boy a book, he did [without meeting e_1] [the short boy]$_1$.
b. * Although John didn't give the tall boy a book, he did [the short boy]$_1$ [without meeting e_1]. (Takahashi (2004: 581))

(74) Although John didn't give the boy a short paper, he did [without reading e_1] [a long paper]$_1$. (Takahashi (2004: 581))

Pseudogapping in (73a) is ungrammatical because HNPS is not applicable to the indirect object, and that in (73b) is ungrammatical for the same reason as (72): a parasitic gap is not licensed by the movement to Spec, AspP because of its A-movement property. Even though the proposed analysis produces the same effect to these empirical facts as Takahashi's (2004) analysis, the former is preferable in the theoretical aspect in that it is not dependent on any obligatory movement or suppression of movement specialized for the derivation of pseudogapping.

4.4. A Historical Aspect of Pseudogapping

Warner (1993) points out that earlier English allows pseudogapping as well as VPE. The examples of pseudogapping in OE and ME are repeated in (75a, b) and (75c, d), respectively.

(75) a. We magon monnum bemiðan urne geðonc & urne
we may from-men hide our thought and our
willan, *ac we ne magon Gode*
will, but we not may from-God
'We can hide our thoughts and our desires from men, but we cannot from God.' (CP 39.12/ cf. Warner (1993: 114-115))

b. se ðe wille godcundne wisdom secan *ne*
that that-REL will heavenly wisdom try to find not
mæg he hine wiþ ofermetta.
may he it with arrogance.
'that man who will seek hevenly wisdom may not it with arrogance.' (Bo 12.26.22 / cf. Warner (1993: 114-115))

c. andette his sennen him ðe ware necst him … oððer ȝif he ware all hone, ðanne *most he to godd ane*.
'if a man were suddenly upon his death, and he could have no priest,] he-ought-to-confess his sins to-him who is nearest to-him; … or if he were alone, then he must [sc. confess] to God only.'
(a1225 (c1200) Vices and Virtues 123.18 / Warner (1993: 115-116))

d. Iloren ich haue Iosep, … & nou *ich ssal Beniamin*
[Jacob speaks] 'I have lost Joseph, … and now I am-going-to [sc. lose] Benjamin'
(?a1300 Iacob and Iosep 462 / cf. Warner (1993: 115-116))

In (75), bare infinitives are absent from the complement of pre-modals, just like pseudogapping in PE, and the remnant of pseudogapping in (75) appears on the right of a pre-modal. On the other hand, ten examples of pseudogapping are attested in YCOE with the remnant, the accusative object, on the left of the pre-modal. Here follow part of these examples.

(76) a. ðæt se yfla mæge don yfel ðeah *he good ne*
that that evil may do evil though he good not
mæge,
may,
'that the evil may do evil things, though he may not (do) good things.' (coboeth,Bo:36.109.32.2154: o2)

b. ðylæs hie awuht sellen ðæm ðe *hie nanwuht ne*
lest she anything sells to-those that she nothing not
sceoldon, oððe nan wuht ðæm ðe *hie hwæthwugu*
should or nothing to-those that she something
sceoldon, oððe eft fela ðam ðe *hie lytel sceoldon*,
should, or often few to-those that she little should,
oððe lytel ðam ðe *hie micel sceoldon*,
or little to-those that she much should
'lest she sells anything to those who she should not (sell) nothing, or (she sells) nothing to those who she should (sell) something, or (she) often (sells) few to those who she should (sell) little, or (she sells) little to those who she should (sell) much,' (cocura,CP:44.321.12.2158: o2)

c. þæt hine mon sloge swa raðe swa *mon hiora fiend*
that her man stroke as quickly as man her enemy
wolde
would
'that one stroke her as quickly as one would (stroke) her enemy.'
(coorosiu,Or_1:12.33.15.644: o2)

Actually, a bare infinitival complement appears on the right or left side of a pre-modal in non-ellipsis sentences in OE, as in (77).

(77) a. þæt hi mihton swa bealdlice Godes geleafan bodian
that they could so boldly God's faith preach
'that they could preach God's faith so boldly'
(ÆChom I, 16.232.23 / Fischer et al. (2000: 143))

b. þæt he ure sawl fram synna fagnyssum gehælan mæge
that he our soul from of-sins ulcers heal can
'that he can heal our soul from the ulcers of sin'
(ÆCHom I, 8.122.24 / Fischer et al. (2000: 143))

Although there have been some controversy as to this kind of variations of word order in earlier English, this chapter assumes that this variation is derived by options

between a head-initial phrase and a head-final one. More precisely, TP is head-initial when a pre-modal precedes its infinitival complement, while TP is head-final when a pre-modal follows its infinitival complement. Also, this choice is observable in verbal phrases. Under this assumption, the following subsections try to explain the derivation of pseudogapping like (73) and (74).

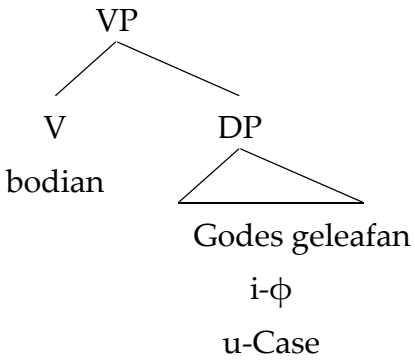
4.4.1. Postverbal Infinitival Complement and Pseudogapping

In (77a), repeated as (78), the pre-modal *mihton* precedes its infinitival complement (V_{fin} - Comp), but the non-finite verb *bodian* follows its complement *Godes geleafan* (Comp - V_{inf}).

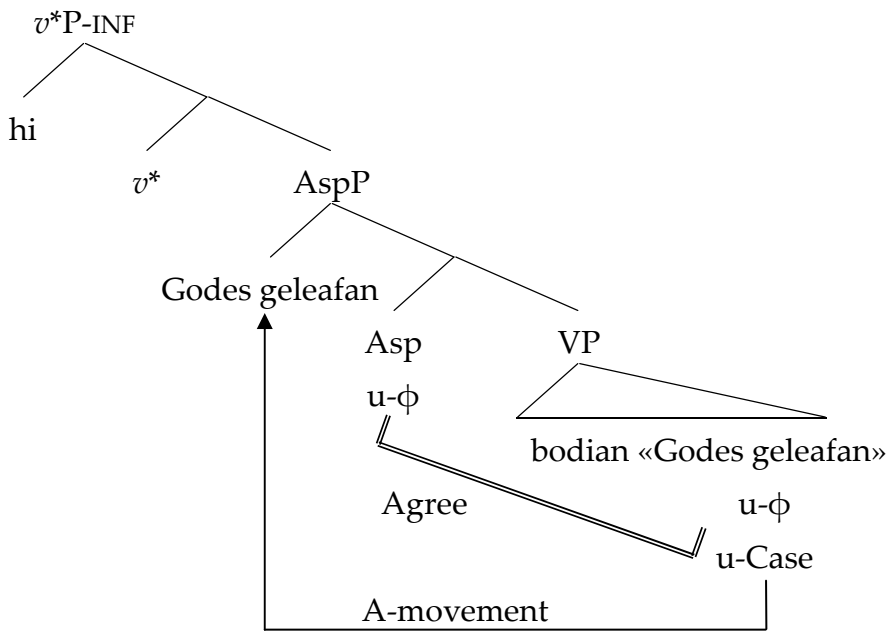
(78) þæt hi mihton swa bealdlice Godes geleafan bodian
that they could so boldly God's faith preach
'that they could preach God's faith so boldly'
(ÆChom I, 16.232.23 / Fischer et al. (2000: 143))

The infinitival clause in (78) will have the underlying structure like (79a), and its complement will undergo movement to Spec, AspP after the introduction of Asp and *v**, as in (79b).

(79) a.

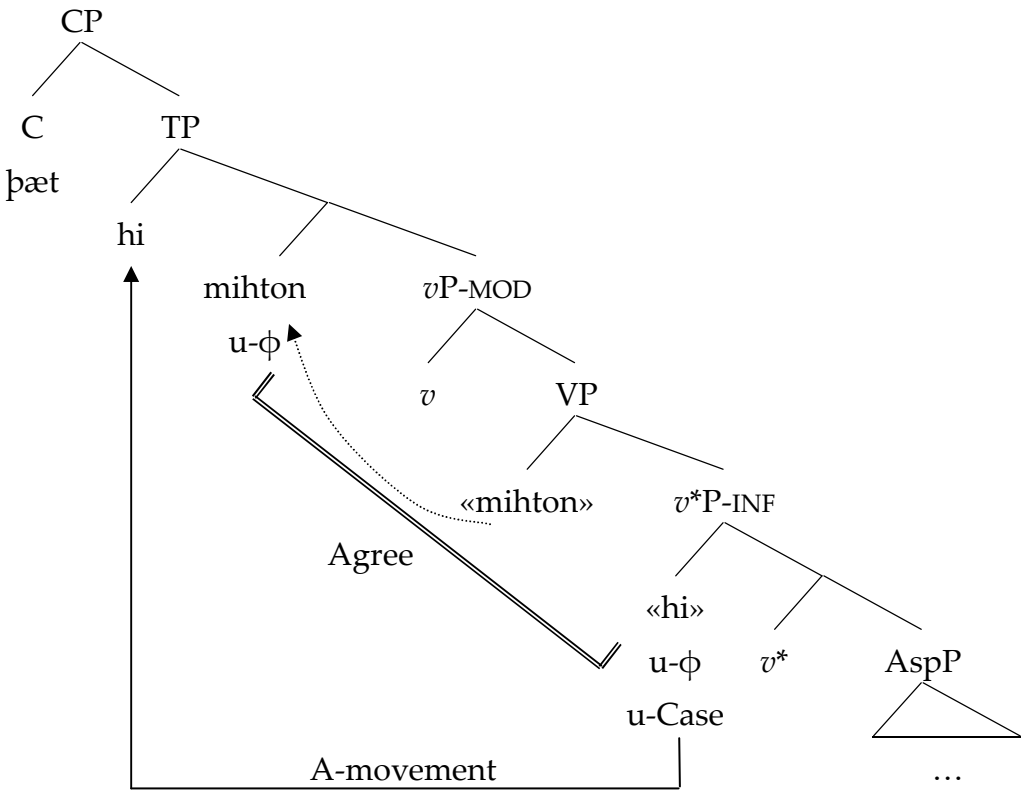


b.



The Comp - V_{inf} order is established at the stage in (79b). Then, the *v**P-INF is selected by a pre-modal as its complement, and the external argument of *v**P moves to Spce, TP, and the pre-modal *mihton* undergoes head-movement to the head of T, as in (80).

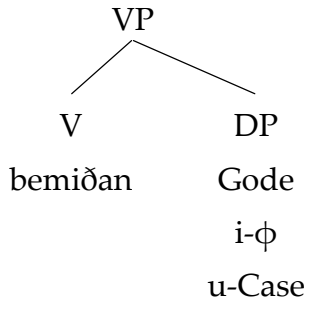
(80)



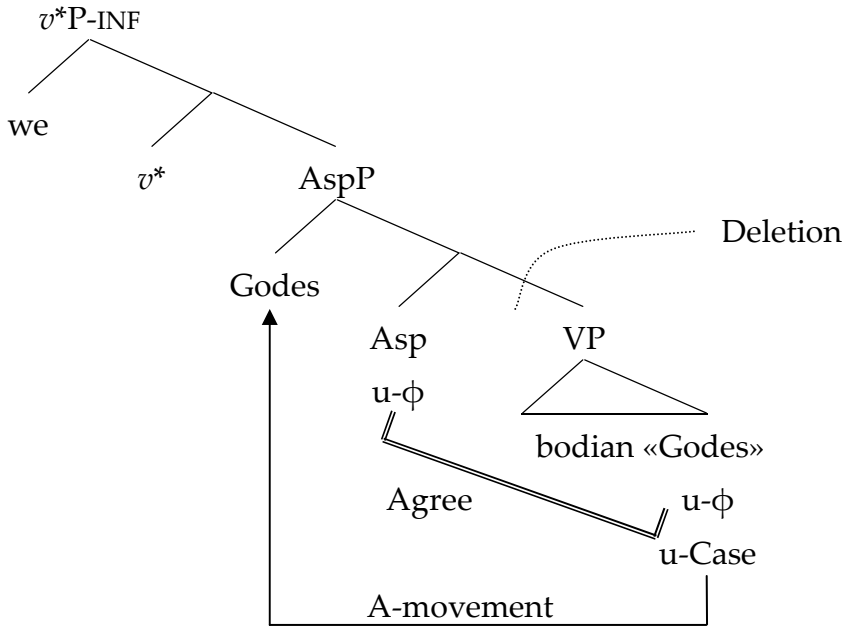
With this in mind, the derivation of pseudogapping in (75a), repeated as (81), will be analyzed as in (82).

(81) We magon monnum bemiðan urne geðonc & urne willan,
we may from-men hide our thought and our will,
ac we ne magon Gode
but we not may from-God
'We can hide our thoughts and our desires from men, but we cannot from God.' (CP 39.12/ cf. Warner (1993: 114-115))

(82) a.



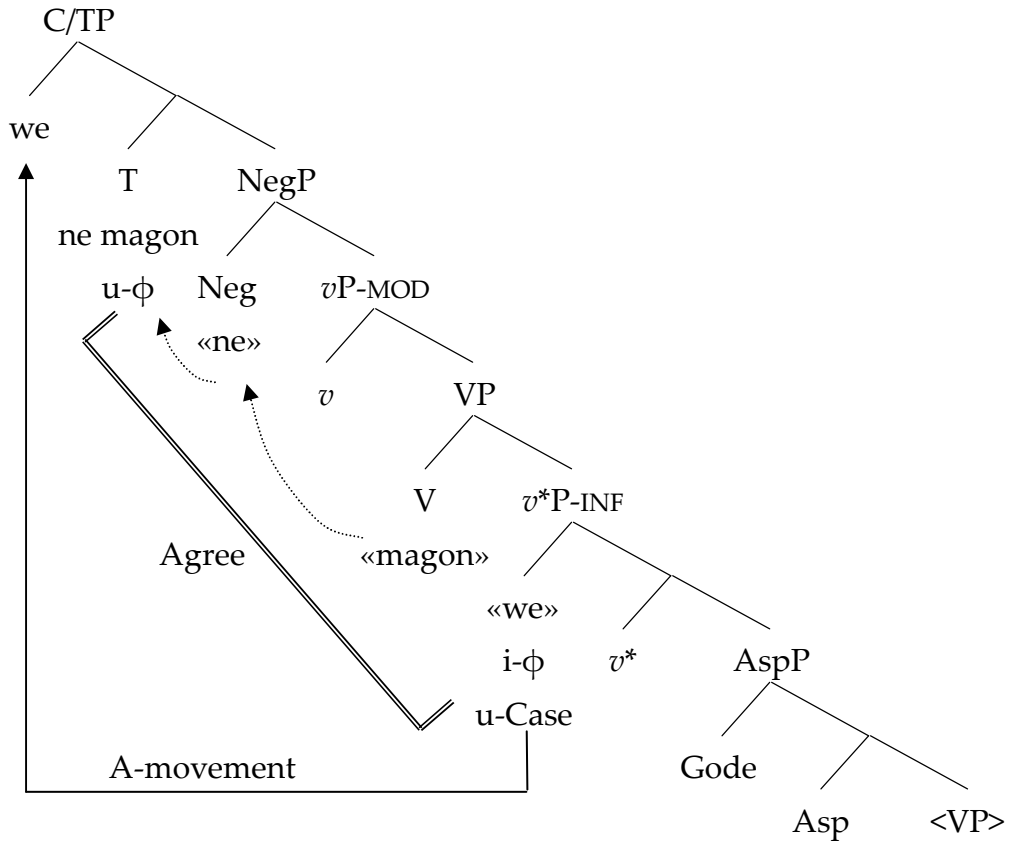
b.



The infinitive *bemiðan* merges with its direct object *Gode* to form VP in (82a). The direct object raises to Spec, AspP as a result of Agree between u-ϕ on Asp and i-ϕ on the direct object in (82b). The VP within the infinitival *v**P is deleted under identity at the phonological component, and the deletion will be applied prior to the raising

of the infinitive to the infinitival *v**. After the application of deletion and the introduction of a pre-modal and the C-T configuration, the external argument raises to Spec, TP, and the pre-modal *magon* raises to the head of T (possibly through the head of NegP), as in (83).

(83)



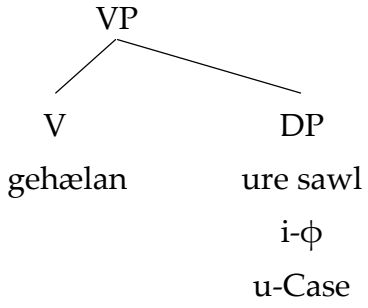
Thus, pseudogapping can be derived in the sentence with the postverbal infinitive in OE.[21]

4.4.2. Preverbal Infinitival Complement and Pseudogapping

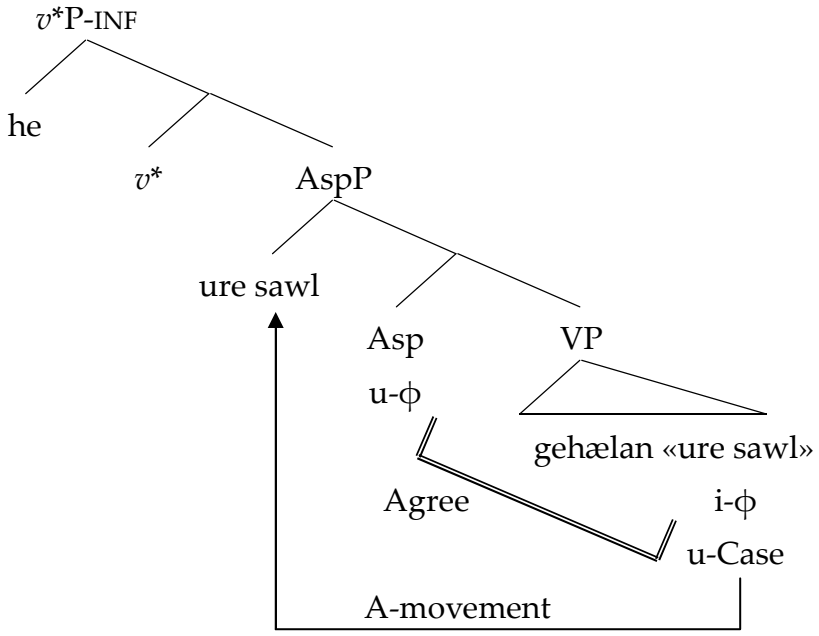
In (77b), repeated as (84), the pre-modal *mæge* is preceded by its infinitival complement, and the non-finite verb *gehælan* is also preceded by its complement. The derivation of (84) is analyzed as in (85) and (86).[22]

(84) þæt he ure sawl fram synna fagnyssum gehælan mæge
that he our soul from of-sins ulcers heal can
'that he can heal our soul from the ulcers of sin'
(ÆCHom I, 8.122.24 / Fischer et al. (2000: 143))

(85) a.

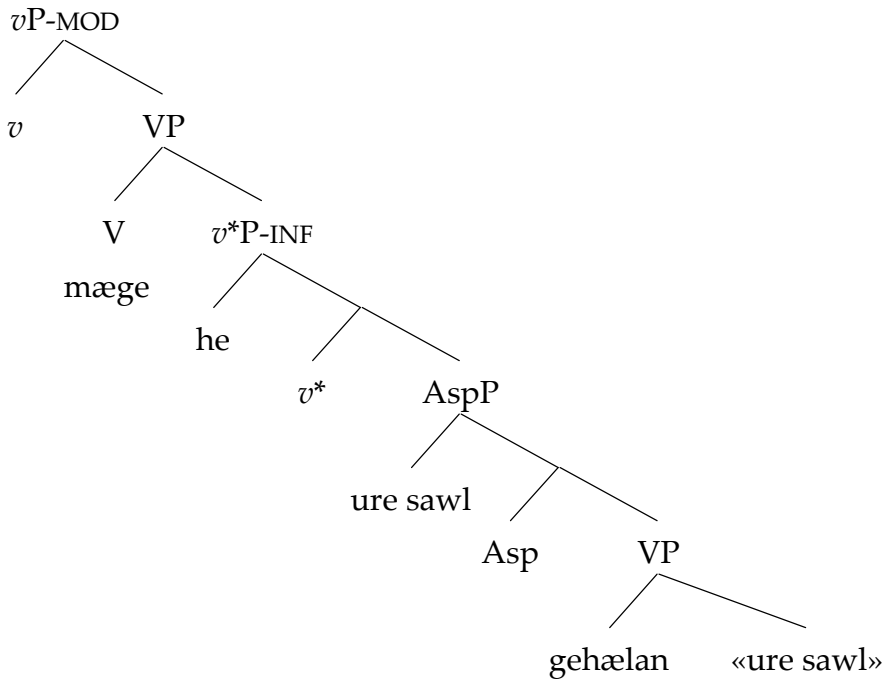


b.

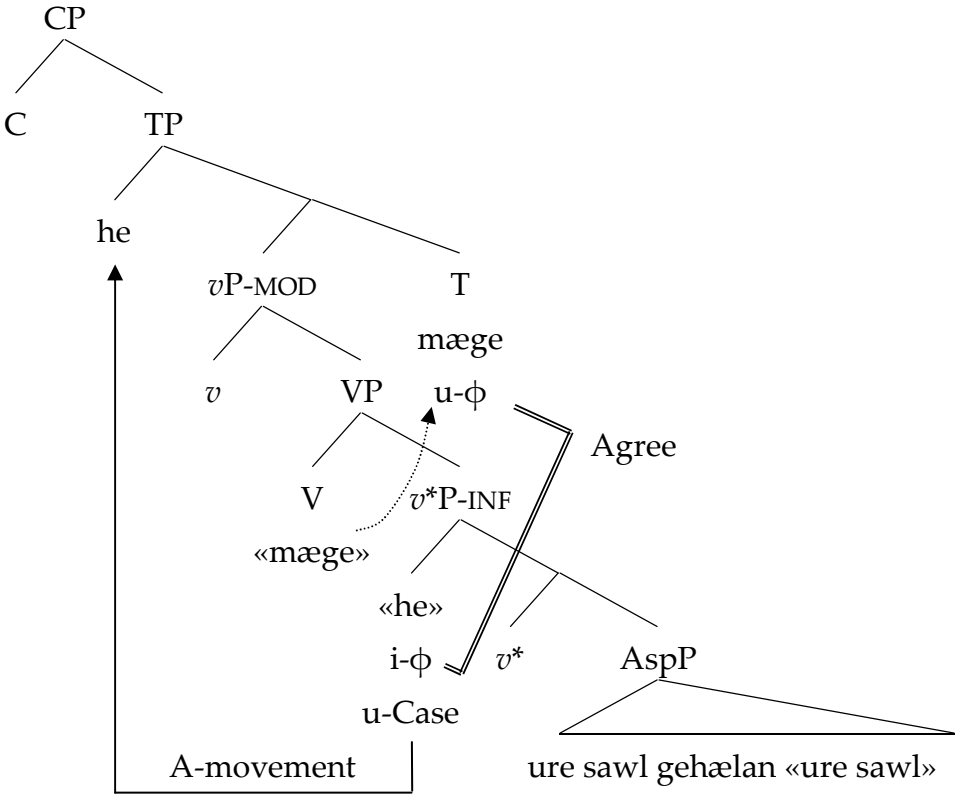


As in (85a), the infinitive *gehælan* merges with the direct object *ure sawl*, and as in (85b), the direct object moves to Spec, AspP after Asp and *v** are introduced in the derivation. After the movement of the direct object, the pre-modal *mæge* selects this infinitive as its complement, as in (86a), and the C-T configuration is introduced but at least T takes its complement on its left, as in (86b).

(86) a.



b.

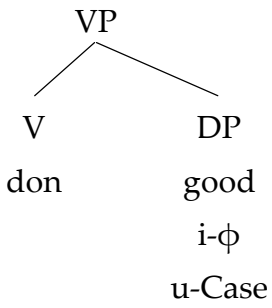


Now, let us consider the derivation of pseudogapping in (76a), repeated as in (84), where the pre-modal appears at the rightmost position.

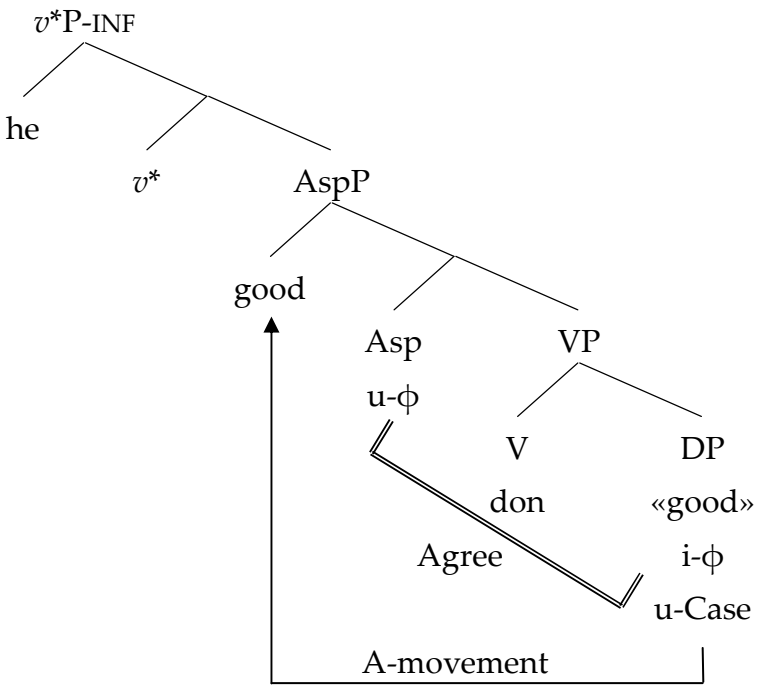
(87) ðæt se yfla mæge don yfel ðeah *he good ne mæge*,
that that evil may do evil though he good not may,
'that the evil may do evil things, though he may not (do) good things.'
(coboeth,Bo:36.109.32.2154: o2)

First, the lexical verb *don* takes the direct object *good* as its complement to form VP, as in (88a). After Asp and *v** are introduced in the derivation, the direct object moves to Spec, AspP as a result of Agree between u-ϕ on Asp and i-ϕ on DP, as in (88b).

(88) a.

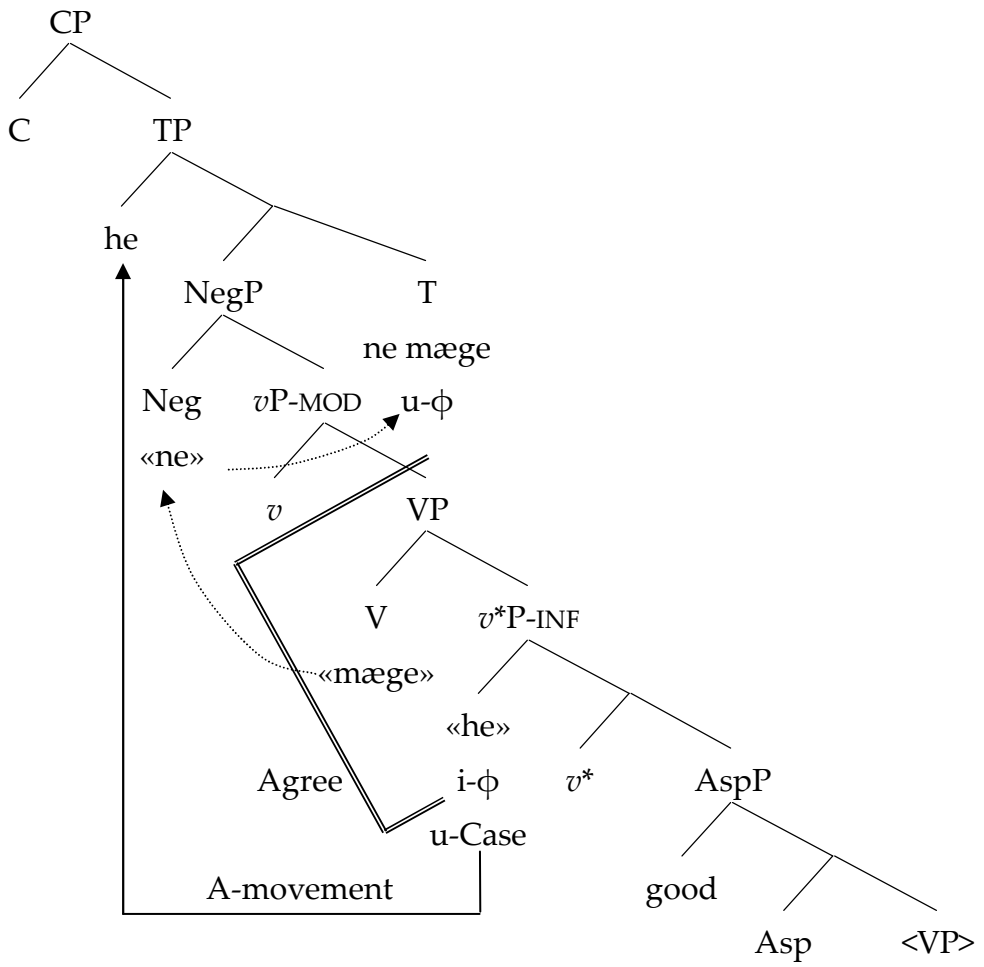


b.



At this stage of (88b), the VP is deleted under identity. Finally, the pre-modal and the C-T configuration are introduced in the derivation, where T takes its infinitival complement on its left, as in (89).

(89)

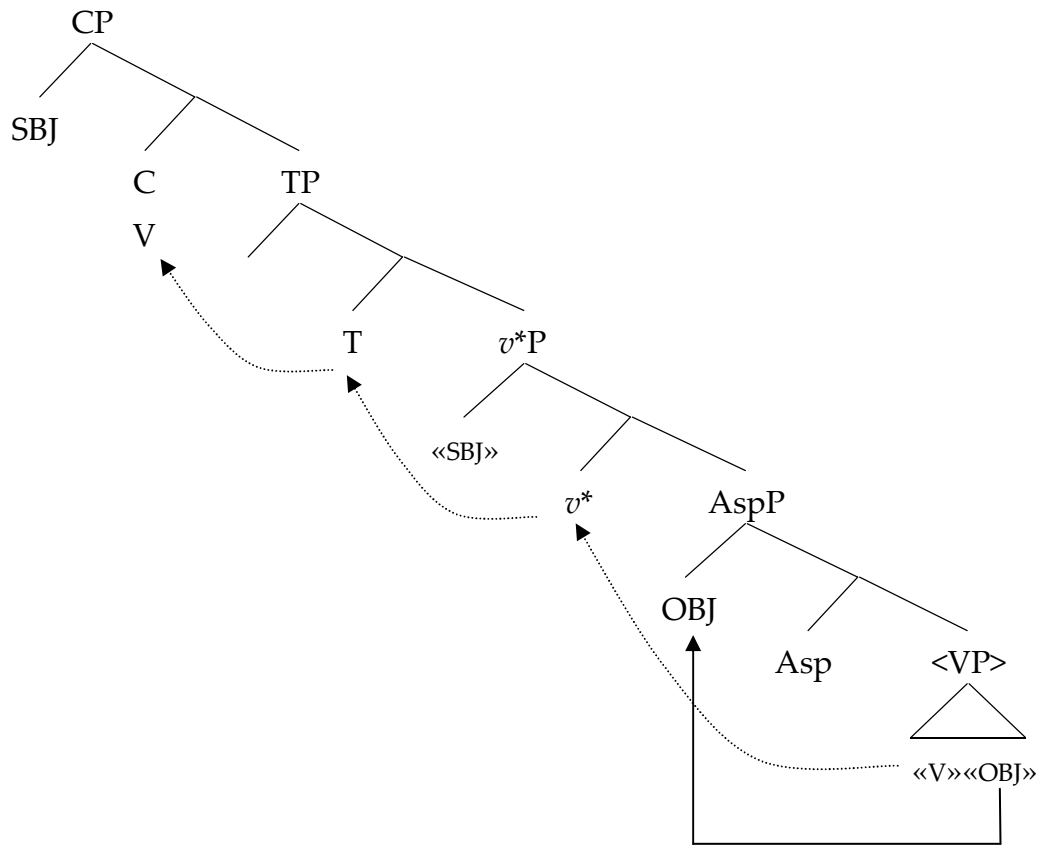


The derivation of pseudogapping in OE can be given the explanation, even though the relevant infinitival complement occurs either before or after a pre-modal, without postulating any movement special to this elliptical construction.

4.4.3. The Impossibility of Pseudogapping without Pre-modals in OE and ME

Finally, we have to consider how to rule out a redundant application of deletion. Since V-to-T movement (and probably subsequent movement to C) of a lexical verb is possible in OE and ME, deletion may be applied to the lowest VP whose head evacuates from the elided constituent, as in (90).

(90)



Although the word order does not demonstrate whether the deletion operation is applied to the relevant VP, it is clearly unnatural and redundant with theoretical respects to assume that Lexical-V-stranding pseudogapping is possible. In Lexical-V-stranding pseudogapping, two sentences will have the same verb, but the one will have a missing element which must be recovered from its antecedent. However, the result of the investigation with YCOE I conducted did not have such instances. Hence, it seems to be plausible to regulate the application of deletion when a pre-modal is not employed. To do so, I postulate the following rule.

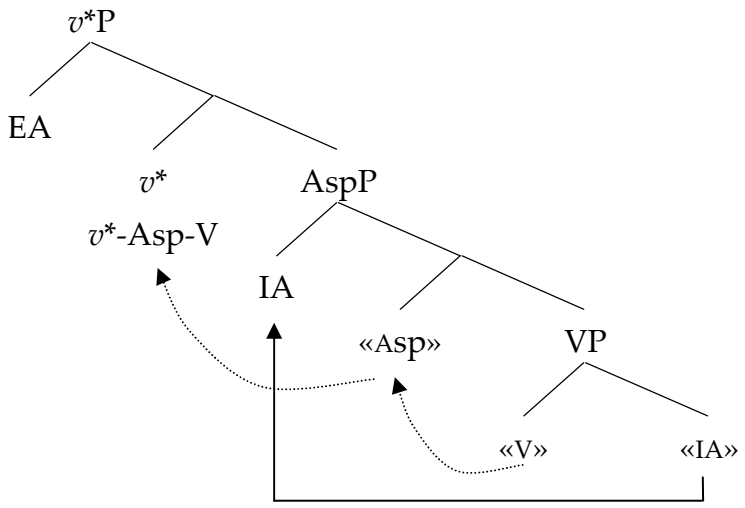
(91) **Intraphasal** head-movement, such as V-to-*v** movement, does not have to occur unless **transphasal** head-movement, such as V-to-T movement, is required for convergent derivation.

In addition, I adopt Lasnik's (1999) VP ellipsis constraint, although this thesis applies it to pseudogapping.[23]

(92) Constraint on deletion of VP constraint:
Deletion of VP is prohibited if VP has lost its head.
(cf. Lasnik (1999: 157))

These mechanisms rule out the apparently redundant application of a deletion operation in OE. Since T is specified for strong features which trigger V-raising in OE as we saw in chapter 3, the lexical verb must moves from its base-generated position to *v** in order to , as in (93).

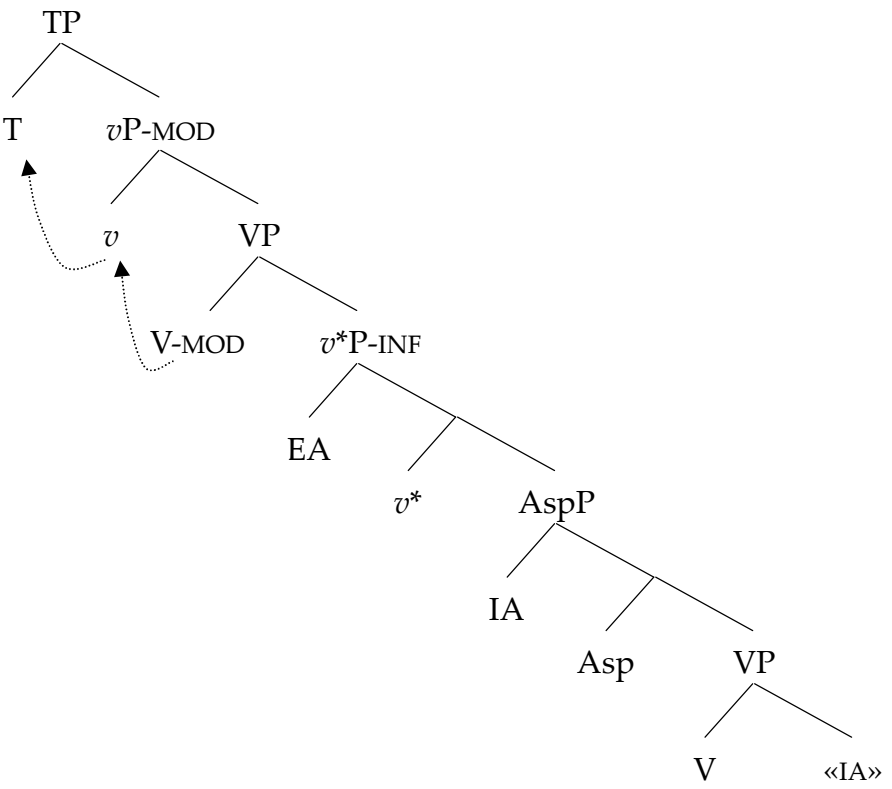
(93)



After Transfer of AspP, the C-T configuration is introduced into the derivation.[24] At this stage, the complex *v**-Asp-V on *v** is accessible to T with strong features, and at the same time, deletion of VP is prohibited because it does not have any phonological content under the constraint in (92).

On the other hand, pseudogapping is possible only when pre-modals are employed, as already seen above. Since T attracts a pre-modal, a lexical verb does not have to undergo intraphasal head-movement and remain in its base-generated position, as in (94).

(94)



Thus, the introduction of a pre-modal restricts the head-movement of the lexical verb out of the relevant *v**P (or VP), so that the deletion operation is applicable to the VP which has phonological contents.[25]

4.5. Concluding Remarks

This chapter clarified the derivation of pseudogapping in English. Unlike other analyses, the analysis proposed here could explain pseudogapping without appealing to any stipulated movement or suppression of movement for the derivation of pseudogapping. Under the present analysis, an internal argument always moves to Spec, AspP as a result of Agree within a *v**P phase. It may undergo HNPS, right-adjoining to *v**P, independently of deletion at the phonological component. Since head movement of V occurs after the computation at the syntactic component, deletion under identity blocks the lexical verb from being realized phonologically.

Furthermore, the possibility of Lexical-V-stranding pseudogapping in OE and ME is ruled out under the present analysis by assuming that deletion of VP is prohibited if VP has lost its head. As long as intraphasal head-movement is obligatory in a language with transphasal head-movement, the present analysis can explain that pseudogapping is possible only when a pre-modal is employed, because the elided VP must have a head with phonological contents.

Notes on Chapter 4

---

[1] The LF-copy analysis based on E-*pro* cannot be adapted to an analysis of pseudogapping in its technical respect. By definition, E-*pro* does not have any lexical property except an ability to behave as a reconstruction site, so it does not have its own argument structure: it cannot select any element as its complement. This theoretical prediction is supported by Haumann's (2003) report about the absence of N-adjectives with a complement of its missing nominal head.

(i) a. þone soðan geleafan on fyrlenum landum [& [DP þone
that true belief in distant land & that
[AgrP unriht [NP [N *pro*] [PP on deofle]]]]]
wrong *pro* on devil

b. se soðe lufu on Gode [& [DP se [AgrP unriht [NP [N *pro* [PP on
that true love of God & that wrong *pro* on
deofle]]]]]
devil (Haumann (2003: 72))

[2] As in (11), HNPS cannot apply to the object of a preposition. However, the preposition can be pied-piped with its shifted object, as in (i).

(i) a. John counted [PP on a total stranger] for support.
b. John counted for support *on a total stranger*.
(cf. Jayaseelant (1990: 66))

When the extraposition operation is applied to the whole prepositional phrase, just like (ib), it can be the remnant of pseudogapping as in (ii).

(ii) a. You can't count [PP on a stranger]; but you can count [PP on a friend].
b. You can't count on a stranger; but you can *on a friend*.
(cf. Jayaseelan (1990: 66))

Since the extraposed constituent is not a nominal expression, the term HNPS seems somewhat unnatural. However, in this thesis, I keep referring to the relevant rightward A′-movement as HNPS.

[3] It is argued that the indirect object of double object constructions cannot be extracted through A′-movement (Landau (2007: 502) and others cited there), as in (i).

(i) a. * Who did George kick the ball? (Wh-interrogative)
b. * Those kids, Fred baked coconut cookies. (Topicalization)
c. * It was Larry that we gave the keys. (Cleft)
(Landau (2007: 502))

He explains this fact by assuming that the indirect object is PP headed by a null preposition, as in (ii), and that PP with a null head cannot be a candidate of A′-movement.

(ii) a. George kicked [PP [P′ φ [DP the boy]]] the ball.
b. Fred baked [PP [P′ φ [DP the kids]]] coconut cookies.
(Landau (2007: 502))

Not assuming that the indirect object is contained within such null-headed PP, this thesis just take into account the fact that A′-movement, including HNPS, is not applicable to the indirect object.

[4] Multiple-remnant pseudogapping is also possible in dative constructions, as in (i).

(i) a. Although John would give a book to Mary, he wouldn't ~~give~~ a paper to Susan.
b. John would give a book to Mary more often than he would ~~give~~ a paper to Susan. (Takahashi (2004: 573))

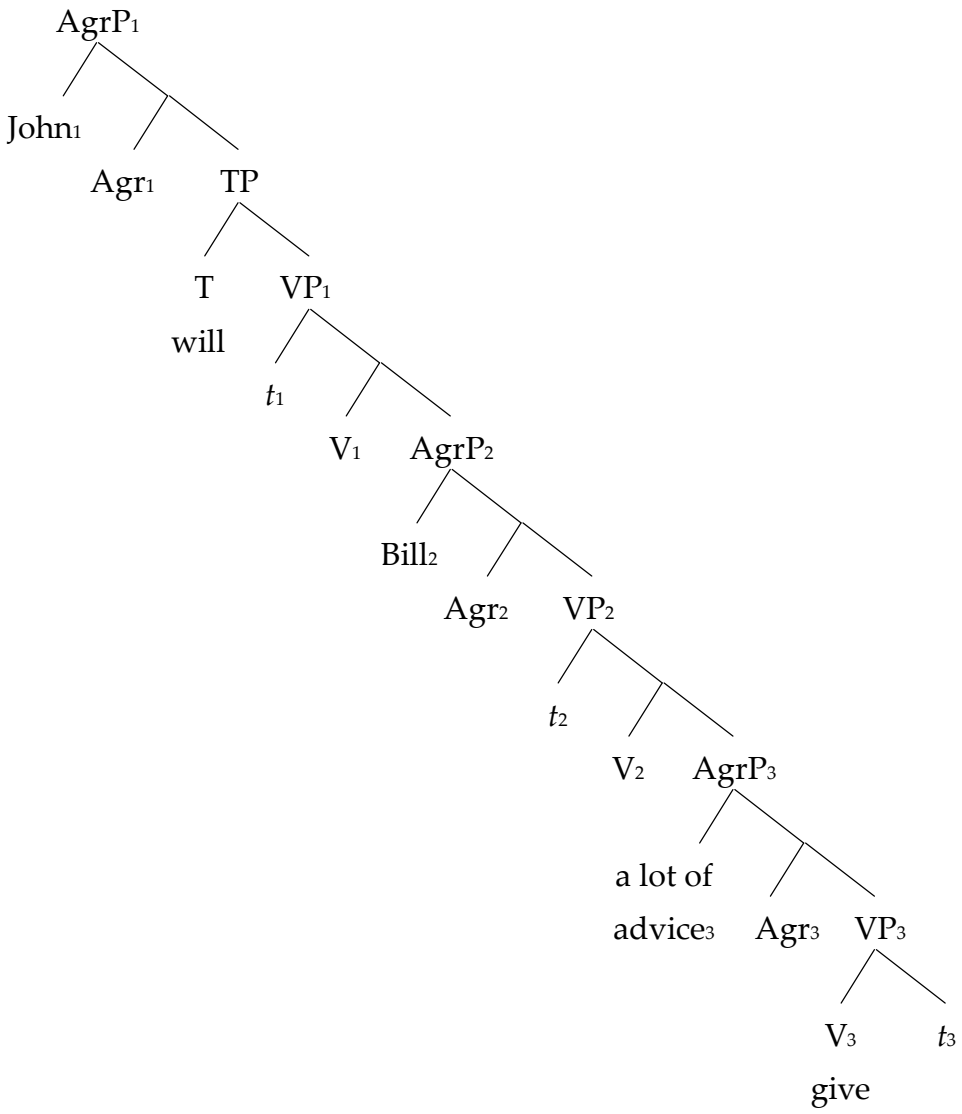
In (i), two internal arguments in dative constructions, i.e. the direct object and the prepositional phrase, survives the deletion operation.

[5] Lasnik (1999) suggests that the other strong PF feature carried by a lexical verb is a θ-feature, which is related to assignment of θ-roles (Bošković and Takahashi (1998)).

[6] Lasnik (1999) argues that pseudogapping has a marginal character, by claiming that a failure of V-raising also causes an LF crash as well as a PF crash (Chomsky (1993, 1995BPS), and that deletion of VP with a lexical V avoids a PF crash, but not LF ill-formedness. He assumes that the ungrammaticality of the following example can be accounted for in terms of the LF ill-formedness.

(i) a. * Mary gave Susan a lot of money, and John will ~~give~~ Bill a lot of advice.

b.

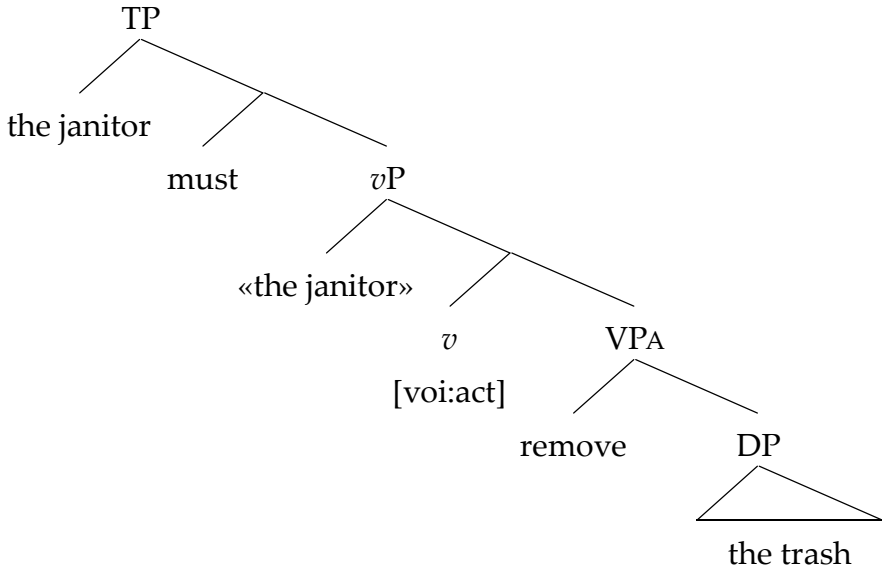


Even after the movement of the indirect and direct objects to Spec, $AgrP_2$ and Spec, $AgrP_3$, deletion of the lowest VP_3 does not salvage the derivation, because this structure has two higher Vs and the lexical verb *give* should have two strong features driving overt V-raising, which leads to a more deviant pseudogapping than pseudogapping with a monotransitive verb. However, following Baltin (2003) and Bowers (1998), Takahashi (2004) suggests that the example in (i) can be salvaged by drawing Levin's (1979) like-subject restriction for pseudogapping and embedding pseudogapping within a comparative clause, like (17b). Thus, the impossibility of (ia) is not caused by LF ill-formedness, but for other reasons which may be related to the semantic component.

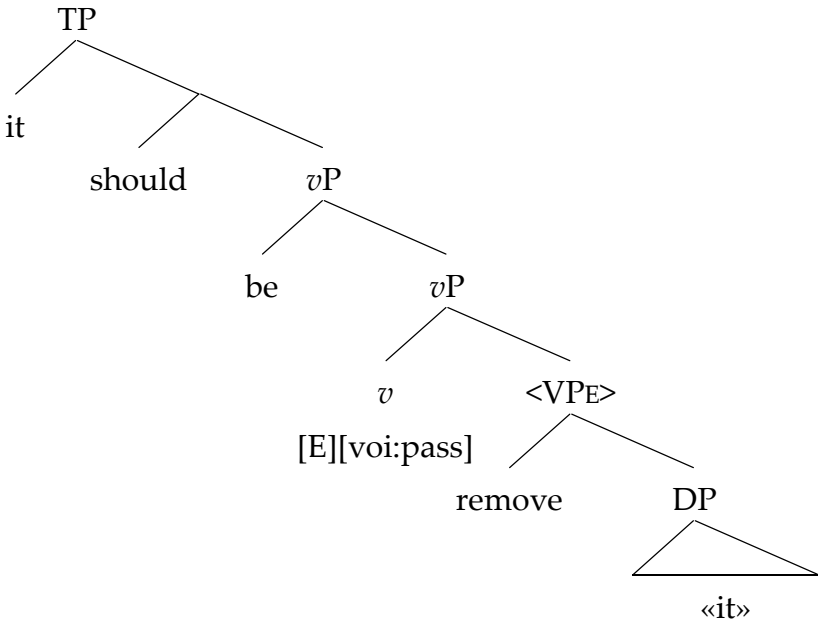
[7] Given that the recent Minimalist framework requires the derivation to converge at all interfaces, the tolerance of an LF crash mentioned in note 6 seems to be problematic as well.

[8] The same holds for the opposite case, in which ellipsis is within a passive clause, and its antecedent is an active sentence, as in (i).

(i) a.



b. … whenever it is apparent that TP



(cf. Merchant (2008: 172-173))

Again, the voice feature on *v* is outside of the elided constituent marked by the angled brackets, so the mismatch of the value between the voice features is not problematic at least in Merchant's report.

[9] Unlike Icelandic, passivization can be applied to both the indirect object and the direct object in Swedish.

(i) a. Johan forärades en medalj (Swedish)
John was-presented a medal
'John was presented a medal.'

b. Medaljen forärades Johan.
the-medal was-presented John
'The medal was presented to John.' (Takahashi (2004: 575))

[10] In Icelandic, the indirect object precedes the direct object even when both of them undergo Object Shift, as in (i).

(i) a. Hann gaf henni hana ekki.
he gave her(IO) it(DO) not

b. * Hann sýndi hana henni ekki.
he presented it(DO) her(IO) not
(cf. Hellan and Platzack (1999: 131))

The same order is observed even when they remain behind the negation (Hellen and Platzack (1993: 131)).

[11] Nissenbaum (2000) also observes that HNPS can license a parasitic gap.

(i) John put t_1 on the table [without reading e_1] [a recent article about global warming]$_1$. (cf. Nissenbaum (2000: 46))

[12] Holmberg (1999) points out that the judgment of (47a′) varies according to Scandinavian languages and dialects. An unmoved object is unacceptable if it a weak pronoun, i.e. unstressed and simple, in Danish and most varieties of Norwegian, while it is acceptable even when the object is a weak pronoun in Swedish and some varieties of Norwegian.

[13] Holmberg (1986), Holmberg and Platzack (1995), and Vikner (1994) argue that Scandinavian Object Shift is triggered by Case assignment, but Holmberg (1999) disagrees with it because such an analysis cannot explain why shifted objects are restricted mainly to definite, light and nonfocused nominals and weak pronouns. Instead, Holmberg (1999) proposes that Scandinavian Object Shift occurs to license a [-Foc] feature on the relevant nominal expressions. They must move out of its base-generated position to adjoin to a verb raised to C, because [-Foc] must be governed by (or enter into a local configuration with) a verb specified for [+Foc].

[14] One may claim that the remnant of pseudogapping is always extracted by Scandinavian-style Object Shift unless the relevant *v**P is adjoined by an adjunct containing a parasitic gap. Even so, as noted in note 2, Takahashi's analysis cannot explain the fact that the object of a preposition can be the remnant of pseudogapping

when the preposition is pied-piped, as in (i).

(i) a. You can't count [PP on a stranger]; but you can count [PP on a friend].
b. You can't count on a stranger; but you can *on a friend*.
(cf. Jayaseelan (1990: 66))

Because he prohibits the application of Scandinavian-style Object Shift to a prepositional phrase, as in (ii), the remnant *on a friend* in (ib) must be extracted by HNPS.

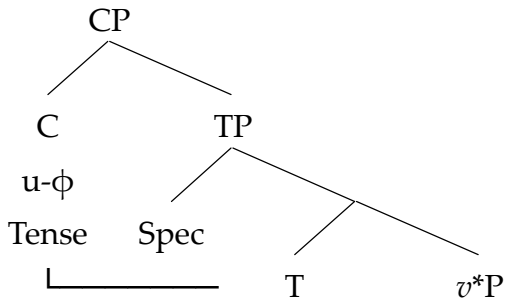
(ii) a. Although John wouldn't give the book to Bill, he would ~~give the book~~ to Susan.
b. … he$_1$ would [$_{vP}$ ~~[$_{vP}$ t$_1$ give the book t$_2$]~~ to Susan$_2$] (HNPS)
c. * … he$_1$ would [$_{XP}$ to Susan$_2$ ~~[$_{vP}$ t$_1$ give the book t$_2$]~~] (Object Shift)
(Takahashi (2004: 578))

Hence, the analysis of deletion motivated by the conflicting word order may rules out the possibility of pseudogapping derived by HNPS, including pseudogapping like (ib).

[15] It is widely assumed that Asp is a functional category which encodes inner aspect (or aktionsart), mainly telicity of event denoted by a certain verbal phrase. For discussions of introduction of Asp, see Ramchand (1993), Borer (2005), MacDonald (2008), and so forth.

[16] The notion of feature inheritance is extended to a *v**P phase. Originally, T inherits uninterpretable, unvalued ϕ-features and a tense feature on C (Chomsky (2007, 2008)), as in (i).

(i)



Inheritance from C to T

This argument is based on the observation that "T manifests the basic tense features if and only if it is selected by C; if not, it is a raising (or ECM) infinitival, lacking ϕ-features and basic tense" (Chomsky (2008: 143)). The ϕ-features on C are sometimes morphologically realized in certain languages, such as West Flemish, as in (ii).

(ii) a. Kpeinzen *dan-k* (ik) morgen goan.
I-think that-I (I) tomorrow go
'I think that I'll go tomorrow.'

b. Kpeinzen *da-j* (gie) morgen goat.
I-think that-you (you) tomorrow go
'I think that you'll go tomorrow.'

c. Kvinden *dan* die boeken te diere zyn.
I-find that-PL the books too expensive are
'I find those books too expensive.' (Miyagawa (2005: 204))

Chomsky (2007), following Richards (2007), argues that the feature inheritance must occur in the recent phase theory. Uninterpretable features, like u-ϕ on C, must be deleted before they reach the semantic component, under Full Interpretation. Feature inheritance helps such features to be deleted after valuation by lowering them to a transfer domain. If not, uninterpretable but valued features remain in the syntactic component, but they are indistinguishable from other interpretable, valued

features at subsequent phases, and then a derivation will crash at the subsequent phase.

[17] Chomsky (2007) also argues that the movement of the direct object is driven by u-ϕ on *v**. However, it moves to the specifier position of the VP since he assumes that *v** takes VP as its complement. This chapter posits another functional category between *v**P and VP, and this is supported by arguments for the illicit movement which is too short (Bošković (1994), Murasugi and Saito (1995), Pesetsky and Torrego (2001), Abels (2003), Grohmann (2003), Hornstein (2009)).

[18] In this chapter, I assume that deletion is applied at the phonological component. Narrow syntax feeds constructed structure to the phonological component phase by phase (Chomsky (2004)). Since it is assumed that head-movement is applied at the phonological component, the deletion operation also should be applied prior to it. I only take the phonological identity into account at this time, since it does not seem to me that the semantic identity is necessarily connected to the phonological identity but the opposite is possible. The questions, such as what kind of identity or at which component or interface is involved, are leave open for further research.

[19] As for the internal structure of double object constructions, Appl(icative)P is often assumed to be generated between *v**P and VP, instead of AspP (Marantz (1993), Benjamin (2010)). Here, I assume that AspP is available within *v**P in English. Under this assumption, Asp can be specified for some feature such as [+Appl(icative)].

[20] Chomsky's (2000) theory of Agree does not allow u-ϕ on *v** to enter into the Agree relation with i-ϕ on the direct object in (60), because u-ϕ on the indirect object intervenes between them, which causes the defective intervention Constraint

summarized as in (i).

(ii) The Defective Intervention Constraint
*α > β > γ (where ">" indicates that the former c-commands the latter)
└──────┘
(*AGREE (α, γ), α is a probe and β is a matching goal, and β is inactive due to a prior Agree with some other probe.)
(cf. Hiraiwa (2000: 69))

This chapter assumes with Hiraiwa (2000) that such a configuration does not induce defective intervention effects because a probe can enter the Agree relation with multiple goals simultaneously, as formulated in (ii).

(ii) Multiple Agree as a single simultaneous operation
α > β > γ
└──┘└──┘
(AGREE (α, β, γ), where α is a probe and both β and γ are matching goals for α.) (Hiraiwa (2000:70))

Under his theory of Multiple Agree, the defective intervention constraint is revised as in (iii).

(iii) The Defective Intervention Constraint (derivationally revised)
A syntactic operation AGREE must obey a strict locality condition. AGREE (α, γ) is prohibited if there is a closer matching goal that is already inactive at the point of the derivation where the probe is merged; thus the DIC is restricted to a case where a probe for γ and a probe for intervening β are derivationally distinct. (Hiraiwa (2000: 71))

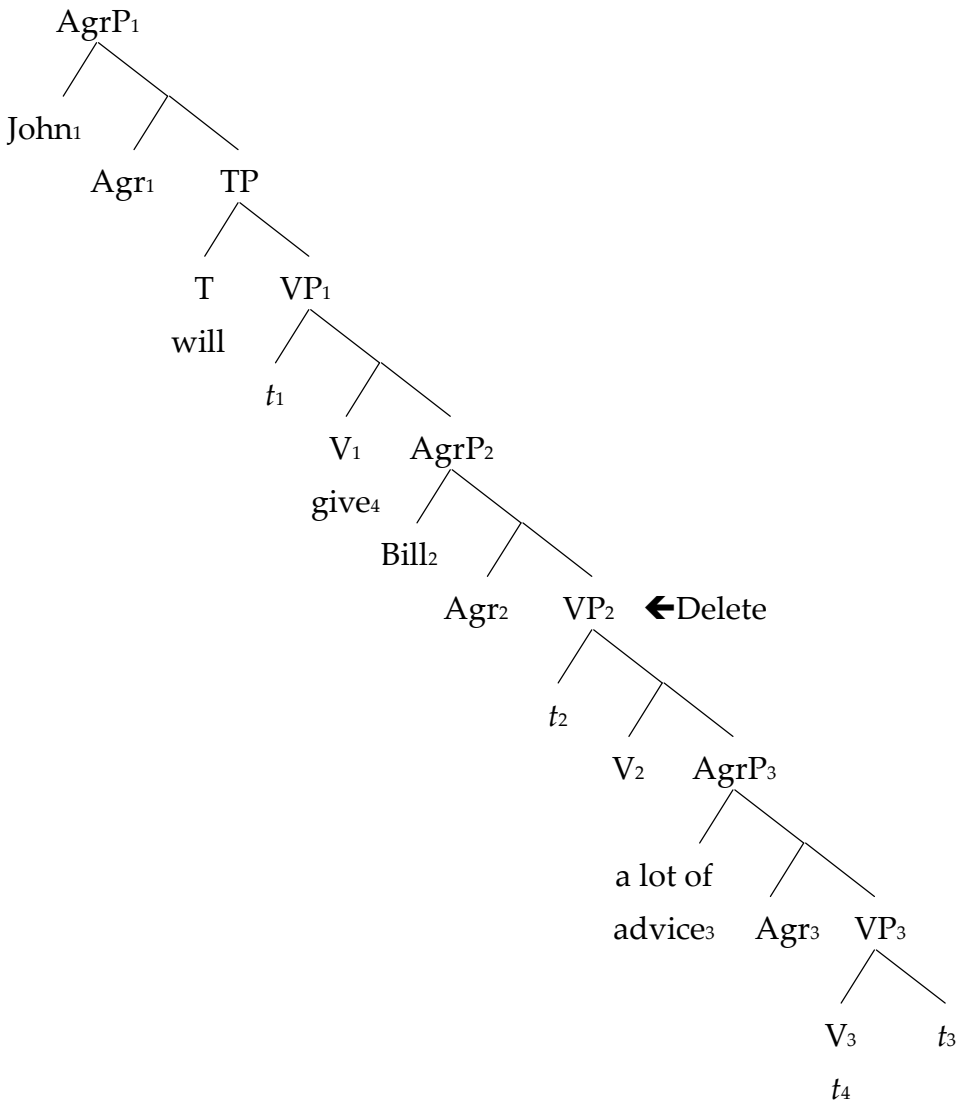
[21] An apparent problem is an obligatory suppression of V-raising to *v** within the infinitival complement. I will try to explain this in 4.4.3.

[22] Here, I ignore the prepositional phrase *fram synna fagnyssum* for the simplicity of explanation.

[23] This Constraint on deletion of VP constraint is proposed by Lasnik (1999), in order to explain the ungrammaticality of (ia). It is analyzed by the structure in (ib), and the deleted constituent is underlined.

(i) a. * Mary gave Susan a lot of advice, and John will give Bill ~~a lot of advice~~. (Lasnik (1999: 155))

b.

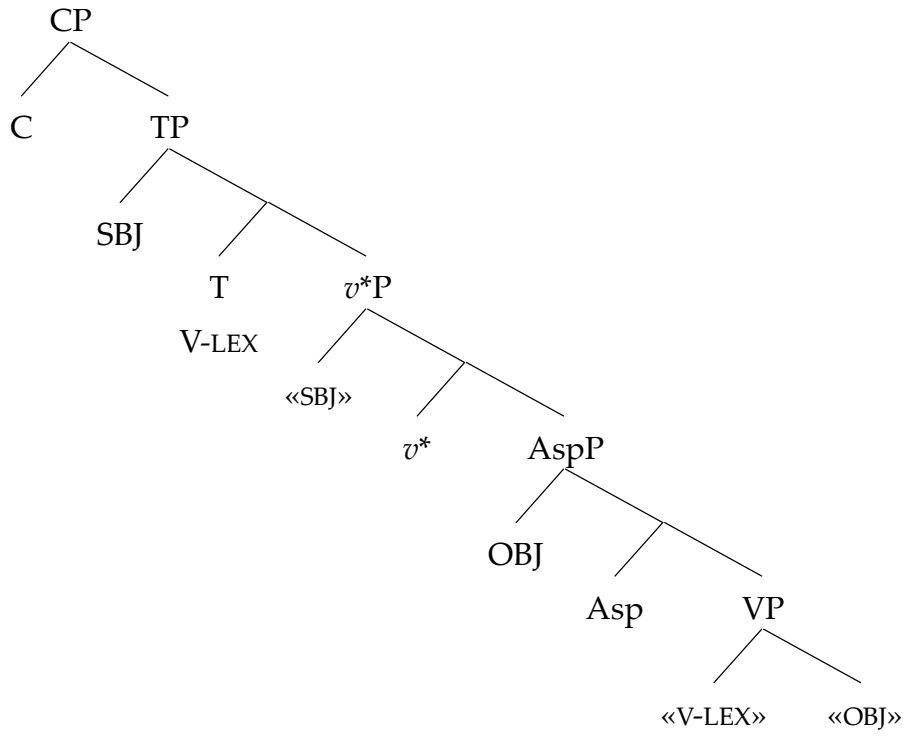


The deletion of the lower VP_2 is regulated by the Constraint on deletion of VP constraint in (92): the lexical verb *give* undergoes V-raising to the highest V of VP shells, prior to the application of deletion of the lower VP_2, resulting in the deleted VPs lacking a head with phonological contents.

[24] Under the recent Minimalist framework, the derivation proceeds phase by phase. Once it is constructed, all the possible operations must be completed within the phase, such as valuation of u-ϕ on *v**/T and u-Case on DP. It is assumed that the complement of the phase head, i.e. a domain, is sent to both semantic and phonological interfaces as soon as these operations finished. This is called "Transfer," whereby the relevant constituent becomes inaccessible to syntactic operations.

[25] This deletion analysis incorporating the constraint in (92) appears to explain the fact that English has allowed only Modal-stranding VPE throughout its history in the following way: in (i), the absence of a pre-modal allows strong feature triggering V-to-T movement to attract the lexical V, and then the deletion operation is not applicable to the relevant VP with the empty head.

(i)

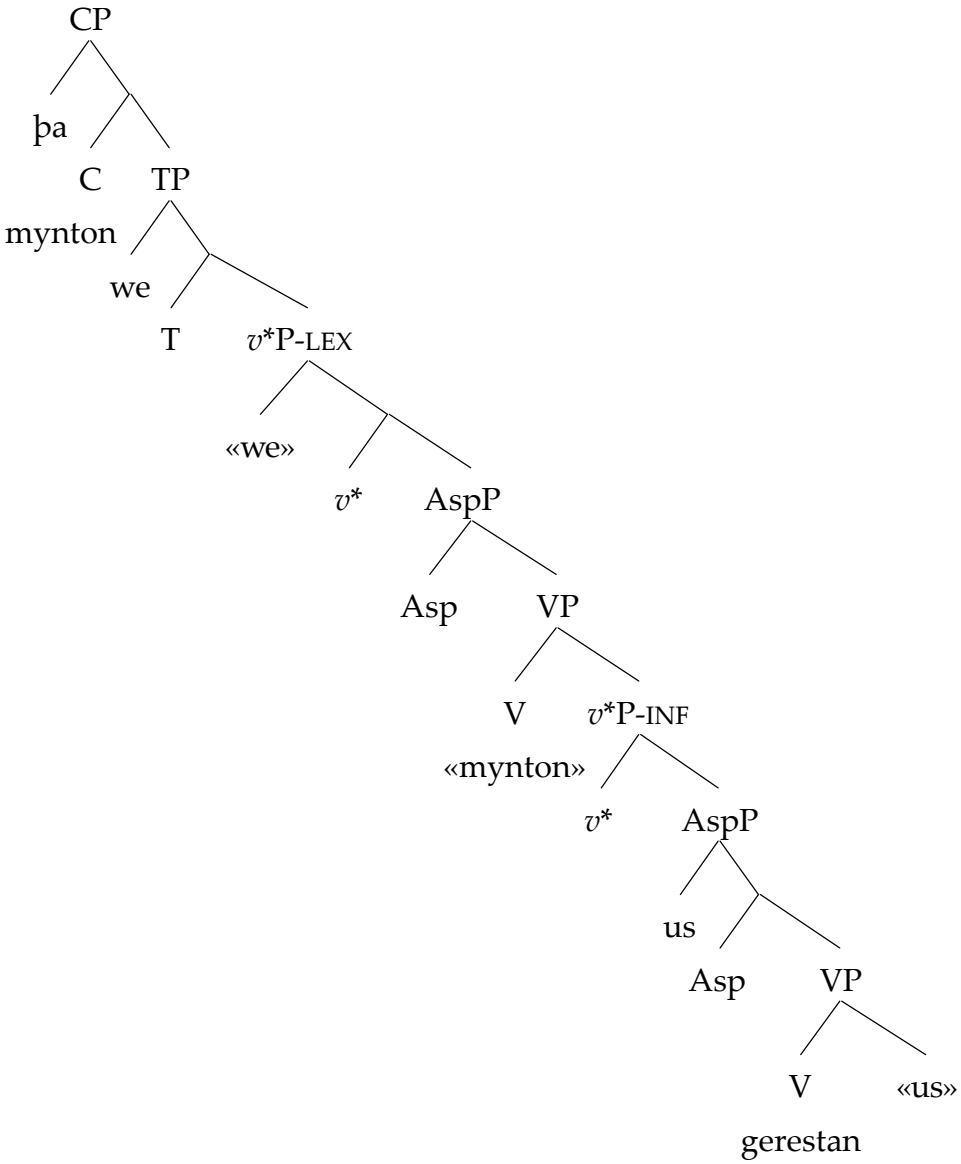


Hence, the LF-copy analysis based on E-*pro* seems to be refuted. However, the E-*pro*

analysis is preferable to this deletion analysis, because the latter suffers from the same problem as the feature-driven deletion approach discussed in chapter 3, which wrongly predicts VPE in control complements of lexical verbs, as in (ii). Suppose that the example in (iia) has the constituencies in (iib).

(ii) a. ,þa mynton we us gerestan,
,then intended we ourselves gerestan
'then we intended to repose ourselves' (coalex,Alex:19.2.215: o3)

b.



Since the lexical verb *gerestan* does not move out of its *v**P, so the deletion operation

must be applicable to it, contrary to fact.

Chapter 5

Conclusion

This thesis has investigated the derivation of elliptical constructions, focusing on the historical change of syntactic environments, namely reanalysis. It was proposed that reanalysis is not a mechanism which directly affects the surface word order, but the one which affects the feature makeup of a certain category related to Agree and Move. It was also argued that reanalysis is first motivated by the loss of the morphological realization of agreement.

Chapter 2 investigated the correlation among the loss of adjectival inflection, the decline of N-adjectives, and the rise of the prop-word *one*. The result of the corpus-based research has revealed that the frequency of N-adjectives decreased in the course of ME, when adjectival inflection was being lost and the prop-word *one* began to be employed. The correlation among these historical events was accounted for under the LF-copy analysis employing an empty, non-arbitrary pronominal E-*pro*. In N-adjectives, E-*pro* is generated within a DP. It is licensed when the derivation of the DP is converged, that is, all the unvalued features within the DP are valued through Agree. In addition, E-*pro* is identified when the result of the relevant Agree is morphologically realized on D. Therefore, in the proposed analysis based on the Agree system, the interpretability of ϕ-features on determiners and adjectives is responsible for the availability of N-adjectives. The historical fact that the adjectival

inflection was lost in ME was interpreted as an instance of reanalysis. The feature makeup of adjectives was changed: adjectives in OE had lexically valued ϕ-features, while they began to have unvalued ϕ-features due to the loss of the rich adjectival inflection in ME. DP with E-*pro* must contain an item with valued features which function as a goal for a probe on D. In OE, the DP converges because adjectives have lexically filled ϕ-features, so that N-adjectives are available. On the other hand, after the loss of the adjectival inflection, most N-adjectives are not licensed and identified because they have unvalued ϕ-features. Although N-adjectives are not productive in PE, the relevant configuration is salvaged by the rise of the prop-word *one* which has i-ϕ features (at least, number feature). It is shown that the proposed analysis is supported by the availability of genitive N-adjectives and the distribution of the prop-word *one* in PE.

Chapter 3 investigated the derivation of VPE in English, focusing on the fact that English has allowed only Modal-stranding VPE throughout its history. This fact was explained by the LF-copy analysis employing E-*pro*. Considering that the pre-modals as well as other lexical verbs underwent V-to-T movement in OE and ME, the existent analyses of VPE are confronted with the problem induced by the diachronic changes such as the categorical change of pre-modals to modals and the reanalysis of the feature makeup of T. The PF-deletion approach to ellipsis employing the [E] feature wrongly predicts that not only Modal-stranding VPE but also Lexical-V-stranding VPE was possible in OE and ME. The LF-copy proposed by Lobeck (1995) is also problematic in that it rules out the possibility of Modal-stranding VPE in OE and ME. These empirical problems were overcome by analysis proposed in this thesis by assuming that E-*pro* as VPE is licensed by the Agree relation between u-ϕ on T and i-ϕ on the external argument of the infinitival

*v**P. This Agree relation is essential to the identification of E-*pro*: subject-verb agreement is responsible for the identification of E-*pro*. Pre-modals as lexical verbs did not disturb the licensing and identification of E-*pro* because they were raising verbs which lacked u-ϕ. On the other hand, VPE in the complement of other lexical verbs has been impossible because their u-ϕ prevents T from entering into the Agree relation with the external argument of the infinitival *v**P. It was shown that the present analysis successfully explains the distribution of VPE in PE and French Modal Ellipsis.

Chapter 4 investigated the derivation of pseudogapping in English. This elliptical construction has been widely assumed to be a variant of VPE; however, following the traditional movement-cum-deletion analysis, this thesis proposed that pseudogapping is derived by the PF-deletion analysis. The type of movement involved in pseudogapping was mainly argued, and it was concluded that the remnant of pseudogapping can be extracted from the elided constituent in terms of either leftward A-movement to Spec, AspP or rightward A′-movement (HNPS) to the rightmost edge of *v**P. The proposed analysis is preferable to the previous analyses, because the latter postulates some movement operations special to pseudogapping which otherwise are not attested in English. The movement operations proposed in this thesis are applied independently of the deletion operation. Any analysis of pseudogapping is faced with the problem raised by the fact that V-to-T movement was attested in OE and ME. Pseudogapping has also been possible only when pre-modals or modals are employed, and there has been no possibility of deriving Lexical-V-stranding pseudogapping. This historical fact was explained under the proposed eclectic analysis of pseudogapping by proposing two hypotheses: a constraint on deletion of VP, in which the phonological component cannot elide the

null-headed VP, and a condition of the application of V-raising, under which in OE and ME, lexical verbs must undergo head-movement to *v** via Asp to be accessible to T at the next phase, unless pre-modals are employed.

Thus, this thesis gave a theoretical account for elliptical constructions in the history of English based on the empirical data taken from the historical corpora. Especially, it contributed to the reconsideration of an LF-copy analysis under the Agree-based derivational system of the recent Minimalist framework.

Bibliography

Abels, Klaus (2003) *Successive Cyclicity, Anti-locality, and Adposition Stranding*, Doctoral dissertation, University of Connecticut.

Abney, Steven Paul (1987) *The English Noun Phrase in Its Sentential Aspect*, Doctoral dissertation, MIT.

Agbayani, Brian and Ed Zoerner (2004) "Gapping, Pseudogapping and Sideward Movement," *Studia Linguistica* 58, 185-211.

Allen, Cynthia (2003) "Deflexion and the Development of the Genitive in English," *English Language and Linguistics* 7, 1-28.

Allen, Cynthia (2008) *Genitives in Early English: Typology and Evidence*, Oxford University Press, Oxford.

Amano, Masachiyo (2006) "Toward a More Restrictive Characterization of Grammaticalization," *English Linguistics* 23, 58-85.

Anderson, Stephen R. (2008) "The English Group Genitive is a Special Clitic," *English Linguistics* 25, 1-20.

Authier, Marc (2011) "A Movement Analysis of French Modal Ellipsis," *Probus* 23, 175-216.

Baker, Mark C. (1988) *Incorporation: A Theory of Grammatical Function Changing*, University of Chicago Press, Chicago.

Baltin, Mark (2003) "The Interaction of Ellipsis and Binding: Implications for the Sequencing of Principle A," *Natural Language & Linguistic Theory* 21, 215-246.

Baltin, Mark (2011) "Deletion versus Pro-forms: An Overly simple Dichotomy?" *Natural Language and Linguistic Theory* 30, 381-423.

Bennis, Hans (1986) *Gaps and Dummies*, Foris Publications, Dordrecht.

References

Borer, Hagit (2005) *Structuring Sense II: The Normal Course of Events*, Oxford University Press, Oxford and New York.

Bošković, Zeljko (1994) "D-strcuture, Theta-criterion, and Movement into Theta-positions," *Linguistic Analysis* 24, 247-286.

Bošković, Zeljko and Daiko Takahashi (1998) "Scrambling and Last Resort," *Linguistic Inquiry* 29, 347-366.

Bowers, John (1998) *On Pseudogapping*, ms., Cornell University.

Bowers, John (2001) "Predication," *The Handbook of Contemporary Syntactic Theory*, ed. by Mark Baltin and Chris Collins, 299-333, Blackwell Publishers, Oxford.

Bruening, Benjamin (2010) "Double Object Constructions Disguised as Prepositional Datives," *Linguistic Inquiry* 41, 287-305.

Chao, Wynn (1987) *On Ellipsis*, Doctoral dissertation, University of Massachusetts. [Published by Garland, New York, 1988]

Chomsky, Noam (1982) *Some Concepts and Consequences of the Theory of Government and Binding*, MIT Press, Cambridge.

Chomsky, Noam (1991) "Some Notes on Economy of Derivation and Representation," *Principles and Parameters in Comparative Grammar*, ed. by Robert Freidin, 417-454, MIT press, Cambridge.

Chomsky, Noam (1993) "A Minimalist Program for Linguistic Theory," *The View from Building 20: Essays in Honor of Sylvain Bromberger*, ed. by Ken Hale and Samuel Jay Keyser, 1-52, MIT Press, Cambridge.

Chomsky, Noam (1995a) "Bare Phrase Structure," *Government and Binding Theory and the Minimalist Program*, ed. by Gert Webelhuth, 381-439, Blackwell, Publishers, Oxford.

Chomsky, Noam (1995b) *The Minimalist Program*, MIT Press, Cambridge.

References

Chomsky, Noam (2000) "Minimalist Inquiries: The Framework," *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, ed. by Roger Martin, David Michaels and Juan Uriagereka, 89-155, MIT Press, Cambridge.

Chomsky, Noam (2001) "Derivation by Phase," *Ken Hale: A Life in Language*, ed. by Michael Kenstowicz, 1-52, MIT Press, Cambridge, MA.

Chomsky, Noam (2004) "Beyond Explanatory Adequacy," *Structures and Beyond: The Cartography of Syntactic Structures, Volume 3*, ed. by Adriana Belletti, 104-131, Oxford University Press, Oxford.

Chomsky, Noam (2007) "Approaching UG from Below," *Interfaces + Recursion = Language?: Chomsky's Minimalism and the View from Syntax-Semantics*, ed. by Uli Sauerland and Hans-Martin Gärtner, 1-29, Mouton de Gruyter, Berlin.

Chomsky, Noam (2008) "On Phases," *Foundational Issues in Linguistic Theory: Essays in Honor of Jean-Roger Vergnaud*, ed. by Robert Freidin, Carlos P. Otero and Maria Luisa Zubizarreta, 133-166, MIT Press, Cambridge, MA.

Clark, Robin and Ian Roberts (1993) "A Computational Model of Language Learnability and Language Change," *Linguistic Inquiry* 24, 299-345.

Corver, Norbert (1997) "*Much*-Support as a Last Resort," *Linguistic Inquiry* 28, 119-164.

Dagnac, Anne (2008) "French, Modal Ellipsis, and the 'Same Subject Constraint': Evidence for a TP-deletion Analysis," paper presented in 38th Linguistic Symposium on Romance Languages (LSRL38), University of Illinois at Urbana-Champaign, April 4-6, 2008.

Denison, David (1993) *English Historical Syntax: Verbal Constructions*, Longman, London.

Doron, Edit (1999) "V-movement and VP Ellipsis," *Fragments: Studies in Ellipsis and*

Gapping, ed. by Shalom Lappin and Elabbas Benmamoun, 124-140, Oxford University Press, Oxford.

Engdahl, Elisabet (1983) "Parasitic Gaps," *Linguistics and Philosophy* 6, 5-34.

Fischer, Olga (1992) "Syntax," *The Cambridge History of the English Language*, Vol. 2, ed. by Norman Blake, 207-408, Cambridge University Press, Cambridge.

Fischer, Olga (2000) "The Position of the Adjective in Old English," *Generative Theory and Corpus Studies: A Dialoge from 10 ICEHL*, ed. by Ricardo Bermúdez-Otero, David Denison, Richard M. Hogg and C. B. McCully, 153-181, Mouton de Gruyter, Berlin.

Fischer, Olga, Ans van Kemenade, Willem Koopman and Wim van der Wurff (2000) *The Syntax of Early English*, Cambridge University Press, Cambridge.

Fox, Danny and David Pesetsky (2003) "Cyclic Linearization and the Typology of Movement," Lecture Notes, MIT.

Fox, Danny and David Pesetsky (2005) "Cyclic Linearization of Syntactic Structure," *Theoretical Linguistics* 31, 1-45.

Fujiwara, Yasuaki (2009) "Chu-Eigo ni okeru Keiyoshi no Gobi *-e* no Kino ni tsuite (On the Function of Final *-e* of Adjectives in Late Middle English," *JELS* 26, 51-60.

Gengel, Kirsten (2005) "Phases and Ellipsis," *Linguistic Analysis* 35, 21-42.

Gergel, Remus (2009) *Modality and Ellipsis: Diachronic and Synchronic Evidence*, Mouton de Gruyter, Berlin.

Goldberg, Lotus. Madelyn (2005) *Verb-stranding VP-ellipsis: A Cross-linguistic Study*, Doctoral dissertation, McGill University.

Grohmann, (2003) *Prolific Domains: On the Anti-locality of Movement Dependencies*, John Benjamins, Philadelphia.

References

Harris, Alice C. and Lyle Campbell (1995) *Historical Syntax in Cross-linguistic Perspective*, Cambridge University Press, Cambridge.

Hartman, Jeremy (2011) "The Semantic Uniformity of Traces: Evidence from Ellipsis Parallelism," *Linguistic Inquiry* 42, 367-388.

Haumann, Dagmar (2003) "The Postonominal '*And* Adjective' Construction in Old English," *English Language and Linguistics* 7, 57-83.

Hellan, Lars and Christer Platzack (1999) "Pronouns in Scandinavian languages: An Overview," *Clitics in the Languages of Europe*, ed. by Henk van Riemsdijk, 123-142, Mouton de Gruyter, Berlin.

Higginbotham, James (1985) "On Semantics," *Linguistic Inquiry* 16, 547-593.

Hirai, Daisuke (2004) "Control Infinitives and Two Types of CP Phases," *English Linguistics* 21, 241-264.

Hiraiwa, Ken (2000) "Multiple Agree and the Defective Intervention Constraint," *MIT Working Papers in Linguistics 40: Proceedings of HUMIT 2000*, 67-80, MITWPL.

Hoeksema, Jack (2006) "Pseudogapping: Its Syntactic Analysis and Cumulative Effects on Its Acceptability," *Research on Language and Computation* 4, 335-352.

Holmberg, Anders (1986) *Word Order and Syntactic Features in the Scandinavian Languages and English*, Doctoral dissertation, University of Stockholm.

Holmberg, Anders (1999) "Remarks on Holmberg's Generalization," *Studia Linguistica* 53, 1-39.

Holmberg, Anders and Christer Platzack (1995) *The Role of Inflection in Scandinavian Syntax*, Oxford University Press, Oxford and New York.

Hopper, Paul J. and Elizabeth Closs Traugott (2003) *Grammaticalization*, Cambridge University Press, Cambridge.

References

Hornstein, Norbert (2009) *A Theory of Syntax: Minimal Operations and Universal Grammar*, Cambridge University Press, Cambridge.

Hulk, Aafke and Ans van Kemenade (1993) "Subjects, Nominative Case, Agreement and Functional Heads," *Lingua* 89, 181-215.

Ibaraki, Seishirou (2009) "The Development of the Determiner System in the History of English," *English Linguistics* 26, 67-95.

Iwata, Ryoji (2006) "Touikoubun no Tougokeishiki no Hensen: Koeigo kara Shokikindaieigo made (Historical Changes of Syntactic Forms of Coordinate Constructions -- From Old English to Early Modern English)," *Kindai Eigo Kenkyu* (*Studies in Modern English*) 22, 1-24.

Jackendoff, Ray (1977) $\bar{X}$ *Syntax: A Study of Phrase Structure*, MIT Press, Cambridge.

Jayaseelan, Karattuparambil. A (1990) "Incomplete VP Deletion and Gapping," *Linguistic Analysis* 20, 64-81.

Johnson, Kyle (2001) "What VP Ellipsis Can Do, and What It Can't, but not Why," *The Handbook of Contemporary Syntactic Theory*, ed. by Mark Baltin and Chris Collins, 439-479, Blackwell Publishers, Oxford.

Jónsson, Johannes Gisli (1996) *Clausal Architecture and Case in Icelandic*, Doctoral dissertation, University of Massachusetts.

Kageyama, Taro (1992) "AGR in Old English *To*-infinitives," *Lingua* 88, 91-128.

Kester, Ellen-Petra (1996) "Adjectival Inflection and the Licensing of Empty Categories in DP," *Journal of Linguistic* 32, 57-78.

Koizumi, Masatoshi (1993) "Object Agreement Phrases and the Split VP Hypothesis," *MIT Working Papers in Linguistics* 18, 99-148.

Koizumi, Masatoshi (1995) *Phrase Structure in Minimalist Syntax*, Doctorial dissertation, MIT. [Published by Hituzi Sybo, Tokyo, 1999]

References

Kratzer, Angelika (1996) "Severing the External Argument from Its Verb," *Phrase Structure and the Lexicon*, ed. by Johan Rooryck and Laurie Zaring, 109-137, Kluwer, Dordrecht.

Landau, Idan (2007) "EPP Extensions," *Linguistic Inquiry* 38, 485-523.

Lasnik, Howard (1999) "Pseudogapping Puzzle," *Fragments: Studies in Ellipsis and Gapping*, ed. by Shalom Lappin and Elabbas Benmamoun, 141-174, Oxford University Press, Oxford.

Lass, Roger (1992) "Phonology and Morphology," *The Cambridge History of the English Language* Vol. II 1066-1476, ed. by Norman Blake, 23-155, Cambridge University Press, Cambridge.

Levin, Nancy (1979) *Main Verb Ellipsis in Spoken English*, Doctorial dissertation, Ohio State University. [Published by Garland, New York, 1986].

Lightfoot, David W. (1979) *Principles of Diachronic Syntax*, Cambridge University Press, Cambridge.

Lobeck, Anne (1993) "Strong Agreement and Identification: Evidence from Ellipsis in English," *Linguistics* 31, 777-811.

Lobeck, Anne (1995) *Ellipsis: Functional Heads, Licensing, and Identification*, Oxford University Press, Oxford.

Lobeck, Anne (1999) "VP Ellipsis and the Minimalist Program: Some Speculations and Proposal," *Fragments: Studies in Ellipsis and Gapping*, ed. by Shalom Lappin and Elabbas Benmamoun, 98-123, Oxford University Press, Oxford.

MacDonald, Jonathan E. (2008) "Domain of Aspectual Interpretation," *Linguistic Inquiry* 39, 128-147.

Maeda, Masako (2010) "The Criterial Freezing Effect and Split A′-movement," *English Linguistics* 27, 270-296.

References

Marantz, Alec (1993) "Implications of Asymmetries in Double Object Constructions," *Theoretical Aspects of Bantu Grammar 1*, ed. by Sam A. Mchombo, 113-150, CSLI Publications, Stanford.

Martin, Roger (2001) "Null Case and the Distribution of PRO," *Linguistic Inquiry* 32, 141-166.

McCawley, James D. (1988) *The Syntactic Phenomena of English*, University of Chicago Press, Chicago.

McFadden, Thomas and Artemis Alexiadou (2010) "Perfects, Resultatives, and Auxiliaries in Earlier English," *Linguistic Inquiry* 41, 389-425.

Merchant, Jason (2001) *The Syntax of Silence: Sluicing, Islands, and the Theory of Ellipsis*, Oxford University Press, Oxford.

Merchant, Jason (2004) "Fragments and Ellipsis," *Linguistics and Philosophy* 27, 661-738.

Merchant, Jason (2007) *Voice and Ellipsis*, ms., University of Chicago.

Merchant, Jason (2008) "An Asymmetry in Voice Mismatches in VP-ellipsis and Pseudogapping," *Linguistic Inquiry* 39, 169-179.

Miller, Thomas (1959-1963) *The Old English Version of Bede's Ecclesiastical History of the English People*, Oxford University Press, London.

Minkova, Donka (1991) *The History of Final Vowels in English: The Sound of Muting*, Mouton de Gruyter, Berlin.

Mitchell, Bruce (1964) *A Guide to Old English*, Blackwell, Oxford.

Mitchell, Bruce (1985) *Old English Syntax*, Vol. 1, Clarendon Press, Oxford.

Mitchell, Bruce and Fred C. Robinson (1986) *A Guide to Old English: Revised with Prose and Verse Texts and Glossary*, Blackwell, Oxford.

Miyagawa, Shigeru (2005) "On the EPP," *Perspective on Phases*, ed. by Martha

McGinnis and Norvin Richards, 201-236, MIT Working Papers in Linguistics.

Mizudori, Yoshitaka and Hiroshi Yonekura (1997) *Chueigo no Shoho* (*The Elements of Middle English*), Eichosha, Tokyo.

Mossé, Fernand (1952) *A Handbook of Middle English*, The Johns Hopkins Press, Baltimore.

Murasugi, Keiko and Mamoru Saito (1995) "Adjunction and Cyclicity," *The Proceedings of the Thirteenth West Coast Conference on Formal Linguistics*, 302-317.

Nakagawa, Naoshi (2001) "Bare *v*P Analysis of the Infinitival Clause in OE: Historical Development of *Tough* Constructions," *English Linguistics* 18, 507-535.

Nakao, Toshio (1972) *Eigoshi II* (History of English II), Taishukan, Tokyo.

Nissenbaum, Jon (2000) *Investigation of Covert Phrase Movement*, Doctoral dissertation, MIT.

Pesetsky, David and Esther Torrego (2001) "T-to-C Movement: Causes and Consequences," *Ken Hale: A Life in Language*, 355-426, MIT Press, Cambridge.

Pollock, Jean-Yves (1989) "Verb Movement, Universal Grammar, and the Structure of IP," *Linguistic Inquiry* 20, 365-424.

Pysz, Agnieszka (2006) "The Structural Location of Adnominal Adjectives: Prospects for Old English," *SKASE Journal of Theoretical Linguistics* 3, 59-85.

Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech and Jan Svartvik (1985) *A Comprehensive Grammar of the English Language*, Longman, London and New York.

Radford, Andrew (2004) *Minimalist Syntax: Exploring the Structure of English*, Cambridge University Press, Cambridge.

Radford, Andrew (2009) *Analysing English Sentences: A Minimalist Approach*, Cambridge University Press, Cambridge.

References

Ramchand, Gillian (1993) "Aspect Phrase in Modern Scottish Gaelic," *NELS* 23, 415-429.

Richards, Marc D. (2007) "On Feature Inheritance: An Argument from the Phase Impenetrability Condition," *Linguistic Inquiry* 38, 563-572.

Rissanen, Matti (1997) "Indefinite Pronouns with Singular Human Reference," *Grammaticalization at Work: Studies of Long-term Developments in English*, ed. by Matti Rissanen, Merja Kytö and Kirsi Hikkonen, 87-143, Mouton de Gruyter, Berlin.

Rissanen, Matti (1999) "Syntax," *The Cambridge History of the English Language*, Vol. 3, ed. by Roger Lass, 187-331, Cambridge University Press, Cambridge.

Rizzi, Luigi (1986) "Null Objects in Italian and the Theory of *pro*," *Linguistic Inquiry* 17, 501-557.

Rizzi, Luigi (1990) *Relativized Minimality*, MIT Press, Cambridge.

Rizzi, Luigi (1997) "The Fine Structure of the Left Periphery," *Elements of Grammar: Handbook of Generative Syntax*, ed. by Liliane Haegeman, 281-337, Kluwer, Dordrecht.

Roberts, Ian and Anna Roussou (2003) *Syntactic Change: A Minimalist Approach to Grammaticalization*, Cambridge University Press, Cambridge.

Roberts, Ian (1993) *Verbs and Diachronic Syntax: A Comparative History of English and French*, Kluwer Academic Publishers, Dordrecht.

Roberts, Ian (2007) *Diachronic Syntax*, Oxford University Press, Oxford.

Ross, John Robert (1986) *Infinite Syntax!*, Ablex Publishing, New Jersey.

Rouveret, Alain (2012) "VP Ellipsis, Phases and the Syntax of Morphology," *Natural Language & Linguistic Theory* 30, 897-963.

Rowlett, Paul (2007) *The Syntax of French*, Cambridge University Press, Cambridge.

References

Sag, Ivan (1976) *Deletion and Logical Form*, Doctorial dissertation, MIT. [Published by Garland, New York, 1980]

Sag, Ivan A. and Joanna Nykiel (2011) "Remarks on Sluicing," *Proceedings of the HPSG11 Conference*, 189-208.

Schütze, Carson T. (2001) "Semantically Empty Lexical Heads as Last Resorts," *Semi-lexical Categories: The Function of Content Words and the Content of Function Words*, ed. by Norbert Corver and Henk van Riemsdijk, 125-187, Mouton de Gruyter, Berlin.

Sportiche, Dominique (1988) "A Theory of Floating Quantifiers and Its Corollaries for Constituent Structure," *Linguistic Inquiry* 19, 425-451.

Swan, Michael (2005) *Practical English Usage*, 3rd ed., Oxford University Press, Oxford.

Takahashi, Shoichi (2004) "Pseudogapping and Cyclic Linearization," *NELS* 34, 571-585.

Tanaka, Hidekazu (2011) "Voice Mismatch and Syntactic Identity," *Linguistic Inquiry* 42, 470-490.

Tanaka, Tomoyuki (2009) "Scrambling from Infinitival Clauses: A Case Study of Restructuring in the History of English," *Ivy Never Sere: The Fiftieth Anniversary Publication of the Society of English Literature and Linguistics, Nagoya University*, ed. by Mutsumu Takikawa, Masae Kawatsu and Tomoyuki Tanaka, 475-492, Otowa-Shobo Tsurumi-Shoten, Tokyo.

Ukaji, Masatomo (2000) *Eigoshi* (*History of English*), Kaitakusha, Tokyo.

Vikner, Sten (1994) "Scandinavian Object Shift and West Germanic Scrambling," *Studies on Scrambling: Movement and Non-movement Approaches to Free Word-Order Phenomena*, 487-517, Mouton de Gruyter, Berlin.

References

Vikner, Sten (1997) "V-to-I Movement and Inflection for Person in All Tenses," *The New Comparative Syntax*, ed. by Liliane Haegeman, 189-213, Longman, London.

Visser, Frederikus Theodorus (1963-1973) *An Historical Syntax of the English Language*, 4 vols., E. J. Brill, Leiden. .Vol. I, 1963; Vol. II, 1966; Vol. III, first half, 1969; Vol. III second half, 1973.

Warner, Anthony (1993) *English Auxiliaries: Structure and History*, Cambridge University Press, Cambridge.

Warner, Anthony (1997) "The Structure of Parametric Change, and V Movement in the History of English," *Parameters of Morpho-syntactic Change*, ed. by Ans van Kemenade and Nigel Vincent, 380-393, Cambridge University Press, Cambridge.

Wood, Johanna L. (2007) "Is There a DP in Old English?" *Historical Linguistics 2005: Selected Papers from the 17th International Conference on Historical Linguistics, Madison, Wisconsin, 31 July-5 August 2005*, ed. by Joseph C. Salmons and Shannon Dubenion-Smith, 167-187, John Benjamins, Amsterdam.

Yamamura, Shuto (2008) "A Study of the Adjectival System and Its Internal Structure," *Linguistics and Philology* 27, 153-168.

Yamamura, Shuto (2009a) "The '*And* Adjective' Construction in Old English and the Prop-word *One(s)* in Present-day English," *Linguistics and Philology* 28, 139-155.

Yamamura, Shuto (2009b) "Eigoshi niokeru Keiyoshi Kussetsu no Shoshitsu to Shityugo *One(s)* no Shutsugen (The Loss of the Adjectival Inflection and the Rise of the Prop-word *One(s)* in the History of English)," *The Proceedings of ELSJ the 81st Annual Meeting*, 32-34.

Yamamura, Shuto (2010a) "A Corpus Based Research on Adjectives Used as Nouns in the History of English," *Synchronic and Diachronic Approaches to the Study of*

References

Language: A Collection of Papers Dedicated to the Memory of Professor Masachiyo Amano, ed. by Hirozo Nakano, Masayuki Ohkado, Tomoyuki Tanaka, Tomohiro Yanagi and Azusa Yokogoshi, 413-424, Eichosya Phoenix, Tokyo.

Yamamura, Shuto (2010b) "The Development of Adjectives Used as Nouns in the History of English," *English Linguistics* 27, 344-363.

Yamamura, Shuto (2011) "A Note on a Syntactic Correlation of VP Ellipsis and T-elements," *Linguistics and Philology* 30, 77-89.

Yamamura, Shuto (2012a) "A Diachronic Study of VP-ellipsis," *Linguistics and Philology* 31, 95-110.

Yamamura, Shuto (2012b) "A Minimalist Analysis of VP-ellipsis in the History of English," *IVY* 45, 19-36.

Yamamura, Shuto (in print) "A Study of Pseudogapping in English," *Linguistics and Philology* 32.

Yamamura, Shuto (in print) "Eigoshi niokeru Keiyoshi no Meishi Yoho no Hattatsu -- Zokkaku･Shoyukaku Meishi wo Chushin ni (The Development of Adjectives Used as Nouns in the History of English -- with Special Reference to Genitive/Possessive Nouns)," *Gengo Henka: Douki to Mekanizumu* (Language Change: Its Motivation and Mechanism), Kaitakusya, Tokyo.

Yasui, Minoru and Yukiyoshi Nakamura (1984) *Daiyou Hyougen* (*Pro-forms*), Kenkyusha, Tokyo.

Corpora

Collins Wordbanks Online, HerperCollins Publishers Ltd.

Kroch, Anthony, Beatrice Santorini and Lauren delfs (2004) *The Penn-Helsinki Parsed Corpus of Early Modern English* (PPCEME), University of Pennsylvania, Philadelphia.

Kroch, Anthony and Ann Taylor (2000) *The Penn-Helsinki Parsed Corpus of Middle English*, Second edition (PPCME2), University of Pennsylvania, Philadelphia.

Taylor, Ann, Ansthony Warner, Susan Pintzuk and Frank Beths (2003) *The York-Toronto-Helsinki Parsed Corpus of Old English Prose* (YCOE), University of York, Heslington.

Dictionary

The Oxford Dictionary of the English Language (2nd ed.).