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A Synchronic and Diachronic Study of Middles in English

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Abstract

English middles have been a widely-discussed topic in linguistic studies in the past three decades. Linguists have proposed various analyses to this type of constructions and brought us many theoretical and empirical contributions, whereas they have received little attention, especially from a diachronic viewpoint. Based on their remarkable properties, this thesis explores both canonical middles and reflexive middles in English from synchronic and diachronic viewpoints with the aim of both providing a unified account for their developmental process and distinguishing them from English actives, passives and ergatives within the framework of generative grammar.

First of all, this thesis analyzes the development of canonical middles in the history of English in terms of the reanalysis of ergatives,

combined with the development of modals and the reanalysis of modal auxiliaries as two triggering factors. Moreover, it suggests dividing the development of canonical middles into four stages, by applying the analysis of Massam (1992) that they have a modal operator in T to be specified by a modal or an adverb.

Secondly, this thesis clarifies the origin and development of reflexive middles in the history of English, and accounts for the process of their development in terms of the reanalysis of reflexive ergatives. It is proposed that the origin of reflexive middles is reflexive ergatives, based on empirical data from *The Oxford English Dictionary* (OED) and three historical corpora. After establishing the exact path of the development of reflexive middles, it is shown to be neatly captured in terms of the reanalysis of reflexive ergatives, triggered by the development of compound reflexive pronouns (CRPs) and the development of canonical middles. As a result, canonical middles and reflexive middles can be accounted for in a unified manner from both synchronic and diachronic viewpoints.

Thirdly, this thesis proposes a syntactic account for actives, passives, middles and ergatives in Present-day English within the recent minimalist framework. Based on the system of feature inheritance in Chomsky (2008) and a new proposal on optional C-T feature inheritance in Ouali (2008), this thesis proposed a system of optional feature inheritance in VP domain. Then, following Collins (2005) and Roberts (2010, 2014), it is argued that the functions of the light verb in the standard analysis of clause structure can be assigned to three functional categories, FP, VoiceP and υP: F which carries [*u*Agree] feature has the role of case assignment,

Voice has the role of external theta-role assignment and υ contributes to event interpretation. Accordingly, the differences between actives, passives, middles and ergatives can be accounted for in terms of a modified syntactic structure.

Abbreviations

The following abbreviations are used in this thesis:

ARB arbitrary

ADV adverb

C(P) complementizer (phrase)

CRP compound reflexive pronoun

DP determiner phrase

D-structure deep structure

e event variable

EA external argument

EC empty category

EModE Early Modern English

FP functional phrase

G generic operator

IA internal argument

I(P) inflectional phrase

LCS lexical conceptual structure

LF logical form

LModE Late Modern English

ME Middle English

MF middle formation

ModE Modern English

NOM nominative case

NP noun phrase

OE Old English

OED Oxford English dictionary

Op (modal) operator

Part(P) participle (phrase)

PE Present-day English

PL plural

REL reflexive

Spec specifier

SRP simple reflexive pronoun

Subj subject

θ-role theta-role

t trace

T(P) tense (phrase)

V(P) verb (phrase)

υ(P) light verb (phrase)

VoiceP Voice (phrase)

$Voice_{middle}$(P) middle voice (phrase)

Chapter 1

Introduction

1.1. The Aim of This Thesis

English middles as shown in (1-2) have stirred up significant controversy over the last three decades in large measure, because there is so little consensus about the syntactic and semantic properties of these constructions.

(1) canonical middles

a. The book reads **easily**.

b. Dirt **will/could** rub off when it is dry.

(2) reflexive middles

a. Honda–the car that sells **ITSELF**.

b. This solution suggests **ITSELF**.

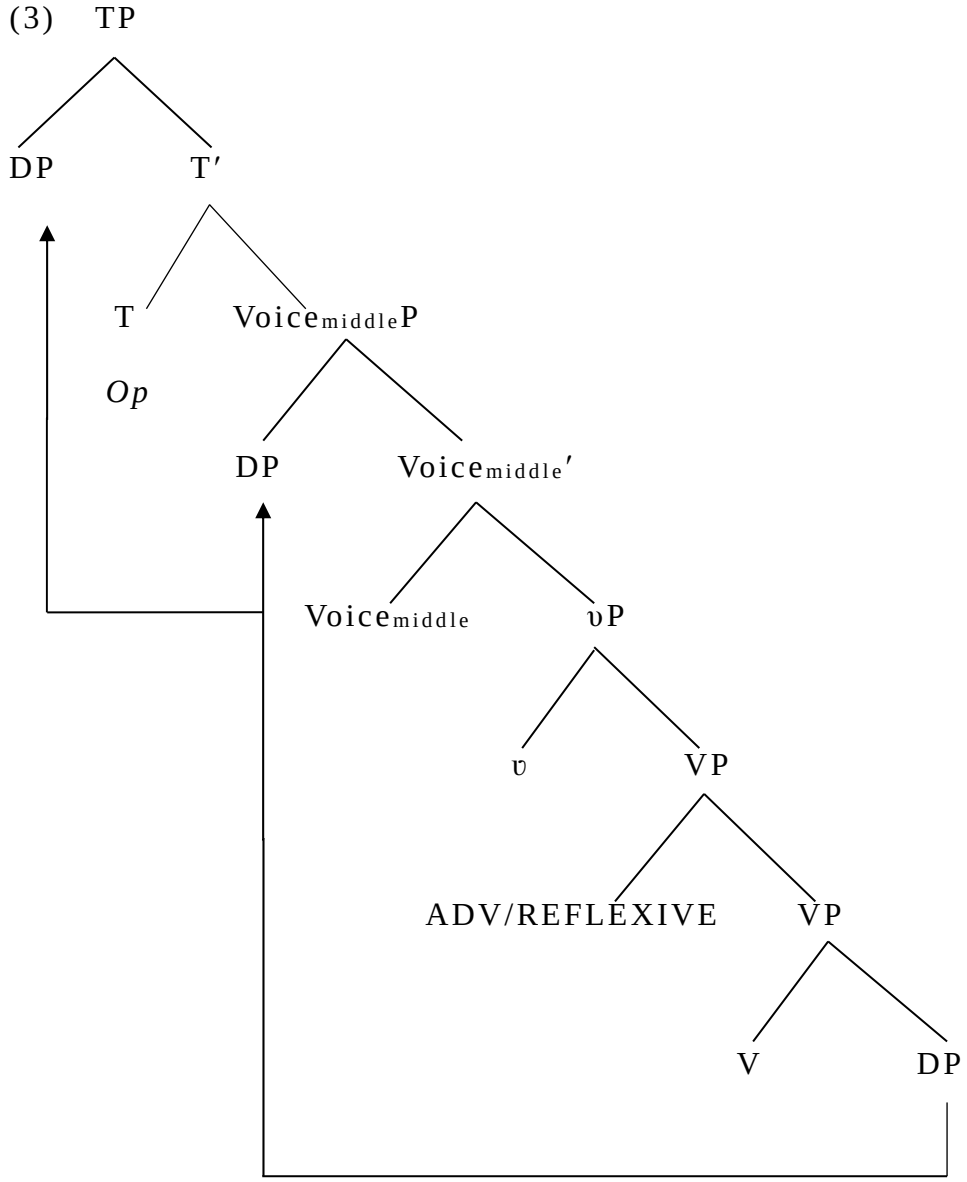
This thesis uses the term “middles” to refer to both canonical middles as in (1a, b) and reflexive middles as in (2a, b). As shown in (1a, b), canonical middles usually involve an adverb like *easily*, or a modal like *will* or *could* can attenuate the need for an adverb. On the other hand, as shown in (2a, b), reflexive middles employ reflexive elements which must receive sentence stresses (indicated by capitalization).

Based on their remarkable properties, this thesis explores both canonical middles and reflexive middles in English from synchronic and diachronic viewpoints with the aim of both providing a unified account for their developmental process and distinguishing them from English actives, passives and ergatives within the framework of generative grammar.

Generally, previous studies on English middles have only concentrated on canonical middles. Recent studies, including Stroik (1992), Roberts (1987) and Hoekstra and Roberts (1993), among others, have attempted to account for the properties of canonical middles in syntactic terms. They argue that middle formation, which involves the suppression or demotion of the external argument and the promotion of the internal argument, occurs in syntax. These proposals differ in whether the external argument is completely suppressed in syntax or it is demoted to an adjunct position in the syntactic structure. On the other hand, theorists such as Fagan (1988) and Ackema and Schoorlemmer (1994, 1995) are among the major proponents of the lexical analyses. They assume that the external argument is deleted from the lexical entry of the transitive counterpart of a middle verb; therefore it is never structurally discharged. Moreover, the internal argument is externalized in the lexicon.

As shall be discussed, this thesis is to provide a syntactic analysis of canonical middles and extend it to reflexive middles, arguing that middles in (1-2) can be accounted for in a unified syntactic structure as shown in (3).

(3)



Precisely speaking, this thesis follows the lexical analyses in arguing that the implicit external agument does not project into syntax, due to its arbitrary interpretation (cf. Fagan (1988) and Ackema and

Schoorlemmer (1994, 1995)). Meanwhile, following syntactic analyses, this thesis argues that the internal argument of the middle verb is moved to [Spec, TP] via an intermediate position [Spec, $\text{Voice}_{\text{middle}}$P], as shown in (3). As for the *Op* in T, $\text{Voice}_{\text{middle}}$P and ADV/REFLEXIVE which are represented in (3), the following chapters will discuss the functions of them in further detail.

Moreover, though linguists have proposed various analyses of middles and brought us many theoretical and empirical contributions, they have received little attention, especially from a diachronic viewpoint. The aim of this thesis is to clarify the development of both canonical middles and reflexive middles in the history of English, attempting to account for their development within the framework of generative grammar.

Last but not least, middles have always been compared with passives and ergatives in previous studies. This thesis attempts to account for the syntactic and semantic differences between them within the recent minimalist framework.

1.2. Organization

The body of this thesis is organized as follows. Chapter 2 reviews previous analyses of canonical middles in English, pointing out the empirical and theoretical problems. Then, based on the discussion of previous studies, Chapter 2 sums up the main properties of canonical middles. As mentioned above, there are two analyses proposed in the literature: syntactic analyses and lexical analyses. Theorists such as Keyser and Roeper (1984), Stroik (1992), Roberts (1987) and Hoekstra and

Roberts (1993) advocate the syntactic analyses. On the other hand, theorists such as Fagan (1988) and Ackema and Schoorlemmer (1994, 1995) are among the major proponents of the lexical analyses. The points of departure between these two analyses are the status of the external argument and the way of promoting the internal argument. Though both types of analyses differ from each other on where middle formation takes place (in syntax or in the lexicon), they share the same idea that the suppression or deletion of the external argument correlates with the promotion or externalization of the internal argument in middle formation. The properties of canonical middles are summed up as follows. Syntactically, canonical middles involve an adverbial modification, and the grammatical subject, which corresponds to the internal argument, is responsible for the action expressed by the predicate. Semantically, they have a generic construal, and aspectual condition have been claimed to hold of middle formation. Moreover, canonical middles involve an implicit external argument which has an arbitrary interpretation and hence does not project into syntax.

Chapter 3 analyzes the development of canonical middles as in (2) in the history of English in terms of the reanalysis of ergatives, combined with the development of modals and the reanalysis of modal auxiliaries as two triggering factors. Based on an introduction to modality in English and previous studies of modality in canonical middles, this thesis argues that canonical middles involve dynamic power and neutral possibility, both of which belong to dynamic modality. Then, in order to distinguish between middles and ergatives, three crucial properties of canonical

middles are shown as a diagnosis: (i) responsibility of the grammatical subject, (ii) genericity, and (iii) the modal interpretation.[1] Based on the observation of the data of canonical middles and the changes in the meaning of *will* in the history of English, this thesis proposes that the meaning change of *will*, and, more importantly, the reanalysis of modal auxiliaries in the 16th century triggered the reanalysis of ergatives as middles. Moreover, it suggests dividing the development of canonical middles into four stages, by applying the analysis of Massam (1992) that they have a modal operator in T to be specified by a modal or an adverb. The empirical contribution is that the peculiar properties of canonical middles discussed in Chapter 2 can be neatly explained under the proposed analysis.

Chapter 4 aims to clarify the origin and development of reflexive middles as in (3) in the history of English and account for the process of their development in terms of the reanalysis of reflexive ergatives. Based on a brief introduction to reflexive middles in Present-day English, this thesis argues that they are actually a type of canonical middles, especially taking into account the fact that the reflexive pronoun in reflexive middles functions the same as an adverb like *easily* in canonical middles (cf. Fiengo (1980)). The result of the corpus-based research has revealed that reflexive middles emerged in the 16th century, when compound reflexive pronouns (CRPs) were establishing their dominance in expressing the reflexive relation and canonical middles began to be attested. Along the lines of Fiengo (1980) and Massam (1992), it is argued that the reflexive pronoun in reflexive middles which functions as an adverbial modification has to move to T at LF to specify the modal operator in T. Then, it is

proposed that reflexive middles emerged via the reanalysis of reflexive ergatives, which was triggered by the development of compound reflexive pronouns (CRPs) and the reanalysis of modal auxiliaries.

Chapter 5 aims to propose a syntactic account for actives, passives, middles and ergatives in Present-day English within the recent minimalist framework. Based on the system of feature inheritance in Chomsky (2008) and a new proposal on optional C-T feature inheritance in Ouali (2008), this thesis proposes a system of optional feature inheritance in the VP domain.[2] Following Collins (2005) and Roberts (2010, 2014), it is argued that the functions of the light verb in the standard analysis of clause structure can be assigned to three functional categories, FP, VoiceP and υP: F which carries [*u*Agree] feature has the role of case assignment, Voice has the role of external theta-role assignment and υ contributes to event interpretation. Accordingly, the differences between actives, passives, middles and ergatives can be accounted for in syntactic terms under the proposed analysis.

Chapter 6 summarizes the findings of this thesis and discusses their significance for future.

Notes to Chapter 1

[1] Besides, another property of canonical middles which distinguishes them from ergatives is the presence of an implicit external argument. However, as shall be discussed, this thesis follows the lexical analyses in arguing that the implicit external agument does not project into syntax, due to its arbitrary interpretation (cf. Fagan (1988) and Ackema and Schoorlemmer (1994, 1995)). Hence, it is irrelevant for the present concern about the syntactic structure of canonical middles.

[2] See Roberts (2012) for a similar proposal that [*u*Agree] feature determines the order of direct derivation and indirect derivation. However, he also correlates different derivation processes with the precence or absence of the EPP feature, which differentiates his analysis from the present analysis.

Chapter 2

Basic Facts and Previous Analyses of Canonical Middles in English

2.1. Outline

The aim of this chapter is twofold. Section 2.2 reviews previous analyses of canonical middles in English, pointing out their empirical and conceptual problems. Based on the discussion in section 2.2, section 2.3 sums up the main properties of canonical middles.

2.2. Previous Analyses of Canonical Middles in English

The aim of this section is to review previous analyses of canonical middles, pointing out the empirical and conceptual problems in them. Subsection 2.2.1 reviews the syntactic analyses in Keyser and Roeper (1984), Stroik (1992), Roberts (1987) and Hoekstra and Roberts (1993), focusing on the syntactic status of the implicit external argument and how it is suppressed or demoted. Subsection 2.2.2 reviews the lexical analyses in Fagan (1988) and Ackema and Schoorlemmer (1994), focusing on how the arguments of a predicate are ordered at Lexical Conceptual Structure (LCS)

and how the internal argument is externalized in a pre-syntactic level.

2.2.1. Syntactic Analyses

2.2.1.1. Keyser and Roeper (1984)

Keyser and Roeper propose that canonical middles, like passives, are syntactically derived by the rule of move-α, with an NP-movement involved in their formation and therefore middle verbs are originally transitive verbs in lexicon. They provide three arguments to argue that canonical middles are syntactically derived: sister incorporation in compounding, the use of repetitive *away* and *out*-prefixation. However, as will be shown in what follows, Fagan (1988) provides counterexamples to argue against them.

First of all, Keyser and Roeper follow Roeper and Siegel (1978) in arguing that compound formation is sensitive to the order of subcategorization frames. In their view, a verbal compound consists of a verb and its first sister on its lexical entry. Consider the following examples, in which the verbs in the sentences in (1) form the compounds with adverbs taken as their first sister.

(1) a. This pill acts fast. ⟶ fast-acting pill

b. The plane flies low. ⟶ low-flying plane

(Keyser and Roeper (1984: 391))

This rule of English compounding is well illustrated in the contrast in (2). *Fast-making* in (2a) is not permissible because the preposed

element *fast* is not a first sister of the verb *make*, while *boat-making* in (2b) is possible, because the direct object *boat* is the first sister of the verb *make*.

(2) a. She makes the boat fast. ⟶ *fast-making

b. boat-making (ibid.)

This argument and the impossibility of compounding middle verbs and adverbs following them lead Keyser and Roeper (1984) to argue that canonical middles are transitive sentences, in which the original internal argument is moved to the subject position.

(3) a. Those Chickens **kill** easily. ⟶ *easily-killing chicken

b. The wall **paints** easily. ⟶ *easily-painting wall (ibid.)

In (3), middle verbs *kill* and *paint* cannot form a compound with their adjacent adverbs. This means that adverbs in canonical middles are not the first sister of the relevant verbs in their lexical entry. Keyser and Roeper try to explain the impossibility in (3) by assuming that the relevant verbs are originally transitive verbs and the grammatical subjects are base-generated as their internal argument at the beginning of the derivation, and then move to the subject position, as schematized in (4).

(4) <u>The wall</u> paints <the wall> easily. (ibid.)

As in (4), the original internal argument *the wall* of a transitive verb *paint* is moved to the subject position. Therefore, adverbs and verbs in canonical middles cannot form compoundings as shown in (3), since they are not sisters.

Although this syntactic analysis seems to successfully explain the empirical fact, Fagan (1988) points out that there is a different reason for the impossible compounding in (3). That is, English permits only two types of compound adjectives: noun-adjective compounds (e.g. *color-blind*) and adjective-adjective compounds (e.g. *grey-green*). This means that the adverb-(gerundive) adjective compounds in (3) are impossible from the very beginning, and they cannot be used as evidence for the syntactic derivation of the middles. Moreover, as noticed in Fagan (1988), gerundive adjectives are eventive in nature and verbs used to form them must also be eventive. Canonical middles are non-eventive/generic. Thus, it is likely that gerundive adjectives formed from canonical middles like (3) are ungrammatical because of the stativity of canonical middles.

The second argument for the transitive status of canonical middles in Keyser and Roeper (1984) is based on the placement of the adverbial particle *away*. The examples in (5a, b) show that *away* only co-occurs with intransitive verbs. Therefore, the ungrammaticality of (6a, b) suggests that middle verbs are transitive, since they cannot appear with *away*.

(5) a. The ships are sinking away.

b. John is hitting away at Bill.

(Keyser and Roeper (1984: 392))

(6) a. *The room paints away.

b. *The bureaucrats bribe away. (ibid.)

However, as opposed in Fagan (1988), it is not a compelling piece of evidence to prove the transitivity of middle verbs. As is shown in (7), the stative intransitive verbs cannot be used with the repetitive *away* either.

(7) a. *That suffices away.

b. *That matters away. (Fagan (1988: 190))

According to Fagan (1988), middle verbs do not describe the event, but describe the inherent property, hence they are surely incompatible with *away* which has a dynamic nature.

The third argument in Keyser and Roeper (1984) for the syntactic analysis of canonical middles is based on *out*-prefixation. Keyser and Roeper argue that the prefix *out*- can only be attached to an intransitive verb and change it into transitive form as in (8a, b). But it cannot be attached to middle verbs in (9a, b). This can also prove that middle verbs are transitive in nature.

(8) a. John outran Bill.

b. The basketball outbounced the baseball.

(Keyser and Roeper (1984: 395))

(9) a. *Bureaucrats outbribe managers easily.

b. *Newspaper outread magazines easily. (ibid.)

However, contrary to Keyser and Roeper's claim, Fagan (1988) points out that the stative intransitive cannot be attached to prefix *out-* either, as is shown in (10).

(10) a. *His advice outmatters ours.

b. *Her car outcost mine. (Fagan (1988: 190))

According to Fagan (1988), a conclusion from (10) is that the prefixation *out-* is sensitive to more than just synaptic status of verbs, and for this reason cannot be used to support Keyser and Roeper's (1984) claim.

To sum up, though Keyser and Roeper (1984) argue for the syntactic analysis of canonical middles, it seems that they do not provide compelling evidence for their claim. Moreover, they just believe that canonical middles involve the implicit external argument without clarifying its exact syntactic position.

2.2.1.2. Stroik (1992)

Another strong argument for the syntactic analysis is made in Stroik (1992). He provides two pieces of evidence to prove that the implicit external argument of canonical middles is present in syntax. The first piece of evidence comes from the anaphor binding as exemplified in (11).

(11) a. Books about oneself never read poorly.

b. Letters to oneself compose quickly.

c. Arguments with oneself generally end abruptly.

(Stroik (1992: 129))

Since Binding Principle A requires anaphors to be bound within the government category, *oneself* in the three sentences in (11) must be co-indexed with its covert/implicit antecedent.

The second piece of evidence comes from *for*-PP as shown in (12).

(12) a. This book reads slowly for Mary.

b. Latin texts always translate quickly for Lou.

(Stroik (1992: 126))

The only possible interpretation possible must read the objects of the prepositions as Agents in (12): *Mary* is interpreted as the reader of the book in (12a), and *Lou* is interpreted as the translator of the text in (12b).

In addition, Stroik argues that the implicit external argument in canonical middles is PRO in nature. Under the theoretical background of Larson's (1988) Principle of Argument Demotion in (13), Stroik postulates that PRO should be in the adjunct position.

(13) Principle of Argument Demotion (PAD)

If A is a theta-role assigned by X^k, then A may be assigned (up to optionally) to an adjunct of X^k. (Larson (1988: 52))

Following (13), as the implicit argument in canonical middles is assigned an Agent role by the verb, then it may be assigned to an adjunct position. Stroik provides the canonical middle of (11a), repeated as (14a), with the D-structure representation like (14b).

(14) a. Books about oneself never read poorly.

b. [$_{IP}$[$_{I'}$ I [$_{VP}$[$_{VP}$ never read [$_{NP}$ books about oneself poorly]PRO]]]] (Stroik (1992: 134))

According to Stroik, the process of the middle formation involves the demotion of the external theta-role and the promotion of the internal theta-role: the external theta-role is demoted to an adjunct and the internal theta-role is promoted to the grammatical subject.

Besides, he insists that PRO and *for*-PP in canonical middles are complementary. When the Agent is arbitrary, it is realized as a covert PRO; on the other hand, when the Agent is specific, it is realized as a *for*-PP. The presence of an implicit external argument in the syntax of canonical middles is also illustrated in the cases of controlling PRO in adjunct clauses as in (15).

(15) a. Most physics books read poorly EC$_i$ even after PRO$_i$ reading them several times.

b. Bureaucrats bribe easily EC$_i$ after PRO$_i$ doing them a favor or two. (Stroik (1995: 168))

The PRO subject of the adjuncts in (15) needs to be controlled by some antecedent, and he assumes that the empty external argument, which is indicated as EC above, controls PRO.

Though Stroik successfully accounts for the presence of the implicit argument in canonical middles, his analysis faces several problems. First of all, Ackema and Schoorlemmer (1995) have argued against Stroik (1992), presenting the following non-middle sentences in (16), where an anaphor can appear without its antecedent.

(16) a. Physicists like yourself are a godsend.

b. Persons like myself should not aspire.

c. Books about oneself can bring much grief.

(Ackema and Schoorlemmer (1995: 178))

The anaphors in (16) show logophoric behavior. The examples show that such anaphors inside DPs need not be syntactically bound and there is no antecedent. Ackema and Schoorlemmer point out that since an anaphor can appear in a non-middle sentence without its antecedent, there is no reason that an empty category should be posited in a middle sentence as the antecedent of an anaphor. Therefore, the sentences in (11) cannot be considered as evidence for the presence of the implicit external argument in canonical middles.

Secondly, Ackema and Schoorlemmer (1995) point out that the evidence in (15) has nothing to do with canonical middles. They follow Koster (1987) in distinguishing two types of PRO: “anaphoric control” and

"non-anaphoric control". The former type of PRO requires a syntactically present, c-commanding antecedent, whereas the latter does not. According to them, PRO is syntactically controlled only in argumental infinitival complements, not in adjunct clauses like those in (15). Ackema and Schoorlemmer show that PRO in (15) is non-anaphoric because it can appear in non-middle sentences as in (17). The examples in (17) indicate that PRO in (15) is controlled pragmatically, not syntactically.

(17) a. Most physics books are difficult even after PRO reading them several times.

b. Potatoes are tastier after PRO boiling them.

(Ackema and Schoorlemmer (1995: 178))

2.2.1.3. Roberts (1987) and Hoekstra and Roberts (1993)

Though Roberts (1987) conducts a syntactic analysis of canonical middles, he proposes that middle verbs do not have the Agent theta-role. Basically, following Keyser and Roeper's (1984) syntactic analysis, Roberts (1987) adopts Williams's (1981) Externalization Rule for middle formation, stated in (18).

(18) E(x): Erase the underline on the external argument, if there is one. (Williams (1981: 92))

Following the rule in (18), the change of the argument structure of the verb *kill* is schematized as in (19).

(19) *kill*: $[\theta_{\underline{agent}}, \theta_{theme}] \longrightarrow [\{\theta_{agent}\}, \theta_{\underline{theme}}]$

(Roberts (1987:188))

The underline in (19) indicates the external argument and the theta-role with curly brackets, a demoted role. After the Agent theta-role is demoted, the verb loses its ability to assign case, and thus the object is moved to the subject position for case. To sum up, as discussed above, one distinct point in Roberts' analysis is that he assumes that the external argument is inert in syntax.

In contrast, the analysis of Hoekstra and Roberts (1993) is quite different as far as the external argument is concerned. It is assumed that all the arguments of a middle verb are obligatorily projected into the syntactic structure. They argue that the lexico-semantic structure of a middle verb is the same as that of its active counterpart. In their view, the middle verb such as *read* projects the same thematic grid <Agent, Theme> in the same way as the active verb *read* does. This assumption not only requires that the internal Theme argument be projected syntactically as the complement of middle verb, but also necessitates that the Theme subject be derived via NP-movement from its object position. As for the implicit external argument, they assume that the middle verb takes an empty pronominal *pro* as its external argument. *Pro* is base-generated in the VP-internal subject position and the external Agent role is assigned to it. Then, the syntactic structure of (20a) is described as in (20b).

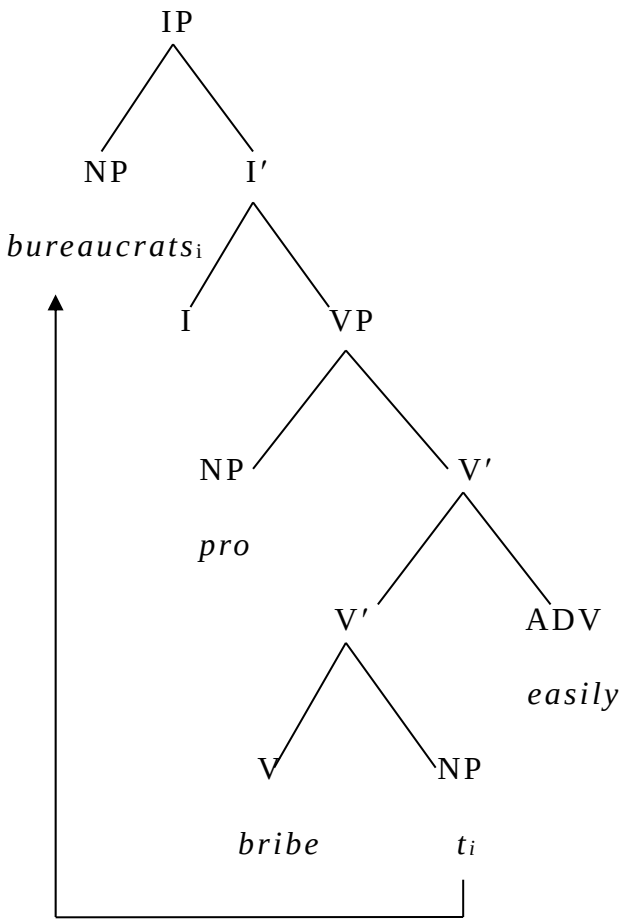
(20) a. Bureaucrats bribe easily.

b. Bureaucrats$_i$ [$_{VP}$ *pro* [$_{V'}$ bribe t_i easily]]

(Hoekstra and Roberts (1993: 186))

Hoekstra and Roberts argue that the implicit external argument *pro* in canonical middles is the same as that in null object constructions in English, like *Bureaucrats bribe (pro) to win promotions*. Therefore, they assume that the arbitrary implicit *pro* subject in canonical middles as in (21a) has the same favor as the null object in English null object constructions as in (21b).

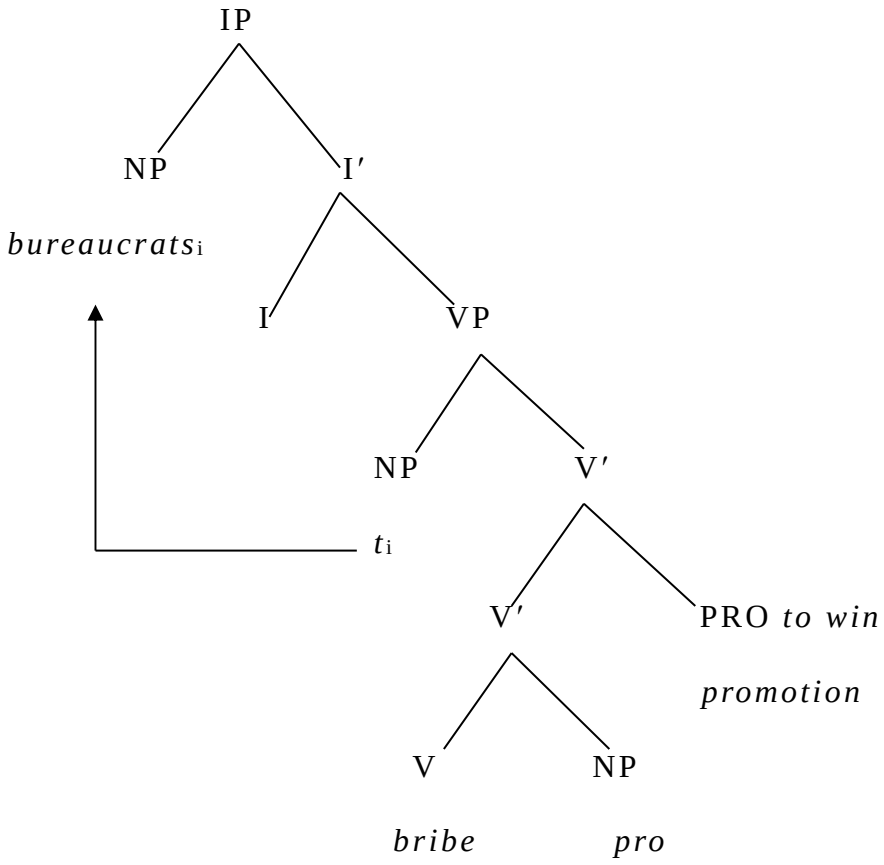
(21) a. Bureaucrats bribe easily. (the middle)



(Hoekstra and Roberts (1993: 191))

b. Bureaucrats bribe (*pro*) to win promotion.

(the null object construction)



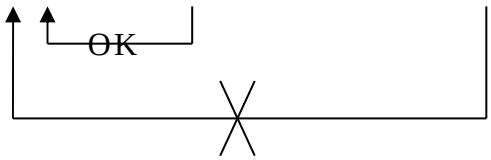
(ibid.)

According to Hoekstra and Roberts (1993), the canonical middle in (21a) and the null object construction in (21b) only differ in that the respective positions of *pro* and NP trace are reversed. Except that, they share the same syntactic configurations in almost all the aspects, including the interpretation of *pro*: the quasi-universal reading and their syntactic "inactiveness".

There are several empirical and conceptual problems in their analysis. First of all, as shown in (21a), the implicit external argument

pro is in the VP-internal subject position. Under this analysis, the movement of the internal argument *bureaucrats* would cross the implicit *pro* which is in a relatively higher position. This violates Relativized Minimality condition (Rizzi (1990)), in which A-movement of *bureaucrats* to [Spec, TP] is prohibited, because *pro* in [Spec, VP] blocks any syntactic relation between T and *bureaucrats* which is originally generated in the complement position of V, as shown in (22).

(22) [$_{TP}$_____ T [$_{VP}$ *pro* [$_{V'}$ bribe bureaucrats easily]]



Secondly, Hoekstra and Roberts believe that the implicit external argument *pro* in canonical middles is the same as *pro* object in English, as shown in (21). They argue that since the *pro* object exists in English, there is no reason to rule out the *pro* subject in canonical middles. However, their argument is not compatible with Rizzi (1986: 531-533), in which the arbitrary null object *pro* was attested by EModE. Rizzi (1986) mentions that null arbitrary objects were syntactically productive in earlier stages of English, as shown in (23).

(23) a. thet uerste...*somoneth (pro) to worthsipie* god.

(1340 Ayenbite p.104)

b. He had not otherwise *forbid (pro) to molest* them.

(1649 Milton, Tenure of Kings p.72)

c. I then *advised (pro) to fly*.

(1725 Pope, Tr. Odyssey IX p.133) (Rizzi (1986: 532))

The sentences as in (23) could be attested from OE to EModE. However, they cannot be attested in Present-day English. This fact poses a serious empirical problem to Hoekstra and Roberts' argumentation.

2.2.1.4. Another problem in Syntactic Analyses

As discussed in the previous subsections, syntactic analyses provide empirical evidence that canonical middles do involve an implicit external argument. According to these analyses, the verb's subject theta-role is assigned in syntax in canonical middles in the same way as that in passives, either to PRO adjoined to VP in Stroik (1992) as shown in (24a), or to *pro* in VP-internal subject position in Hoekstra and Roberts (1993) as shown in (24b). The internal theta-role is regularly assigned to the complement position of middles verbs, which is moved consequently to the grammatical subject position.

(24) a. $[_{IP}$ [books about oneself]$_i$ $[_{I'}$ I $[_{VP}[_{VP}$ never read t_i poorly] PRO]]]] (cf. Stroik (1992: 135))

b. [bureaucrats$_i$ $[_{VP}$ *pro* $[_{V'}$bribe t_i easily]]]

(Hoekstra and Roberts (1993: 186))

However, as pointed out in Ackema and Schoorlemmer (1995), this kind of movement analysis of canonical middles does not behave like

ordinary A-movement in passives. The analysis for passives involves the syntactic presence of the logical subject and the movement of the object. Also, this logical subject is syntactically active, as it can license Agent-oriented adverbs, *by*-phrases, and purpose clauses as shown in (25). However, canonical middles behave differently in these respects, as shown in (26).

(25) a. The wall was painted on purpose.

b. The wall was painted by Harry.

c. The wall was painted to protect it against the rain.

(Ackema and Schoorlemmer (1995: 174))

(26) a. *Walls paint easily on purpose.

b. *Walls paint easily by Harry.

c. *Walls paint best to protect them again the rain. (ibid.)

The grammaticality of the sentences in (25) indicates that the logical subject's theta-role is assigned in syntax in passives. In contrast, the ungrammaticality of the sentences in (26) indicates that the logical subject's theta-role is not assigned in syntax in canonical middles.

2.2.2. Lexical Analyses

2.2.2.1. Fagan (1988)

As discussed in subsection 2.2.1.1, Fagan questions Keyser and Roeper's (1984) claim that canonical middles are syntactically transitive

with a large number of empirical counter-examples. She further posits that canonical middles are syntactically intransitive and are not derived by NP-movement. The major evidence is that canonical middles do not allow preposition-stranding, as shown in (27). In contrast, preposition-stranding, as a syntactic process, is often used in the passive construction, which is believed to involve NP-movement in its derivation, as shown in (28).

(27) *John laughs at easily. (Fagan (1988: 192))

(28) a. We laugh at John. ⟶ John is laughed at.

b. We depend on him. ⟶ He is depended on.

(ibid.)

Thus, on the basis of Rizzi's (1986) analysis of "saturation of theta-role", Fagan contends that canonical middles are formed through the lexical process of the externalization and the reason for this externalization is attributed to the modality implicated in middles, as shown in (29).

(29) a. This book reads easily.

b. People, in general, can read this book easily.

(Fagan (1988: 196))

She proposes two lexical rules for the middle formation, as in (30).

(30) a. Assign *arb* to the external θ-role.

b. Externalize the direct θ-role.

(arb: arbitrary interpretation (*people in general*))

(ibid.)

(30a) is the prerequisite for (30b). When the external θ-role has the value of *arb*, it is vacuous. Only in such a situation can the direct θ-role be externalized.

2.2.2.2. Ackema and schoorlemmer (1994)

Ackema and Schoolemmer convincingly show that middle formation in English and Dutch is not syntactic. They agree with Condoravdi (1989) that the Agent is suppressed at the pre-syntactic level of representation and is not projected into syntax. First, arguments of a predicate are ordered along a Thematic Hierarchy at Lexical Conceptual Structure (LCS). At LCS, two kinds of semantic information are represented at two different tiers, a thematic tier and an action tier. The thematic tier contains the semantic information like arguments and semantic primitives like CAUSE and GO. This representation allows definitions of Agent, Theme, Goal, etc. For example, the Agent is the first argument of movement functions like GO and STAY. The action tie encodes the affectedness relations between arguments: the Actor and the Patient. Thus, in this system, some argument may appear at the two tiers at the same time. Take the sentence in (31) as an example.

(31) John went for a jog. (John: Theme, Actor)

(Ackema and Schoorlemmer (1994: 69))

In (31), *John* is either the Theme or the Actor at each tier. These roles at the two tiers are arranged at the hierarchy in (32).

(32) Actor-Patient-Agent-Theme-Goal (ibid.)

In (32), action tier arguments are more prominent than thematic tier arguments. Here, argument structure is derived from LCS and the highest argument is marked as the external argument. Consider the argument structure of the verb *kill* in (33).

(33) *kill* $(\theta_{Actor}\ (\theta_{Patient}))^{+\,ext}$

(Ackema and Schoorlemmer (1994: 67))

In (33), the verb *kill* has two arguments and the external argument is θ_{Actor}; the feature *ext* is assigned to the highest argument. Semantic arguments at LCS project into syntax, but not all semantic arguments project. Ackema and Schoorlemmer assume the following condition on the non-projection of argument.

(34) recoverability condition:

An A-marked non-projecting semantic argument θ must be

(a) discourse linked to a semantic argument identical to θ;

(b) ARB (Ackema and Schoorlemmer (1994: 68))

As indicated in (34), semantic arguments which can be recoverable from the discourse or which has ARB interpretation do not project. As far as the suppression of the external argument in canonical middles is concerned, they propose the operation “middle formation (MF)” as in (35).

(35) MF: Actor= ARB (ibid.)

According to (35), in middle formation, the Actor argument of a verb is assigned ARB, and this argument will not project according to (34b). The rule in (35) implies that only verbs with the Actor can undergo middle formation. For example, verbs without the Actor argument, such as stative verbs, cannot undergo middle formation. On the other hand, an LCS, as a whole, is marked for [+/-ext] which cannot be altered. If an LCS is marked [+ext] and if there is no Actor projected into syntax under (34b), the argument that is the second highest on the hierarchy (below the Actor) will project as the external argument. This process is schematized as (36).

(36) a. read $(\theta_{Actor}\ (\theta_{Patient}))^{+ext}$ ⟶ [John [reads the book]]

⇩

middle formation: Actor=ARB

⇩

b. $(\theta_{Patient})^{+ext}$ ⟶ [The book [reads]] + easily

Ackema and Schoorlemmer (1994) also show some evidence which indicates that middles are unergatives rather than unaccusatives. The

positive evidence they present is from Dutch middles. It is known that unergative verbs select the auxiliary “have” whereas unaccusative verbs select the auxiliary “be”. Ackema and Schoorlemmer come up with the following middles in Dutch which takes the auxiliary “have”, but not the auxiliary “be”, as in (37).[1]

(37) a. Dit vlees heft/* is altjd gemakkelijk gesneden.
this meat has/is always easily cut
“This meat has always been easy to cut.”

b. Dit sort boeken heft/* is altijd goed verkocht.
this sort books has/*is always good sold
“This kind of books has always sold well.”

(Ackema ans Schoorlemmer (1994: 65))

The Dutch middles in (37) take the auxiliary “have”, which shows that canonical middles pattern with unergative verbs whose single argument is the external argument. This means canonical middles undergo Externalization, a lexical operation. Since MF involves the suppression of the highest argument, the Actor argument, once it is suppressed, then the second highest argument becomes the external argument. So Acekma and Schoorlemmer’s (1994) analysis can account for the contrast in (38).

(38) a. Mary sells a book (Theme) to Harry (Goal).

b. These books don’t sell to linguists.

c. *Linguists don’t sell books so easily.

(Ackema and Schoorlemmer (1994: 65))

As shown in (38a), the verb *sell* has three arguments, the Actor, the Theme and the Goal. After the highest argument (the Actor) *Mary* is suppressed by MF, the next highest argument (the Theme) takes over the status of the external argument. This is why we can get the middle in (38b). But the middle in (38c) cannot be formed because the Goal is a lower thematic role than the Theme in the hierarchy.

However, there are three problems in Ackema and Schoorlemmer (1994) which I will point out. The first problem arises with respect to MF in (35). The rule in (35) is too strong to mistakenly predict that the following examples in (39) are possible.

(39) a. *The ball hits well.

b. *The book throws well.

The verbs, *hit* or *throw*, have the Actor argument, and according to (35), middle formation with them should be possible. Contrary to the predication, the examples in (39) show that canonical middles with these verbs are unacceptable.

Secondly, they argue that middles in Dutch and English are unergatives, based on syntactic facts in Dutch. However, such auxiliary selection cannot serve as a diagnosis to distinguish unergatives from unaccusatives in Present-day English.[2] There is no direct evidence to show that canonical middles in English are parasitic on unergatives. More

importantly, some marginal canonical middle data do involve unaccusaitve verbs as shown in (40).[3]

(40) Plants *die* easily in the shade.

(Keyser and Roeper (1984: 384))

According to Keyser and Roeper (1984), for some native speaker the sentences (40) are grammatical. Therefore, it seems to be inappropriate to classify canonical middles in English as unergatives on par with Dutch middles.

Moreover, as pointed in Lekakou (2005:63), the [+ext] specification is problematic. Recall that Ackema and Schoorlemmer have assumed that the property [+ext] cannot be erased during the derivation, because the LCS of the verbs which are input to middle formation is specified as [+ext] as shown in (36a). Therefore once the Actor is suppressed, the understood object is base-generated in the subject position as shown in (36b). However, if those middle verbs which are derived from unaccusative verbs like (40) are taken into consideration, the [+ext] specification is problematic. It becomes obvious that [+ext] property does not serve in the canonical middle as in (40), as the verb does not have the external argument at all. Given the assumption that unaccusatives are derived from the basic transitive entry, this transitive entry will have to be specified as [-ext] in order to allow for the single argument of the derived unacusative entry to originate in the object position and moves to subject position.

In conclusion, it is obvious that the points of departure between syntactic analyses and lexical analyses are the status of the implicit external argument and the way of promoting the internal argument. Moreover, though both types of analyses differ from each other on where middle formation takes place (in syntax or in the lexicon), they share the same idea that the suppression or demotion of the implicit external argument correlates with the promotion/externalization of the internal argument in middle formation.[4] As will be shown in this thesis, following the two types of analyses, the present analysis proposes a new syntactic analysis of English middles, arguing that middles involve the promotion of the internal argument which occurs in syntax, while the implicit external argument does not project into syntax, due to its arbitrary interpretation (cf. Fagan (1988) and Ackema and Schoorlemmer (1994, 1995)).

2.3. The Properties of Canonical Middles in English

2.3.1. The Properties of the Grammatical Subject

The grammatical subject in canonical middles carries the Patient/Theme theta-role, in spite the fact that their transitive counterparts usually carries the Agent theta-role, as shown in (41).

(41) a. John read this book. (transitives)

b. This book reads easily. (middles)

In (41a), *John*, the grammatical subject of the transitive verb *read* is the Agent. In contrast, *this book*, which is the grammatical subject of

canonical middles in (41b), refers to the internal argument of the middle verb *read*. More importantly, the property of this Patient/Theme grammatical subject in canonical middles is related to a famous contrast between the verbs of *sell* and *buy*: only the former can undergo middle formation as shown in (42).

(42) a. The new Saramago (a book) sells like water in a desert.

b. *The new Saramago buys with great difficulty. The distribution is bad.

(Ackema and Schoorlemmer (2005: 161))

Oosten (1977) and Ackema and Schoorlemmer (2005) among others account for this contrast in (42) by proposing a responsibility condition as shown in (43), which indicates that the entity expressed by the grammatical subject must have properties such that it can be held to be responsible for the action that the predicate expresses.

(43) responsibility condition:

The grammatical subject of a middle must have properties such that it can be understood to be responsible for the action expressed by the predicate.

(Ackema and Schoorlemmer (2005: 160))

The contrast in (42) is accounted for under the responsibility condition in (43) as follows. We can say that a book has properties which make it

responsible for being sold easily, when it is well written, or has an attractive cover, or contain a lot of interesting stories. If the relevant book can be qualified as responsible for the event, then the middle like (42a) is acceptable. In contrast, even if it is ready to be bought, it is difficult for you to buy a book if you have no money, or when it is hard to find. Those are not the properties of the book itself. It is very hard to imagine a book having intrinsic properties which makes buying it easy or difficult. Hence the unacceptability of (42b).

2.3.2. Adverbial Modification

It is well known that canonical middles obligatorily require an adverb as in (44).

(44) a. Chickens kill *(easily/quickly).

b. Bureaucrats bribe *(easily). (Matsumoto (1996: 52))

Secondly, only limited classes of adverbs are permitted in the canonical middle. According to Fellbaum (1985), only facility adverbs in (45a) and event adverbs in (45b) can appear in middles.

(45) a. facility adverbs

(*easily, fast, quickly, in a jiffy, beautifully*)

e.g. Cutton irons easily.

b. event adverbs (*smoothly, like salt*)

e.g. No-salt shakes like salt. (ibid.)

Thirdly, the adverbial modification in canonical middles is limited to adverbs that are not Agent-oriented adverbs like *carefully*, *deliberately*, or *intentionally*, as shown in (46a). In contrast, such Agent-oriented adverbs can appear in passives, as shown in (46b).

(46) a. *The book sold voluntarily.

b. The book was sold voluntarily. (Roberts (1987: 189))

We can conclude that the information about who performs what action is not so important in middles as in passives and it results in the fact that middles are unacceptable with Agent-oriented adverbs as shown in (46a).

Although middles canonically co-occur with a particular type of adverbs/adverbial phrases, it has been claimed by Roberts (1987), Ackema and Schoorlemmer (2005) and Lekakou (2008) that an adjunctless middle can be rescued by some other categories, such as a modal as shown in (47).

(47) Bureaucrats *may* bribe, but you never know.

(Roberts (1987: 232))

The fact that adjunctless middles are permitted as in (47) seems to posit a problem to some analyses focusing only on the requirement of the adverbial modification in canonical middles. For example, Condoravdi (1989) argues that the adverb is semantically required in order to provide the scope for the generic operator G that is present in semantic representation of the

canonical middles in (48).

(48) a. This bread cuts smoothly.

b. G [e: bread (x), cut (e), Patient (e,x)] [smooth (e)]

(Condoravdi (1989: 18))

The semantic representation in (48b) denotes that the predicate denoted by the middle verb *cut* enters the restrictor as a predicate of cutting event, while the adverb must appear in the nuclear scope providing a predicate for the event variable appearing in the restrictor. Accordingly, the canonical middle as in (48a) can be interpreted as "whenever there is a cutting event of this bread, the cutting event is easy". This view predicates that adjuntless middles such as (47) is semantically ill-formed, contrary to the fact. Chapter 3 will go on discussing this topic in detail.

2.3.3. Properties of the Implicit Agent

As discussed in section 2.2, linguists generally believe that canonical middles involve an implicit external argument, which is the logical subject. Iwata (1999) proposes that the presence of an implicit Agent is the defining characteristic of canonical middles in English.

First of all, since Keyser and Roeper (1984), there has been a consensus that middles differ from ergatives in their agentive interpretation as shown in (49).

(49) a. The clothes hang easily. (canonical middle)

b. The clothes are hanging on the line. (ergative)

(Keyser and Roeper (1984: 383))

Keyser and Roeper (1984) observe that (49a) can be paraphrased roughly as "it is easy for someone to hang clothes", where the Agent of the event is implied. What matters here is not only that canonical middles involve an implicit Agent, but also that this implicit Agent is an unspecific one (it refers to *people in general*). Contrary to the fact in (49a), there is absolutely no implied Agent who refers to people in general in (49b). The ergative sentence in (49b) only says the state or location of the clothes.

Besides, both Fagan (1992) and Marelj (2004) argue that the agentivity contrast between middles and ergatives can be tested by *all by itself* test and the Instrument test. The presence of the implicit argument in middles can be demonstrated by its incompatibility of the phrase *all by itself* with middles, as shown in (50a).

(50) a. *This book reads easily all by itself.

b. The boat sank all by itself. (Fagan 1992: 157))

As Fagan (1992) points out, the phrase *all by itself* means "totally without external aid". Thus, ergatives, which are inherently agentless as shown in (50b), allow the appearance of the phrase *all by itself*, whereas canonical middles do not allow it as in (50a). Similarly, Marelj (2004) uses the Instrument test to pinpoint the difference in interpretation between canonical middles and ergatives as shown in (51).

(51) a. The window opens easily with a knife.

b. *The window opened with a knife. (Marelj (2004: 116))

The examples in (51) show that an instrument phrase can be added to the canonical middle in (51a) but not to the ergative in (51b).[5]

On the other hand, though enough evidence indicates that there is an implicit Agent in canonical middles which distinguishes them from ergatives, that does not mean that the implicit Agent is present syntactically in canonical middles, as indicated in the contrast between passives and middles in (25-26) in the previous section . As mentioned above, we can conclude that the information about who performs what action is not so important in canonical middles.

Therefore, this thesis follows the lexical analyses in arguing that the implicit external agument does not project into syntax, due to its arbitrary interpretation (cf. Fagan (1988) and Ackema and Schoorlemmer (1994, 1995)). Accordingly, canonical middles differ from ergatives in that the implicit Agent can be had as an entailment of the lexical meaning of the verb in the former.

2.3.4. Genericity

It is widely accepted that canonical middles are generic statements and hence have a non-eventive reading (Keyser and Roeper (1984), Ackema and Schoorlemmer (1994, 1995) and Fagan (1988) among others). The genericity property of canonical middles is best illustrated by the contrast

between canonical middles and ergatives as shown in (52a, b).

(52) a. This glass breaks easily. (middle: generic/non-eventive)

b. The glass broke. (ergative: eventive)

(Rapoport (1999: 152))

Although both sentences in (52) share the verb *break*, they are, in nature, quite different from each other in many aspects. The canonical middle in (52a) is non-eventive and has a generic reading. It roughly means *This glass is such that it has a capacity to break (go to a broken state) easily*. The canonical middle, then, does not imply the existence of a breaking event. In contrast, the ergative in (52b) is eventive. The sentence in (52b) roughly means *There was an event in which the glass broke*. Therefore, this type of sentence implies a breaking event. Keyser and Roeper (1984: 384) point out that canonical middles are state propositions that are held to be generally true and they do not describe particular events in time.

Besides, the genericity of middles is demonstrated by the fact that middle verbs cannot appear in imperative sentences which denote an action, like stative verbs as shown in (53).

(53) a. *Bribe easily, bureaucrat!

b. *Know the answer, John! (Fagan (1988: 181))

Moreover, since generic statements are typically expressed with the

present tense, they do not denote a particular event in time, as shown in (54).

(54) a. ?Yesterday, the mayor bribed easily, according to the newpaper.

b. ?If it hadn't been for the wet weather, my kichen floor would have waxed easily.

(Keyser and Roeper (1984: 384))

The genericity of middles is also manifested in their incompatibility with progressive aspect, as shown in (55).

(55) a. *Chickens are killing easily.

b. *The walls are painting easily.

(Keyser and Roeper (1984: 385))

2.3.5. Aspectual Condition

Vendler (1967) puts forward a thorough classification of English verb classes and alternation. According to him, verbs can be classified into four different aspectual classes on the basis of their relation to a time scale: state, activity, accomplishment and achievement, as is shown in Table 1.

Table 1. Four Aspectual Classes of Verbs

on the Basis of their Relation to a Time Scale

VERB TYPES	CRITERION
State	no time scale; no change throughout an interval e.g. *know*, *love*, etc.
Activity	a process with transitions from one state to another; no inherent endpoint e.g. *run*, *drive*, etc.
Accomplishment	a process with transitions from one state to another toward a natural endpoint e.g. *building a house*, *painting a picture*, etc.
Achievement	instantaneous transitions to a natural endpoint; lack a process e.g. *recognize*, *notice*, etc.

(cf. Vendler (1967))

According to Table 1, state verbs denote non-dynamic state of affairs that have no change; accomplishment verbs and achievement verbs are distinguished by the criterion "whether it involves a process or not"; activity verbs also involve a process, but crucially lack an inherent endpoint. Therefore, an activity verb can be regarded as an accomplishment verb with no endpoint.

Among these verb classes, canonical middles are restricted to verbs categorized as activity and accomplishment as an aspectual condition on middle verbs, which is defined in (56) and is illustrated by examples in

(57).

(56) Only (transitive) activities and accomplishments undergo middle formation. (Ackema and Schoorlemmer (2005: 178))

(57) a. state verbs (e.g. *know, see, own,* etc.)

*The Eiffel Tower sees easily.

b. achievement verbs (e.g. *acquire, find, realize,* etc.)

*French acquires easily. (Roberts (1987: 196))

c. activity verbs (e.g. *eat, play, drive, read,* etc.)

The car drives easily. (Kageyama (2004: 121))

d. accomplishment verbs

(e.g. *cook, write, paint, destroy,* etc.)

The food cooks easily. (Roberts (1987: 196))

There is another condition on canonical middles proposed in the literature which is related to the aspectual condition, namely the affectedness condition. Ackema and Schoorlemmer (2005) define the affectedness condition as in (58).

(58) The logical object / grammatical subject in a middle must be affected by the action expressed by the middle verb.

(Ackema and Schoolemmer (2005: 165))

According to them, given that the subject in a middle must be affected, the

transitive counterpart of a middle verb must have an affected Patient object. They provide the test to distinguish affected objects from non-affected ones, as shown in (59) and (60).

(59) a. What happened to Afghanistan was both the USSR and the US invades it.

b. What the Russians and the Americans did to Afghanistan was *destroy* it.

(60) a. # What happened to the answer was everyone *knew* it.

b. # What he tourists did to the Eiffel Tower was *recognize* it. (Ackema and Schoolemmer (2005: 166))

In (59a, b), *invade* and *destroy* are an activity verb and an accomplishment verb, respectively, and the grammaticality of the examples shows that their object arguments are Patients (affected). In contrast, in (60a, b), *know* and *recognize* are a state verb and an achievement verb, respectively, and the ungrammaticality of the examples shows that their object arguments are not Patients (non-affected). Therefore, the affectedness condition in (58) rules out canonical middles based on state and achievement verbs which take a non-affected object, as illustrated in (61).

(61) a. Defenseless countries *invade* easily. (activity)

b. Defenseless cities *destroy* easily. (accomplishment)

c. *Simple answers *know* easily. (state)

d. *Security staff *recognizes* easily. (achievement)

(Ackema and Schoolemmer (2005: 166))

It should be noticed that this is also what is predicted by the aspectual condition, as we saw in (56) and (57). Therefore, the affectedness condition can be said to be subsumed under the aspectual condition.

2.4. Concluding Remarks

This chapter reviewed the two types of analyses in previous studies of canonical middles in English. They shared the same idea that the suppression or demotion of the implicit external argument correlates with the promotion/externalization of the internal argument in middle formation. Based on this discussion, the remainder of this chapter introduced the main properties of canonical middles in English, which can be summed up as follows.

(62) a. The grammatical subject corresponds to the internal argument, which is responsible for the action expressed by the predicate.

b. The adverbial modification is obligatory, or a modal verb like *will* or *could* must be used to attenuate the need for an adverb.

c. The implicit Agent can be had as an entailment of the lexical meaning of the verb in canonical middles.

d. Middles are generic sentences.

e. Conditions on aspect has been claimed to hold of middle formation.

It should be noted that modality of canonical middles were not discussed in this chapter. Chapter 3 will introduce modality in English as well as the modal interpretation which characterizes canonical middles.

Based on these basic facts of canonical middles, Chapter 3 observes the development of canonical middles in the history of English and attempts to account for their development in terms of the reanalysis of ergatives, where the development of modals played an important role.

Notes to Chapter 2

[1] Another criterion to distinguish between unergatives and unaccusatives in Dutch concerns the behavior of past and present participles as prenominal modifiers. Unergative intransitives can appear prenominally only as a present participle as shown in (i-a), while unaccusatives allow both the present and past participle prenominally as shown in (i-b).

(i) a. de dinerende taalkundigen/ *de gedinneerde taalkundigen
the dining linguists the dined linguists
b. de stervende zwaan/ de gestorven zwaan
the dying swan / the died swan
(Ackema and Schoorlemmer (1994: 62))

It turns out that canonical middles pattern with unergatives not unaccusatives, by allowing the present participle prenominally but resisting the past participle, as shown in (ii).

(ii) a. het makkelijk snijdende/ *gesneden vlees
the easily cutting/ cut meat
b. de lekker lopende / *gelopen schooenen
the nicely walking / walked shoes
(Ackema and Schoorlemmer (1994: 63))

[2] See Schäfer (2006) for the argument that German middles are

unaccusatives rather than unergatives. It is argued there that German middles meet the uaccusativity diagnosis.

[3] According to Keyer and Roeper (1984), for some people canonical middles as in (40) are grammatical, while for others they are not.

[4] As shown in subsection 2.2.1.3, Hoekstra and Roberts (1993) argue that the external argument is not suppressed but realized in [Spec, VP] and hence it seems that canonical middles do not involve the demotion of the external argument in their analysis. On the other hand, they base their analysis on the similarities between the *pro* subject in canonical middles and the *pro* object in null object constructions as in (21), so the status of the *pro* subject in canonical middles is actually ambiguous between the subject and the object. Therefore, the present analysis regards the status of the *pro* subject in their analysis as a kind of demotion of the external argument.

[5] As regards to the Instrument test, Marelj (2004:116) bases her argumentation on the Instrument Generalization in Siloni (2002) that an instrument requires the explicit (syntactic) or implicit (semantic) presence of an Agent in order to be realized syntactically.

Chapter 3

On the Development of Canonical Middles in the History of English

3.1. Outline[1, 2]

This chapter attempts to account for the development of canonical middles in the history of English in terms of the reanalysis of ergatives, in which the development of modals played an important role. The structure of this chapter is shown as follows. Section 3.2 shows that the modality of canonical middles is defined as dynamic power and neutral possibility. Section 3.3 sums up three properties of canonical middles which distinguish them from ergatives: (i) responsibility of the grammatical subject, (ii) genericity, and (iii) modality. Section 3.4 observes the data of canonical middles as well as the changes in the meaning of *will* in the history of English based on the data from *The Oxford English Dictionary* (OED). Section 3.5 provides a syntactic analysis of the development of canonical middles in English. It proposes that the developmental process of

canonical middles can be divided into four stages in terms of the change in the manner of specifying the modal operator in T. Section 3.6 is concluding remarks.

3.2. On the Modal Interpretation of Canonical Middles in English

In this section, based on an introduction to modality in English and the previous studies of modality in canonical middles, a new proposal will be provided that canonical middles in English involve both dynamic power and neural possibility. First of all, subsection 3.2.1 briefly introduces different types of modality based on Palmer (1990), focusing on epistemic modality and root modality which is further sub-divided into deontic modality and dynamic modality. Then, subsection 3.2.2 reviews previous studies of modality in canonical middles, focusing on the analysis in Matsumoto (1996). Subsection 3.2.3 argues that canonical middles involve dynamic power and neutral possibility, both of which belong to dynamic modality.

3.2.1. Modality in English

In this subsection, I briefly introduce modality in English and discuss different types of modality in the literature. It is widely accepted that one of the principal divisions is made between epistemic modality and root modality.[3] The following subsections presents a brief account of the range of interpretations covered by these two types of modality.

3.2.1.1. Epistemic Modality

Most researchers agree that epistemic modality can be defined as expressing the speaker's attitude towards the truth and the degree of authenticity of what is said. Epistemic modality can also be considered "the modality of propositions" in the sense that it modifies the entire proposition, not the act denoted by the main verb (Palmer (1990: 50-51)). For example, in (1a), the speaker's judgment about the possibility of the proposition as a whole is denoted, and not Jane's ability to leave. This is evident in the paraphrase in (1b), in which the proposition is presented in a *that*-clause, and the main clause expresses the speaker's judgment.

(1) a. Jane can be leaving now.

b. <u>It is possible</u> <u>that Jane is leaving now.</u>

According to Palmer (1990), the two basic degrees of possibility and necessity within epistemic modality are marked by *may* and *must*, respectively.[4] Epistemic possibility is indicated by *may*, and it can be paraphrased in terms of "possible that". *May* co-occurs with the propositions of various kinds. Some instances are shown in (2).

(2) a. You may not like the idea of it, but let me explain.

b. I may go up at the end of August.

(Palmer (1990: 52))

May in (2a) refers to the state in the present action, although *may* is more commonly used where there is reference to a single future action like (2b).

On the other hand, epistemic necessity conveys the speaker's confidence in, or certainty of the truth of what he is saying, based on a deduction from facts known to him. Most of the examples of *must* relate to activities in the present, as shown in (3).

(3) a. The odds must be slightly with them in these tight, tense situations.

b. You must find it quite a change being back in London.

(Palmer (1990: 53))

Palmer (1990) also provides examples of epistemic *will* which refer to what it is reasonable to expect. It can be roughly paraphrased by "a reasonable inference is that", as shown in (4).

(4) a. Tell him Professor Cressage is involved—he *will* know Professor Cressage.

b. John *will* be in his office. (Palmer (1990: 57))

Epistemic *will* cannot be paraphrased as "probable", because probability, like certainty, indicates the strength of the speaker's belief, while *will*, like *must*, indicates judgment. The difference between *will* and *must*, is that *will* indicates that the relevant proposition is a reasonable conclusion, while *must* indicates the only possible conclusion.

3.2.1.2. Root Modality

Coates (1995) argues that the distinction between epistemic and root modality lies in the subjectivity of the speaker's commitment to the truth of the proposition. Many linguists, including Coates (1983), take root modality as a covert term for a variety of modality. The definition of root modality adopted in this thesis follows closely on Palmer's (1990) subdivision into deontic and dynamic modality.

3.2.1.2.1. Deontic Modality

Deontic modality is described as performative or discourse-oriented: by using a deontic modal, a speaker may actually give permission (*may, can*), lay an obligation (*must*), or make a promise or threat (*shall*). Deontic modality, like epistemic modality, is discourse-oriented. Unlike epistemic modality, it refers to acts not propositions. According to Palmer (1990), deontic possibility (*may, can*) consists essentially of the giving of permission, as shown in (5).

(5) a. If you want to recall the doctor, you *may* do so.

b. Even though this is my rock you *can* use it sometimes.

(Palmer (1990: 71))

Moreover, deontic necessity can be expressed by *must*, as shown in (6).

(6) a. You must keep everything to yourself, be discreet.

b. The university is saying "These people must be expelled

if they disrupt lectures”. (Palmer (1990: 73))

3.2.1.2.2. Dynamic Modality

Palmer (1990) divides dynamic modality into two subtypes: subject-oriented and neutral possibility. Subject-oriented dynamic modality has to do with the ability of the subject to perform the action stated in the proposition. It is, therefore, the so-called subject-oriented. In this respect, it differs from the discourse-oriented modality which involves both the speaker and the addressee.

(7) a. I feel that ...my destiny’s very much in my control and that I can make or break my life and myself.

b. They can’t speak a word of English, of course, not a word but, you know, they can say that they like.

(Palmer (1990: 85))

More importantly, subject orientation is not restricted to indicating the ability of the animate subject, it can also express that the relevant inanimate subject has the necessary qualities or power to cause the event to take place. This is the case when the sentence has an inanimate subject, as shown in (8).

(8) a. Religion can summate, epitomize, relate, and conserve all highest ideals and values. (ibid.)

b. Oil will float on water.

In (8), *can* and *will* imply positive qualities of religions and the positive property of oil, respectively. Palmer refers to this type of modality as dynamic power in order to distinguish it from dynamic ability which is illustrated in (7).

For the moment, let us go on to discuss another type of dynamic modality—neutral possibility. Neutral possibility *can* indicates that the relevant event is possible. Consider the following examples in (9).

(9) a. Signs are the only things you can observe.

b. Who knows? It can go either way. (Palmer (1990:82))

The neutral sense can also be captured in the passives, as shown in (10).

(10) a. I've spotted ...a solecism, but it can easily be rubbed out.

b. Well, I will see what can be done and give you a ring.

(Palmer (1990: 84))

Both (9) and (10) indicates that they represent judgments about the degree or extent that an event is possible.

To conclude this subsection, Table 1 sums up the subdivision of different types of modality discussed in this subsection.

Table 1. The Subdivision of English Modality

<table>
<tr><th colspan="2"></th><th>properties</th><th colspan="2">subdivision</th></tr>
<tr><td colspan="2" rowspan="3">epistemic</td><td rowspan="3">to refer to propositions;
to express speaker's attitude;
discourse-oriented</td><td colspan="2">epistemic possibility (may, can)</td></tr>
<tr><td colspan="2">epistemic necessity (must)</td></tr>
<tr><td colspan="2">epistemic will
(to refer to a reasonable inference)</td></tr>
<tr><td rowspan="5">root</td><td rowspan="3">deontic</td><td rowspan="3">to refer to acts;
concerned with duties, obligations, permissions;
discourse-oriented</td><td colspan="2">deontic possibility (may, can)</td></tr>
<tr><td colspan="2">deontic necessity (must)</td></tr>
<tr><td colspan="2">volition (won't)</td></tr>
<tr><td rowspan="3">dynamic</td><td rowspan="3">objective;
concerned with the ability or volition of the subject; not discourse-oriented</td><td rowspan="2">subject-oriented</td><td>dynamic ability (animate-subject)</td></tr>
<tr><td>dynamic power (inanimate subject)</td></tr>
<tr><td colspan="2">neutral possibility</td></tr>
</table>

Bear these different types of modality in English in mind, and let us review previous studies of modality in canonical middles in the next subsection. As will be shown in the following subsections, canonical middles in English involve dynamic power and neutral possibility, both of which belong to dynamic modality (see Table 1).

3.2.2. Previous Studies of the Modal Interpretation in Canonical Middles

It has been argued that canonical middles imply a modal meaning (Fellbaum (1985), Massam (1992), Iwata (1999)). Massam (1992: 122) posits that middles contain a phonologically null modal operator in T, represented as *Op* in (11), yielding the interpretation of easiness, difficulty, likelihood or possibility of the event. Precisely speaking, this modal operator is specified by either a modal or an adverb: the case of the modal involves direct merger of a modal in T position as shown in (11a), and the case of the adverbial modification involves LF movement of an adverb to T as shown in (11b).

(11) a. $[_{TP}$ NP $[_{T}$ Modal $_{(}$*Op)*$]$ $[_{VP}$ V……$]]$

b. $[_{TP}$ NP $[_{T}$*Op*$]$ $[[_{VP}$ ADV $[_{VP}$ V……$]]]$

Massam (1992) assumes that this modal operator is in essence equivalent to the modal "*can*" (see Massam (1992: 124) and Fagan (1992: 54)).

Besides, Fagan suggests that the middle sentence in (12a) can be paraphrased as in (12b).

(12) a. [About a kind of siding:] It nails easily. It cuts easily.

b. It can be nailed easily. It can be cut easily.

(Fagan (1992: 54))

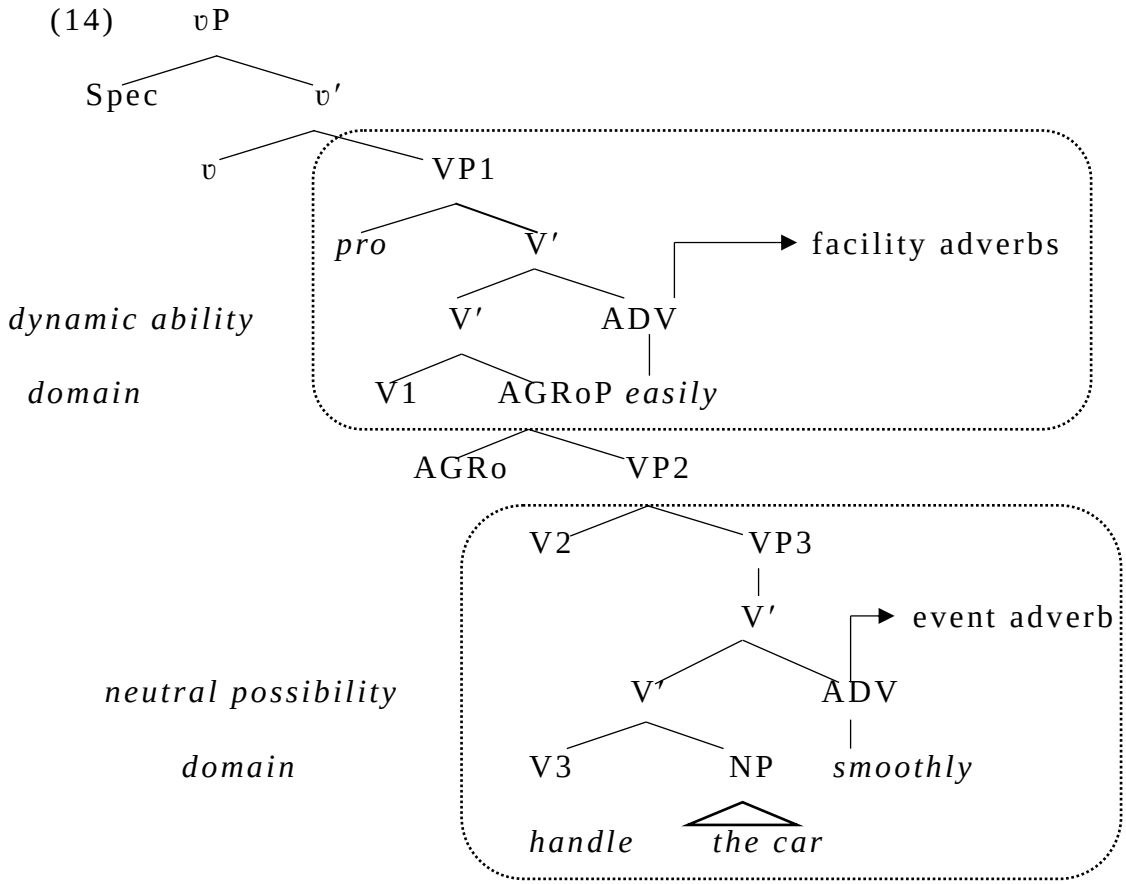
As shown in (12b), a middle can be paraphrased as a corresponding passive with a modal verb like *can*. She also proposes a semantic rule of the middle verb that is applied in the lexicon, as shown in (13).

(13) Semantics: 'be able to be X-ed' (Fagan (1992: 194))

However, it seems to me that Massam (1992) and Fagan (1992) provide no other evidence to illustrate the modal interpretation in the canonical middle than the paraphrase in (13) which contains *can* followed by a passive verb.

The reminder of this subsection reviews Matsumoto's (1996) analysis and points out its theoretical and empirical problems. Different from the above analyses, Matsumoto (1996) relates modality of canonical middles to the obligatory requirement of adverbs. First of all, as has been discussed in chapter 2, canonical middles obligatorily require an adverb, and it always appears at the end of the sentence. Following Fellbaum (1985), Matsumoto argues that only two types of adverbs can appear in canonical middles: facility adverbs and event adverbs. In syntactic terms, facility adverbs and event adverbs are related with the implicit Agent and the grammatical subject, respectively. Based on the Revised Extended IP hypothesis by Fujita (1994) and Matsumoto and Fujita (1995), she proposes the corresponding syntactic position of both facility adverbs and event adverbs, as shown in (14).[5]

(14)



(Matsumoto (1993: 53))

In (14), the facility adverb like *easily* refers to the degree of facility and/or speed with which any Agent can perform the action expressed in the sentence (see also Fellbaum (1985)), and hence it is adjoined within VP1 domain to license the implicit Agent which appears as a *pro* in [Spec, VP1]. On the other hand, the event adverb like *smoothly* refers to the state or properties of the Patient during or after the action, so it is adjoined with VP3 domain.

Then, based on Brennan (1993) and Krazter (1991), Matsumoto argues that these two types of adverbs play a role similar to modal verbs and proposes a generalization as shown in (15).[6]

(15) Modality is licensed by a modal expression or by a modal-related expression.

(Matsumoto (1996), with a sight modification)

The modal expression in (15) refers to the modal verb like *could* or *will* in (16). The modal-related expression refers to the adverbs such as *easily* or *smoothly* shown in (14).

(16) a. This book **could** sell.

b. The bureaucrats **will** bribe. (Matsumoto (1996: 57))

According to her, when there is a modal verb in canonical middles as shown in (16), the modal verb itself contributes to the modal interpretation, and thus the adverb is not required. Then, she follows Roberts (1987) in arguing that middles like (16) have epistemic modality.

According to Matsumoto (1996), different types of canonical middles will have different modal interpretations: epistemic modality in adjunctless canonical middles in (16), (subject-oriented) dynamic ability in canonical middles with facility adverbs, and neutral possibility in canonical middles with event adverbs as illustrated in (14). However, she does not tell us why middles which have the same syntactic structure involves different middle interpretation. First, let us discuss adjunctless middles as shown in (16). As mentioned above, according to Matsumoto, such type of canonical middles are taken to be interpreted as having epistemic modality, as these modal verbs by themselves are epistemic modals. However, she

does not give further evidence for why these modal verbs are essentially epistemic modals. To make it worse, the discussions in subsection 3.2.1 have shown that epistemic modality modifies the proposition which has nothing to do with one's ability. However, as shown in (14), Matsumoto assumes that there is always an implicit Agent in [Spec, VP1] in canonical middles. It yields a contradictory result that canonical middles have epistemic modality on the one hand and have an implicit Agent in the syntactic structure which leads to ability interpretation on the other hand.

Moreover, according to her analysis, canonical middles with facility adverbs and canonical middles with event adverbs are proposed to have different modal interpretations. As facility adverbs are related to the implicit Agent in the subject position of VP1, the modality by the facility adverb, a V1 adjunct, corresponds to dynamic ability, as shown in (14). However, the modality by the event adverb in canonical middles corresponds to the neutral possibility modality, in which there is a slight *ability* reading for the implicit Agent. Therefore, the case of canonical middles with event adverbs involves the same problem as adjuntless canonical middles as in (16): why canonical middles with event adverbs, which have an obligatory implicit Agent in the syntactic structure, have no ability interpretation? [7]

3.2.3. A New Analysis

Based on the discussions of modality in English and previous studies of modality in canonical middles in the last two subsections, subsection 3.2.3.1 will first try to provide arguments against the epistemic

modal nature and dynamic ability modal nature of canonical middles.[8] Then subsection 3.2.3.2 will propose that canonical middles involve both dynamic power and neutral possibility.

3.2.3.1. Arguments against Epistemic Modality and Dynamic Ability in Canonical Middles

Canonical middles are defined as an ascription of an inherent property to the grammatical subject which causes the event to happen (Lekakou (2005) and Ackema and Schoorlemmer (2005) among others). Therefore, the modal interpretation in canonical middles must be closely related to their grammatical subject. However, this fact has been neglected in previous studies of modality in canonical middles.

The following discussions will show that neither epistemic modality nor dynamic ability is related to the properties of the grammatical subject of canonical middles. The present analysis is quite different from Roberts (1985, 1987) who firmly argues that canonical middles involve epistemic modality by showing that canonical middles don't have the implicit Agent and hence don't have dynamic ability, as shown in (17) and (18).

(17) a. John **can** (ability) read Arabic.

b. John deliberately read the forbidden text.

(18) a. *Arabic **can** (ability) read easily.

b. *The forbidden text deliberately reads easily.

(Roberts (1985: 50))

According to Roberts (1985), modals like *can* in (17a) and (18a) are essentially analogous to Agent-oriented adverbs like *deliberately*. As shown in (17), the modal *can* and the Agent-oriented adverb *deliberately* are compatible with the transitive *read*. In contrast, they are ungrammatical with the middle *read* as shown in (18). The contrast between these examples illustrates the incompatibility of dynamic ability with canonical middles, and this is captured by assuming that both the modals like *can* and Agent-oriented adverbs as shown in (17, 18) require the presence of an Agent argument in the clause they modify.

However, the argumentation that canonical middles do not involve dynamic ability as shown above does not mean that they involve epistemic modality. As pointed in Heyvaert (2003), examples as shown in (19) indicate that canonical middles do not involve epistemic modality.

(19) a. Possibly/Probably, this book reads easily.

b. It is possible that this book reads easily.

(Heyvaert (2003: 138))

Here, adverbs like *possibly/probably/it is possible that* which are related to epistemic modality are added to the middle sentence. The meaning of the middle deviates from that of the canonical middle without these adverbs like *This book reads easily*: the epistemic modality that is expressed by such adverbs as in (19) involves the speaker's subjective comment on the possibility of the process, which is, in essence, different from the objective

modality that is related to the inherent properties of the grammatical subject. This indicates that canonical middles don't involve epistemic modality in themselves.

Secondly, it appears that not all canonical middles realize dynamic ability. This viewpoint is quite different from Massam (1992) and Fagan (1992) mentioned above. It is problematic in that they draw the conclusion, only based on the possibility of paraphrasing of middles by passives. Actually, some marginal canonical middles listed in Keyser and Roeper (1984) are not related to passive pharaphsing, as shown in (20).

(20) Plants die easily in the shade.

(Keyser and Roeper (1984:384))

It is natural to assume that the middle verb *die* in (20) has its origin in the unaccusative verb *die*, which does not have the external argument at all. This fact shows that canonical middles cannot be systematically related to passive paraphrasing, so that we cannot conclude that canonical middles imply the modality of subject-oriented dynamic ability.

Besides, as indicated in Heyvaert (2003), passives involving a modal *can* also fail to shed light on the constructional link which middles establish between a non-agentive grammatical subject and an active finite verb. The modality of ability foregrounds the Agent of the process: as a rule, the modality of ability is related and intrinsic to the Actor (Halliday (1970: 339)). This can be illustrated by the contrast of the examples of an active as shown in (21a), a passive as shown in (21b), and a canonical

middle as shown in (21c).

(21) a. Jones can drive.

b. Any problem can be solved by John.

(Heyvaert (2003: 139))

c. The problem could solve.

In the active sentence as shown in (21a), *Jones* is identified as the one who has the ability to drive. In the passive sentence, the relation of ability is between the implied Agent or the Agent in *by*-phrase and the process, rather than the grammatical subject and the process, so in (21b), it is not the *any problem* that is characterized as having the ability to solve, but the implicit Agent *John*. In contrast, canonical middles like (21c) are different from the active and the passive counterpart in (21a, b) in that it is *the problem* that is characterized as having a kind of property which makes it easy to solve. However, this kind of "ability" of the grammatical subject in canonical middles is quite different from the modality of ability in (21a, b).

3.2.3.2. On Dynamic Power and Neutral Possibility in Canonical Middles

As discussed in the previous subsection, canonical middles have neither epistemic modality nor dynamic ability. In this subsection, I argue that canonical middles involve both dynamic power and neutral possibility.

First, middles involve dynamic power because the entity of the grammatical subject has the necessary qualities or power to cause the event to take place, which is in accordance with the definition of dynamic power

in Palmer (1990), as shown in subsection 3.2.1.2.2. It directly accounts for the fact that middles are defined as an ascription of an inherent property to the grammatical subject.

Besides, it also accounts for the fact that event adverbs like *smoothly* can appear in canonical middles: as event adverbs describe the properties or state of the grammatical subject during or after the action, they contribute to the modality of dynamic power.

Moreover, canonical middles involve neutral possibility, indicating the degree or extent that an action is possible. It accounts for the fact that facility adverbs can appear in canonical middles: facility adverbs like *easily, quickly* contribute to the easiness, likelihood or possibility of the action which is the reflex of neutral possibility. This argumentation will be further supported by a diachronic study of canonical middles in the following subsections.

On the other hand, as shown in section 3.1, this chapter argues that canonical middles emerged via the reanalysis of ergatives, where the development of modals played an important role. Therefore, section 3.3 will go on to discuss the relation between canonical middles and ergatives, which will serve as a diagnosis for distinguishing between them in early English in what follows.

3.3. On Canonical Middles and Ergatives

This section aims to point out the similarities and differences between canonical middles and ergatives. Let us start by discussing some similarities between them in the Present-day English.

3.3.1. The Similarities between Canonical Middles and Ergatives

Although many comparative studies between canonical middles and ergatives have been conducted, Keyser and Roeper (1984) is the most illuminate one among others. They argue that the ergative–middle contrast is apparently obscure to many native speakers of English. This may be due to the fact that many verbs fall into both categories, as shown in (22).

(22) a. The door *opens* easily.

b. The car *moves* easily.

c. The bottle *breaks* easily.

d. The clothes *hang* easily.

(Keyser and Roeper (1984: 383))

Verbs such as *open*, *move*, *break* and *hang* which appear in middles in (22) are typical ergative verbs.

Moreover, those who try to adopt canonical middles close to ergative one-participant structures like Hale and Keyser (1987), Heyvaert (2003: 139) among others argue that middles allow for the addition of an "event of causation"(Hale and Keyser (1987)), which is generally assumed to be characteristic of ergative one-participant structures in (23).

(23) a. The boat sank. ⟷ A torpedo sank the boat.

b. This pan cleans easily. ⟷ You clean this pan.

(Heyvaert (2003: 126))

As shown in (23a), the ergative verb like *sink* can undergo causative alternation: in their transitive use, the verb *sink* can have a causative meaning. Similarly, as shown in (23b), the middle verb *clean* can also undergo causative alternation.

Next, like ergatives, middles are believed to focus on the participant which is central to the event depicted by the clause and in which a change of some sort manifests itself (Hale and Keyser (1987: 6)). In ergatives, this change is presented as being effected autonomously or without the participation of an external Agent. Similarly, in middles, as stated in Lakoff (1977) and Fellbaum (1985), the Patient/Theme obviate the Agent's responsibility for the action.

3.3.2. The Differences between Canonical Middles and Ergatives

Before considering the development of canonical middles, let us consider some differences between canonical middles and ergatives in Present-day English, which will serve as a diagnosis for distinguishing between the two in early English. First, it has been observed that middles attribute an inherent property to the grammatical subject which facilitates or hinders the event denoted by the verb (Oosten (1986), Zwart (1998)). Therefore, the grammatical subject of middles must have some properties such that it can be understood to be responsible for the event denoted by the verb. However, the grammatical subject of ergatives doesn't necessarily have certain properties which are held to be responsible for the event denoted by the verb, as can be illustrated in (24).

(24) a. This book reads easily.

b. The window broke.

The middle sentence in (24a) describes an inherent property of the grammatical subject *this book* which facilitates the reading event: *this book* is well-written and hence is easy to understand. On the other hand, the ergative sentence in (24b) does not describe an inherent property of the grammatical subject *the window*. It just indicates that the breaking event occurred spontaneously.

Second, it is widely accepted that middles are generic statements. Middles do not denote a particular event in time, as shown in (25a). This is not the case with ergatives, which are acceptable as a statement of a particular event in time, as shown in (25b).

(25) a. ?At yesterday's house party, the kitchen wall painted easily.

b. At yesterday's house party, the kitchen door opened.

(Keyser and Roeper (1984: 384))

The genericity of middles is also manifested in their incompatibility with progressive aspect, in sharp contrast with ergatives, as shown in (26).

(26) a. *Bureaucrats are bribing easily.

b. The boat is sinking. (ibid.)

Middles are thus non-eventive/generic.

Here taking account into the fact that canonical middles without adverbial modification are also possible (Roberts (1987), Fellbaum (1985) and Massam (1992) among others), though it is usually obligatory in a majority of cases, I propose classifying canonical middles into two types, as shown in (27) and (28).[9]

(27) Type I middles

a. These novels read *(**easily**).

b. These novels read *(**like mysteries**).

(28) Type II middles

a. Dirt will/could rub off when it is dry.

b. —Do you think this material **will** make up into a nice-looking dresses?

—Yes, it **must/should/might** make up into a really stunning gown. (Dixon (1991: 326))

Type I middles involve a facility adverb like *easily* in (27a), or an event adverb like *like mysteries* in (27b), without which the sentences would become ungrammatical. In contrast, Type II middles are grammatical without an adverb, but they must be accompanied by a modal like *will*, *could* or *might*, as shown in (28a, b). As discussed in Matsumoto (1996), adverbs in canonical middles function as modal-related expressions (see

(15)). Therefore, the third property defining canonical middles should allow for modality, not be restricted only to adverbial modification: this will also be crucial in analyzing the historical development of canonical middles in English.

To conclude this subsection, the properties of canonical middles which distinguish them from ergatives are: (i) responsibility of the grammatical subject, (ii) genericity, and (iii) modality. As will be shown in section 3.5, the three properties of middles mentioned above can be provided a syntactic account: (i) and (ii) are attributed to middle Voice head, and (iii) is attributed to T position, which work together for the middle interpretation.

Next section will clarify the development of canonical middles in English based on the data from OED.

3.4. The Historical Data of Canonical Middles

In this section, before showing the data of canonical middles in OED, let us first review the historical data of canonical middles in Visser (1963-1973), pointing out some problems in it. Then section 3.4.2 will present the result of a historical survey of canonical middles and the changes of the meaning of *will* based on the data from OED.

3.4.1. The Historical Data of Middles in Visser (1963-1973)

Visser (1963-1973) describes middle verbs as intransitive verbs used to represent a quasi-automatic or self-originated action, and they are divided into the following three kinds as shown in Table 2.[10]

Table 2. The Three Kinds of Middles in Visser (1963-1973)

I	Those in which the verb is accompanied by adverbs like *well, easily, smoothly, heavily,* etc. *e.g.* Persons of advanced age, of settled habits...do not 'transplant well'.
II	Those which contain the verb without further quantifications. *e.g.* The scandal... which I thought must certainly originates from Mr. Selby.
III[11]	Those in which the verb functions as a kind of quasi-copula like *taste, feel, smell, touch, eat, drink, etc.* *e.g.* The milk tastes sour.

The first kind corresponds to Type I middles defined in (27). According to Visser, there were no instances of this kind in Old and Middle English and it was first attested in the 16th century. He lists 31 verbs used in this kind, as shown in Table 3.

Table 3. Verbs in Middles Accompanied by Adverbs

Period	Occurrence	Examples
16th C	1	*tell*
17th C	4	*peel, pull, steer, vend*
18th C	6	*polish, read, spoil, tear, thresh, wear*
19th C	16	*compose, fuse, let, load, make up, milk, paint, photograph, plough, sing, smoke, subscribe, translate, transplant, wrap, write*
20th C	4	*open, scare, shock, tire*

(cf. Visser (1963: 168))

As for the second kind, it might appear to correspond to Type II middles defined in (28). According to Visser, instances of this kind were already found in Old English. However, as noted in Simargool (2005:65-67), a brief examination of the relevant instances cited will reveal that most of them are not canonical middles, and all the alleged instances of canonical middles before Modern English are in fact ergatives. Some examples from Old English are given in (29).[12]

(29) OE

a. He þa leohtfatu onælde hy burnon.

he while lanterns lit they burn

"When he lit the lanterns, they burned."

(Wærferth, Gregory's dialogue) (Visser (1963: 155))

b. Buyrgenu openodon mid deadum banum

graves opened together with dead bones

“Graves opened together with dead bones.”

(Ælfric Hom.) (ibid.)

c. þone dæg and hiht scade.

the day and night separate

“Day and night separate.”

(Lchdm.ii,116, 19) (ibid.)

The sentences in (29a, b) actually instantiate ergatives, because it is clear that they are eventive not generic, because they denote a spontaneous event: the lanterns burnt by themselves in (29a) and the graves opened by themselves in (29b). In addition, neither of them necessarily attributes an inherent property to the grammatical subject. The sentence in (29c) is not a middle, either: though it is generic, it does not attribute an inherent property to the grammatical subject *day and night*. The same is true of most of the examples from Middle and Modern English, as shown in (30) and (31). They do not attribute an inherent property to the grammatical subject, and are not generic but eventive.

(30) ME

a. þat te blod wrang ut at tine finger.

“That the blood wrang out at your finger.”

(a1240 Wohunge, in O.E. Hom. 1, 281)

b. Salt or any other manere vitaill that dischargith by lighter, bote, or any other vessel.

"Salt or any other manor food that discharge by lighter, boat or any other vessel."

(1464 Letter-Bks. Archives Corpor. City London 46)

(Visser (1963: 155))

(31) ModE

a. That part of the circulate which repeats is called the repetend. (1796 Hutton,Math. Dict. I,296/I)

b. The snow preserveth all the whole sommer in hys accustomed nature and coldness without melting.

(1585 T. Washington,tr. Nich.Voy.III,I,69b)

(Visser (1963: 155-157))

On the other hand, it should be noticed that there are some instances of the second kind from Modern English which are ambiguous between the ergative reading and the middle reading, as shown in (32).

(32) ...Satten of Bruges wyll soyle (soil) anone. (1530 sgr. 724/2)

(Visser (1963: 158))

a. ergative reading:

Satten of bruges will soil by themselves at once.

b. middle reading:

Satten of bruges has a property which makes the soiling event possible.

This sentence contains the adverb *anone* 'at once', which makes it more like an ergative. As shown in (32a), the ergative reading refers to a spontaneous soiling event, with the modal *will* merely as a futurity indicator. In contrast, in its middle reading shown in (32b), the sentence attributes an inherent property to the grammatical subject, where *will* has a modal interpretation of potentiality/ possibility.

3.4.2. The Historical Data of Canonical Middles from OED[13, 14]

Section 3.4.1 pointed out that all the relevant instances in Old and Middle English involve ergatives and some instances of canonical middles in Old and Middle English in Visser (1963-1973) involve ergatives and some instances like (32) in Modern English are ambiguous between the ergative reading and the middle reading. In order to clarify the whole path of the development of canonical middles, it is necessary to conduct a historical survey, paying attention to the distinction between ergatives and canonical middles. This subsection will first focus on the historical development of the two types of middles as shown in (27) and (28). The developmental process will be divided into four stages. Moreover, as is well known, the modal such as *will* which can appear in canonical middles derives from the verb *willan* in OE with meaning of *want*. Therefore, I will also observe the changes in the meaning of *will* in history of English in

OED in this subsection.

I have collected the data of canonical middles from OED on CD-ROM (Version 4.0) by utilizing its quotation search function. The data (338 tokens in total) cover the period from 1400 to 1950, and their distribution is shown in Table 4. Besides, Figure 1 summarizes the change in frequency of the occurrence of canonical middles in OED quotations normalized 100,000 quotations, divided in 50-year periods.

Table 4. The Distribution of Canonical Middles from 1400 to 1950[14]

Century	15 C	16 C	17 C	18 C	19 C	20 C
Total(338)	0	6	51	53	166	62

Figure 1. The Change in Frequency of Canonical Middles in OED Quotations (Frequency (per 100,000 quotations))

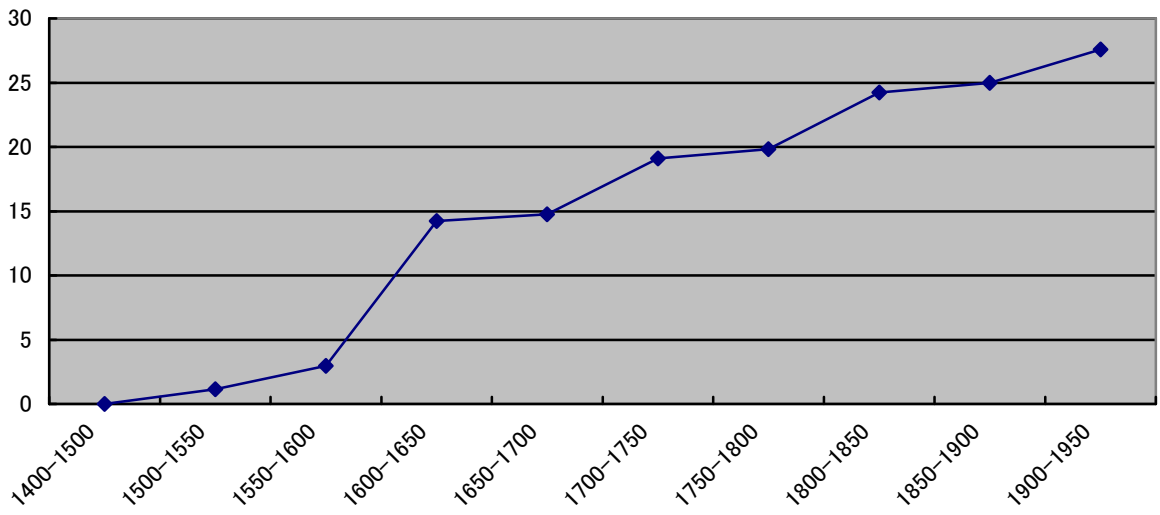


Table 4 and Figure 1 show that canonical middles emerged in the 16th

century and the number increased thereafter. Note that of these 338 tokens of canonical middles, there are 293 tokens of Type I middles as shown in (27) and Type II middles as shown in (28).[16] The result is summarized in Table 5, which represents the number of their tokens and the percentages of each type.

Table 5. The Distribution of Type I and Type II middles in the History of English

	16C	17C	18C	19C	1901-1950
Type I	0	15(35%)	27(55%)	83(54%)	25(61%)
Type II	6(100%)	28(65%)	22(45%)	71(46%)	16(39%)

Based on this result, I propose that the development of canonical middles in the history of English can be divided into four stages, as shown in Table 6.

Table 6. The Four Stages in the Developmental Process of Canonical Middles

	Time	The Type of Middles
Stage I	1500–1600	Type II
Stage II	1600–1650	Type II (with an adverb)
Stage III	1650–1700	Type I (with a facility adverb)
Stage IV	1700–	Type I (with an event adverb)

Now I begin to account for why the developmental process of canonical middles is divided into four stages. First of all, in Stage I (16C), all the instances involve the modal verb *will*, so that they belong to Type II middles. The examples of canonical middles in Stage I are shown in (33).

(33) a. your white Canuas doublet **will** sulley (sully).
(1596 Shakes. 1 Hen. IV, ii. iv. 84)

b. My clayth **will** nocht stenȝie (stain).
(1568 Sat. Poems Reform. xlviii. 15)

c. I finde it nowe for a setled truth·· that the purple dye **will** neuer staine. (1579 Lyly Euphues (Arb.) 82)

d. I love to weare satten of Bruges, but it **wyll** soyle (soil) anone. (1530 sgr. 724/2)

Note that all the canonical middles in this period are Type II which carry the modal *will*. Moreover, this fact indicates that Type II middles appeared earlier than Type I middles.

Stage II covers the first half of the 17th century. Type II middles appeared in combination with a facility adverb, as shown in (34).[17]

(34) a. Grapes·· it is reported·· **will** keep **better** in a vessel half full of wine, so that the grapes touch not the wine. (1626 Bacon Sylva §627)

b. Is't a Cleare businesse? **Will** it mannage **well**? My name must not be vs'd else.

(1625 B. Jonson Staple of News iv. i,)

c. The Yards **may** slip vp and downe **easily** vpon the Masts.

(1627 Capt. Smith Seaman's Gram. v. 20)

Besides, it is also found that an event adverb also cooccurs with Type II middles in this stage, as shown in (35).

(35) a. A kind of steel...which **would polish almost as white and bright as silver**. (1626 BACON Sylva item 849)

b. The Dromidory·· **will ride aboue 80 miles** in the day.

(1632 Lithgow Trav. vi. 298)

c. Before you paste your Paper on the form, first Tallow him, so **will the Canvas and Paper slip off without starting or tearing**.

(1669 Sturmy Mariner's Mag. v. xii. 63)

Stage III covers the second half of the 17th century, when a few examples of Type I appeared. Notice that all the Type I middles emerged in this stage carry a facility adverb, as shown in (36).

(36) a. There is no **Merchandize** in this Ware-House which **sels better, then certain Fans.**

(1656 Earl of M. tr. Boccalini's Advts fr. P. i. i. 4)

b. When the Shank of a Letter has a proper Thickness, Founders say. **It rubs well.**

(1683MOXON *Mech. Exerc. Printing* xxiv. 389)

c. Being washed three or four times, **it bites or eats not, but dries quickly.**

(1677 Moxon Mech. Exerc. 242)

Stage IV is from the 18th century to the present, when Type II with an event adverb emerged, as shown in (37).

(37) a. If they handle **moist or clammy**, when you squeeze them they are fit to bag.

(1727 Bradley Fam. Dict. s.v. Hop-garden)

b. ...many red Flowers cut **like Honeysuckle**.

(1729 in Dampier's Voy. (ed. 3) III. 452)

c. (The horse) ...Rides **with her Tongue out of her mouth.**

(1714 Ibid. No. 5195/4)

Moreover, as we saw just now, canonical middles in their earliest stage are all Type II middles with the modal verb *will*. Actually the modal *will* itself underwent some dramatic changes over time, and I summarize them as follows. OE *will*, the origin of Present-day English *will*, used to mean “want, wish for”. Apart from this meaning, *will* also expresses at some stage of its development of the following meaning: “intend”, “future expressing of volition or intention” and “potentiality, capability”. Examples for each meaning are illustrated as in (38), and their chronological order is shown in Figure 2.

(38) a. ‘want; wish for”

It is euydent thei wil no wyues.

“It is evident they want no wives.”

(1545 Brinklow Compl. xxiv. (1874) 70)

b. “intend”

He...examines the dinner-card...; point..to the dishes which he will have served.

(1862 Thackeray Philip iii)

c. “future expressing of volition or intention”

Never fear it...I will speak to Joseph about it.

(1777 C. Reeve Champion of Virtue 55)

d. mere futurity (in 3rd person)

The sooner begun, the sooner over; for come it will.

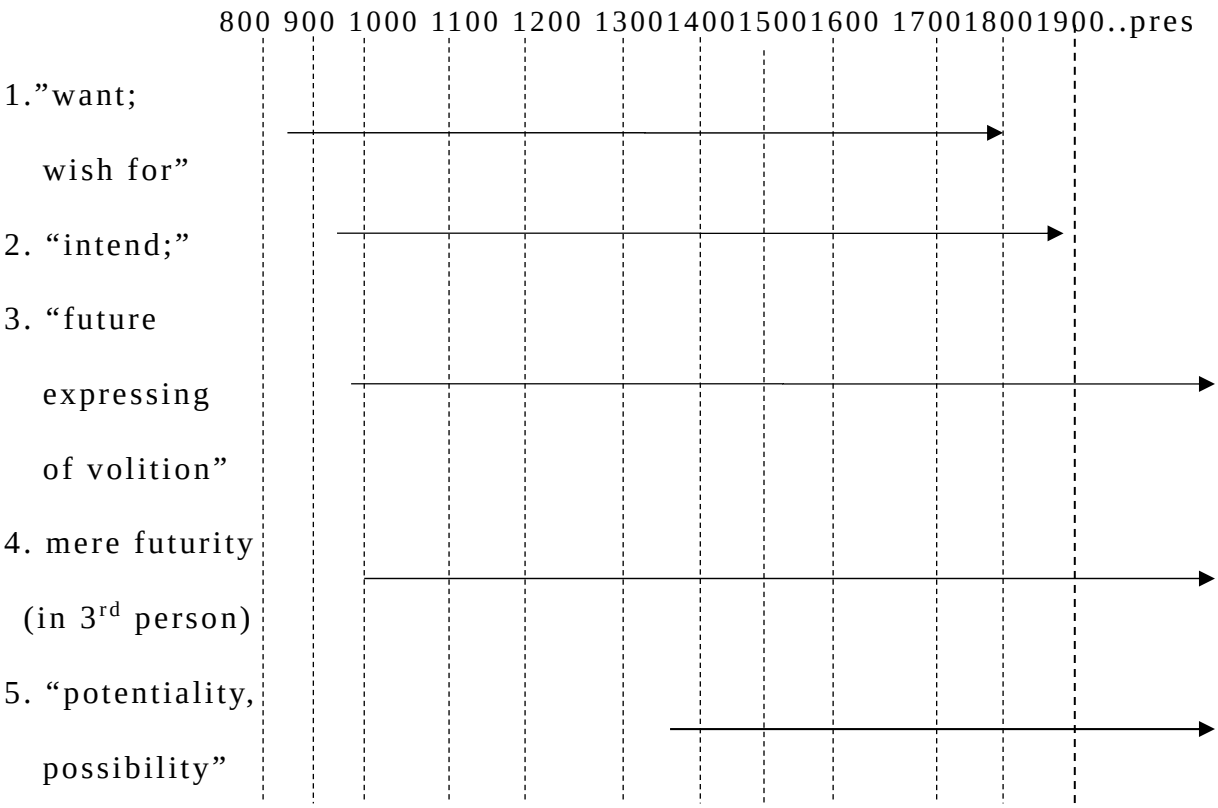
(1872 Hardy Under Greenw. Tree ii. iii)

e. “potentiality, capability”

The heart will beat after removal from the body.

(1833 N. Arnott Physics (ed. 5) I. 597)

Figure 2. The Changes in the meaning of *will*



As shown in Figure 2, *will* originally functioned as a main verb which means *want* or *wish for*, and it emerged from the 9th century and gradually disappeared in the18th century. It is worthwhile to mention that the use of *will* as an expression of pure futurity in the 3rd person emerged in the 11th century. Moreover, the modal interpretation, which corresponds to modal verbs like *can* or *may* and indicates a kind of potentiality/possibility emerged in the second half of the 14th century.

3.5. A Syntactic Analysis of the Development of Canonical Middles

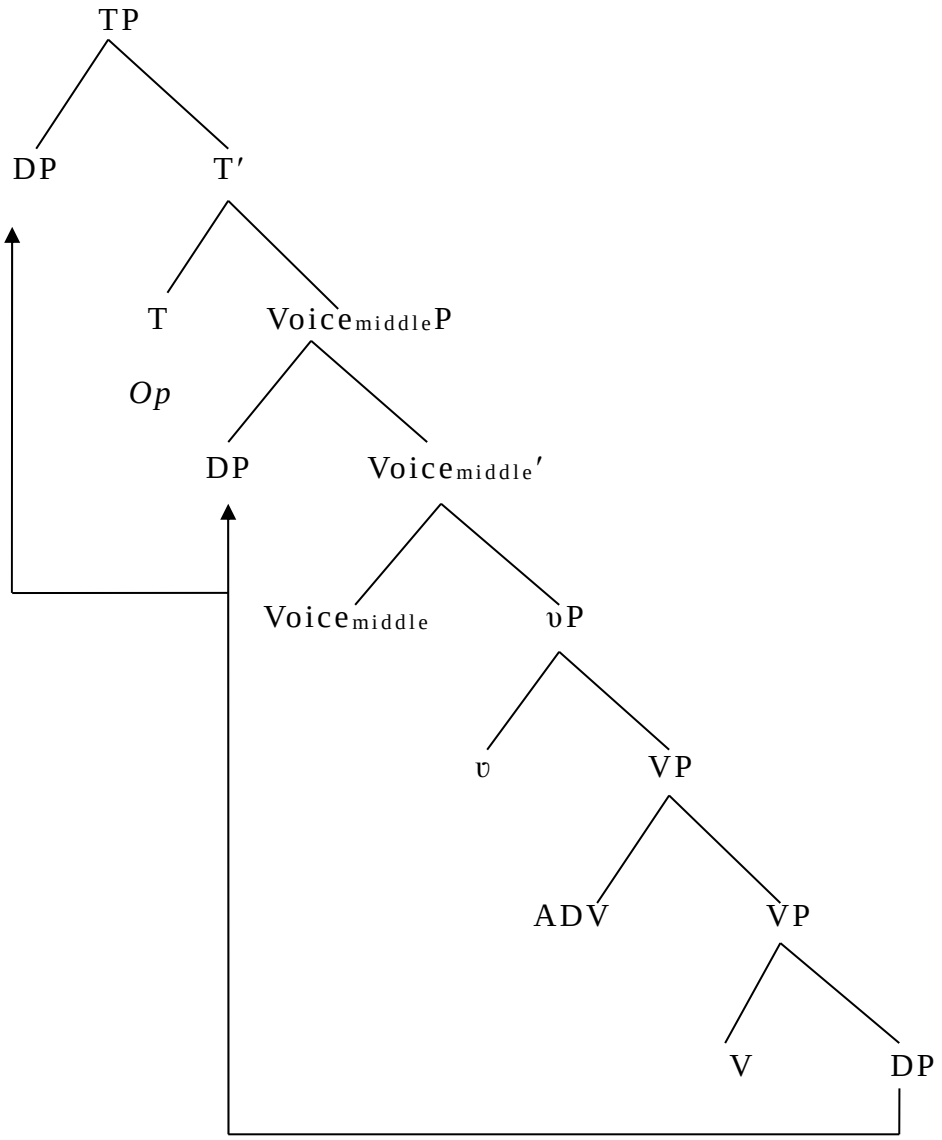
This section provides a syntactic analysis of the development of canonical middles revealed by the investigation in section 3.4, in terms of the reanalysis of ergatives as canonical middles. It is argued that the

development of modals played an important role in triggering the relevant reanalysis. Subsection 3.5.1 will present the syntactic structure of canonical middles in Present-day English. Subsection 3.5.2 will analyze the emergence and development of canonical middles in terms of reanalysis of ergatives. Section 3.5.3 will describe the four stages of the developmental process of canonical middles in terms of the change in the manner of specifying the modal operator in T.

3.5.1. The Structure of Canonical Middles in Present-day English

This subsection proposes an analysis of canonical middles in Present-day English, to provide a basis for analyzing their historical development in subsection 3.5.2 and subsection 3.5.3. As we saw in subsection 3.3.2, the properties of middles which distinguish them from ergatives are (i) responsibility of the grammatical subject, (ii) genericity, and (iii) modality. This thesis argues with Alexiadou (2012, 2013) that these properties are captured in syntactic terms, proposing the following structure of canonical middles in Present-day English.[18]

(39)



According to Alexiadou, Voice$_{middle}$P is projected in Greek middles whose head hosts the non-active imperfective morpheme which is responsible for genericity (see also Lekakou (2005)). Moreover, she argues that the Patient/Theme DP must appear in [Spec, VoiceP] for the subject-oriented interpretation of middles, which corresponds to the responsibility of the grammatical subject in the terminology of this thesis. Following Alexiadou (2013), this thesis assumes that Voice$_{middle}$ is also present in canonical middles in English, because they are generic on a par

with Greek middles.

Next, following Massam (1992), this thesis assumes that canonical middles have a null modal operator in T, represented as *Op*, to be specified either by a modal or an adverb, which yields the modal interpretation of possibility/potentiality in middles. Following her analysis, let us assume that the case of the modal in Type II middles involves direct merger of a modal in T position as shown in (11a), and the case of adverbial modification in Type I middles involves LF movement of an adverb to T as shown in (11b), repeated as (40a, b).

(40) a. $[_{TP}$ NP $[_{T}$ Modal $_{(}$*Op)*] $[_{VP}$ V……]]]

b. $[_{TP}$ NP $[_{T}$*Op*] $[[_{VP}$ ADV $[_{VP}$ V……]]]

If this is correct, there will be two modes of specifying the modal operator: direct merger of a modal in T and covert movement of an adverb to T. As will be seen in the next subsection, the development of canonical middles in English can be best characterized as the extension in the manner of specifying the modal operator from the direct merge of a modal to the covert movement of an adverb.

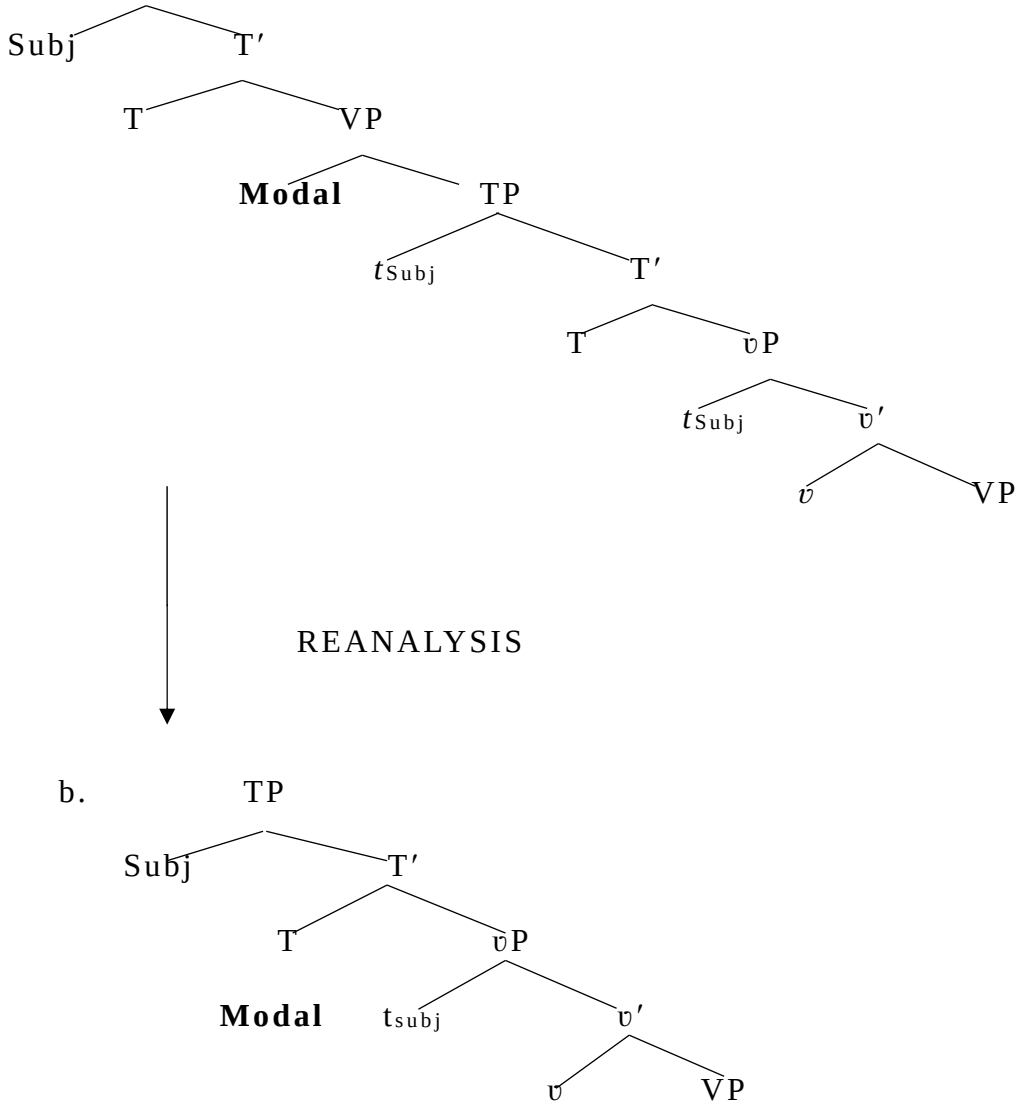
3.5.2. The Reanalysis of Ergatives as Canonical Middles and Its Triggering Factors

This subsection argues that there are two factors triggering the development of canonical middles, both related to the development of

modals: the meaning change of *will* and, more importantly, the reanalysis of modals as T elements. First, as we saw in subsection 3.4.2, the earliest instances of canonical middles involve the modal *will* which has the modal meaning of possibility/potentiality (see (33)). Therefore, one of the factors in the development of canonical middles is the rise of the possibility/potentiality meaning of *will*: according to OED, the usage began to be attested in the 14th century (*wll*, v^1 B. I. 9) (see also Figure 2). Although this meaning change is necessary and important, it is not a sufficient condition on the development of canonical middles; in fact, they first appeared in the 16th century, about two centuries later than the meaning change of *will*.

Given that middles involve the modal operator in T to be specified either by a modal or an adverb, this thesis proposes that the second, more important factor triggering the development of middles is the reanalysis of modals as T elements. Since the seminal work by Lightfoot (1979), there have been a number of studies on this topic and it is generally agreed that modals were reanalyzed from main verbs to auxiliaries in the 16th century. To take one of the recent studies, Biberauer and Roberts (2010) propose the following reanalysis of modals.

(41) a.



(Biberauer and Roberts (2010: 280))

In (41a), the modal is a main verb taking a sentential complement which is merged in V. This bi-clausal structure was reanalyzed in the 16th century as the mono-clausal one in (41b) where the modal is directly merged in T. This would have led to the emergence of canonical middles, because modals can now specify the modal operator by being directly merged in T, in accordance with the assumption in the previous subsection.[19]

With this in mind, let us consider the mechanism of the

development of canonical middles in English. Recall that the instances of canonical middles in the earliest stage (16C) involve the modal *will* and they are interpreted ambiguously between the ergative reading and the middle reading. This is illustrated in (42), repeated here from (33a), where the two readings are associated with the futurity and possibility/potentiality interpretation of *will*, respectively. It is assumed that the latter corresponds to dynamic power and dynamic neutral possibility.

(42) Your white canuas doublet will sully.

a. Ergative reading:

The sullying event of your white canuas will happen in the future.

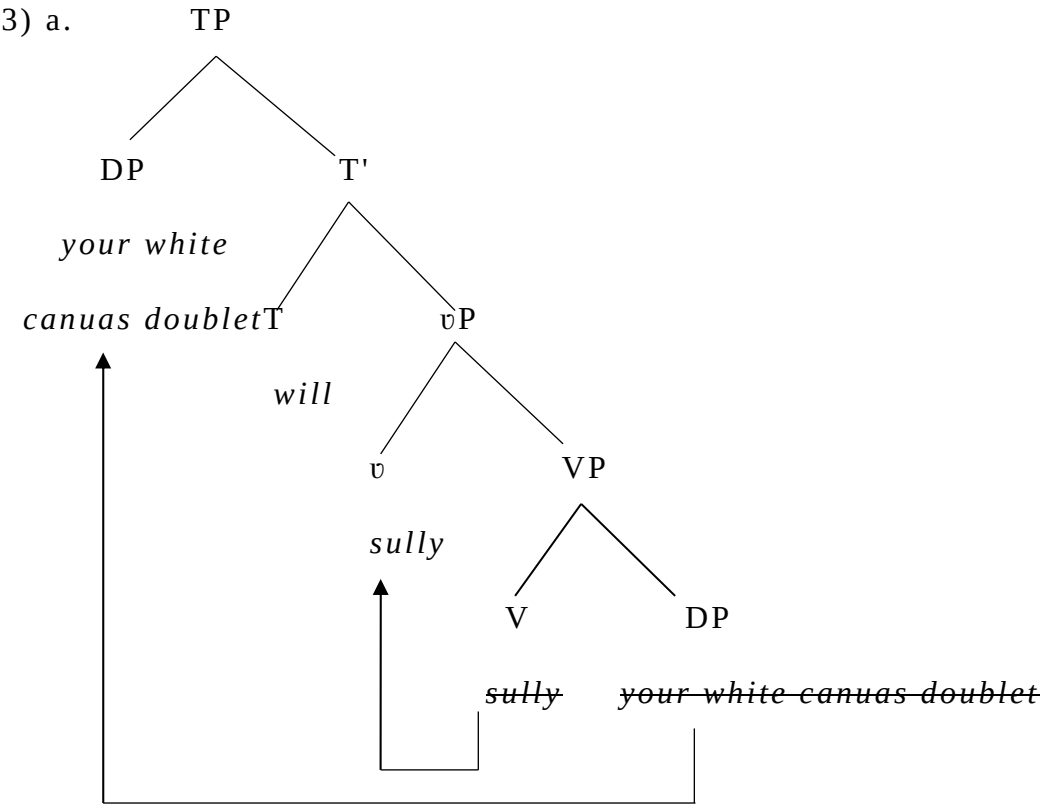
b. Middle reading:

The property of your white canuas doublet makes it possible to be sullied.

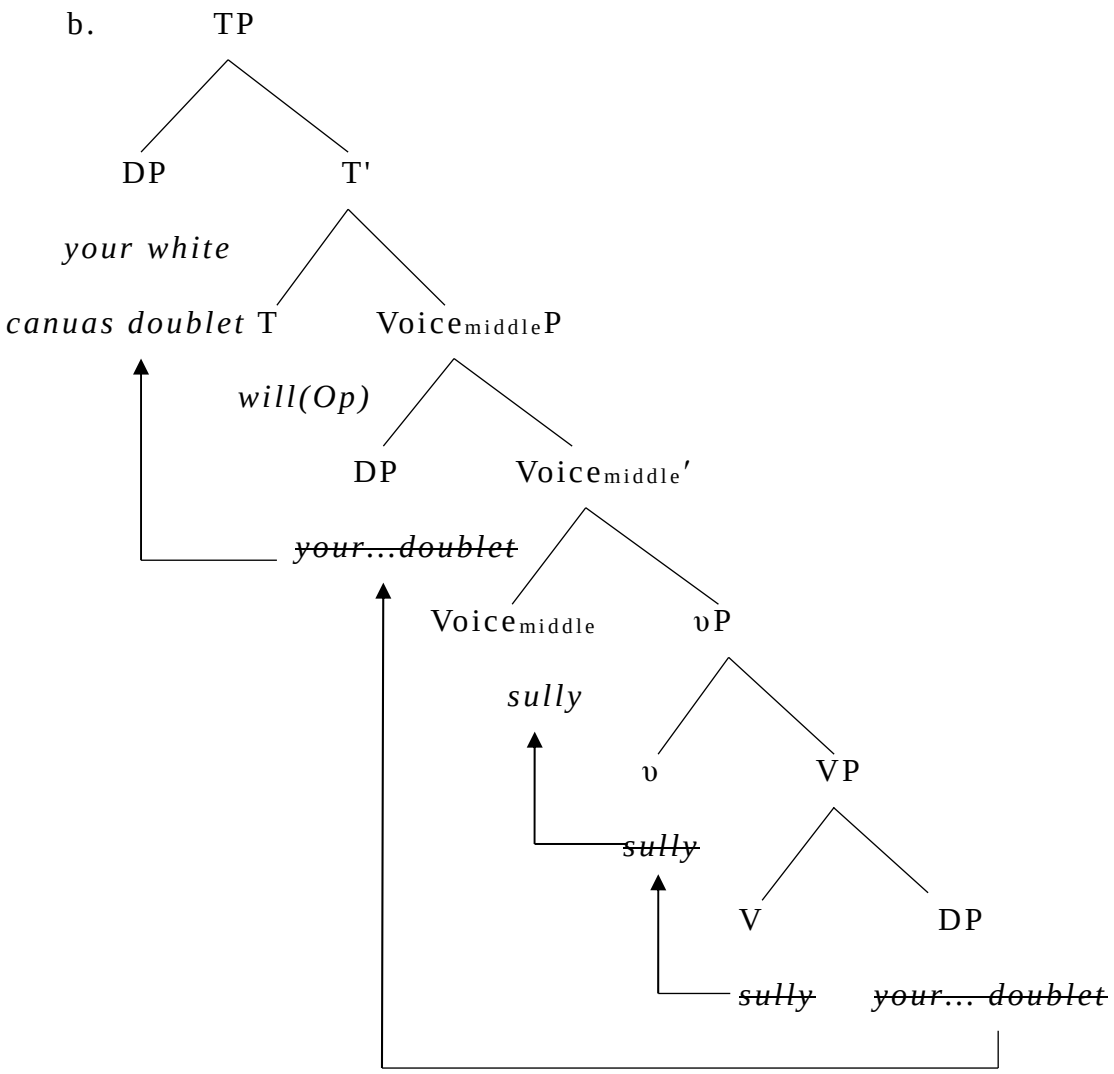
This thesis proposes that such instances are the initial locus of reanalysis, because they are also structurally ambiguous, with (42a, b) corresponding to the ergative reading and the middle reading, respectively. The meaning change of *will* set the stage for the development of canonical middles: when the child was exposed to such ambiguous instances as (42), he/she could have postulated the structure in (43b), rather than that in (43a) based on the grammar of the adult generation, leading to the reanalysis of

ergatives as canonical middles in the 16th century.

(43) a.



b.



As shown in (43b), in its middle reading, the object *your white canuas doublet* is initially merged in the complement position of the verb *sully*, and subsequently moves to [Spec, VoiceP] position for the subject-oriented interpretation of middles. Then it moves to [Spec, TP] position. Moreover, *will* directly merged in T to specify the modal operator, giving rise to potentiality/possibility interpretation. This potentiality/possibility interpretation which is carried by *will* directly contributes to dynamic modality of neutral possibility. On the other hand, as has already shown in section 3.2, middles involve not only neutral possibility, but also the

dynamic modality of power. This will be illustrated in its later development, as will be shown in subsection 3.5.3.

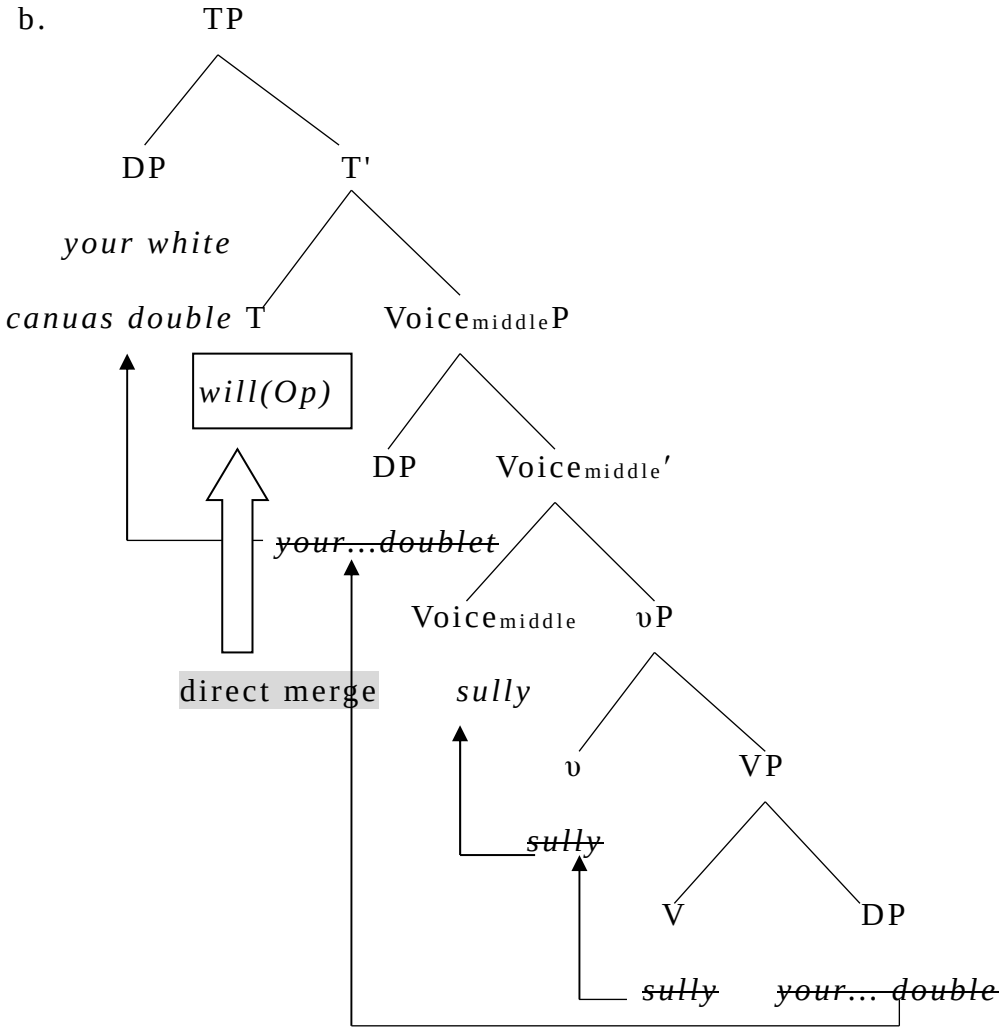
3.5.3. The Later Development of Canonical Middles

As proposed in subsection 3.4.2, the development of canonical middles in English can be divided into four stages (see Table 6). By assuming that middles have a modal operator in T to be specified by a modal or an adverb (see (40)), these four stages can be characterized in terms of the change in the manner of specifying the modal operator in T: from the direct merge of a modal in T to the covert movement of a facility adverb, then to the covert movement of an event adverb. In Stage I, middles are characterized as direct merger of the modal verb *will* in T, as shown in (44).

Stage I (16C):

(44) a. Your white canuas doublet will sully.

b.



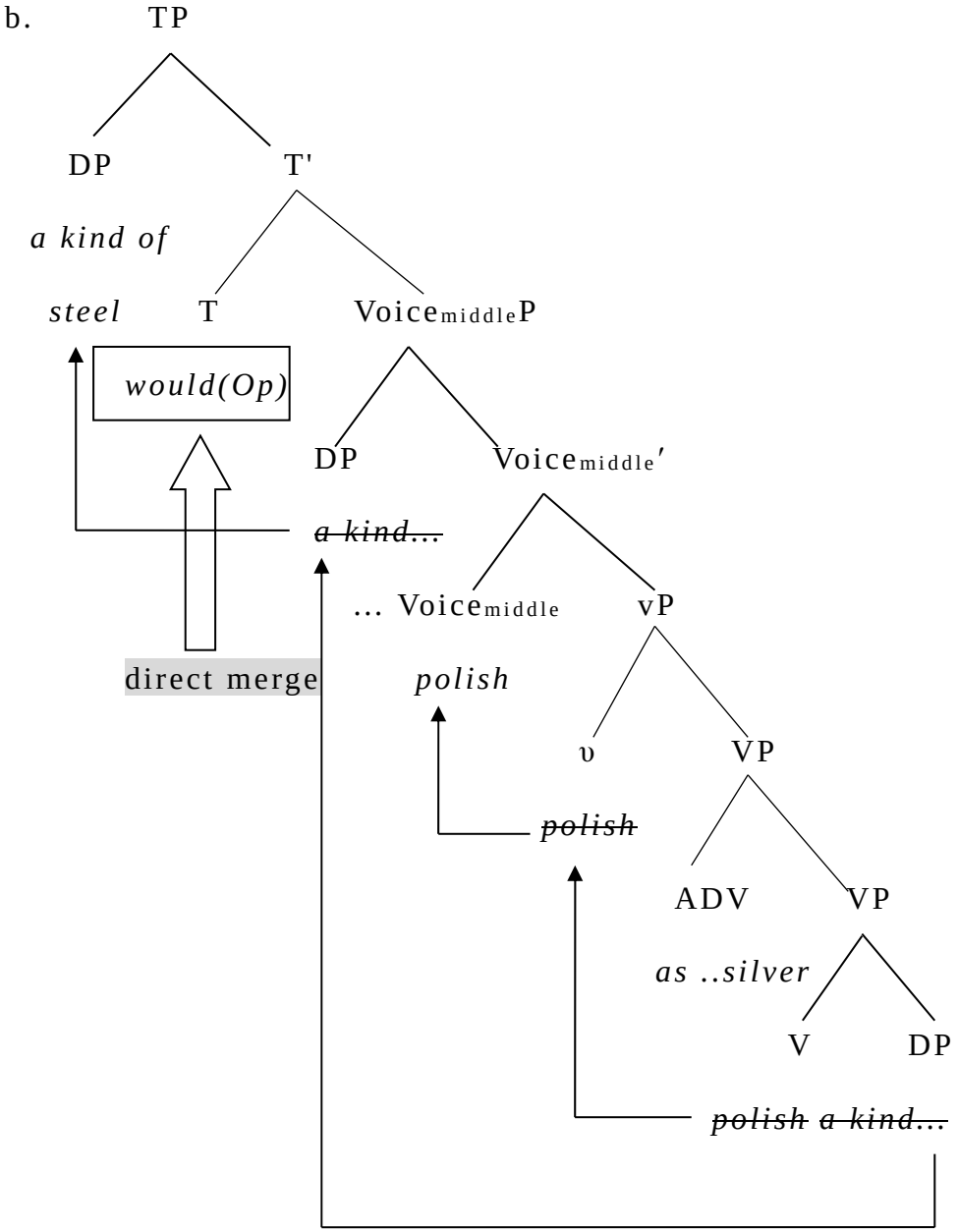
Stage II (1600-1650) can be regarded as an intermediate stage, where adverbs can optionally be added to middles. Of course, the modal verbs like *will* or *may* cannot be dropped in this stage as shown in (34) and (35), because middles in stage II are still characterized as the direct merge of modal verb in T. The only difference between Stage I and Stage II is that middles in stage II may optionally take an adverb. Take the middle sentence in (35a) as an example. The corresponding syntactic structure is

shown in (45b).

Stage II (1600-1650):

(45) a. A kind of steel would polish as white and bright as silver. (1626 BACON Sylva item 849)

b.



Stage III (1650-1700) witnesses a great change in middles when the adverb began to function as the licenser of the modal operator. As

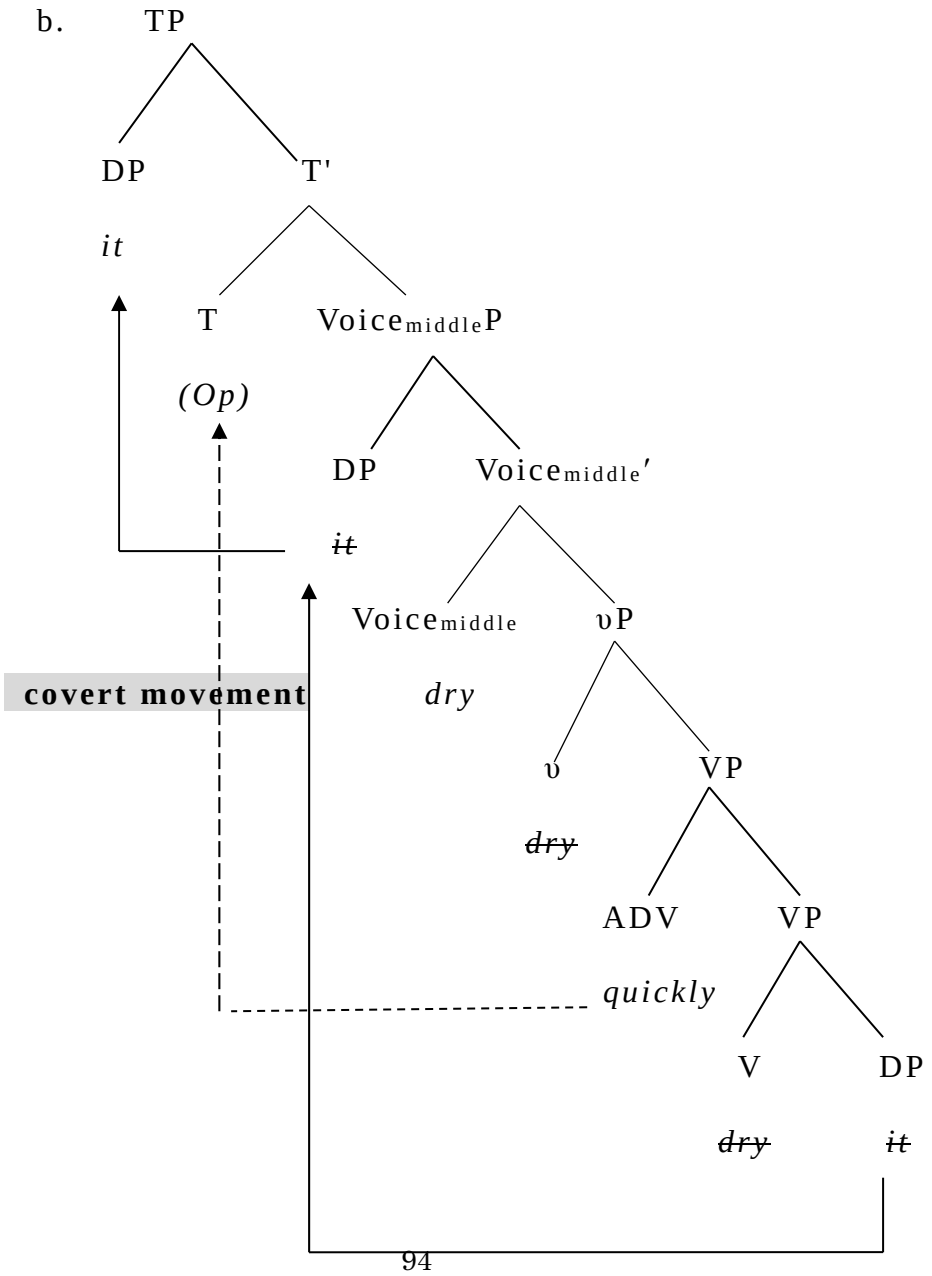
indicated in section 3.4.2, facility adverbs began to act as the modal licenser.[20] The structure of the middle sentence in (36c), repeated as (46a), is shown in (46b).

Stage III (1650-1700):

(46) a. Being washed three or four times, it dries quickly.

(1677 Moxon Mech. Exerc. 242)

b.



Following Massam's (1992) analysis that the modal operator in T can also be specified by an adverb (see (40b)), we can account for the fact that the facility adverb like *quickly* in (47b) can contribute to the modal interpretation of canonical middles: facility adverbs like *easily* serve to modify the basic neutral possibility by adding the interpretation of easiness, difficulty to it.

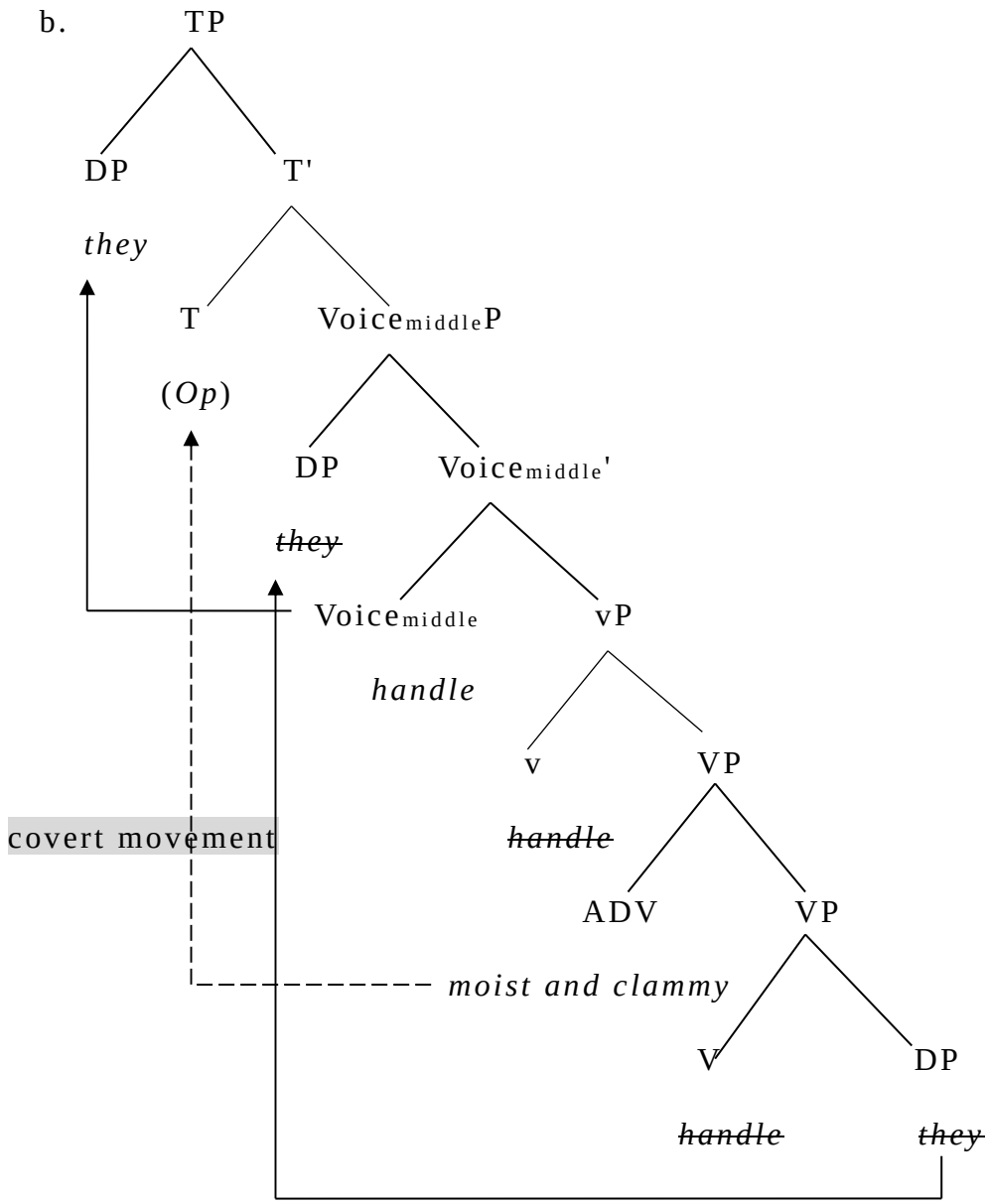
Finally, the last stage in the development of canonical middles is characterized by the covert movement of the event adverb. Take the middle sentence in (37a) as an example. The corresponding structure is shown in (47b).

Stage IV (1700-):

(47) a. They handle **moist or clammy**.

(1727 Bradley Fam. Dict. s.v. Hop-garden)

b.



As shown in (47b), the change in Stage IV could be viewed as an extension in the manner of specifying the modal operator: the latter can now be

licensed by an event adverb which contributes to the disposition of the Patient.

Chapter 2, following Fellbaum (1985) and Matsumoto (1996), explains that event adverbs describe the properties and the state of the grammatical subject during or after the action. It indicates the fact that the modality of middles involves not only the dynamic modality of neutral possibility, but also the dynamic modality of power. This conclusion follows from the notion of dynamic enrichment of the basic compositional architecture proposed by Eide and Afarli (2001) as shown in (48).

(48) dynamic enrichment:

> The meanings of the parts enter into the meaning of the whole expression such that the meaning of a given head may be *affected* by the meaning of the constituent with which it is combined.

(Eide and Afarli (2001: 459))

Following the notion of dynamic enrichment shown in (48), I propose that the meaning of the modal operator in T is enriched by occurrence of an event adverb which moves to T at LF. Accordingly, the use of an event adverb in the last stage can serve to modify the basic modality of middles by contributing to the dynamic modality of power (related to the disposition of the Patient), as well as by facility adverbs which contribute to the neutral possibility.

To sum up, the whole development process of middles can be

characterized in terms of the change in the manner of specifying the modal operator in T: from the direct merger of a modal in T to the covert movement of an adverb. It is shown in Table 7.

Table 7. The Developmental Process of Canonical Middles

	Time	Types of Canonical Middles	Licenser of the Modal Operator
I	1500–1600	Type II	modals
II	1600–1650	Type II middles (with an adverb)	modals
III	1650–1700	Type I (with a facility adverb)	facility adverbs
IV	1700–	Type I (with an event adverb)	event adverbs

3.6. Some Consequences of this Analysis

The last section of this chapter provides some consequences of the present analysis.

3.6.1. Aspectual Condition

As we saw in chapter 2, only activity verbs and accomplishment verbs can undergo middle formation, as in (49).

(49) a. activity verbs (e.g. *eat*, *play*, *drive*, *read*, etc.)

The car drives easily. (Kageyama (2004: 121))

b. accomplishment verbs (e.g. *cook, write, destroy,* etc.)

The food cooks easily. (Roberts (1987: 196))

In contrast, state verbs and achievement verbs cannot undergo middle formation, as shown in (50).

(50) a. state verbs (e.g. *know, see, own,* etc.)

*The Eiffel Tower sees easily.

b. achievement verbs (e.g. *acquire, find, realize,* etc.)

*French acquires easily.

State verbs involve no time scale and there is no change throughout an interval. Moreover, according to Mulder (1992), achievement verbs denote an action which is instantaneous. In other words, there are no intermediate stages and the only thing of importance is the end of the action. As Mulder (1992) noted, the situation that achievement verbs represent also resembles a kind of state. In this sense, they serve a similar function as state verbs.

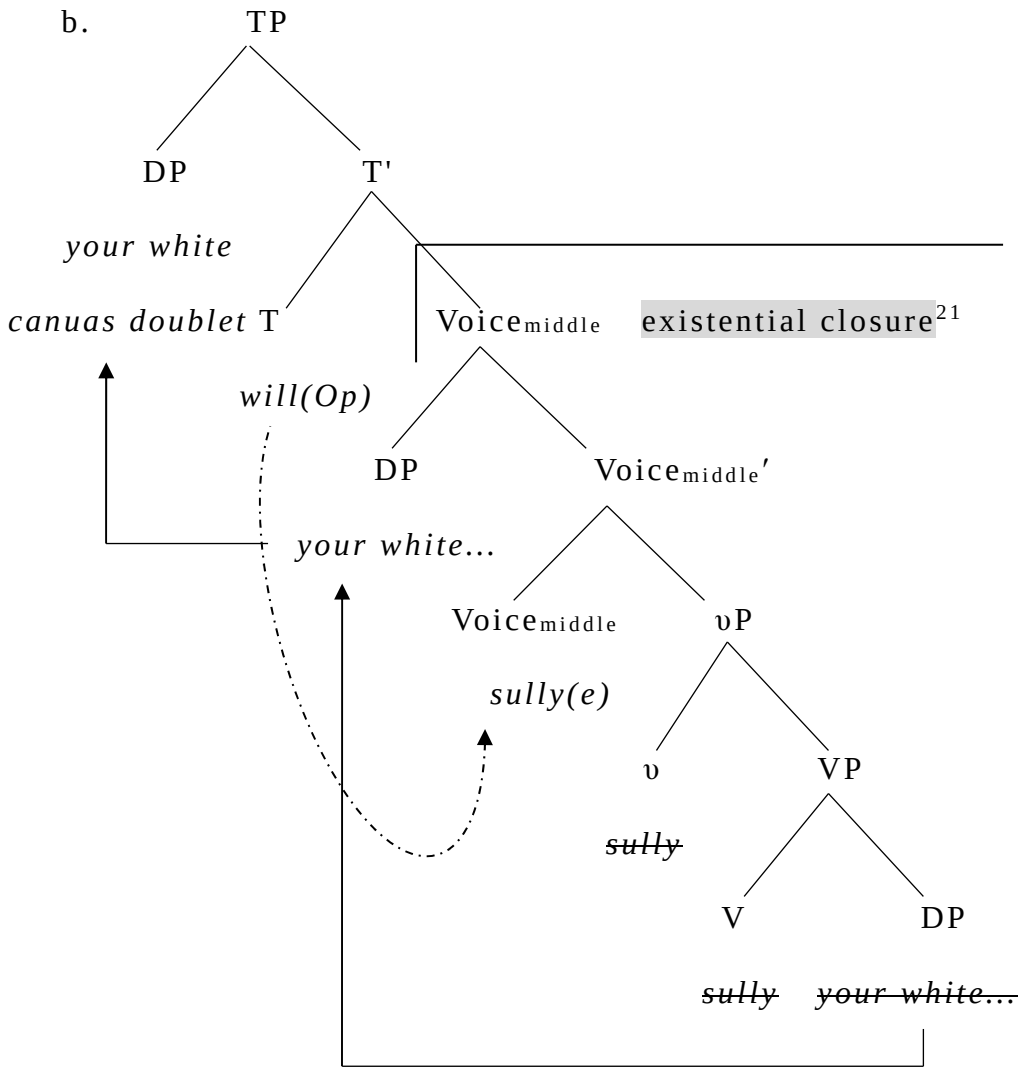
Zwart (1998) points out that if middle formation is a generalization over events, verbs which are stative are necessarily excluded as they do not denote events, as shown in (51).

(51) Middle construction is a formation of a generalization over events, and hence verbs which are stative are necessarily excluded as they do not denote events. (cf. Zwart (1998))

In the present analysis, both aspectual condition as illustrated in (49-50) and Zwart's generalization as shown in (51) are attributed to the presence of the modal operator in T which needs to bind the event variable. Precisely speaking, the modal operator in T must bind an event variable which is provided by an event verb. I illustrate it with the middle sentence as shown in (52a). The corresponding syntactic structure is shown in (52b).

(52) a. your white Canuas doublet will sully.

b.



In (52b), the modal operator in T is lexicalized by a modal verb *will*, and the dotted arrow refers to the binding of an eventive variable. The binding process can be stated as follows (see also Fábregas and Putnam (2014)). When the verb *sully* moves to Voice (υ), it introduces an event variable represented as *e*.[22] Then introduction of T over Voice would imply that this variable becomes bound through existential closure, giving rise to a structure that is interpreted at LF as "there exists a specific event initiated in some time interval" (cf. Hout and Roeper (1998) and Fábregas and Putnam (2014)). This is an interpretation that canonical middles must avoid, as they do not denote specific events. Canonical middles avoid this interpretation by merging a modal operator with the stative semantics in T. This operator binds the event variable, making it unavailable for existential closure. As shown in (52b), the modal operator in T anchors the event to the utterance and it defines an accessibility relation to worlds which are similar enough to the world where the utterance is made, so that canonical middles always have the modal interpretation not eventive interpretation. Therefore, under this analysis, the aspectual condition follows from the fact that there is a modal operator in T which requires binding an event variable which is provided by an activity verb or an accomplishment verb in its domain.

3.6.2. Adverbial Modification

As we saw in section 2.3, adverbial modification is obligatory in canonical middles as shown in (53).

(53) Chickens kill *(easily/quickly). (Matsumoto (1996: 52))

In the present analysis, the requirement of an adverbial modification is directly related to the licensing the modal operator in T. That is, the null modal operator needs to be licensed either by a modal verb or an adverbial modification. Accordingly, the modal operator remains to be not licensed as shown in (53) when there is no adverb occurs, and hence the ungrammaticality of the sentence.

3.6.3. Responsibility of the Grammatical Subject

As for the responsibility of the grammatical subject condition (Ackema and Schoorlemmer (2005: 160) among others), the grammatical subject of a canonical middle must have properties such that it can be understood to be responsible for the action expressed by the predicate.

According to Kratzer (1996), the functions of the light verb in the standard analysis of clause structure are assigned to Voice and *v*, and Voice has the role of external theta-role assignment (see also Note 18). Therefore, this thesis adopts the mechanism of secondary theta-role assignment proposed by Osawa (2001) and applied to the *get*-passive by Honda (2012)[23,24] with slight modifications, proposing that $\text{Voice}_{\text{middle}}$ assigns a secondary theta-role (Agent) to the grammatical subject which moves to [Spec, VoiceP] on its way to [Spec, TP]. Then, apart from being assigned the primary theta-role (Patient/Theme) by V as its internal argument, the grammatical subject of canonical middles is interpreted as a secondary Agent that is responsible for the event denoted by the verb,

thereby accounting for its responsibility.

3.7. Concluding remarks

This chapter has discussed the origin and the development of canonical middles in the history of English, based on the data from OED. It was proposed that canonical middles emerged via the reanalysis of ergatives, which is triggered by the development of modals. Moreover, the development of canonical middles was characterized in terms of the change in the manner of specifying the modal operator in T: from the direct merge of a modal in T as a basic strategy, to the covert movement of an adverb which is a later development. As a result, the aspectual condition, the responsibility of the grammatical subject as well as the requirement of an adverbial modification can be provided a syntactic account under the present analysis.

Notes to Chapter 3

[1] The term "canonical middles" is used to indicate the middles which are discussed in this chapter, in order to distinguish them from the reflexive middles which will be discussed in Chapter 4.

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

[3] The interpretation of the type of modality is not always clear, since the expressions of certainty, necessity, and possibility are also used for obligations and permissions in most languages and a characteristic feature of modals is their semantic vagueness. As a result, different researchers distinguish between the different modal meanings depending partly on their theoretical framework.

[4] Concerning the subdivision of epistemic modality, Bybee and Fleischman (1995) share the view similar to Palmer (1990). They suggest a scale of speaker commitment, consisting of the following notions: (a) expressions of possibility, indicating the lowest commitment on the part of the speaker that the proposition may be true, as shown in (i); and (b) expressions of inferred certainty, strongly implying that the speaker has reasons to suggest the proposition is true, as shown in (ii).

(i) We *may* lose the election.

(ii) They *must* have won the election.

(Bybee and Fleischman (1995: 4))

[5] According to Matsumoto (1996), VP2 in the tree diagram in (14) corresponds to an event argument. One of the characteristics of the canonical middle is that [Spec, VP2] is not projected, which in turn leads to the status of the middle as an individual-level predicate which is exemplified in (i).

(i) a. Firemen are altruistic.

b. Having unusually long arms, John can touch the ceiling.

Both *altruistic* in (ia) and *having unusually long arms* in (ib) are typical individual-level predicates. Canonical middles have the status of the sentences in (i), because canonical middles are also generic. See Matsumoto (1996: 53) for details.

[6] According to Matsumoto (1996), the modal expressions are sub-divided in terms of three dimensions: (i) modal force, (ii) modal base, and (iii) ordering source (see also Kratzer (1991)). Based on the three dimensions, modal verbs are proposed to directly determine the modal force and adverbs are proposed to play a role of an order source in canonical

middles. The latter affect the modal interpretation indirectly by contributing to the evaluation of the grade in the modal force. To simplify the terminology, this thesis does not adopt the three dimensions mentioned above. Instead, this thesis argues that both modal verbs and adverbs can directly license the modal interpretation in canonical middles.

[7] As for the status of the implicit Agent of canonical middles, as discussed in Chapter 2, this thesis follows the lexical analyses in arguing that the implicit external agument, which refers to people in general and has an arbitrary interpretation, does not project into syntax (cf. Fagan (1988) and Ackema and Schoorlemmer (1994, 1995)). Accordingly, this claim can account for the fact that middles may have a slight modal interpretation of dynamic ability (which is related to the implicit Agent). However, as the present analysis correlates the modal interpretation with the syntactic strucuture of canonical middles, this topic is irrelevant to the present concern.

[8] This thesis argues that the modality of canonical middles does not involve deontic modality. As is shown in subsection 3.2.1.2.1, by using a deontic modal, a speaker may give permission, make a promise or lay an obligation. Clearly, canonical middles has nothing to do with such modal interpretations.

[9] Without the adverbial modification, canonical middles may also appear in forms of negation, the emphatic *do* or even by the sentential stress

on the verbs, as in (i).

(i) a. This meat does not cut. (Fellbaum (1986: 9))

b. These red sports models DO sell, don't they?

(Dixon (1991: 326))

c. I thought we were out of gas, but the car DRIVES!

(Fellbaum (1986: 10))

I do not discuss canonical middles as in (i) in this thesis.

[10] As noted in Visser (1963: 153), in Romance languages, this kind of quasi-automatic activity is often expressed by a construction with the reflexive pronoun *se* or *si*.

[11] This thesis does not discuss the third kind of middle, which involves a kind of quasi copula such like *feel, hear, smell, taste,* etc. and hence is irrelevant for the present concern.

[12] See Simargool (2005) for the relevant analysis.

[13] As for the origin of canonical middles, Jespersen (1927) and Rissanen (1999) see the links between the decrease of the use of reflexive pronouns in reflexive constructions and the emergence of canonical middles. According to Jespersen, as the reflexive pronoun *–self* is long and heavy, it was dropped gradually in the history of English and hence canonical

middles emerged, as shown in (i).

(i) One of the reasons for this evolution (the decrease in the use of reflexive pronouns in reflexive constructions) is evidently the heaviness of the forms *–myself, himself, etc*. Hence also the development of middle use in many cases.

(Jesperson (1927: 325))

Similar argument also comes from Rissanen (1999), as shown in (ii).

(ii) It is *possible* that the decreasing frequency of reflexive pronouns supports the development of intransitive use of the originally transitive verbs. (Rissanen (1999: 255))

In (ii), the development of intransitive use of the originally transitive verbs refer to the development of canonical middles.

As for the correlation between the decrease of the use of reflexive pronouns in reflexive constructions and the development of canonical middles, next chapter will conduct a historical survey to see whether they relate to each other or not, based on the data from three historical corpora. See Chapter 4 for details.

[14] In previous studies, the synchronic relation between canonical middles and adjectives *–able* were also discussed on the basis of Lemmens'

(1998: 82) hypothesis that verbs that which are acceptable in canonical middles also tend to be acceptable bases for adjective formation in *–able* and vice versa. For examples, Hundt (2007) has ever observed the relevant pairs of canonical middles and adjectives *–able* based on the data from *The Sears & Roebuck Corpus* and concluded that of the total of 245 different verbs in canonical middles, only 30 verbs (12.2%) are acceptable in both canonical middles and *-able* adjectives.

15 As shown in Table 4, tokens of canonical middles decrease in the 20th century, as far as the data from OED is concerned. According to Hundt (2007), this result is likely to be due to the amount of texts in twentieth-century main sources of OED.

16 As shown in Table 4, there are altogether 338 tokens of canonical middles in OED. On the other hand, Table 5 shows that there are 293 tokens of Type I and Type II middles. The rest 45 tokens belong to other types of canonical middles like those in Note 9. I will leave them for further study.

17 Note that canonical middles with a modal and an adverb which emerged in Stage II (1600-1650) are still classified into Type II middles. It is assumed as follows. As an extension and development of canonical middles in Stage I, canonical middles in Stage II should also be labelled as Type II middles, as long as they carry a modal verb.

[18] Kratzer (1996) argues that the functions of the light verb in the standard analysis of clause structure (cf. Chomsky (1995)) are assigned to two functional categories, Voice and *v*: the former has the role of external theta-role assignment and the latter contributes to event interpretation (cf. Marantz (2005)). This thesis follows Alexiadou (2013) in extending this proposal to middles, assuming that they also have a Voice head (though they do not take an external argument in [Spec, VoiceP]; but see below for the role of this head associated with the grammatical subject of middles).

[19] Here following Wurmbrand (1999) and Hacquard (2000), I assume that all the modal auxiliaries are T-elements.

[20] According to Matsumoto (1996), facility adverbs help to license the implicit Agent which is located in [Spec, VP1], and hence the syntactic position of the facility adverb (VP1 Adjunct) is higher than the event adverb (VP3 adjunct). However, this thesis follows Fagan (1988) and Ackema and Schoorlemmer (1994, 1995) in arguing that the implicit Agent does not project into syntax. Accordingly, the appearance of the facility adverb has nothing to do with the licensing of the implicit Agent under this assumption. Therefore, this thesis assumes that both facility adverbs and event adverbs are VP adjuncts without further classifying facility adverbs into VoiceP adjuncts. I will leave the corresponding issues for further study.

[21] Heim (1982: 138) originally proposed that existential closure

affects the nuclear scope of a tripartite quantificational structure, as illustrated in (i).

(i) a. A man owns a llama.

b. $(\exists_{x,\, y})$[**x** is a man $\wedge$ y is a llama $\wedge$ x owns **y**]

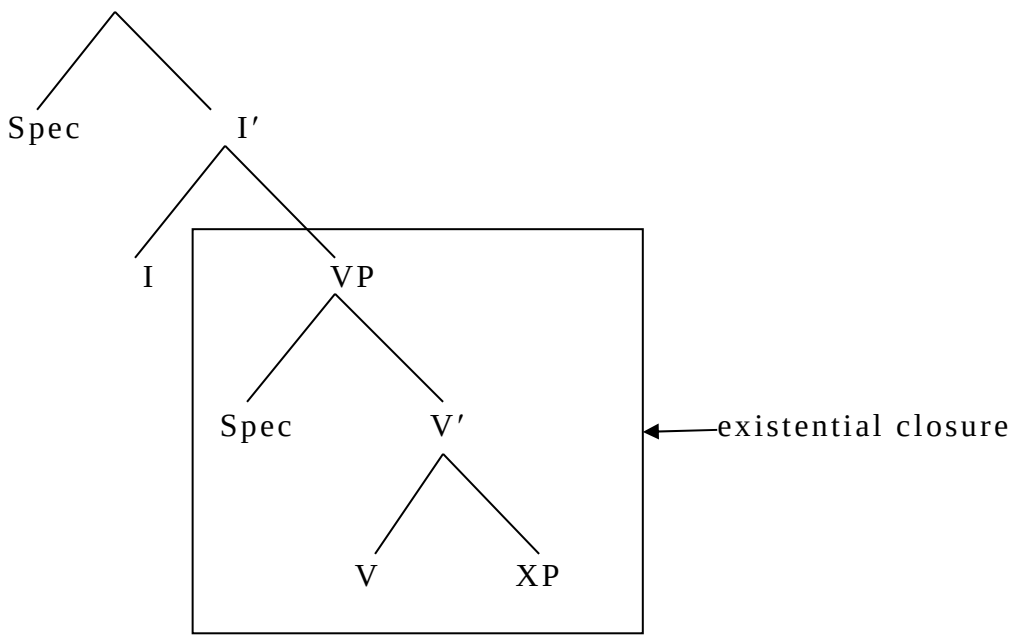
(Diesing (1992: 6))

In (ia), the indefinite NPs *a man* and *a llama* are not represented as existential quantifiers; rather, they introduce variables. They must receive quantificational force by being bound by some other operator. Here the variable introduced by the indefinite is bound by an implicit existential quantifier that "existentially" closes off the existential closure, preventing the occurrence of unbound variables. In the case of the sentence in (i), the existential closure contains all instances of the variables introduced by the indefinites in a sentence. This can be seen in the logical representation given in (ib). The implicit existential quantifier is shown within parentheses, and it binds all the variables (in this case x and y) within the existential closure, which for purpose of illustration is enclosed within brackets.

Building on this insights, Deising (1992) develops an algorithm for mapping syntactic structure into logical form in which "materials from VP (VoiceP in this thesis) is mapping into the existential closure of a quantificational structure. The result is that all the arguments of the predicate are, in principle, within the domain of existential closure, because they originates internal to VP and are therefore can be mapped into the

existential closure, which is existentially closed, as shown in (ii).

(ii)



(Diesing (1992: 9))

Fábregas and Putnam (2014) extends this algorithm to the case of the binding of the event variables. The precise binding process is stated below (52).

[22] As noted in Note 18, this thesis follows Kratzer (1996) in splitting the functions of the light verb in the standard analysis of clause structure into two functional categories, Voice and υ: the former has the role of external theta-role assignment and the latter contributes to event interpretation. Therefore, it should be noted that the corresponding event variable *e* has already been produced when the verb moves to υ, though it is represented in Voice head in the tree diagram in (52b).

[23] Osawa (2001) proposes that the subject of the *be*-passive is assigned a secondary theta role (Agent) by υ when it moves to satisfy the EPP feature of υ on its way to [Spec, TP]. Honda (2012) applies her proposal to the *get*-passive that also has the property of the subject's responsibility.

[24] Apart from (primary) theta roles associated with the argument structure of a lexical item, some scholars assume secondary theta roles to account for agentivity of arguments that have already been assigned a primary theta role. See Jaeggli and Hyams (1993) and Kume (2009) for the application of this assumption to "aspectual *come/go*" which requires an agentive subject; indeed, the present analysis has also been inspired by Kume's work, where it is argued that aspectual *come/go* is generated in υ and assigns a secondary theta-role (Agent) to [Spec, υP]. See Zubizarreta (1982) and Roeper (1987) for the notion of "secondary Agent".

Chapter 4

On the Origin and Development of Reflexive Middles in the History of English

4.1. Outline[1, 2]

As is known to us, middles in German, French and Italian as shown in (1a, b, c) employ reflexive elements which are obligatory.

(1) a. German:

Dieses Buch liest *(**sich**) leicht

this book-NOM reads RFL easily

"This book reads easily." (Steinbach(2002: 3))

b. French:

Ces sakes japonais *(**se**) boivent frais en ete.

These sakes Japanese RFL drink-PL old in summer

"These Japanese sakes are supposed to be drunk cold in the summer." (Authier (1996: 513))

c. Italian:

Questo vestito *(si) lava facilmente.

this suit RFL wash easily

"This suit washes easily." (Cinque (1988: 559))

German middles have a reflexive object *sich* as shown in (1a). The reflexivity in French middles as shown in (1b) is indicated by a clitic morpheme *se*. Similarly, the reflexivity in Italian middles is indicated by a clitic morpheme *si* as shown in (1c).

In contrast, as indicated in Chapter 3, canonical middles in English usually involve a modal like *will* or an adverbial modification like *easily*, without which the sentences would be ungrammatical, as shown in (2a, b).

(2) a. The bureaucrats *(will) bribe.

b. The floor paints *(easily).

However, Massam (1992) and Fellbaum (1989) among others have ever argued that English has middles with reflexive pronouns as shown in (3), which are called "reflexive middles".

(3) a. This gate **opens/shuts** *(ITSELF).

b. Honda-the car that **sells** *(ITSELF).

c. This solution **suggests** *(ITSELF).[3]

(cf. Fellbaum (1989: 123))

Based on the discussion of the nature of reflexive middles in Present-day English, this chapter attempts to account for the origin and development of reflexive middles in the history of English in terms of the reanalysis of reflexive ergatives (e.g. *The door opens (itself).*), where the establishment of compound reflexive pronouns (CRPs) and the development of canonical middles played important roles.

The structure of this chapter is as follows. Section 4.2 introduces some properties of reflexive middles in Present-day English, based on a brief revision of previous studies of reflexive middles in Fiengo (1980), Fellbaum (1989) and Stephens (2006). Section 4.3 shows the data on the development of CRPs and intransitive reflexive constructions from historical corpora and OED, paying special attention to the earliest stage, where the relevant examples are ambiguous between reflexive ergatives and reflexive middles. Section 4.4 presents a syntactic analysis of the development of reflexive middles in the history of English in terms of the reanalysis of reflexive ergatives, combined with the development of CRPs and the reanalysis of modals as two triggering factors. Section 4.5 discusses the historical development of lexical reflexive middles as in (3c). Section 4.6 offers concluding remarks.

4.2. Previous Studies of Reflexive Middles in English and Some Basic Facts

Based on the revision of previous studies of reflexive middles in Present-day English, this section introduces the syntactic and semantic properties of reflexive middles and sums up the differences between

reflexive middles and reflexive ergatives, which will serve as a diagnosis for distinguishing between them in early English in what follows.

4.2.1. Previous Studies of Reflexive Middles in Present-day English

This subsection reviews some analyses of reflexive middles in English in Fiengo (1980), Fellbaum (1989) and Stephens (2006), focusing on the nature of reflexive pronouns.

4.2.1.1. Fiengo (1980)

Fiengo's (1980) analysis can be summed up in two aspects.

In the first place, Fiengo argues that the nature of the reflexive pronoun in reflexive middles is an intensifying adjunct. As shown in (3), the presence of reflexive pronouns is obligatory in reflexive middles. Moreover, they must receive sentence stresses (indicated by capitalization). According to Fiengo, the stressing of reflexive pronouns in reflexive middles is quite different from ordinary reflexive constructions where they are normally unstressed, as shown in (4a, b).

(4) a. * They knew THEMSELVES.

b. They KNEW themselves. (Fiengo (1980: 53))

As shown in (4a), the reflexive pronoun *themselves* in ordinary reflexive constructions cannot be stressed; instead, the verb *knew* must be stressed, as shown in (4b). In this sense, the stressing of reflexive pronouns in reflexive middles is similar to constructions exemplified in (5) where they

are also stressed.

(5) a. John did it HIMSELF.

b. *John DID it himself. (ibid.)

As is obvious in (5), the reflexive pronoun *himself* is an intensifying adjunct which is used to emphasize that John did it without aids. In that case, the reflexive pronoun must be stressed, while the verb is not placed the primary stress. Based on these observations, Fiengo argues that the reflexive pronoun in reflexive middles is an intensifying adjunct which is obligatory in sentence-final position.

In the second place, Fiengo asserts the similarity of adverbs such as *easily* in (2b) and reflexive pronouns in reflexive middles as in (3). He bases his equation of *easily* and the reflexive pronoun on the following distributional evidence: English middles prohibits the co-occurrence of adverbs like *easily* and a stressed reflexive pronoun in the same sentence, as shown in (6).

(6) a. *Foreign cars sell THEMSELVES easily.

b. *Foreign cars sell easily THEMSELVES.

(Fiengo (1980: 54))

Therefore, according to Fiengo, the reflexive middle such as (7a) is generated as in (7b).

(7) a. Foreign cars sell easily/THEMSELVES.

b. [[$_{NP}$ foreign cars] [$_{V}$ sell] [NP *t*] [$_{ADV}$ easily/THEMSELVES]]

(Fiengo (1980: 56))

4.2.1.2. Fellbaum (1989)

Different from Fiengo (1980), Fellbaum (1989) argues that reflexive middles are transitive reflexive constructions and the reflexive pronoun is an argument of the verb.

First of all, as opposed to Fiengo (1980), she argues that the reflexive pronoun in reflexive middles is an argument not an adjunct. According to her, the stressed reflexive pronoun with the interpretation suggested by Fiengo can only occur in transitive constructions, while it is barred from unaccusative sentences as shown in (8a) and passive sentences as shown in (8b).

(8) a. *[The ambassador$_i$] arrived [t_i] HIMSLEF.

b. *[The washing machine$_i$] was sold [t_i] ITSELF.

(cf. Fellbaum (1989: 126))

As indicated in (8), the stressed reflexive pronoun is barred from occupying an argument position in these sentences: the empty position left by an internal argument that has been raised to the subject position. Therefore,

in contrast to the sentences in (8), the reflexive middles which carry a stressed reflexive pronoun as shown in (3) are grammatical and hence the reflexive pronoun as in (3) are argued to occupy the complement position.

Secondly, reflexive middles in Fellbaum's analysis are standard reflexive constructions. Both the reflexive pronoun and its antecedent are linked to the Theme, while the Agent role that the verb normally selects for is not expressed. This statement can be exemplified in the sentence as shown in (9a) with the corresponding structure shown in (9b).

(9) a. The gears on my new bike shift THEMSELVES.

(Fellbaum (1989: 123))

b. [[$_{NP}$The gears on my new bike] [$_{VP}$[$_{V}$ shift] [$_{REFL}$THEMSELVES]]]

Theme Theme

This leads Fellbaum to draw a conclusion that reflexive middles are not canonical middles syntactically, though both of them share the same semantic interpretation, as stated in (10).

(10) Like (canonical) middles, the Patient/Theme selected by the verb in reflexive middles has taken the place of the Agent which is usually associated with the verb. On the other hand, unlike (canonical) middles, the verb is transitive in reflexive middles. (Fellbaum (1989: 127))

The statement in (10) indicates that the Patient/Theme, rather than the Agent, is selected as the subject by the verb. Hence the Patient/Theme is interpreted, in a metaphorical sense, as an Agent (Fellbaum (1989: 128)).

There are three empirical and theoretical problems in Fellbaum's (1989) analysis. First of all, if the reflexive pronoun in reflexive middles is an argument, it should be able to be topicalized as that in ordinary reflexive constructions as in (11). However, the ungrammaticality of (12b) indicates that Fellbaum's analysis faces a problem in accounting for the contrast between ordinary reflexive constructions and reflexive middles, as far as the topicalization of the reflexive pronun is concerned.

(11) a. John does not really like himself.
b. Himself, John does not really like.

(12) a. The problem manifests itself.
b. *Itself, the problem manifests. (Siemund (2014: 68))

The argument reflexive pronoun *himself* in the ordinary reflexive construction in (11a) can be topicalized, as shown in (11b). Given this, one would expect the reflexive pronoun in the reflexive middles to be topicalized as well. However, the ungrammaticality of (12b) indicates that the reflexive pronoun in (12a) cannot be topicalized. It seems that the reflexive pronoun in reflexive middles is different from the reflexive pronoun in ordinary reflexive constructions.

Moreover, as shown in Fiengo's (1980) analysis which was

discussed in subsection 4.2.1.1, the reflexive pronoun and the adverb like *easily* cannot appear in the same middle sentence as shown in (6), repeated as (13).[4]

(13) a. *Foreign cars sell THEMSELVES easily.

b. *Foreign cars sell easily THEMSELVES.

(Fiengo (1980: 54))

If the reflexive pronoun such as *themselves* in (13a, b) is an argument as argued in Fellbaum (1989), it would be able to co-occur with the adverb *easily* in the same sentence, since they occupy different positions: the former occupies the complement position of the verb, and the latter occupies the VP adjunct position. The ungrammaticality of the sentences in (13) indicates that both the stressed reflexive pronoun *THEMSELVES* and the adverb *easily* are VP adjuncts and they occupy the same syntactic position, in accordance with Fiengo (1980).

In addition, a theoretical problem in Fellbaum (1989) is related to UTAH as shown in (14).

(14) Uniformity of Theta Assignment Hypothesis (UTAH):

Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure. (Baker (1988: 47))

According to UTAH, the Patient/Theme argument of the verb appears in the

complement position and the Agent argument appears as the subject of the verb at the level of D-structure. However, as indicated in (9b), Fellbaum proposes that the Patient/Theme argument directly appears as the subject of the verb and the reflexive pronoun directly appears as the object of the verb. The analysis of Fellbaum (1989) cannot account for this mismatch in the representation of the thematic relations and hence is in contradiction to UTAH.

4.2.1.3. Stephens (2006)

Stephens (2006) divides the intransitive reflexive constructions[5] into two types: Patient-Causer reflexives as shown in (15a) and virtual reflexives as shown in (15b).[6]

(15) a. Patient-Causer reflexives

The light turned itself on.

b. virtual reflexives

This problems solves ITSELF.

(Stephens (2006: 275))

The Patient-Causer reflexive as shown in (15a) seems to correspond to the reflexive middle in (3a), because both of them involve ergative verbs. The virtual reflexive as shown in (15b) corresponds to the reflexive middle in (3b), because both of them involve transitive verbs.

However, different from Fiengo (1980) and Fellbaum (1989) who argue that both of the sentences in (15) are reflexive middles, Stephens

argues that only virtual reflexives as shown in (15b) are reflexive middles.[7]

According to her, the two types are different in two aspects. First, the two types are different semantically. Precisely speaking, Patient-Causer reflexives are actually ergatives involving a reflexive pronoun as an intensifier, which express a "self-instigation" of the event; they are autonomous in nature. In contrast, virtual reflexives are not semantically autonomous: they describe neither inchoative nor self-instigated events; they require an external cause for interpretation. In other words, while the Patient-Causer reflexive represents an event that are automatically caused by the Patient-subject, the virtual reflexive describes an event that is caused by an external Agent.

Moreover, only virtual reflexives always require the placement of primary stress on the reflexive pronoun, as shown in (15). According to Stephens, the stress on the reflexive pronoun in virtual reflexives conveys that the property of the Patient contributes to the event (Stephens (2006: 277)). It is important to note that Patient-Causer reflexives may sometimes allow stress on the reflexive pronoun and sometimes not, as shown in (16).

(16) a. The machine switches itself off.

b. The machine switches ITSELF off.

(Stephens (2006: 278))

When the reflexive pronoun is stressed as shown in (16b), the sentence coveys that the property of *the machine* contributes to the *switching off*

activity. However, as Patient-causer reflexives do not characteristically place primary stress on the reflexive pronoun as virtual reflexives, they are not classified into reflexive middles in Stephens' (2006) analysis.

The differences between Patient-Causer reflexives and virtual reflexives in the analysis of Stephens (2006) are summed up in Table 1.

Table 1. The Differences of the Two Subtypes of Intransitive Reflexive Constructions

	semantic properties	**primary stress on the reflexive pronoun**
Patient-Causer reflexives	autonomous process; self-instigation	optional
virtual reflexives	an involvement of an external Agent	obligatory

(cf. Stephens (2006))

Though Stephens provides a convincing semantic account for virtual reflexive middles as in (15b), her analysis of Patient-Causer reflexives as in (15a) sounds ambiguous and incomplete. On one hand, she concludes that Patient-Causer reflexives as shown in (15a) are not reflexive middles, based on the observation that the reflexive pronoun as in (15a) is unstressed. Then, she argues that the stress on the reflexive pronoun in reflexive middles conveys that the property of the Patient contributes to the event. On the other hand, she admits that with a stressed reflexive

pronoun, the Patient-Causer reflexive in (16b) conveys that the property of *the machine* contributes to the *switching off* activity. The problem arises in her account of the sentence in (16b). That is, she does not clarify the nature of the Patient-Causer reflexive with a stressed reflexive pronoun. Especially, taking the definition of middles as shown in (17) into account, we have no reason to exclude the sentence like (16b) from the middle category.

(17) Middles are defined as an ascription of an inherent property to the surface subject which causes the event to happen.

(Ackema and Schoorlemmer (2005: 160))

Meanwhile, it can be assumed from Stephens' analysis that Patient-Causer reflexives are ambiguous between the ergative reading and the middle reading.

Based on the revision of previous studies of reflexive middles in Present-day English, next subsection will introduce some properties of reflexive middles.

4.2.2. The Properties of Reflexive Middles in Present-day English

This subsection reviews the properties of reflexive middles. Syntactically, reflexive middles involve a stressed a reflexive pronoun which is obligatory in sentence-final position; an implicit Agent appears in the lexical interpretation of the verb but does not project into syntax. Semantically, they have a generic construal, and a condition on

responsibility of the grammatical subject has been claimed to hold of middle formation.

4.2.2.1. The Nature of the Reflexive Pronoun in Reflexive Middles

Syntactically, reflexive middles in English involve a stressed reflexive pronoun which is obligatory in sentence-final position, as shown in (3).

Moreover, the reflexive pronoun must receive the primary stress as shown in (18), which distinguishes reflexive middles from ordinary reflexive constructions as shown in (4).

(18) a. Simple Problems solve THEMSELVES.

b. *Simple problems SOLVE themselves.

(Fiengo (1980: 53))

As shown in (18), the primary stress must be placed on the reflexive pronoun not the verb.

Next, a middle with an adverb other than *easily* is also incompatible with the presence of the stressed reflexive as shown in (19).

(19) a. *The tale spun ITSELF easily/poorly/in a jiffy.

(Stephens (2006: 283))

The Sentence in (19) indicates that the reflexive pronoun functions like the adverbs which would yield the interpretation of easiness, difficulty,

likelihood of the event.

These facts indicate that the reflexive pronoun in reflexive middles acts more like an adjunct than an argument, in accordance with Fiengo (1980).[8,9]

4.2.2.2. On the Implicit Agent

This chapter agrees with Fagan (1988) and Ackema and Schoorlemmer (1994, 1995) that the implicit Agent in reflexive middles is suppressed at the pre-syntactic level of representation and is not projected into syntax on a par with canonical middles.

First of all, reflexive middles as shown in (20) imply the presence of an Agent.

(20) a. The toughest carrots slice THEMSELVES *with this handy tool.*

b. The hardest granite crushes ITSELF *with this new hammer.* (Stephens (2006: 291))

Both of the sentences in (20a, b) involve an instrument phrase. According to Stephens (2006), an Instrument role is licensed only if an Agent role is present overtly or implicitly, hence the sentences shown in (20) indicate that reflexive middles involve an Agent.

Moreover, it should be noted that even when the verb has an Agent argument, it does not appear in syntax either. This can be seen from the fact the purpose clause cannot be licensed in reflexive middles as shown in

(21a) in contrast to that in active sentences as shown in (21b).

(21) a. *The problem solved itself to impress the math teacher.

b. Nichole solved the problem to impress the math teacher.

(Stephens (2006: 283))

The ungrammaticality in (21a) indicates that the implicit Agent does not appear in syntax.

In conclusion, this chapter argues that reflexive middles involve an Agent which appears in the pre-syntactic level and the Agent does not project into syntax on a par with canonical middles.

4.2.2.3. On the Responsibility of the Grammatical Subject

Similar to canonical middles, the grammatical subject (the Patient/Theme DP) in reflexive middles also have properties such that it can be understood to be responsible for the action expressed by the predicate, as shown in (22).[10]

(22) responsibility condition:

The grammatical subject of a middle must have properties such that it can be understood to be responsible for the action expressed by the predicate.

(Ackema and Schoorlemmer (2005: 160))

As indicated in Stephens (2006), both the canonical middle as

shown in (23a) and the reflexive middle as shown in (23b) show that some property of the grammatical subject contributes to the selling event/action. Precisely, they both comment on "doability/ feasibility of the activity" and indicate that some property of *the book* makes the selling event easy (Stephens (2006: 281, 291)).

(23) a. This book sells easily.

b. This book sells ITSELF. (Stephens (2006: 291))

4.2.2.4. Genericity

As shown in the previous chapters, it is widely accepted that canonical middles are generic statements and hence have a non-eventive reading (Keyser and Roeper (1984), Ackema and Schoorlemmer (1994, 1995), and Fagan (1988) among others). As noted in Keyser and Roeper (1984: 384), middles state propositions that are held to be generally true and they do not describe particular events in time. Genericity of canonical middles is demonstrated by the fact that middle verbs lack inflectional changes and they are typically expressed with the present tense. Note that the present tense in English is held to help contribute to the generic/habitual interpretation.[11] Similarly, it is also the case that verbs in reflexive middles appear in their present tense forms in most cases, since they denote generic statements.

The genericity of reflexive middles is also manifested in their incompatibility with imperative sentences which denote an action, like stative verbs, as shown in (24).[12]

(24) a. *Read ITSELF, the story!

b. Know the answer, John!

To sum up, reflexive middles are generic statements where the grammatical subject is responsible for the event; reflexive middles involve an Agent which does not appear in syntax; also, the reflexive pronoun is an adjunct. Based on these properties of reflexive middles, next subsection will begin to point out the differences between reflexive middles and reflexive ergatives.

4.2.3. The Differences between Reflexive Middles and Reflexive Ergatives

To begin with, it is necessary to discuss the similarities between canonical middles and reflexive middles in terms of the properties which are shared by them. Recall from Chapter 3 that the properties of canonical middles which distinguish them from ergatives are (i) responsibility of the grammatical subject, (ii) genericity, and (iii) the modal interpretation of possibility/potentiality. The modal interpretation of possibility/potentiality of reflexive middles was not discussed in the previous subsection, but it can be assumed that this property also characterizes reflexive middles, especially under the proposal in Fiengo (1980) that the reflexive pronoun in reflexive middles functions as the adverb like *easily*. Taking into account the fact that the adverbs like *easily* yield an interpretation of the easiness or potentiality of the event, it is reasonable to assume that reflexive pronouns

in reflexive middles also contribute to the modal interpretation. Therefore, the properties of reflexive middles which are shared by both canonical middles and reflexive middles are (i) responsibility of the grammatical subject, (ii) genericity, and (iii) the modal interpretation of possibility/potentiality.[13] This leads to the conclusion that reflexive middles are actually canonical middles.

Then, let us point out the differences between reflexive middles and reflexive ergatives in Present-day English, which will serve as a diagnosis for distinguishing between them in early English in what follows. The present analysis follows with Siemund (2010: 821) in arguing that reflexive pronouns in reflexive ergatives are optional intensifiers. Accordingly, there is no difference between the ergative sentence as shown in (25a) and the reflexive ergative as shown in (25b).[14]

(25) a. The river divided.

b. The river divided itself.

The three properties of canonical middles which distinguish them from ergatives, which were discussed in Chapter 3, also play an important role in distinguishing between reflexive middles and reflexive ergatives. This will also be crucial in analyzing the historical development of reflexive middles in section 4.4.

4.3. A Historical Survey

In order to clarify the development of reflexive middles in the

history of English, it is necessary to conduct a corpus survey of the development of reflexive pronouns and the development of intransitive reflexive constructions in the history of English. Section 4.3.1 will review the previous study of the development of simple reflexive pronouns (SRPs) and CRPs in Peitsara (1997). Meanwhile, the direct connection between the decreasing use of reflexive pronouns in reflexive constructions and the development of middles which is claimed in Jesperson (1927) and Rissanen (1999) will also be mentioned (see also Note 13 of Chapter 3). In order to confirm the results of those studies, the reminder of this subsection will examine the development of SRPs and CRPs in reflexive constructions, based on the data from *The Second Edition of the Penn-Helsinki Parsed Corpus of Middle English* (PPCME2), *The Penn-Helsinki Parsed Corpus of Early Modern English* (PPCEME) and *The Penn Parsed Corpus of Modern British English* (PPCMBE).[15] Based on the result shown in subsection 4.3.1, subsection 4.3.2 will examine the development of intransitive reflexive constructions in the history of English based on the data from OED. Besides, due to the close relation between canonical middles and reflexive middles in Present-day English, subsection 4.3.3 will review the relevant data of canonical middles in the earliest stage, which were discussed in Chapter 3.

4.3.1. On the Historical Development of Reflexive Pronouns

There are two great changes in the use of reflexive pronouns in the history of English. One concerns the competition between SRPs and CRPs in indicating the reflexive relation, and the other concerns the decreasing

tendency in the use of reflexive pronouns in reflexive constructions.

Precisely speaking, on one hand, reflexive relation is expressed by means of a SRP as in (26a) and occasionally strengthened by *seolf* as in (26b) from OE.

(26) OE

a. SRPs

hi hie þa up ahofon. (Alfred Oros. 94)

they them then up ahebban.

"They then raised themselves up."

b. CRPs

he þa hiene selfne forbærnde. (Afred Oros. 52)

he then him self burn.

"He then burnt himself." (Mustanoja (1960: 430))

Such Agent-subject reflexive constructions as in (26a, b) are called transitive reflexive constructions, in order to distinguish them from intransitive reflexive constructions which will be discussed in what follows. As shown in (26a), the SRP *hie* (*them*) was able to independently express the reflexive meaning of *themselves*. On the other hand, *selfne (–self)* may be added forming the CRP *hiene selfne (himself)*, as shown in (26b). It should be noted that this phenomenon continued until Modern English (Mustanoja (1960), Peitsara (1997) among many others).

On the other hand, people tended to drop the reflexive pronoun in transitive reflexive constructions wherever possible in the history of

English. According to Fischer (1992), from ME there has been a steady drift from the reflexive towards the intransitive form as shown in (27).

(27) ME

a. *make we us merie.*

"We make ourselves merry." (WPal. (1880))

b. *þay maden as mery as any men moȝten.*

"They made as merry as any men may."

(Gaw. & GK 1953) (Mustanoja (1960: 431))

The same variation can be seen in modern English as in (28) and (29).

(28) ModE

a. I would I were worthie to bee with you when *you dresse your self.*

b. They...*Dress'd* at Her, danc'd fought, and....did all that Men could do to her.

(29) a. I *prepared my self* to be redye.

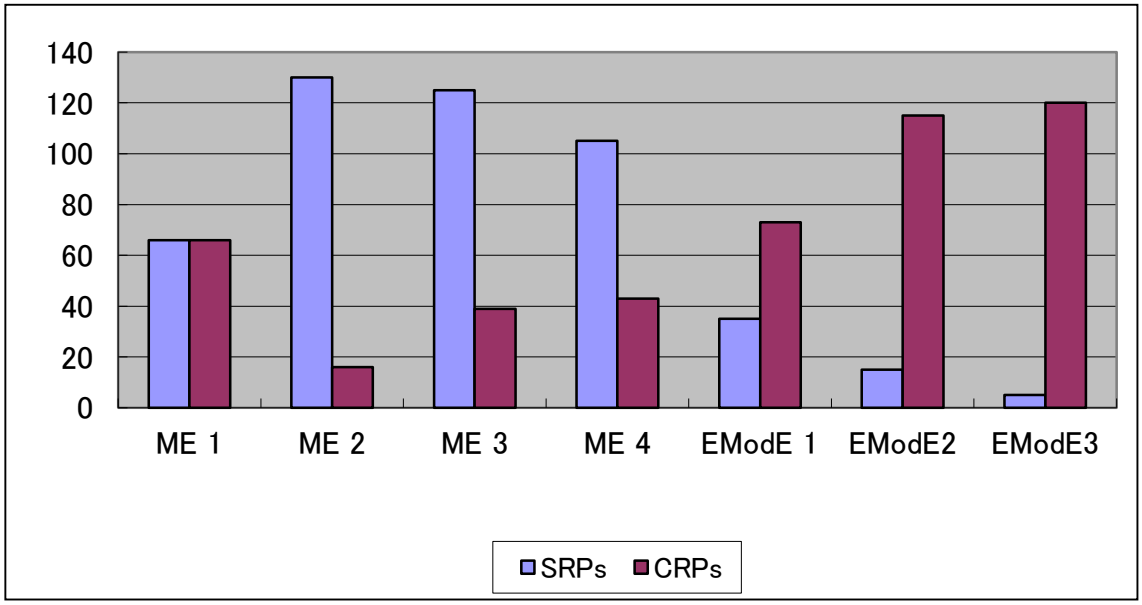
b. So the Frenchmen *prepared* to interrupt his Arrival.

(Rissanen (1999: 255))

As for the first change, Peitsara (1997) depicts the diachronic

development of reflexive constructions, focusing on the distribution of SRPs compared to CRPs from ME to EModE, based on the data from Helsinki Corpus, as shown in Figure 1.

Figure 1. SRPs Versus CRPs from ME to EModE



(Peitsara (1997: 289))

As shown in Figure 1, puzzlingly, both SRPs and CRPs appear with almost equal frequency in the first ME period. From ME2 onwards, CRPs increased quickly. The turning point for the shift in the dominance of the two types takes place between ME4 and EModE1, with an almost complete reversal of roles: CRPs outnumbers SRPs and continues to establish its dominance from EModE2.

As for the second change, Jesperson (1927) and Rissanen (1999) see the link between the decline of the use of reflexive pronouns and the development of canonical middles, and claim that the former supports the

development of the latter.[16] For example, according to Jespersen, as the reflexive pronoun *–self* is long and heavy, it was dropped gradually in the history of English and hence canonical middles emerged, as shown in (30).

(30) One of the reasons for this evolution (the decrease of the use of reflexive pronouns in reflexive constructions) is evidently the heaviness of the forms *–myself, himself,* etc., while there is not the same inducement in other languages to get rid of the short *me, se, mich, mig, sig, sja,* etc. Hence also the development of middle use in many cases.

(Jesperson (1927: 325))

This hypothesis on the relation between the decline of reflexive pronouns and the rise of canonical middles needs further explication with regard to one question: what connects the development of reflexive pronouns and the development of canonical middles?

With this question in mind, I collected the historical data on SRPs and CRPs from the three historical corpora mentioned above. This result shows the development of SRPs and CRPs in a comparatively longer historical period of time than Peitsara (1997). The result is summarized in Table 2 and Figure 2, which represent percentages of the use of SRPs and CRPs from M3 to LMod3.

Table 2. Percentages of SRPs and CRPs

in PPCME2, PPCEME and PPCMBE

	M(E)3	M4	E(ModE)1	E2	E3	L(ModE)1	L2	L3
SRPs	88%	79%	47%	29%	8%	2%	2%	1%
CRPs	12%	21%	53%	71%	92%	98%	98%	99%

Figure 2. Percentages of SRPs and CRPs

in PPCME2, PPCEME and PPCMBE

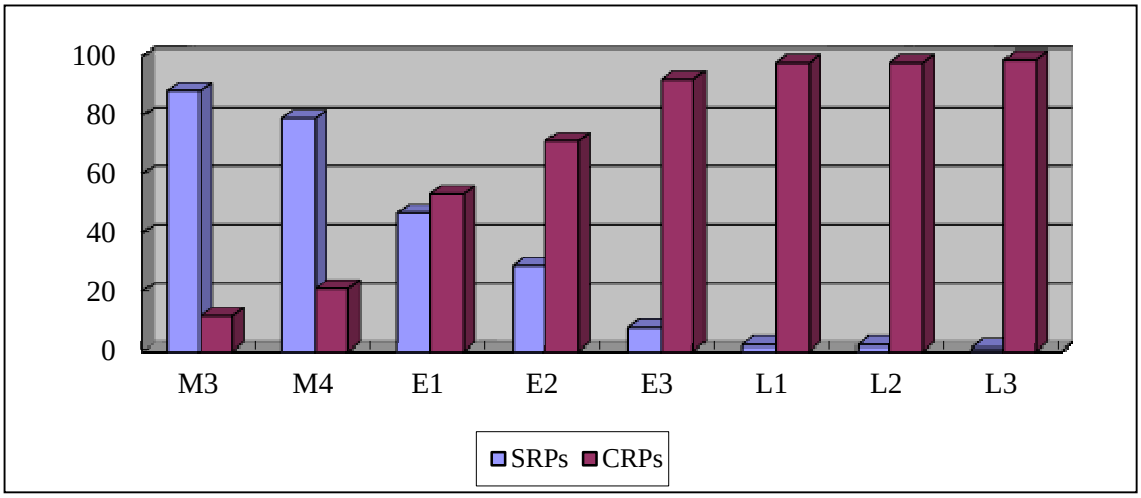


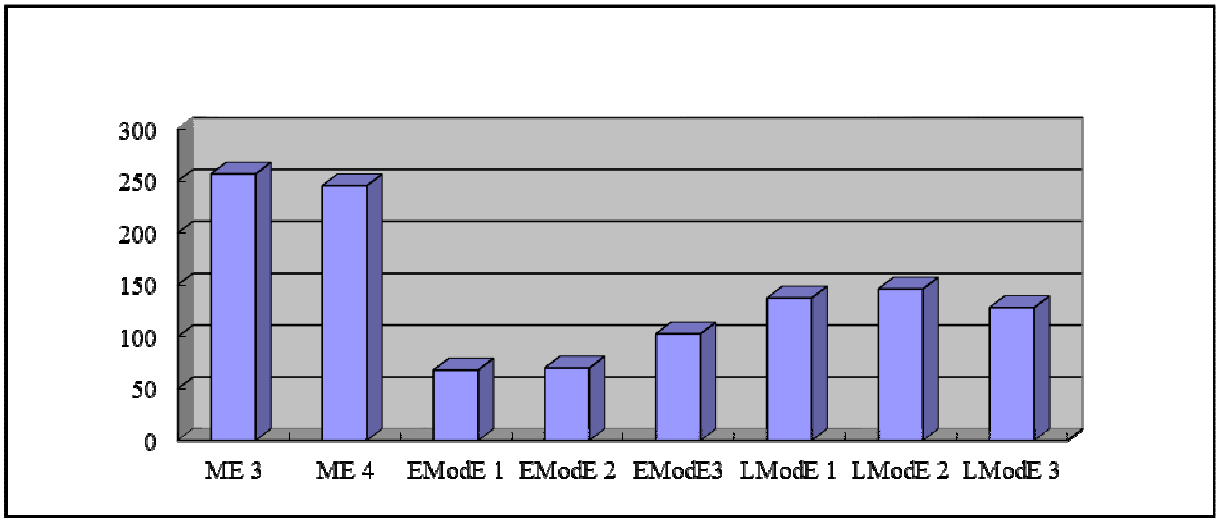
Table 2 and Figure 2 clearly show that the use of CRPs gradually gained ground from ME onwards. They increased dramatically from M4 and outnumbered SRPs in EModE 1 (between 1500 and1570, to be more precise). This indicates that the use of CRPs was established in this period. Then, they continued to establish their dominance in the following periods.

As for the change in frequency in the use of reflexive pronouns, the result is shown in Table 3 and Figure 3 (Frequency of occurrence per 10,000 tokens).

Table 3. Frequency in the Use of Reflexive Pronouns in Reflexive Constructions in PPCME2, PPCEME and PPCMBE

ME3	ME4	E(ModE)1	E2	E3	L(ModE)1	L2	L3
256.8	245.41	67.79	69.79	102.67	137.24	145.89	128

Figure 3. Frequency in the Use of Reflexive Pronouns in Reflexive Constructions in PPCME2, PPCEME and PPCMBE



As is shown in Table 3 and Figure 3, the use of the reflexive pronoun in reflexive constructions began to decrease from ME. It reached its lowest point in EModE1 when the normalized frequency occurrence is 67.79 per 10,000 tokens. However, it should be noticed that the frequency increased from EModE2 again. That is to say, the use of reflexive pronouns does not decline continuously as has ever been expected. To make it worse, combined with the discussion in Chapter 3, canonical middles began to be attested when the use of reflexive pronouns increased in EModE. Hence, this result does not confirm the claim that the development of reflexive pronouns leads to the origin of canonical middles in EModE.

In addition, I also observed the verbs in those data to see if there are verbs which can also appear in canonical middles. According to the observation in Chapter 3, verbs that appear in canonical middles in the earliest stage are *stain, read, soil, sell,* etc. In contrast, verbs which are often used in reflexive constructions are *dress, prepare, serve, behave, address,* etc., and almost all of them cannot be used in canonical middles. Therefore, there is no basis for the connection between them, as far as verbs are concerned.

As the present corpus evidence does not support the hypothesis in (31), I need to examine if there is a connection between the development of reflexive pronouns and reflexive middles. Besides, I also need to examine if there is also a connection between the development of canonical middles and reflexive middles, because the previous subsections have shown that canonical middles and reflexive middles are the same in Present-day English. With these questions in mind, I will go on to examine the development of reflexive middles based on the data from historical corpora and OED in subsection 4.3.2.

4.3.2. On the Origin and Development of Intransitive Reflexive Constructions

For convenience, this chapter uses the term “intransitive reflexive constructions” to indicate those Patient/Theme-subject reflexive constructions where a verb is directly followed by a reflexive pronoun, as mentioned in Note 5. In order to establish the exact path of the development of reflexive middles, it is necessary to classify intransitive

reflexive constructions into three types: reflexive ergatives as shown in (31a), ambiguous reflexive ergatives as shown in (31b) and reflexive middles as shown in (31c).

(31) a. reflexive ergatives

The stream of fiery Matter **divided itself** into two parts.

(Hundt (2007: 151))

b. ambiguous reflexive ergatives

This gate **opens/shuts itself**.

c. reflexive middles

Honda-the car that **sells itself**.

Let us begin by pointing out the nature of the three types of constructions as shown in (32), in order to establish when reflexive middles appeared in the history of English. In determining the status of reflexive ergatives as shown in (32a), this analysis of Hundt (2007) is adopted: ergative verbs such as *divide* that appear in reflexive ergatives are never able to be used as middles verbs; without the reflexive pronoun, the sentence will have an ergative interpretation, as shown in (32).

(32) a. The stream of fiery Matter **divided** into two parts.

b. The circular fibres of the Veins **contract**.

(Hundt (2007: 151))

In contrast, ergative verbs such as *open* and *shut* that appear in (31b) can be

used as middle verbs. As is obvious in Stephens (2006) which were reviewed in subsection 4.2.1.3, the ambiguous reflexive ergative is always ambiguous between the reflexive ergative and the reflexive middle, and the distinction is closely related to its interpretation. Moreover, reflexive middles as shown in (31c) involve transitive verbs and they only have the middle interpretation.

Based on the classification as shown in (31), I have searched the relevant data in the three historical corpora which were mentioned above. According to the result of the corpora survey, most of the tokens are transitive reflexive constructions as shown in (26). Intransitive reflexive constructions began to be attested in LModE, and there are only ten tokens, all of which are reflexive ergatives as shown in (33).

(33) a. ...the oil would tend to **spread itself** more and more over the surface. (STRUTT-1890,3,353.334)

b. But in the meantime **the "French Colonels" had signalized themselves.** (TROLLOPE-1882,183.433)

c. ...and the result is that **the water refuses to lend itself to the motion** which is required of it. (STRUTT-1890,3,358.465)

In addition, I have also collected the data of intransitive reflexive constructions from OED. The result is summarized in Table 4, which represents the numbers of quotations in each type.

Table 4. The Distribution of the Three Types of Intransitive Reflexive Constructions

	reflexive ergatives	ambiguous reflexive ergatives	reflexive middles
OE-ME	0	0	0
1500-1550	2	0	0
1551-1600	10	2	0
1601-1650	16	3	0
1651-1700	25	5	2
1701-1750	19	4	1
1751-1800	21	5	1
1801-1850	41	10	3
1851-1900	70	28	7

The frequency of each type in OED quotations is shown in Figure 4.

Figure 4. Frequency of the Three Types of Intransitive Reflexive Constructions in OED Quotations (Frequency per 100,000 quotations)

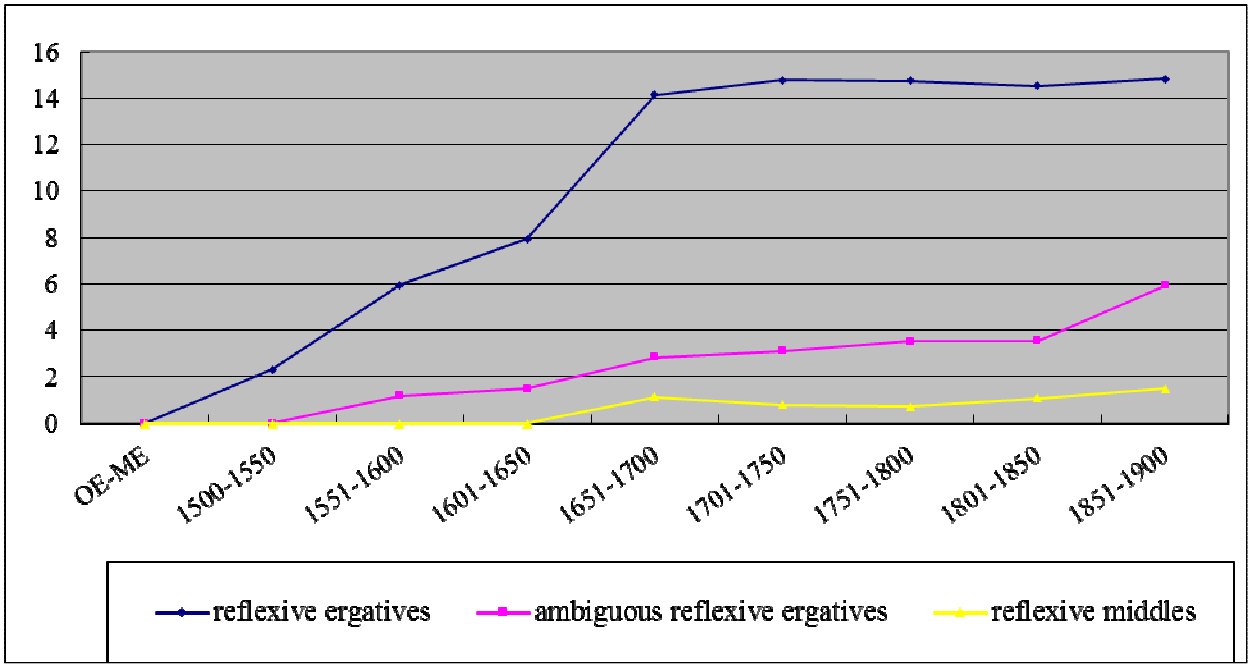


Figure 4 summarizes the changes in the frequency of reflexive ergatives, ambiguous reflexive ergatives and reflexive middles in OED quotations normalized by 100,000 quotations, divided in 50-year periods.

Some of the words in each type are shown in Table 5.

Table 5. Verbs in the Three Types of Intransitive Reflexive Constructions in OED Quotations

reflexive ergatives	*strength, separate, spread, resolve, extend, stretch, dissociate, diffuse, exhaust...*
ambiguous reflexive ergatives	*assemble, stain, scatter, open, fasten, sink , shrink, shut, affix, adjust...*
reflexive middles	*destroy, build , read, sell...*

The examples in (34)-(36) illustrate the earliest occurrence with each type of intransitive reflexive constructions.

(34) reflexive ergatives:

a. Charity **stretcheth itself** both to God and man, friend and foe. (1547 Homilies i. Charity ii. 69)

b. Whether any of the Anabaptists' sect, or other, use notoriously any unlawful or private conventicles... **separating themselves** from the rest of the parish?
(1550 Ridley in E. Cardwell Ann.)

(35) ambiguous reflexive ergatives:

a. That the Prelates and Nobles of Fraunce, and the good townes should **assemble themselves.**
(1568 Grafton Chron. II. 242)

b. Some launces, according to the mettall they mett, an skill of the guider, **staine themselues** in bloud.
(a 1586 Sidney Arcadia iii. (1590) 267 b)

(36) reflexive middles:

a. Causing the designs of the wicked, like a surcharged gun, to recoil upon and **destroy themselves.**
(1681 J. Flavel Right. Man's Ref. vi. 197)

b. The small riddle **reads itself** to him so.
(1865 Carlyle Fredk. Gt. xiv. vii. (1872) V. 239)

c. A razed table on which new classes **build themselves.**

(1882 W. B. Weeden Soc. Law Labor 180)

It is observed from these results that reflexive ergatives were the first to appear in intransitive reflexive constructions; (34a) is from the text written between1500-1550. Moreover, the investigation in this section, which distinguishes the three types of intransitive reflexive constructions as shown in (31) has revealed the exact path of the development of reflexive middles. As just mentioned, reflexive ergatives first appeared in the first half of the 16th century. Then, those ambiguous reflexive ergatives began to be attested in the second half of the 16th century; (35a) is from the text written in 1568. Verbs that appear in such type can form middles. Finally, reflexive middles appeared in the second half of the 17th century; (36a) is from the text written in 1681. Unlike the instances of ambiguous reflexive ergatives as shown in (35), the sentences in (36) involve transitive verbs and are not ambiguous: they only have the middle reading in that they are generic and attribute an inherent property to the grammatical subject, which can be held to be responsible for the event denoted by the verb.

Recall from the previous section that the present analysis follows Siemund (2010) and Hundt (2007) in arguing that reflexive pronouns in reflexive ergatives are optional intensifiers/adjuncts. This leads us to an assumption that the reflexive pronoun changed its status from an argument in transitive reflexive constructions as in (37a) to an adjunct in intransitive reflexive constructions as in (37b), forming reflexive ergatives in EModE.

(37) a. argument reflexive pronouns:

You dressed <u>yourself</u>.

b. adjunct reflexive pronouns:

Charity strengthened <u>itself</u>.

It is worthwhile to note that the emergence of intransitive reflexive constructions coincides with the establishment of CRPs (see Table 2 and Figure 2). Reflexive ergatives like (37b) began to be attested in the first half of the 16th century (EModE), when the use of CRPs outnumbered that of SRPs in expressing the reflexive relation. I propose that the establishment of CRPs triggered not only an increasing use of reflexive pronouns in reflexive constructions in Modern English, as indicated in Table 3 and Figure 3; it also triggered the intensifying function of reflexive pronouns and they would be able to be attached to ergative sentences as in (37b) in this period.

4.3.3. On Canonical Middles in the Earliest Stage in the History of English

Chapter 3 has examined the development of canonical middles in the history of English, based on the data from OED. The result has shown that canonical middles emerged in the 16th century. Recall that all the instances in the earliest stage (the 16th century) involve the modal *will* without adverbial modification, which are identical to the instance in (2a). Some examples in the earliest stage are repeated in (38).

(38) a. It (satten of Bruges) **wyll** soyle (soil). (1530 sgr. 724/2)

b. Your white Canuas doublet **will** sulley (sully).

(1596 Shakes. 1 Hen. IV, ii. iv. 84)

c. My clayth **will** nocht stenȝie (stain).

(1568 Sat. Poems Reform. xlviii. 15)

d. I finde it nowe for a setled truth·· that the purple dye **will** neuer staine. (1579 Lyly Euphues (Arb.) 82)

Note that the development of canonical middles as in (38) coincides with the emergence of ambiguous reflexive middles as shown in (36). Therefore, it is likely that there is also a connection between the development of canonical middles and reflexive middles, because both of them belong to the same middle category.

To sum up, Figure 5 provides a rough illustration of the development of the relevant constructions and CRPs which are observed in this section.

Figure 5. The Development of the Relevant Constructions and CRPs

	OE	ME	EModE	LModE	PE
transitive reflexive constructions;	→	→	→	→	→
intransitive reflexive constructions (including reflexive middles);			→	→	→
establishment of CRPs			→	→	→
emergence of canonical middles			→	→	→

A plausible scenario would be that reflexive middles emerged via the reanalysis of reflexive ergatives in the 16th century, triggered by the development of CRPs and canonical middles. The precise mechanism will be discussed in subsection 4.5, paying attention to the role of ambiguous reflexive ergatives.

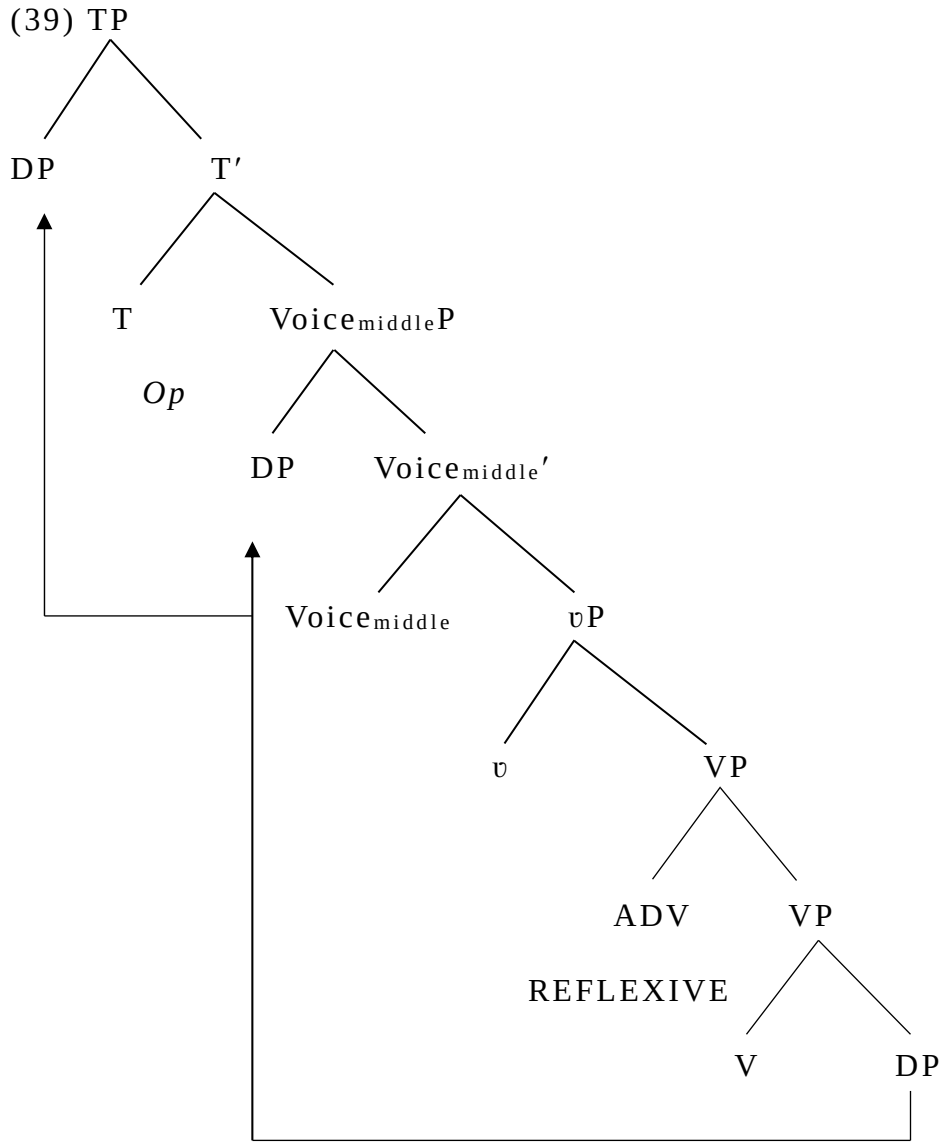
4.4. A Syntactic Analysis

This section provides a syntactic analysis of the development of reflexive middles revealed by the investigation in section 4.3, in terms of the reanalysis of reflexive ergatives. It is argued that the development of CRPs and the reanalysis of modals played important roles in triggering the emergence of reflexive middles.

4.4.1. The Structure of Reflexive Middles in Present-day English

This subsection proposes an analysis of reflexive middles in Present-day English, to provide a basis for analyzing their historical development in subsection 4.4.2. As discussed in subsection 4.2.3, the properties of reflexive middles which distinguish them from reflexive ergatives are (i) responsibility of the grammatical subject, (ii) genericity, and (iii) the modal interpretation of possibility/potentiality. Similar to the analysis of canonical middles in Chapter 3, this subsection argues with Alexiadou (2012, 2013) that these properties are captured in syntactic terms, proposing the following structure of middles in Present-day English.

(39)



Following Alexiadou (2013), this chapter assumes that Voice$_{middle}$ is present not only in canonical middles but also in reflexive middles, because both of them are generic on a par with Greek middles. As for the responsibility of the grammatical subject, this paper adopts the mechanism of secondary theta-role assignment proposed by Osawa (2001) and applied to the *get*-passive by Honda (2012) with slight modifications, proposing that Voice$_{middle}$ assigns a secondary theta-role (Agent) to the grammatical subject which moves to [Spec, VoiceP] on its way to [Spec, TP] (see also the

analysis of canonical middles in Chapter 3). Then, apart from being assigned the primary theta-role (Patient/Theme) by V as its internal argument, the grammatical subject of middles is interpreted as a secondary Agent that is responsible for the event denoted by the verb, thereby accounting for its responsibility.

Next, recall that Chapter 3 followed Massam (1992) in assuming that canonical middles have a null modal operator in T, represented as *Op* in (39), which yields the modal interpretation of possibility/potentiality in canonical middles. According to her, the case of the modal such as (2a) involves the modal operator lexicalized by a modal, as shown in (40a), while the case of the adverbial modification such as (2b) involves LF movement of an adverb to T, as shown in (40b).

(40) a. $[_{TP}$ DP $[_{T}$ modal (*Op*)$]$ $[_{voicemiddleP}$ $[_{vP}$ $[_{VP}$ V……$]]]]]$

b. $[_{TP}$ DP $[_{T}$ *Op* $]$ $[_{voicemiddleP}$ $[_{vP}$ $[_{VP}$ ADV $[_{VP}$ V……$]]]]]]$

Therefore, there are two modes of specifying the modal operator in canonical middles: direct merger of a modal in T and covert movement of an adverb to T. As for the syntactic status of the reflexive pronoun in reflexive middles, this chapter follows Fiengo (1980) in arguing that the reflexive pronoun in reflexive middles functions as an adverbial modification similar to the adverb like *easily*. That is why the reflexive pronoun is placed in the VP adjunct position in (39). The case of the reflexive pronoun involves LF movement of a reflexive pronoun to T on a

par with (40b), as shown in (41).

(41) $[_{TP}$ DP $[_{T}$ *Op* $]$ $[_{voicemiddleP}$ $[_{vP}$ $[_{VP}$ REFLEXIVE $[_{VP}$ V……$]]]]]$

The syntactic structure in (41) also accounts for the fact that the reflexive pronoun is obligatory in reflexive middles as shown in (42a), in contrast to reflexive ergatives as in (42b) where it is optional.

(42) a. reflexive middles

The small story reads *(ITSELF).

b. reflexive ergatives

The outer layer separates (itself).

Reflexive middles as in (42a) need a reflexive pronoun to move to T position to specify the modal operator in accordance to (41). Therefore, when there is no reflexive pronoun in the reflexive middle, the null modal operator in T cannot be licensed and this leads to the ungrammaticality of the sentence.

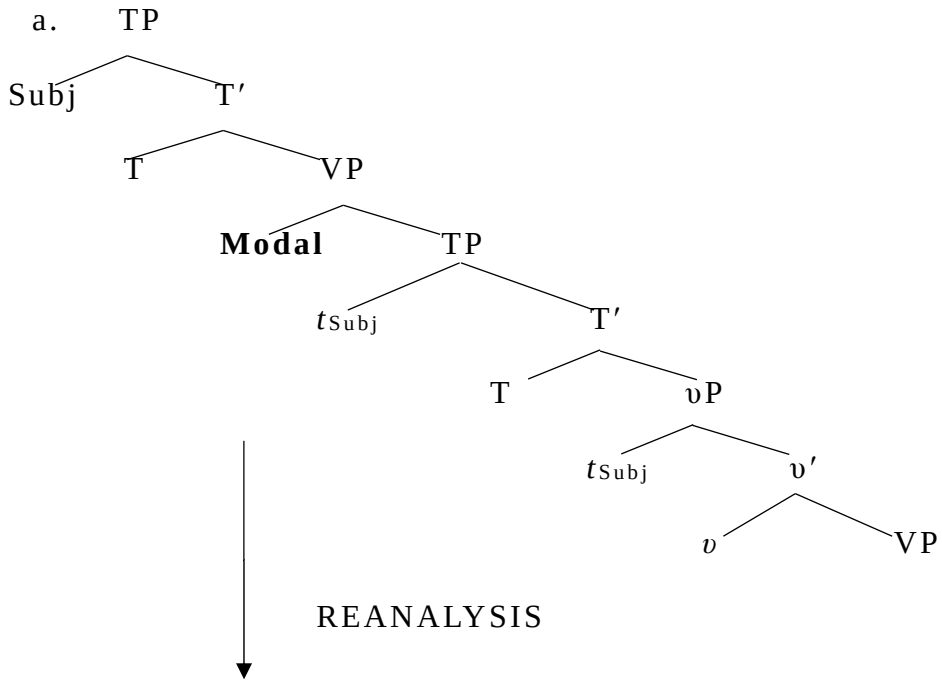
4.4.2. The Reanalysis of Reflexive Ergatives as Reflexive Middles and Its Triggering Factors

This subsection argues that there are two factors triggering the development of reflexive middles. One is related to the development of CRPs and the other is related to the reanalysis of modals as T elements.

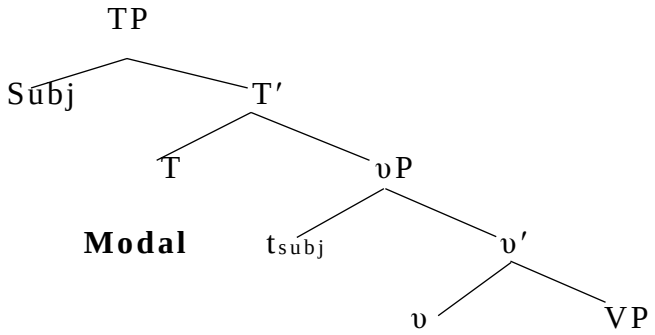
First, as we saw in subsection 4.3.1, CRPs outnumbered SRPs in EModE1 and then continued to establish their dominance in the following periods. Therefore, the first factor in the development of reflexive middles is related to CRPs: the development of CRPs triggered the emergence of intransitive reflexive constructions and became a prerequisite for the reanalysis of reflexive ergatives as reflexive middles in the 16th century. Although this factor is important and necessary, it is not a sufficient condition on the development of reflexive middles; in fact, as shown in subsection 4.3.2, CRPs first appeared in reflexive ergatives as shown in (34) in the first half of the 16th century and those reflexive ergatives do not have the middle interpretation.

Given the assumption in the previous subsection that middles involve the modal operator in T to be specified either by a modal or an adverb/a reflexive, the present analysis proposes that the second and more important factor triggering the development of reflexive middles is the reanalysis of modals as T elements. As mentioned in Chapter 3, there have been a number of studies on this topic and it is generally agreed that modals were reanalyzed from main verbs to auxiliaries in the 16th century. To take one of the recent studies, Biberauer and Roberts (2010) propose the following reanalysis of modals.

(43) a.



b.



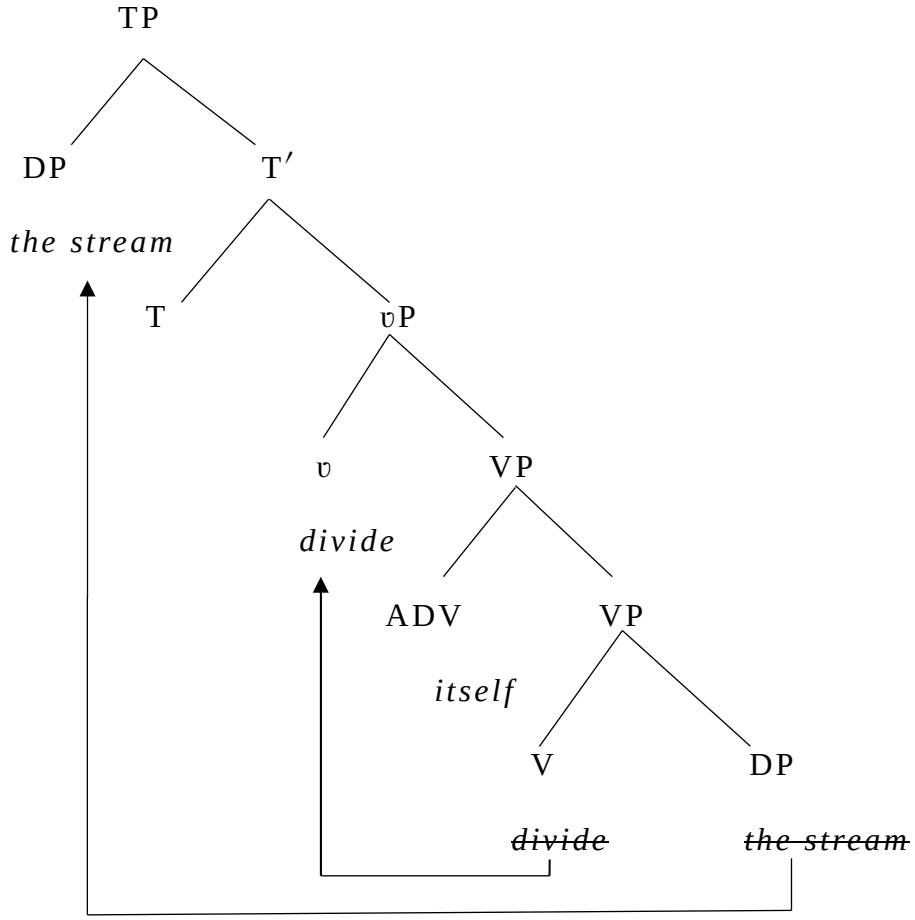
(Biberauer and Roberts (2010: 280))

In (43a), the modal is a main verb taking a sentential complement which is merged in V. This bi-clausal structure was reanalyzed in the 16th century as the mono-clausal one in (43b) where the modal is directly merged in T. This would have led to the emergence of the canonical middles in (38), because the modal operator in T can be specified by the modal verb *will* directly merged in T, as shown in (40a). More importantly, with the development of CRPs, this would have triggered the reanalysis of reflexive ergatives as reflexive middles as well, because the reflexive pronoun can be

moved to T at LF to specify the modal operator, as shown in (41).

With this in mind, let us consider the mechanism of the development of reflexive middles. When reflexive ergatives first appeared in the first half of the 16th century, its structure will be as in (44).

(44)



In (44), the Theme DP *the stream* is generated in the complement position of V. As the verb *divide* is an ergative verb, the DP *the stream* has to move to [Spec, TP] to be assigned nominative case. On the other hand, the reflexive pronoun functions as an adjunct to stress that the *dividing* event occurs spontaneously (Siemund (2010)).

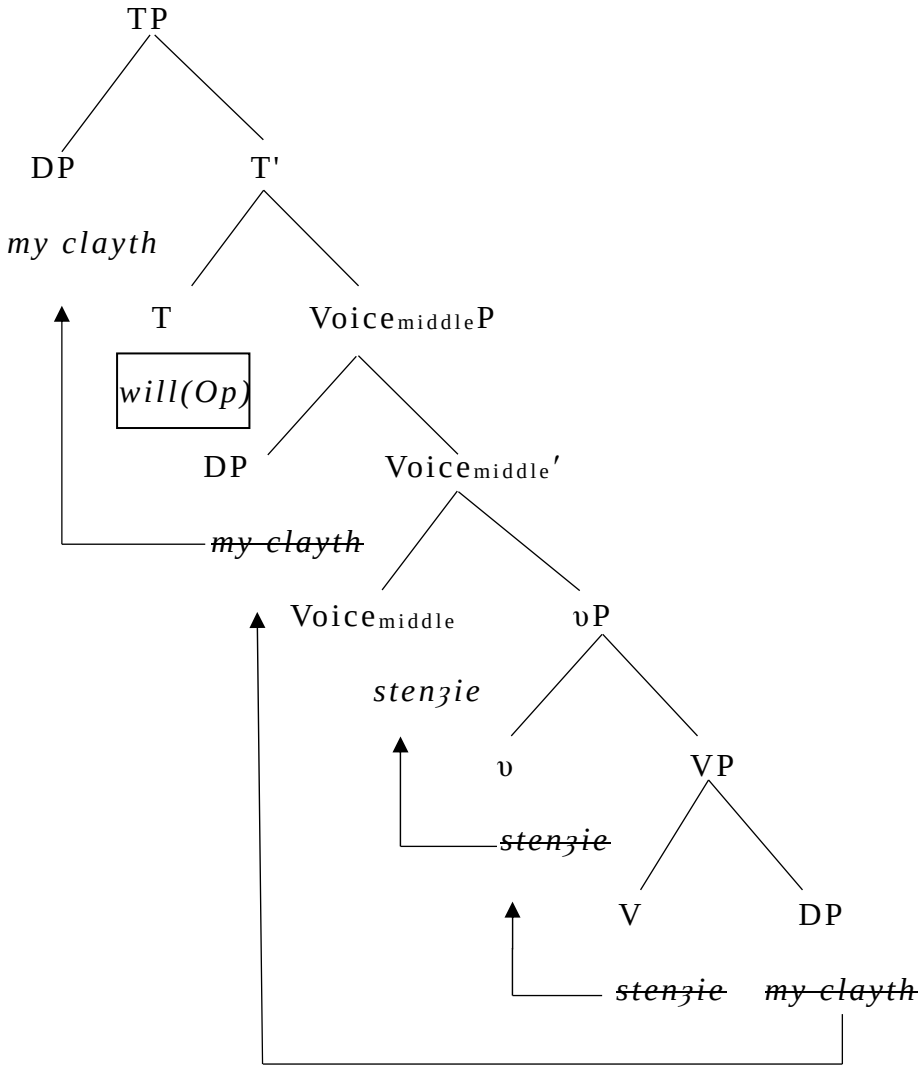
Then, examples of reflexive ergatives which are ambiguous

between ergative reading and middle reading began to be attested in the second half of the 16th century. As discussed above, the reanalysis of modals led to the emergence of canonical middles as in (38c), repeated as (45a). The corresponding syntactic structure is shown in (45b).

(45) a. My clayth **will** stenʒie (stain).

(1568 Sat. Poems Reform. xlviii. 15)

b.



As indicated in (45b), the null operator in T position is specified by direct merger of the modal *will*, which is the most basic strategy in middle

formation. On the other hand, as discussed above, CRPs develop not only in reflexive functions, but also in intensifying functions: their development led to the emergence of reflexive ergatives which have the structure in (44). Now, combined with the emergence of canonical middles, the two factors would have made it possible that the modal operator in middles could be specified by a CRP which moves to T at LF, in accordance with the assumption in the previous subsection. Take the sentence in (35b) as an example. It is repeated as (46), with its ergative reading shown in (46a) and middle reading as (46b).

(46) Some lances stain themselves.

(a 1586 Sidney Arcadia iii. (1590) 267 b)

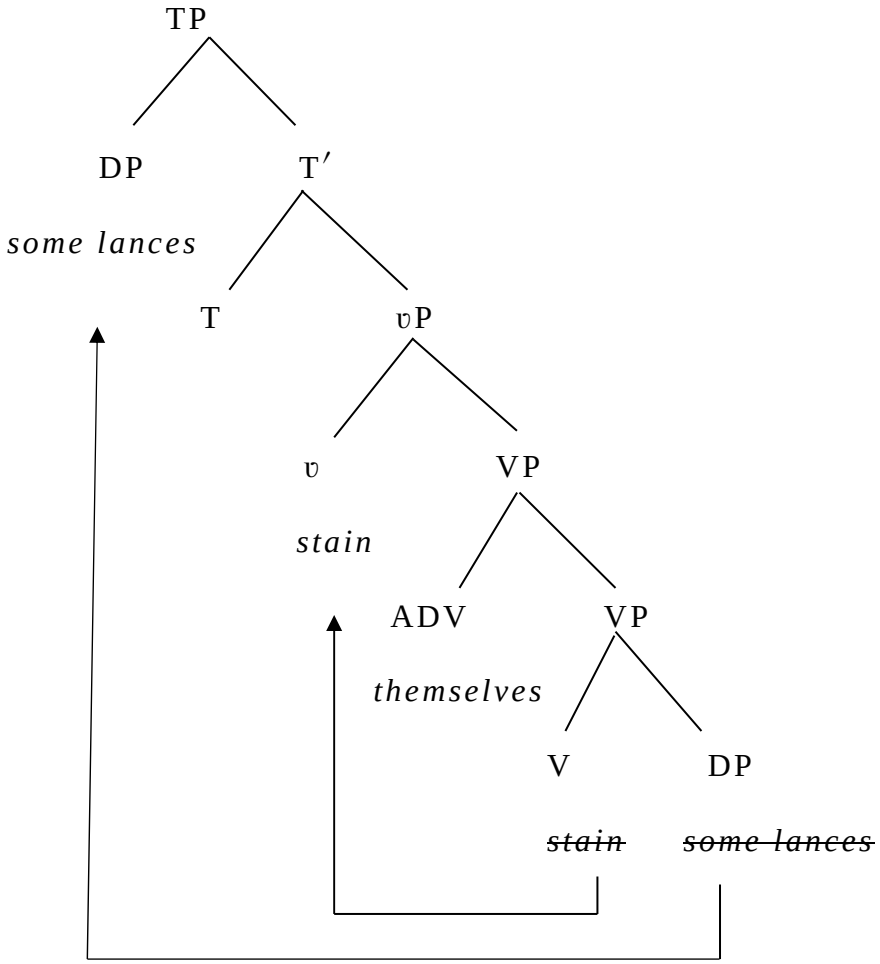
a. ergative reading: Some lances stain by themselves.

b. middle reading: Some lances have a property that makes them stained (easily).

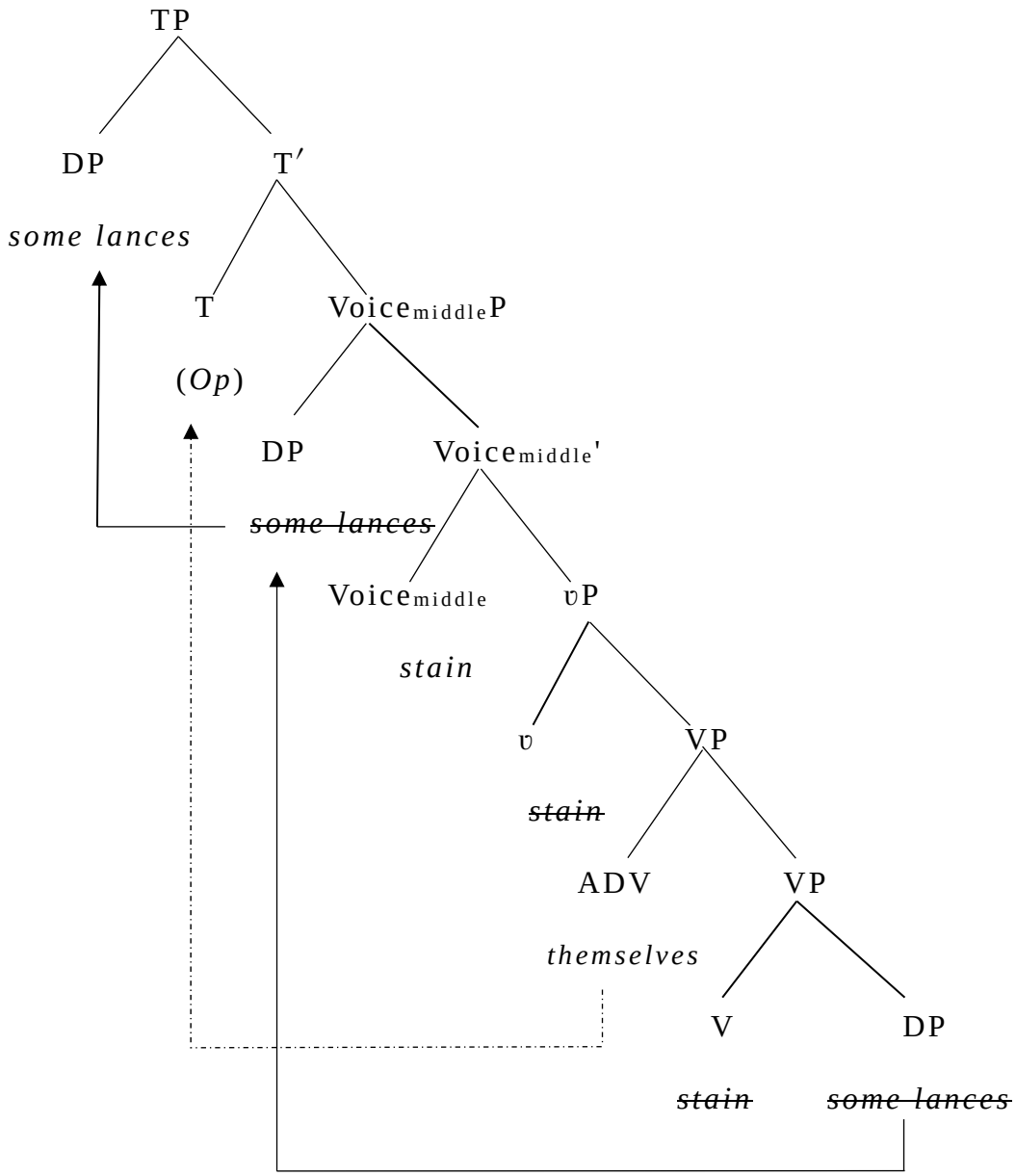
This paper proposes that such instances are the initial locus of reanalysis, because they are also structurally ambiguous, with (47a, b) corresponding to the ergative reading and the middle reading, respectively. (47a) is identical to the structure in (44). The two factors, that is, the development of CRPs and the reanalysis of modals set the stage for the development of middles: when the child was exposed to such ambiguous instances as (46), he/she could have postulated the structure in (47b), rather than that in (47a) based on the grammar of the adult generation, leading to the reanalysis of reflexive ergatives as reflexive middles in the 16th

century.

(47) a. the ergative reading:



b. the middle reading:



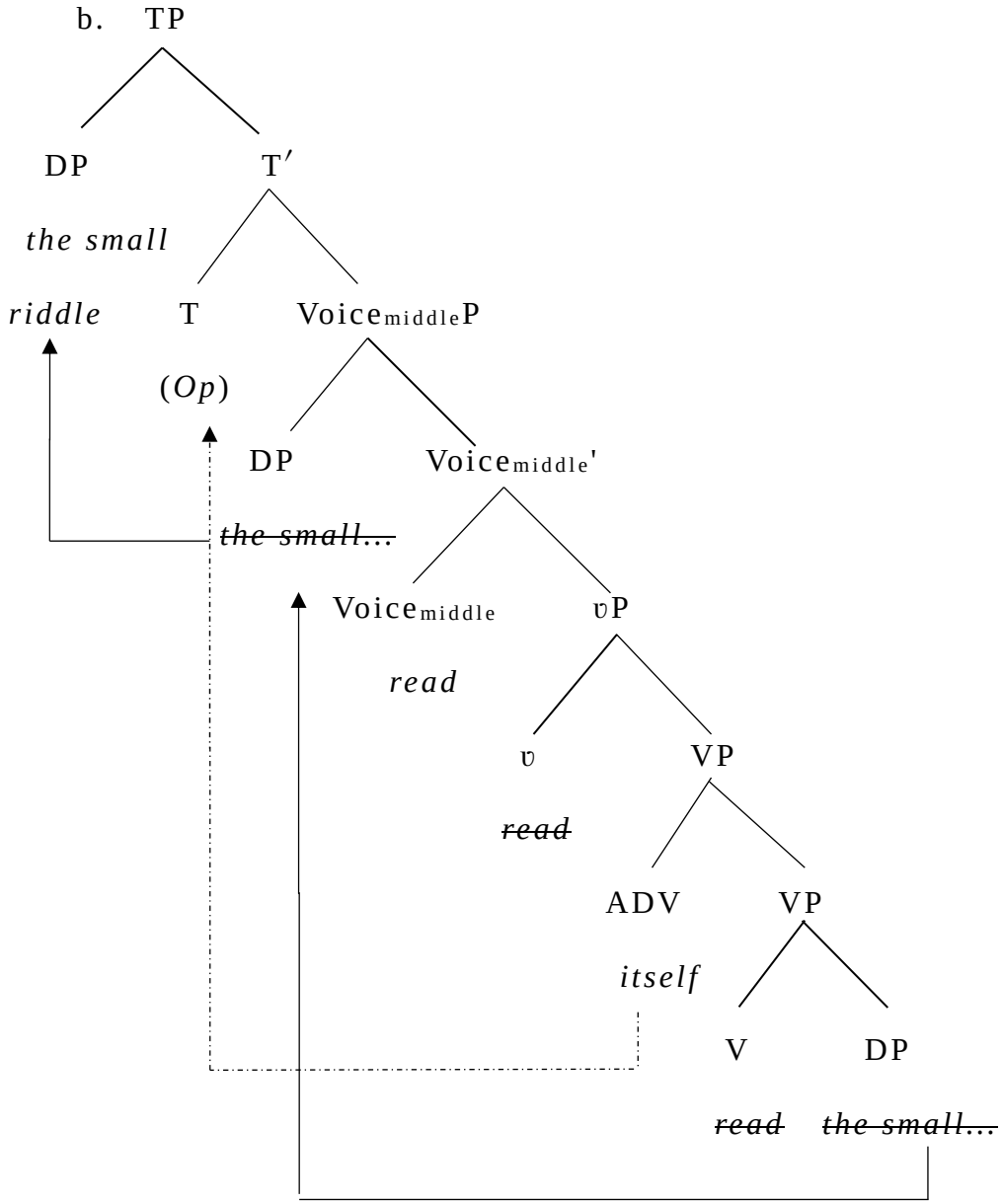
Thus, structural ambiguity straightforwardly explains the relevant reanalysis in terms of the process of language acquisition. This would have made it possible that ambiguous reflexive ergatives emerged in the 16th century and were extended to reflexive middles involving transitive verbs by extensional analogy in the 17th century. People who grasped the structure in (47b) would have been able to grasp reflexive middles

involving transitive verbs as in (36) in the same structure based on the grammar in their minds, leading to the appearance of them in the 17th century.

The following is the structure of reflexive middles in the 17th century, which is identical with the structure in (47b).

(48) a. The small riddle reads itself.

b.



This section has proposed that reflexive middles emerged via the reanalysis of reflexive ergatives, which was triggered by the development of CRPs and the reanalysis of modals. Along the lines of Fiengo (1980) and Massam (1992), it was argued that the reflexive pronoun in reflexive middles functions as an adverbial modification similar to the adverb like *easily*, and hence has to move to T at LF to specify the modal operator.

Next section will discuss the development of lexical reflexive middles in the history of English.

4.5. On the Development of Lexical Reflexive Middles in the History of English

According to Siemund (2014), verbs that appear in lexical reflexive middles such as (3c) are French/Latin-based loanwords. More examples are shown in (49).

(49) a. The opportunity presents *(ITSELF).

b. This effect manifests *(ITSELF).

Both of the sentences in (49a, b) represent inchoactive/non-causative events. For example, the lexical reflexive middle in (49a) denotes a spontaneous emergence of the opportunity. As noted in Levin (1993) and Stephens (2006), these sentences generally employ abstract nouns as their subjects and often convey a spontaneous coming into existence or appearance on a scene. Despite the different origin of the verbs, the present analysis follows Fellbaum (1989) in classifying them into the middle category.

I have collected the historical data on lexical reflexive pronouns from OED on CD-ROM by utilizing its quotation search function. The result is summarized in Table 6, which represents the numbers of their tokens. This shows that lexical reflexive middles emerged in the 16th century and increased thereafter.

Table 6. The Distribution of Lexical Reflexive Middles in the History of English

	16C	17C	18C	19C
lexical reflexive middles	4	24	19	130

Some words that appear in lexical reflexive middles in OED quotations are shown in Table 7.

Table 7. Verbs in Lexical Reflexive Middles in OED Quotations

lexical reflexive middles	*present, suggest, manifest, reveal, repeat, imply, recognize, declare, assert, expound...*

The examples in (50) illustrate the earliest occurrence with lexical reflexive middles.

(50) a. If you read on forth, it **expoundeth itself**.

(1563 Homilies ii. Agst. Idolatry iii. (1859) 216)

b. A remedie **presents itselfe**.

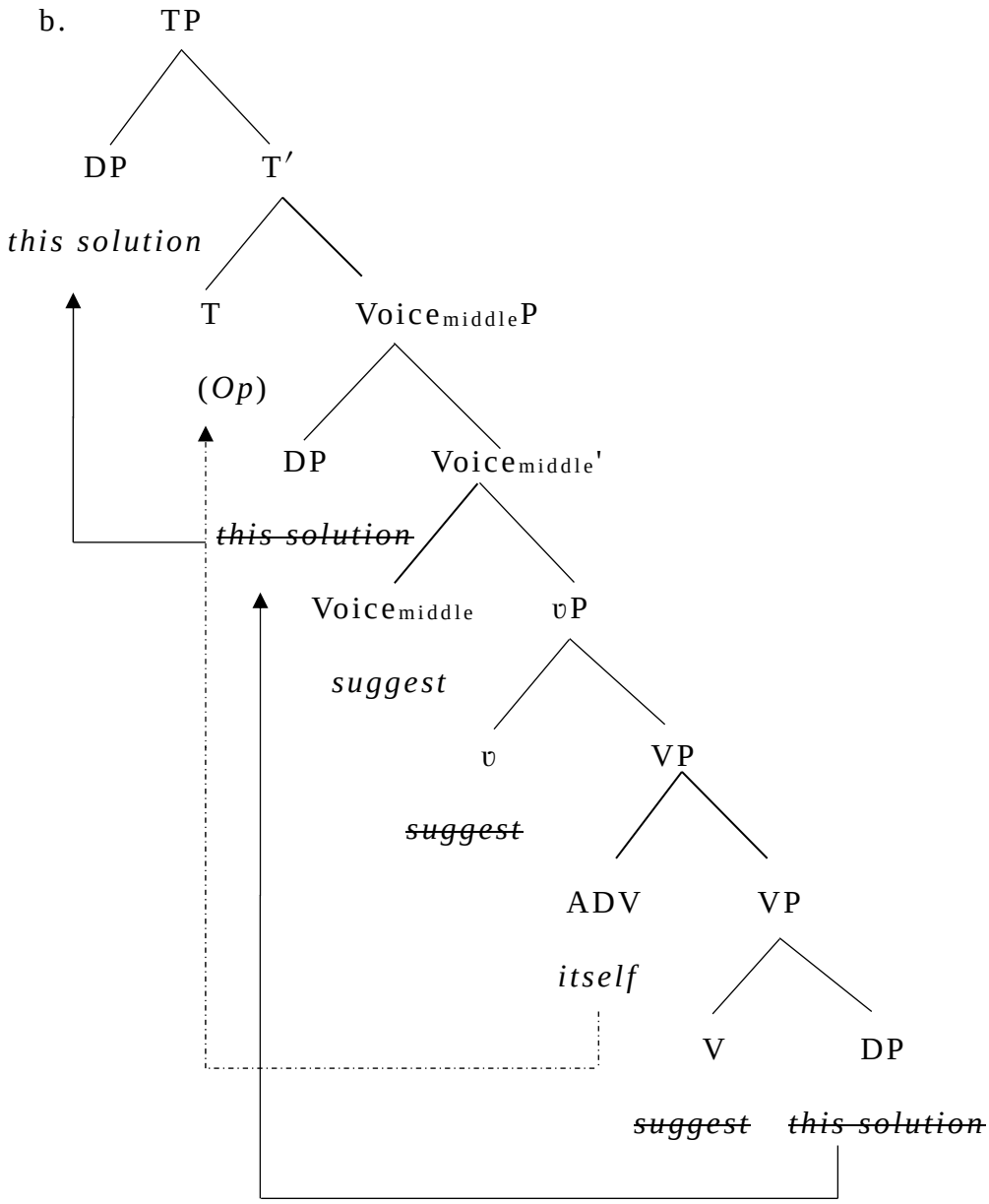
(1603 Shakes. Meas. for M. iii. i. 204)

c. The reasons thereof are not formally‥set downe, because to him that heeds attentively‥they **imply themselves.** (1641 Milton Ch. Govt. Pref.)

Following the discussion in section 4.2 and section 4.3, this section argues that the emergence of such type is also triggered by two factors: the establishment of CRPs and the reanalysis of modals. CRPs triggered the use of the reflexive pronoun with loanwords such as *present*, *suggest*, etc. This factor is necessary but not a sufficient condition on the development of lexical reflexive middles. A more important factor is related to the emergence of canonical middles. As shown in the previous sections, the emergence of canonical middles made it possible that there would appear a modal operator in T which needs to be licensed. In the case of the lexical reflexive middles, the reflexive pronoun can move to T to specify the null modal operator, in accordance with the assumption in the previous sections. Take the sentence in (3c) as an example, repeated as (51a). The corresponding syntactic structure is shown in (51b).

(51) a. This solution suggests *(ITSELF).

b.



4.6. Concluding Remarks

This chapter has discussed the origin and development of both ordinary reflexive middles and lexical reflexive middles in the history of English, correlating the process of their development with the development of CRPs and canonical middles. The result of the corpus-based research has revealed that reflexive middles emerged in the 16th century, when CRPs

were establishing their dominance in expressing the reflexive relation and canonical middles began to be attested. Along the lines of Fiengo (1980) and Massam (1992), it was argued that the reflexive pronoun in reflexive middles functions as an adverbial modification similar to the adverb like easily in canonical middles, and hence has to move to T at LF to specify the modal operator in T. Then, it was proposed that reflexive middles emerged via the reanalysis of reflexive ergatives, which was triggered by the establishment of CRPs and the reanalysis of modals.

Notes to chapter 4

[1] This chapter uses the term "middles" to indicate both canonical middles as shown in (2) and reflexive middles as shown in (3), regardless of the fact that the restriction on verb types in reflexive middles is much more strict than that in canonical middles.

[2] This chapter uses the term "ergatives" to indicate both ordinary ergative sentences (e.g. *The door opened.*) and reflexive ergatives (e.g. *The door opened itself.*). See subsection 4.2.3 of this Chapter for details.

[3] As far as the origin of the verbs in reflexive middles is concerned, verbs like *suggest* that appear in (3c) are French/Latin-based loanwords, which distinguish them from the reflexive middles in (3a, b) (cf. Siemund (2014)). Hence the present analysis will classify the reflexive middles like (3c) as lexical reflexive middles and will discuss the development of them independently in section 4.5.

[4] Fellbaum (1989) implies that it is the transitivity of reflexive middles that blocks the use of adverbs like *easily*. As noted in Stephens (2006), this argument sounds unnatural and unreasonable. As is obvious in (i), the transitive sentence allow the adverb *easily*.

(i) John probably ate the whole pie easily.

(Stephens (2006: 283))

Therefore, transitivity has nothing to do with the use of adverbs like *easily*. The analysis of Fellbaum (1989) faces the problem in accounting for the ungrammaticality of the sentences in (13).

[5] This chapter uses the term "intransitive reflexive constructions" to indicate those Patient/Theme-subject reflexive constructions where a verb is directly followed by a reflexive pronoun (e.g. *The black stain spreads itself.*). In contrast, as will be shown in section 4, those Agent-subject reflexive constructions are called transitive reflexive constructions.

[6] Another type of intransitive reflexive constructions in Stephens (2006) is lexical reflexives as shown in (i).

(i) An opportunity presented ITSELF. (Stephens (2006: 277))

The sentence in (i) corresponds to the lexical reflexive middle in (3c), both of which involve loanwords such as *present, suggest, manifest,* etc.

[7] As for the syntactic nature of virtual reflexive middles, Stephens follows Fellbaum (1989) in arguing that virtual reflexive middles as (i-b) are structurally analogous to ordinary reflexive constructions as in (i-a) where the subject represents the Agent and the reflexive pronoun represents the co-referential Patient.

(i) a. Dave$_i$ hurt himself$_i$.

b. This book$_i$ sold ITSELF$_i$. (Stephens (2006: 282))

However, on the other hand, Stephens insists that though the subject *this book* in (i-b) bears the Agent role, this implication is not absolute. Instead, the predicate of virtual reflexive middles requires two distinct participants for interpretation: a Patient and an animate Agent (Stephens (2006: 282)). Accordingly, it seems that the verb like *sell* as shown in (i-b) has three arguments: namely, an animate Agent which only appears in the interpretation, an inanimate Agent *this book* which appears as the external argument of the verb *sell* and a Patient *itself* which is the internal argument of the verb *sell*. She uses a cognitive term of "transfer of agentivity" to account for it. This brings a problem concerning the so-called transfer of agentivity: how agentivity is transferred to the Patient via the transitive reflexive syntax? Stephens also follows Fellbaum (1989) in assuming that the subject in virtual reflexives represents the Agent only in a metaphoric sense, without accounting for the precise nature of virtual reflexive middles' metaphorical property.

[8] Though Fiengo (1980) points out that the reflexive pronoun in reflexive middles is an adjunct but not an argument, he does not specify what type of adjunct it is. Anyway, there are two types of reflexive pronouns in their adjunct uses which can be distinguished from each other clearly, as shown in (i).

(i) a. the autonomy reflexive

Sophy drove the car HERSELF.

b. the emphasis reflexive

The queen HERSELF used to wear nappies.

(Rosta (1992: 340))

As shown in (i-a), the autonomy reflexive pronoun HERSELF roughly means "on her (Sophy's) own", and hence is used to describe the driving event. In contrast, the emphasis reflexive pronoun HERESELF in (i-b) is used to emphasize the subject *the queen* without any specific meaning.

Fiengo (1980) does not distinguish autonomy reflexive pronouns from emphasis reflexive pronouns and analyzes reflexive pronouns in reflexive middles as extraposed emphasis reflexive pronouns. Actually, the two types can be distinguished in two aspects (cf. Rosta (1992)). First of all, the autonomy reflexive pronoun means roughly as "on one's own", but the emphasis reflexive pronoun is only used for emphasis. Secondly, the autonomy reflexive pronoun is used to describe the event and hence is a VP adjunct, while the emphasis reflexive pronoun is an adjunct of the noun. Clearly, the reflexive pronoun in reflexive middles cannot be the emphasis reflexive, because the latter can be added to a reflexive middle as shown in (ii).

(ii) And the books *themselves* practically sell THEMSELVES.

(ibid.)

It is concluded from the above discussion that the stressed reflexive pronoun in reflexive middles is the autonomy reflexive pronoun.

[9] As shown in Stephens (2006), adverbs and similar modifiers such as *virtually*, *almost*, *essentially*, etc. may be added to reflexive middles to increase acceptability, as shown in (i).

(i) a. A recording like this **practically** recommends ITSELF.

(Stephens (2006: 278))

b. His novels are so good, they **almost** read THEMSELVES.

(Massam (1992: 130))

The present analysis follows Fellbaum (1989) in disregarding such sentences here, because these hedges obscure the conditions for the formation of reflexive middles (Fellbaum (1989: 131)).

[10] Lakoff (1977) expresses a similar intuition in saying that reflexive middles imply that certain properties of grammatical subject obviate the Agent's responsibility for the action.

[11] As indicated in Chierchia (1995: 197), genericity manifests itself overtly in the aspectual system of a language. In English, the simple present (which is aspectually imperfective) has a predominant habitual interpretation. The simple past also has natural generic interpretation. Hence, he assumes that all languages have a distinctive habitual morpheme

located in Aspectual projection between VP and TP, which can take diverse overt realization. See Chierchia (1995) for details.

[12] Stephens (2006) argues for the eventivity of reflexive middles by providing an example of reflexive middles in (i), where it is expressed in the past tense and hence permits an eventive reading.

(i) Then, a couple of years ago, I thought, 'Why don't I try this idea with the cast of American Empire'–and then **the screenplay wrote ITSELF.** (Stephens (2006: 281))

Actually, not only reflexive middles as shown in (i), but also canonical middles are sometimes acceptable in the past tense as shown in (ii), as long as they denotes generic states like middles in the present tense.

(ii) Grandpa went out to kill a chicken for dinner, but the chicken he selected did not kill easily. (Iwata (1999: 530))

As noted in Fagan (1988: 200), middles are not used to report events, but to attribute a specific property to some object. Hence, the reflexive middle as in (i) does not indicates that it is eventive, as the sentence is attributed to a specific property of the grammatical subject *the screenplay* which made the writing event easily or possible.

[13] Another property shared by canonical middles and reflexive

middles is the presence of an implicit Agent, but as it does not appear in syntax, the present analysis will not discuss it in further detail.

[14] Hundt (2007) also argues that there is no difference between the ergative sentence as shown in (ia) and the reflexive ergative as shown in (ib), based on the corpus data in Present-day English.

(i) a. Particles of the salt by degrees **insinuated** into the Pores of the bladder.

b. Particles of the salt by degrees **insinuated themselves** into the Pores of the bladder. (Hundt (2007: 151))

Verbs that appear in the sentence in (i) are ergative verbs like *insinuate*. As noted in Hundt (2007), without the reflexive pronoun *themselves*, the sentence in (ib) will have the same ergative interpretation as that in (ia). Accordingly, the sentence in (ib) can be regarded as an ergative sentence with an optional reflexive pronoun which functions an intensifier.

[15] The texts in PPCME 2, PPCEME and PPCMBE are distributed into the following periods: M1 (1150-1250), M2 (1250-1350), M3 (1350-1420), M4 (1420-1500), EModE1 (1500-1570), EModE2 (1570-1640), EModE3 (1640-1710), LModE1 (1710-1780), LModE2 (1780-1850), and LModE3 (1850-1920).

[16] Besides, Strang (1991), for instance, argues that there is a direct

connection between the development of reflexive verbs and canonical middles, as stated in (i).

(i) Of the most general import was the increasing disuse of reflexives with such verbs as *rest, dress, wash, move*, whence grew the now highly important class of middle verbs. Already established in the type during II [1570-1770] are *compare* (= "be comparable with"), *eat* (+*short*, *well*), *pawn*, *tell*, *wear* (+*well*, *out*). Though there are traces earlier, and the class has grown in membership, its real establishment as a type dates from this period. (Strang (1991: 153))

As pointed in Hundt (2007: 132), only *dress* is still reflexive in meaning even when it is used without the reflexive pronoun. That is, the question is whether the verbs that Strang mentions in (i) allow for variation between reflexive constructions and canonical middles. She claims that the disuse of reflexive pronouns with verbs such as *rest*, *dress*, *wash* and *move* contributed greatly to the establishment of canonical middles as a constructional type in EModE. However, the result of the observation of canonical middles based on the data from OED revealed in Chapter 3 shows that most of these verbs cannot be used in reflexive variants of canonical middles. Moreover, combined with the result of the investigation of reflexive middles revealed in this chapter, the appearance of canonical middles appear a little earlier than reflexive middles which involve the same verb, as shown in (ii).

(ii) a. My clayth **will** nocht stenȝie (stain).

(1568 Sat. Poems Reform. xlviii. 15)

b. Some launces, according to the mettall they mett, an skill of the guider, **staine themselues** in bloud.

(a 1586 Sidney Arcadia iii. (1590) 267 b)

As shown in (ii), the verb *stain* appear in both the canonical middle in (i-a) and the reflexive middle in (i-b). However, the appearance of the former was a little earlier than the latter. It means the development of reflexive pronouns does not play a role in the emerfence of canonical middles. Therefore, OED data provides no evidence that canonical middles derives from reflexive constructions. The data from OED does not support the analysis of Strang (1990).

Chapter 5

A Syntactic Analysis of Actives, Passives, Middles and Ergatives in English

5.1. Outline

This chapter aims to propose a syntactic account for actives, passives, middles and ergatives in Present-day English within the recent minimalist framework. This analysis sheds light on the word order and differences between these four constructions, by applying the system of feature inheritance in VP domain. Section 5.2 introduces the syntactic and semantic properties of these four types of constructions and sums up differences between them. Section 5.3 reviews the mechanism of feature inheritance (Chomsky (2008)) and a new proposal on optional C-T feature inheritance in Ouali (2008). Section 5.4 proposes splitting the functions of the light verb in the standard analysis of clause structure into three functional categories, based on the smuggling approach of passives in Collins (2005) and its application in Roberts (2010, 2014). Then, the

reminder of this section accounts for the syntactic structures of actives, passives, middles and ergatives in a unified manner under the proposed syntactic structure. Section 5.5 shows three consequences of the present proposed analysis. Section 5.6 is concluding remarks.

5.2. Differences between Actives, Passives, Middles and Ergatives

Let us begin this section by showing the four types of constructions which are exemplified as in (1).

(1) a. actives:

John stained the window.

b. passives:

The window was stained (by John).

c. middles:

The window could stain (*by John).

d. ergatives:

The window stained (*by John).

As shown in the active sentence in (1a), the grammatical subject *John* corresponds to the external argument of the verb *stain*, and the object *the window* corresponds to its internal argument.[1] Besides, as the sentence involves an accomplishment verb *stain*, it has an eventive reading. On the other hand, the grammatical subject *the window* in the passive sentence (1b), the middle sentence (1c), and the ergative sentence (1d) corresponds to the internal argument of the verb. Passives, middles and ergatives share a

property that the Patient (or Theme) argument becomes the grammatical subject.

Even so, the latter three constructions have different properties. In the passive sentence in (1b), the implicit Agent *John* can appear as the complement of *by*-PP; due to occurrence of the accomplishment verb *stain*, the sentence has an eventive interpretation. In the middle sentence in (1c), the implicit Agent cannot be syntactically present in *by*-PP; the sentence always has a non-eventive interpretation, though the verb *stain* is eventive. In the ergative sentence in (1d), the implicit Agent cannot appear as the complement of *by*-PP; the sentence always has an eventive interpretation. Table 1 sums up differences between actives, passives, middles and ergatives.

Table 1. Differences between Actives, Passives, Middles and Ergatives

	grammatical subject	eventivity	*by*-phrase
actives (1a)	Agent	eventive	------
passives (1b)	Patient	eventive	Yes
middles(1c)	Patient	non-eventive	No
ergatives (1d)	Patient	eventive	No

5.3. Theoretical Background

5.3.1. Feature Inheritance: Chomsky (2008)

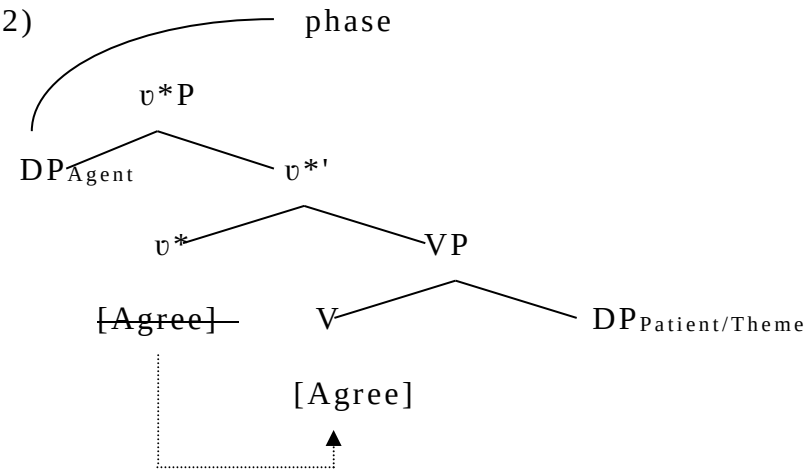
Chomsky (2000 et seq.) argues that the structure is transferred from the derivational workspace to the interface component cyclically or by

phase. The effect of transfer to the phonological component (Spell-out) is that uninterpretable features of lexical items included in the already-built structure are stripped off, in order for the remaining syntactic object to conform to the principle of Full interpretation–that is, to include only symbols that are interpretable at the semantic interface (Chomsky (2008: 154)).

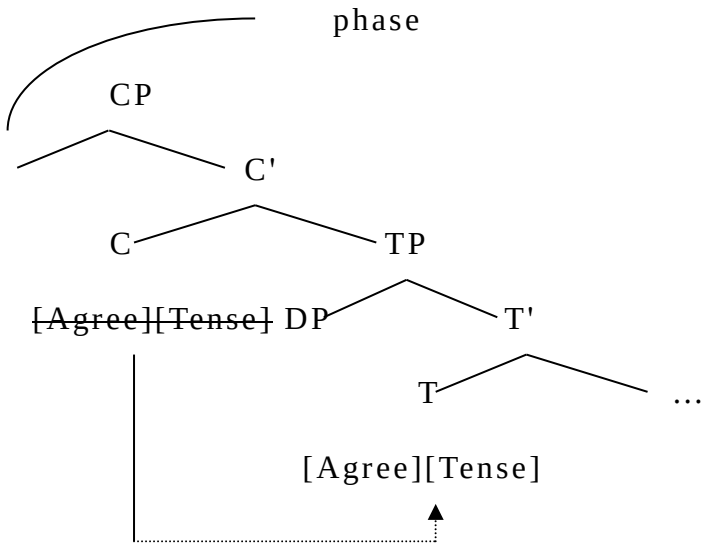
In addition, for υ*P and CP as phases, this means that the complements of υ* and C are transferred; hence, their uninterpretable features are removed from the narrow-syntactic computation.[2] Only the edge of the phase remains present in the derivational working space at the next cycle. Therefore, agree and transfer must happen simultaneously.

Under such a circumstance, a new mechanism called feature inheritance is introduced. Under this mechanism, the Agree feature on V and T are not inherent. Instead, it is inherited from υ* and C respectively, as shown in (2) and (3). Note that according to Chomsky, feature inheritance is obligatory rather than optional.

(2)



(3)



After the Agree feature and the Tense feature are inherited from C to T as shown in (4a), DP moves to [Spec, TP] to satisfy the EPP feature of T as indicated in (4b).

(4) a. $[_{CP}C\ [_{TP}\ DP\ T_{[Agree][Tense]}\ [_{v*P}\ <DP_{[Agree]}>\ \ldots\ ]]]$

b. A-movement to satisfy the EPP feature of T.

In (4a), the Agree feature on T functions as a probe and searches for a proper goal in its domain. As the subject DP in [Spec, v*P] is the closest element to T, it enters into an agree relation with the probe. As a result, the Agree feature on T and the Case feature on DP are valued at the point of (4). Then the subject DP is raised to [spec, TP] to satisfy the EPP feature of T. The derivation converges.

5.3.2. Ouali (2008)

With regard to feature inheritance, an important topic in linguistic

studies is the relation between the phase head and the subjacent non-phase head. For instance, Ouali (2008) discusses feature inheritance in C-T domain and argues that feature inheritance is optional in C-T domain, based on a cross-linguistic study. A pair of English examples in his study is shown in (5).

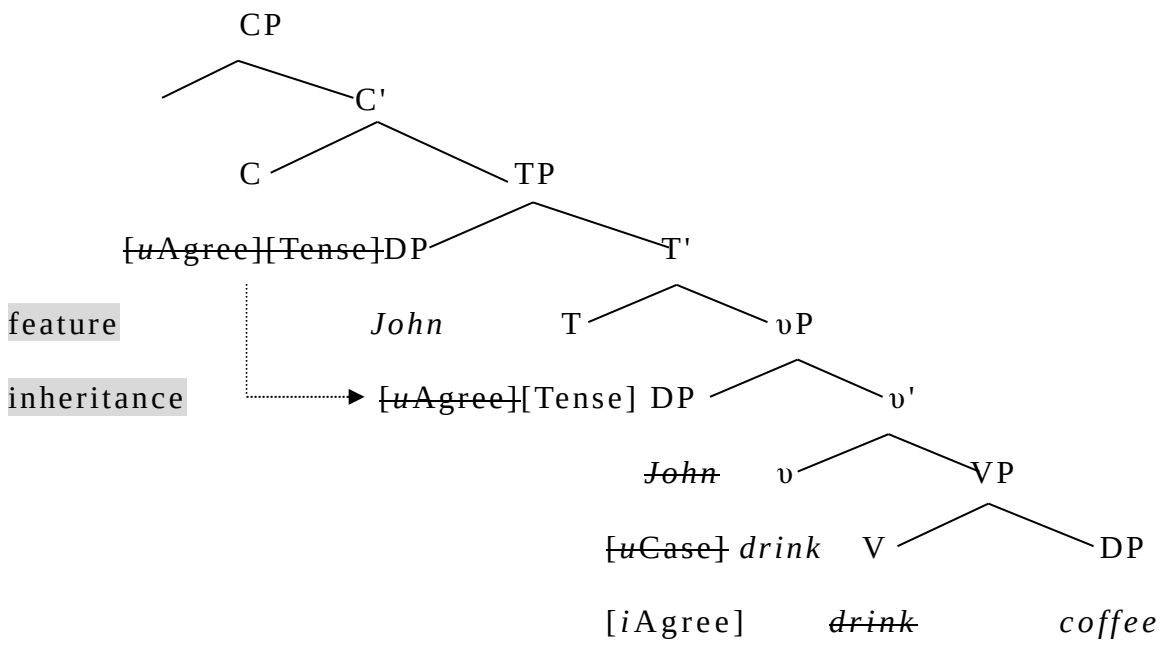
(5) a. John drinks coffee. (declaratives)

b. Who drinks coffee? (*wh*-questions)

(Ouali (2008: 161))

The derivation of the declarative sentence in (5a) is shown in (6).

(6) John drinks coffee. (=5a)



(cf. Ouali (2008: 166))

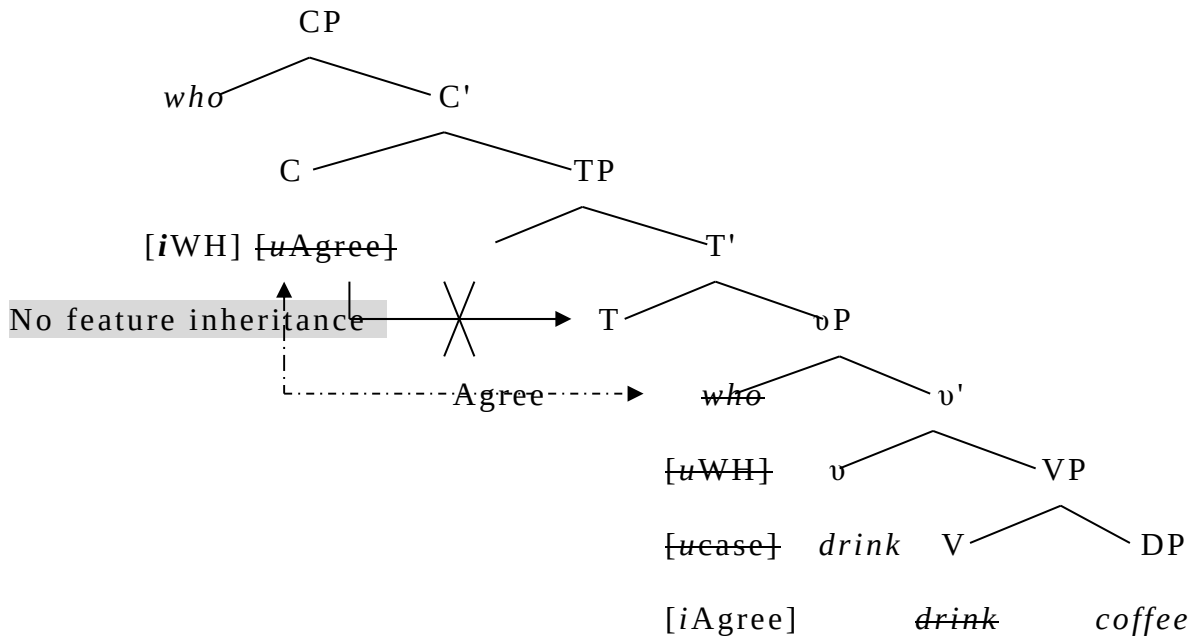
As shown in (6), both the Agree feature and the Tense feature are inherited

from C to T. Then, as T has an uninterpretable Agree feature, it functions as a probe and searches for an appropriate goal in its domain. On the other hand, as the subject DP *John* merged in [Spec, *v*P] has an uninterpretable Case feature, it becomes the appropriate goal. The agree relation is established. As the result of the agreement between T and the subject DP *John* in [spec, *v*P], all the uninterpretable features are valued. The [*u*Agree] feature on T is valued by the subject DP *John* and it is deleted. The [*u*Case] feature on the subject DP *John* is valued as Nominative by T and it is deleted. Then DP *John* is moved to [Spec, TP] to satisfy the EPP feature of T. The derivation of the sentence in (5a) converges, in accordance with (3-4).

However, a problem arises in the derivation of the *wh*-question in English in (5b) with its corresponding syntactic structure shown in (7). In this derivation, the Agree feature on C is not inherited to T. It is assumed that *who* has the [*u*WH] feature and C has the [*i*WH] feature.[3] If the Agree feature on C is inherited to T, T will become a probe by virtue of bearing this [*u*Agree] feature. T probes and agrees with the *wh*-element *who* in [Spec, *v*P]. As a result of the agreement, both the [*u*Agree] feature on T and the [*u*Case] feature on *who* can be valued. However, the [*u*WH] feature on *who* will not be able to be valued, because the head that is needed for this to happen, namely C, is now inactive as it has already transferred its [*u*Agree] to T. The derivation is doomed to crash. According to Ouali (2008), a solution to this problem is that the [*u*Agree] feature on C is not inherited to T. Hence, C keeps its [*u*Agree] feature, and remains active. C enters into a Probe-Goal relationship with *who* in [Spec, *v*P]. As a result,

C can value both the Case feature and the [*u*WH] feature on *who*. Finally, *who* is moved to [Spec, CP]. This process is shown in (7).

(7) Who drinks coffee? (=5b)



(cf. Quali (2008: 166))

According to Ouali (2008), the Agree feature is kept on C in the interrogative sentence as in (5b). In this case, C directly agrees with the subject *who* in [Spec, υP]. The generalization can be summed up in (8).

(8) If C has the [wh] feature or other left-periphery related features, the Agree feature is not inherited from C to T. (5b)
If C carries no left-periphery related features, the Agree feature is inherited from C to T. (5a) (cf. Ouali (2008))

The case of the *wh*-question as in (5b) does not involve feature

inheritance; it is an instance of C-agreement rather than T-agreement. Contrary to Chomsky (2008), feature inheritance is optional in Ouali's (2008) analysis.

5.4. A New Proposal

This section attempts to propose a system of optional feature inheritance and a new syntactic structure in VP domain which can account for the differences between actives, passives, middles and ergatives in a unified manner.

5.4.1. A Smuggling Approach to Passives: Collins (2005)

Collins (2005) holds that passives have basically the same argument structure as as actives; the passive morphology does not absorb the external theta-role of the verb to which it is attached, contrary to many previous studies on passives. Instead, the external argument appears in [Spec, υP] in accordance with the Uniformity of Theta Assignment Hypothesis (UTAH) proposed by Baker (1988) as shown in (9), and it is syntactically licensed by the preposition *by* merged in the head of VoiceP which is located immediately above υP.

(9) Uniformity of Theta Assignment Hypothesis (UTAH):

Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

(Baker (1988: 47))

Under this analysis of passives, movement of the internal argument over the external argument would incur a Relativized Minimality violation (Rizzi (1990)). Collins provides the following solution to this problem in terms of smuggling: the movement of VP out of *v*P makes the internal argument closest to T, allowing for its promotion to [Spec, TP] without violating Relativized Minimality. Smuggling is defined as in (10) and (11).

(10) Suppose a constituent YP contains XP. Furthermore, XP is inaccessible to Z because of the presence of W, some kind of intervener that blocks any syntactic relation between Z and XP. If YP moves to a position c-commanding W, we say that YP smuggles XP past W.[4]

(11) Z [$_{YP}$ XP] W < [$_{YP}$ XP] >

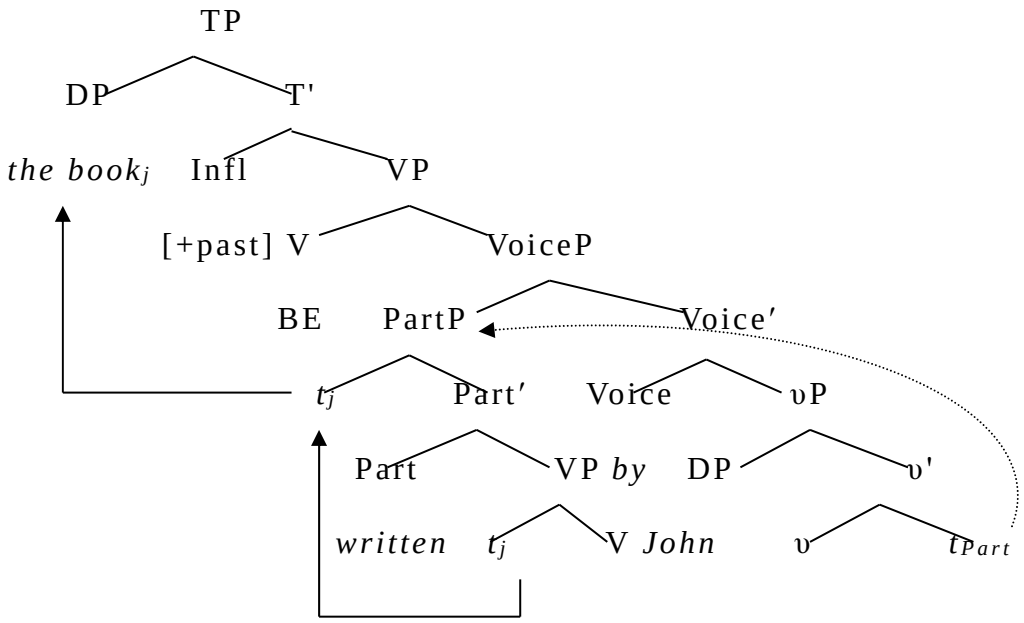
OK

Not OK

(Collins (2005: 97))

Under the smuggling approach, the derivation of passives is shown in (12), where *v* takes Part(iciple)P as its complement and Part takes VP as its complement.

(12) The book was written by John.



(cf. Collins (2005))

In (12), the movement of PartP to [Spec, VoiceP] renders the internal argument *the book* closest to T, allowing it to move through [Spec, PartP] to [Spec, TP], where it is assigned Nominative Case. The external argument *John* in [Spec, υP] is assigned Accusative Case by the preposition *by* merged in Voice. Thus, under the smuggling approach, passives have the external argument in [Spec, υP] and it is licensed by Voice.[5]

Note that under Collins' analysis as in (12), the assignment of Agent theta-role and the assignment of Accusative case are split into two functional categories: υ takes the responsibility of the former and Voice takes the responsibility of the latter.

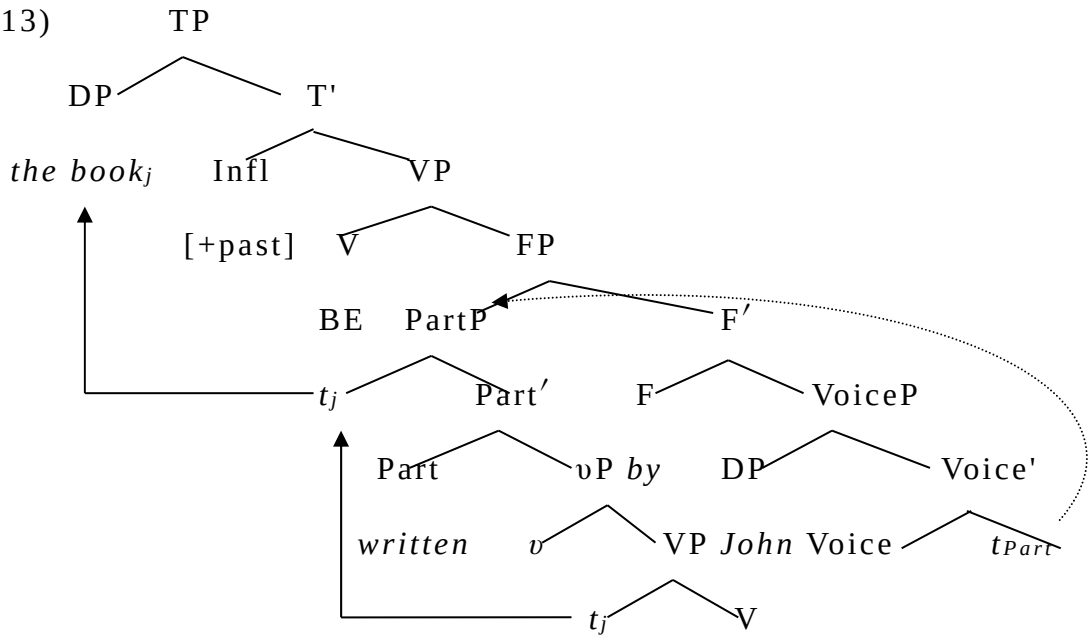
5.4.2. The Derivation of Actives, Passives, Middles and Ergatives

Though Collins also employs a projection called VoiceP as shown in

(12), the VoiceP in his analysis does not introduce the external argument nor assign the external theta-role, which makes it different from the VoiceP in Kratzer (1996). Recall from Chapter 3 that Voice in Kratzer's (1996) analysis has the role of external theta-role assignment. In contrast, as shown in (12), Voice in Collins (2005) only hosts a fronted verbal projection PartP. In this sense, it can be assumed that VoiceP in Collins' (2005) analysis is the phase in VP domain and [Spec, VoiceP] position is the edge position (cf. Roberts (2010)). This chapter uses the term "FP", for convenience, to replace the VoiceP in Collins' analysis.

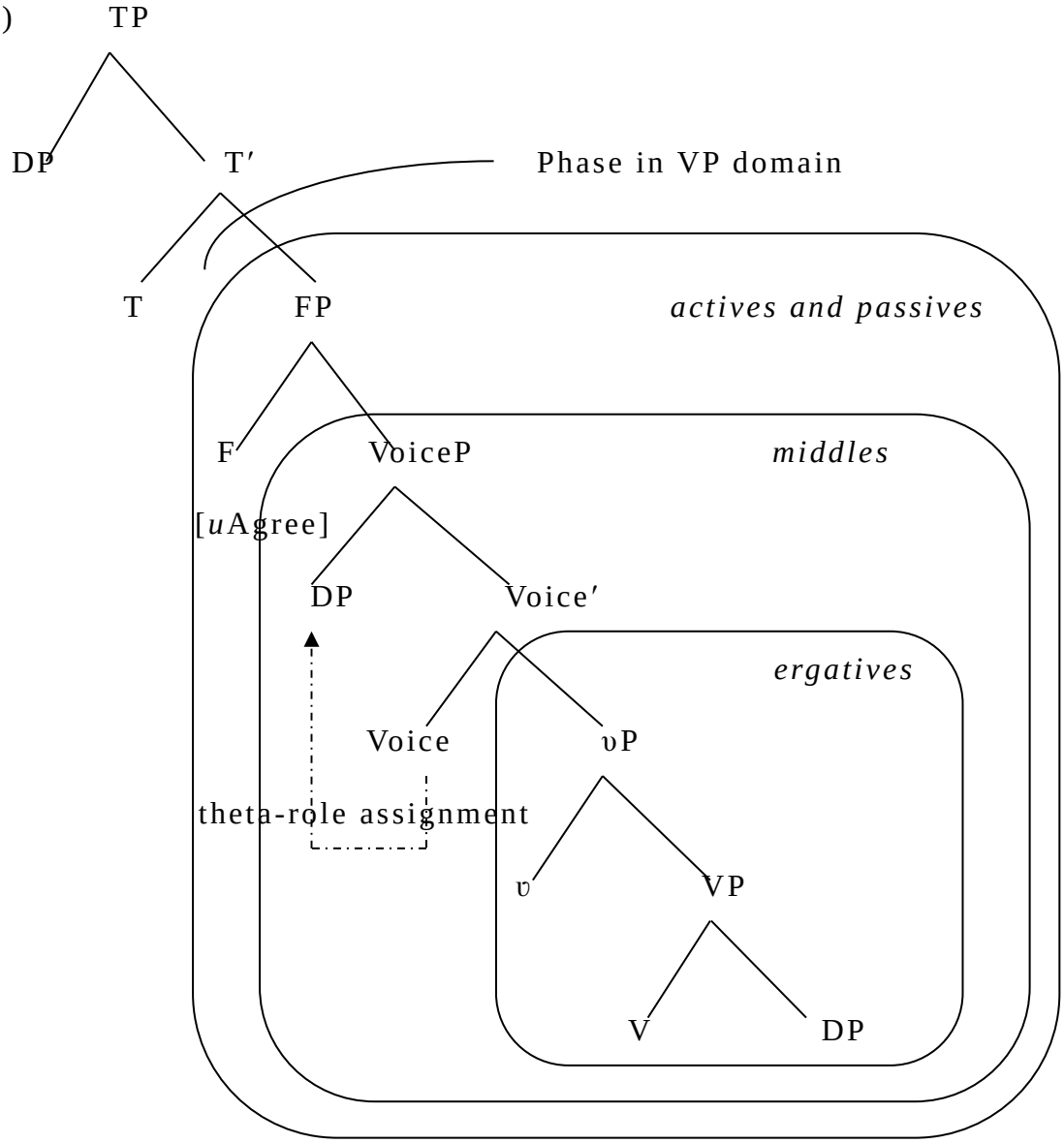
Moreover, in accordance with the analysis of middles in the previous chapters, this chapter adopts the term "VoiceP" in Kratzer (1996) to replace υP in Collins' analysis, which introduces the external argument and assigns the external theta-role. Accordingly, the syntactic structure of passives as in (12) is revised as (13).

(13)



Based on the revised syntactic structure of passives as shown in (13), this chapter argues that the syntactic and semantic differences between actives, passives, middles and ergatives are captured in syntactic terms, proposing the following structure in Present-day English.

(14)



Precisely speaking, in (14), VP domain involves three functional heads: F, Voice and υ. FP corresponds to VoiceP in Collins' (2005) analysis as

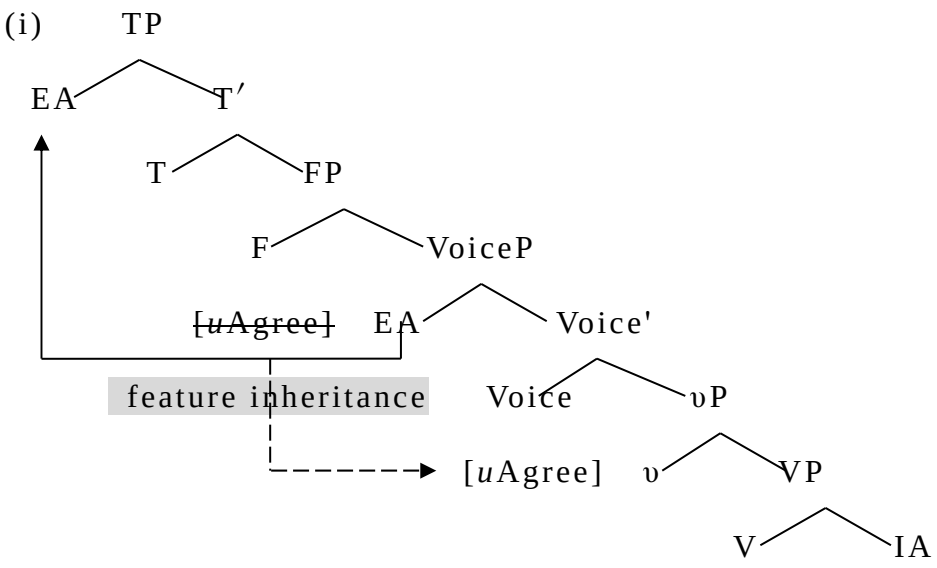
shown in (12), which is the phase of VP domain. Hence, F carries [*u*Agree] feature (cf. Roberts (2010, 2014). VoiceP hosts the external argument and Voice has a role of external thera-role assignment (Kratzer (1996). *v* is a verbalizer and contributes to event interpretation (cf. Marantz (2005)).

Moreover, as can be seen from (14), differences between actives, passives, middles and ergatives can be accounted for in syntactic terms. Both actives and passives involve FP; the differences between them can be accounted for in terms of (optional) feature inheritance on [*u*Agree] on F, as will be discussed in what follows. The syntactic structure of middles does not involve FP. The syntactic structure of ergatives only involves υP.

(15) a. FP is projected in actives and passives.

In actives, the Agree feature is inherited from F to Voice, as shown in (i).

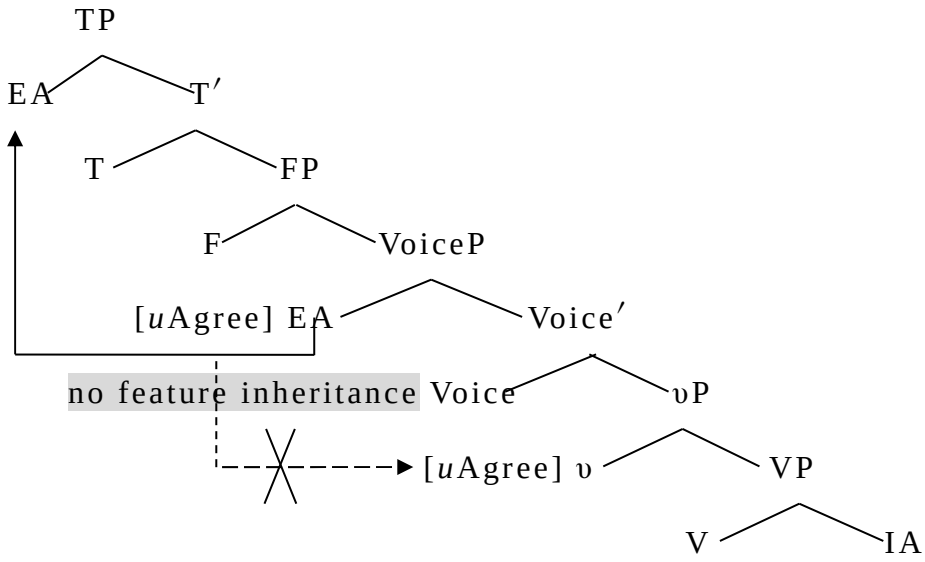
(i)



(EA: external argument; IA: internal argument)

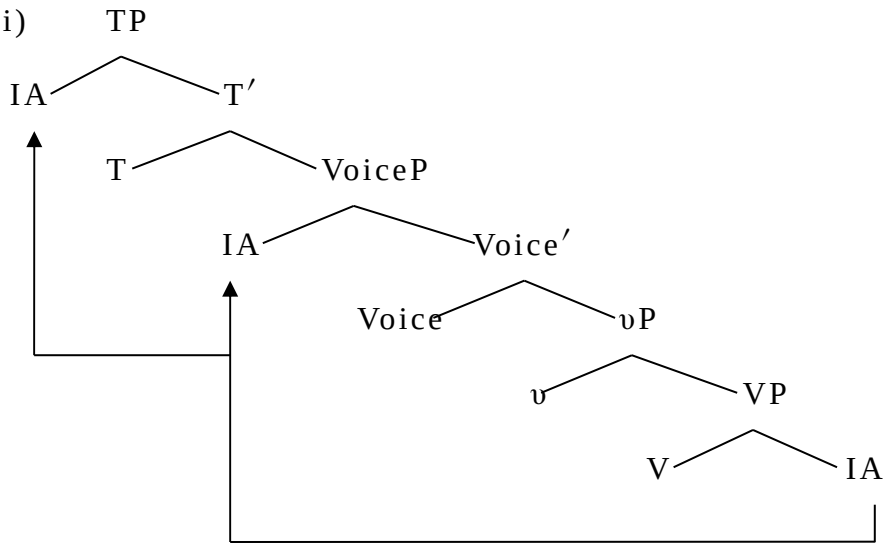
b. In passives, the Agree feature is not inherited from F to Voice, as shown in (ii).

(ii)



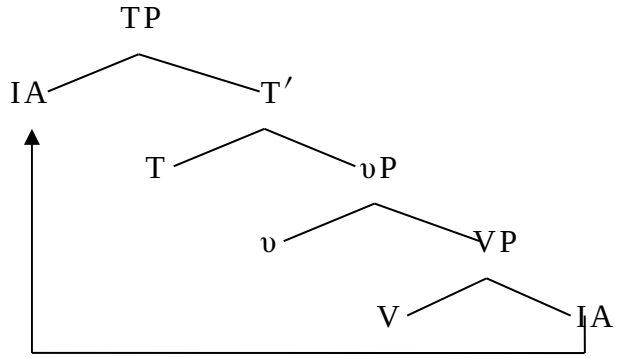
c. No FP is projected in middles. IA can move to [Spec, VoiceP] in middles to be assigned a secondary theta-role, as shown in (iii).[6]

(iii)



d. Neither FP nor VoiceP appears in ergatives, as shown in (iv).

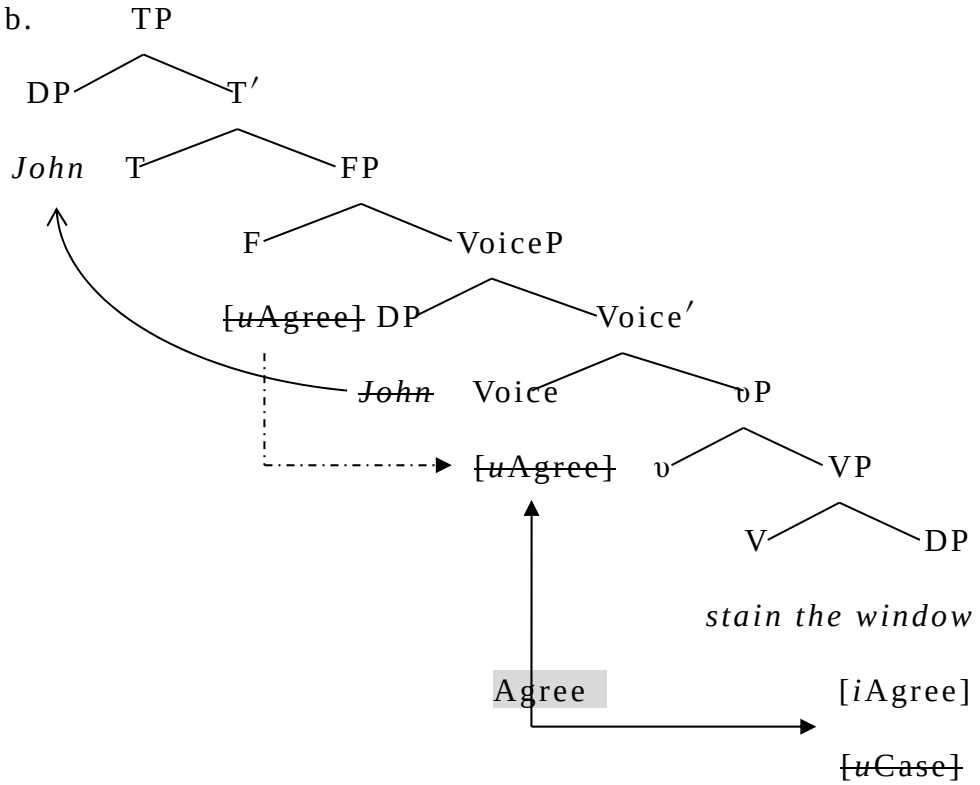
(iv)



Bear the proposal in (15) in mind, and let us first analyze the derivation of the active sentence in (1a), repeated as (16a). The corresponding syntactic structure is shown in (16b) (simplified by not showing the irrelevant process)

(16) a. John stained the window. (actives)

b.



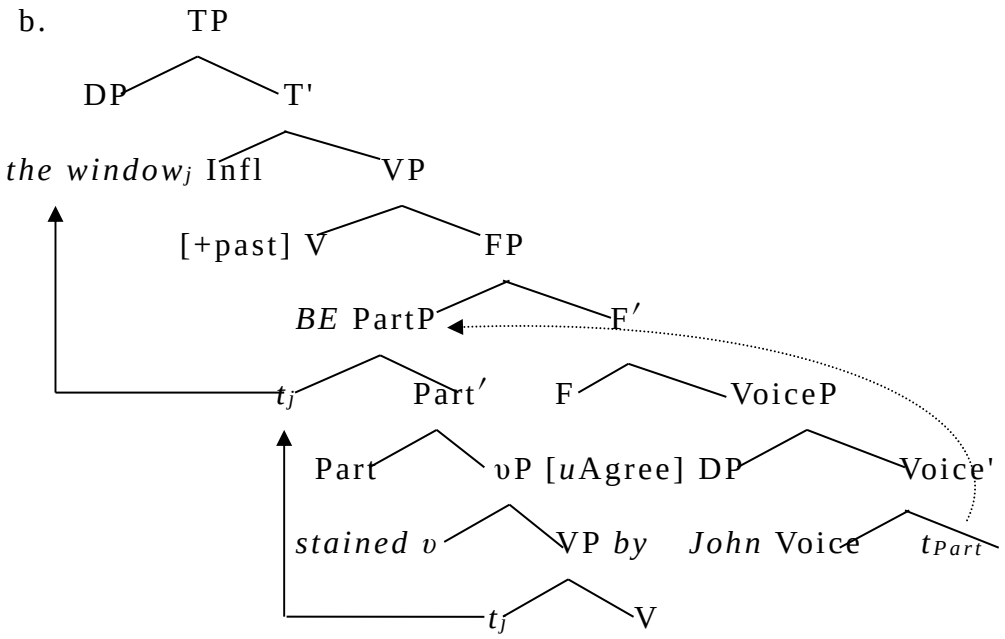
As shown in (16b), the [*u*Agree] feature on F is inherited to Voice. As Voice has [*u*Agree] feature, it becomes active. It functions as a probe and searches for the goal in its domain. At the same time, the object *the window*, which is in the complement position of the verb, has [*u*Case] feature, and hence it becomes the appropriate goal. The agree relation is established between Voice and the object *the window*. Voice values the Case feature on the object as Accusative and it is deleted. In return, the object values [*u*Agree] feature on Voice and then deletes it. As DP *John* is merged in [Spec, VoiceP] position, it is assigned Agent theta-role by Voice.

The syntactic structure in (16b) implies that when features on F is successfully inherited to Voice, the sentence which has a canonical word order is derived: the external argument corresponds to the Agent and the internal argument corresponds to the Patient/Theme.

As mentioned above, apparently speaking, passives, middles and ergatives share a property that the internal argument of the verb becomes the grammatical subject. However, the syntactic structures of them are quite different. First, let us analyze the derivation process of the passive in (1b), repeated as (17a). The corresponding syntactic structure is shown in (17b).

(17) a. The window was stained by John. (passives)

b.



As shown in (17b), FP is selected by auxiliary *be*. The Agree feature on F is not inherited to Voice. Hence, the Agree feature which Voice keeps is realized as *by*. It licenses the external argument *John* in [Spec, VoiceP] by assigning Accusative case to it. Then, in order to conform to Relativized Minimality, PartP which contains the internal argument *the window* is moved to [Spec, FP]. As a result, the internal argument *the window* is the closest element to T and can be probed by T. In the next derivation stage, the internal argument *the window* is raised to [Spec, TP] to satisfy the EPP feature of T.

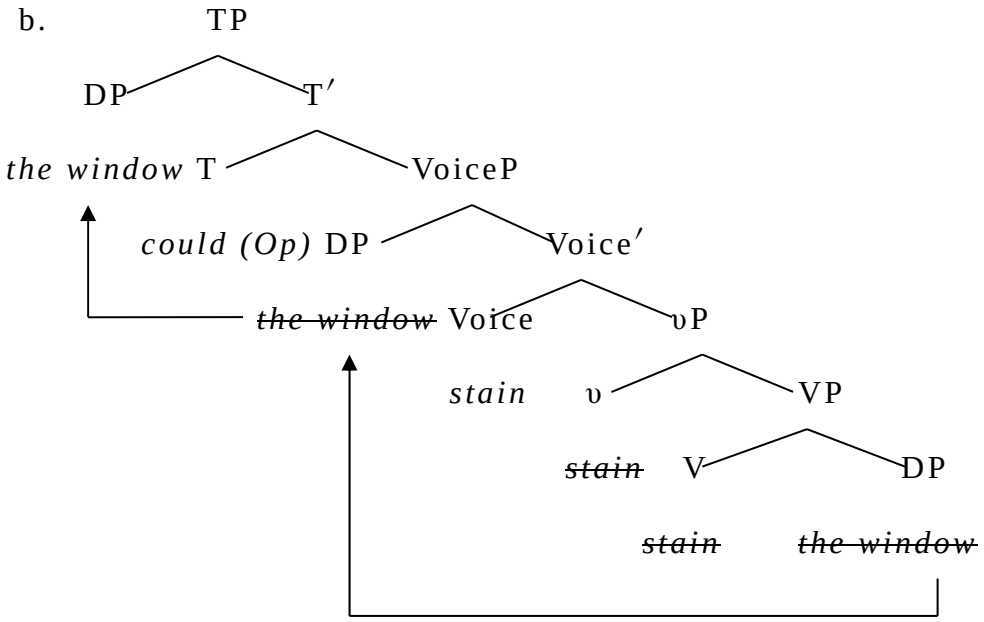
The syntactic structure of the passive in (17b) implies that when the [*u*Agree] feature on F is not inherited to Voice, it is kept on Voice and can be realized as *by* to license the external argument. Accordingly, it accounts for why passive is compatible with *by*-PP (see Table 1).

As shown in Table 1, middles are different from other constructions

in that they are generic statements; they are incompatible with *by*-PP, which distinguish them from passives. As argued in Chapter 3, this thesis follows Alexiadou (2013) in assuming that middle Voice is also present in English middles, because they are generic on a par with Greek middles. It determines the genericity of middles. On the other hand, the fact that FP does not project in middles leads to their incompatibility with *by*-PP, because there is no [*u*Agree] feature in VP domain which can be morphologically realized as *by*, in accordance with what has been assumed above. Let us analyze the derivation of the middle sentence in (1c), repeated as (18a). The corresponding syntactic structure is shown in (18b).[7]

(18) a. The window could stain. (middles)

b.



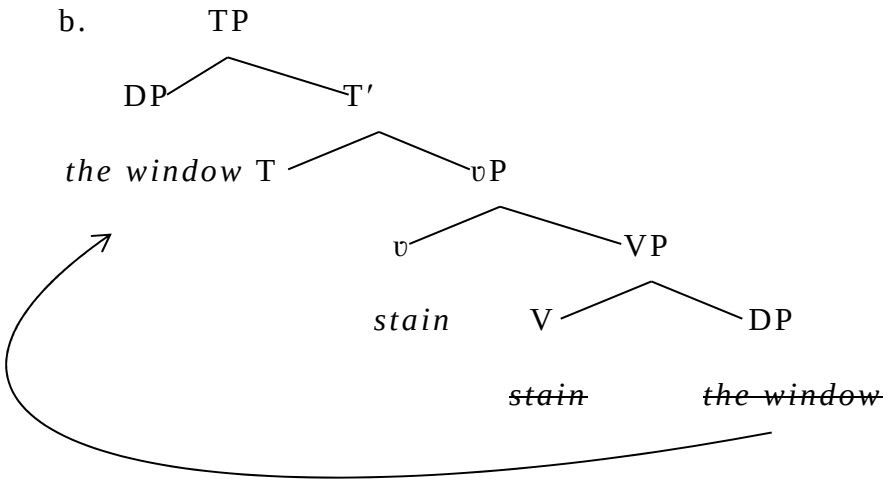
As shown in (18b), there is no FP projected in middles, and hence VP domain is not a phase in middles. Besides, as already shown in chapter 3,

middle Voice assigns a secondary theta-role (Agent) to the grammatical subject which moves to [Spec, VoiceP] on its way to [Spec, TP], though they do not take an external argument in [Spec, VoiceP].

Finally, let us analyze the derivation of the ergative sentence as shown in (1d), repeated as (19a). The corresponding syntactic structure in a simplified form is shown in (19b).

(19) a. The window stained. (ergatives)

b.



As indicated in (19b), ergatives don't involve FP, hence it is incompatible with *by*-PP; it does not involve VoiceP either. The Patient argument *the window* moves from the complement position of the verb to [Spec, TP] for case assignment.

5.5. Consequences

5.5.1. On the Licensing of the Implicit Argument

As is known to us, passives always have an implicit external argument which can appear overtly or covertly in syntax. Therefore,

passives are always compatible with Agent-oriented adverbs, purpose clauses and *by*-PP as shown in (20).

(20) a. The boat was sunk on purpose.

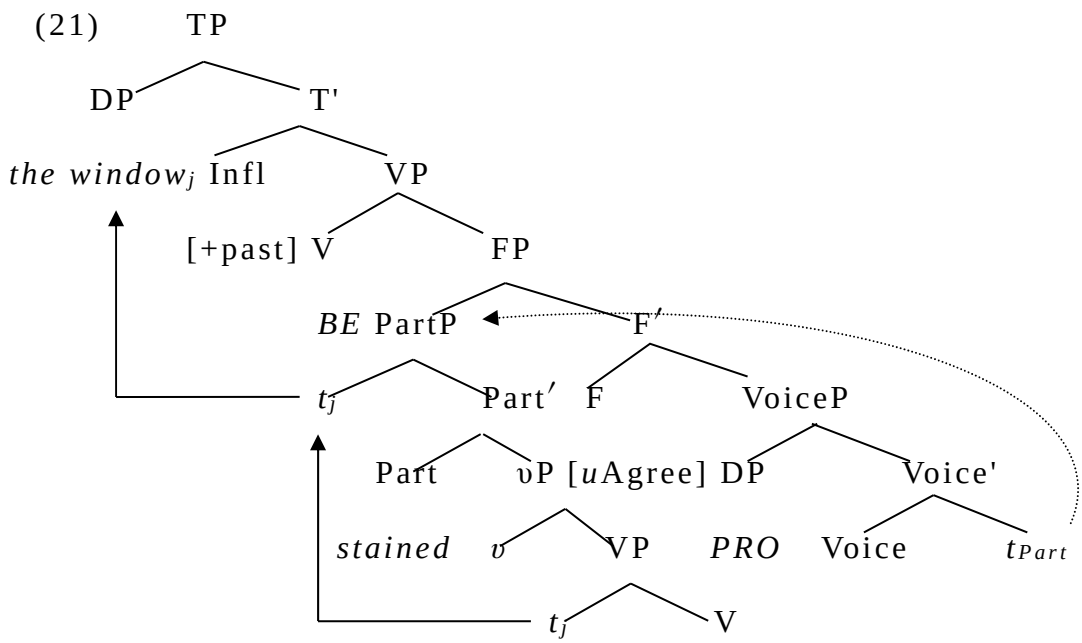
b. The boat was sunk [PRO to collect the insurance].

c. The boat was sunk by the enemy.

(Ackema and Schoorlemmer (2005: 185))

According to Collins (2005), when passives do not involve a *by*-phrase, the external argument, which is realized as PRO in [spec, VoiceP] (which corresponds to [Spec, υP] in Collins (2005)) is licensed by null F (which corresponds to Voice in Collins (2005)), as shown in (21).

(21)



As is obvious from (21) and (17b), the implicit argument can be licensed by [*u*Agree] which is kept in F in passives.

In contrast, Agent-oriented adverbs, purpose clauses and *by*-PP are incompatible with middles and ergaitves as shown in (22) and (23), respectively.

(22) a. * Such texts translate easily deliberately.

b. * Such texts translate easily to win the Translator's prize.

c. * Such texts translate easily by an experienced translator.

(23) a. *Ths ship sank deliberately.

b. *The ship sank to collect the insurance.

c. *The ship sank by the enemy. (ibid.)

Under the present analysis, as neither middles nor ergatrives involve FP, they are definitely incompatible with Agent-oriented adverbs, purpose clauses and *by*-PP.

5.5.2. Eventivity/Non-eventivity

As shown in Table 1, middles, different from actives, passives and ergatives, always have a non-eventive interpretation. In Greek middles as in (24), a suffix of nonactive voice appears which serves the semantic function of denoting genericity.

(24) afto to vivlio diavazete efkola.

this the book read-NONACT.3SG easily

(Lekakou (2002: 406))

As mentioned in Chapter 3, Alexiadou (2012, 2013) argues that VoiceP is projected in Greek middles whose head hosts the non-active imperfective morpheme which is responsible for genericity. Though English middles do not have a nonactive voice suffix as in Greek middles, the property of genericity/non-eventivity shared by middles in these languages will lead us to assume that English has a null suffix in Voice which is responsible for non-eventive interpretation of English middles (cf. Alexiadou (2013)). Accordingly, it accounts for eventivity/non-eventivity which distinguishes between middles and the other three constructions.

5.6. Concluding Remarks

This chapter proposed a syntactic account for actives, passives, middles and ergatives in Present-day English within the recent minimalist framework. Based on the system of feature inheritance in Chomsky (2008) and a new proposal on optional C-T feature inheritance in Ouali (2008), this thesis proposed a system of optional feature inheritance in VP domain. Following Collins (2005) and Roberts (2010, 2014), it was argued that the functions of the light verb in the standard analysis of clause structure can be assigned to three functional categories, FP, VoiceP and υP: F which carries [*u*Agree] feature has the role of case assignment, Voice has the role of external theta-role assignment and υ contributes to event interpretation. Accordingly, the differences of actives, passives, middles and ergatives can be accounted for in syntactic terms in the proposed analysis.

Notes to chapter 5

[1] Verbs discussed in this chapter are restricted to eventive verbs, including activity verbs and accomplishment verbs. This chapter does not discuss non-eventive verbs such as state verbs (e.g. *see, know,* etc.) and achievement verbs (e.g. *recognize, realize*, etc.).

[2] In his original work, Chomsky (2000, 2001) hypothesizes that CPs and υ*Ps for transitives/unergatives are phases, but υPs for unaccusatives/passives are not. According to Chomsky's framework, only υ*Ps are responsible for the introduction and the thematic licensing of external arguments in their specifier position.

[3] According to Ouali (2008: 178), the assumption that C bears the [*i*WH] feature and *wh*-element bears the [*u*WH] feature is very crucial and seems to be unavoidable. If we reverse the situation and assume that C bears the [*u*WH] feature whereas the *wh*-element bears the [*i*WH] feature, the feature on C will not get valued. Because T, having received Agree feature from C will probe the *wh*-element in [Spec, υP] and agrees with it. After this takes place, the *wh*-element becomes inactive because the only feature that made it active was the unvalued Case feature and this Case feature has been valued at this stage and hence became inactive. Accordingly, C will not get its [*u*WH] feature checked and the derivation will crash.

[4] One might wonder whether XP can move out of YP moved across W, because moved constituents generally block movement out of them, which is called “freezing” (Wexler and Culicover (1981)). However, it is also well-known that freezing does not always hold: for example, Maeda (2010) observes that wh-movement out of fronted focus phrases is possible, as shown in (i) (see also Lasnik and Saito (1992) and Rizzi (2006) for relevant data and discussion).

(i) a. Of whom did Lee say that only to mothers will she talk?
b. Of whom did Robin say only with children can he communicate? (Maeda (2010: 288))

I will leave open for future study how the freezing effect is obviated in some cases.

[5] According to Collins (2005), when passives do not involve a *by*-phrase, the external argument, which is realized as PRO, is licensed by null Voice.

[6] As noted in chapter 3 and Chapter 4, this thesis follows Alexiadou (2013) in assuming that Voice is also present in English middles, because they are generic on a par with Greek middles, though there is no morphological realization in Voice as Greek middles. Then, following Osawa (2001) and Honda (2012), the present analysis proposes that Voice assigns a secondary theta-role (Agent) to the grammatical subject which

moves to [Spec, VoiceP] on its way to [Spec, TP], though they do not take an external argument in [Spec, VoiceP],

[7] As shown in the syntactic structure of middles in (18b), the modal operator in T which is represented by *Op* can be lexicalized by a modal verb *could*. As has been discussed in the previous chapters, modality is another property of middles which distinguish them from the other three constructions. I do not discuss it in this chapter.

Chapter 6

Conclusion

In this thesis, I have proposed a unified syntactic account to canonical middles and reflexive middles in Present-day English, based on the syntactic and semantic properties shared by them. In addition, I discussed the development of both types of middles in the history of English and analyzed their development in terms of reanalysis. The corpus-based survey revealed that the emergence of canonical middles and reflexive middles coincide with each other, accompanied by several independently triggering factors which arose at the time. Thus, a plausible scenario would be that the development of both types of middles correlates to each other. This proposal in turn supports the the proposed synchronic analysis. Furthermore, in order to accout for the differences between actives, passives, middles and ergatives, I claimed that the functions of the light verb in the standard analysis of clause structure should be assigned to three functional categories, FP, VoiceP and υP, taking into consideration exactly

which part of the functional categories each of these constructions involves.

Although there is a consensus reached in the literature that middles should display certain properties, heated arguments result in the division of two analyses as far as the question of how English middles are derived is concerned. In Chapter 2, I reviewed four previous analyses in Keyser and Roeper (1984), Stroik (1992), Roberts (1987) and Hoekstra and Roberts (1993) who advocate the syntactic analyses and pointed out their empirical and theoretical problems. On the whole, syntactic analyses face a problem of how to account for the movement of the internal argument over the external argument withut incurring a Relativized Minimality violation (Rizzi (1990)). Hoekstra and Roberts (1993) fail in this respect. Though Stroik (1992) claims that the external argument is demoted to an adjunct position, he does not discuss what licenses the demoted external argument, how the external argument is licensed and why the external argument behaves as it does. This thesis proposed a syntactic analysis to English middles. In order to legalize the the movement of the internal argument to [Spec, TP] withut incurring a Relativized Minimality violation, I followed the lexical analyses in arguing that the implicit external agument does not project into syntax, due to its arbitrary interpretation (cf. Fagan (1988) and Ackema and Schoorlemmer (1994, 1995)). As a result, the internal argument of the middle verb becomes the only argument that is projected into syntax and there would not occur the violation of Relativzed Minimality.

Moreover, though linguists have proposed various analyses of middles and brought us many theoretical and empirical contributions, they

have received little attention, especially from a diachronic viewpoint. In Chapter 3, I discussed the development of canonical middles in the history of English, based on the data from OED. A brief examination of the historical data of canonical middles in Visser (1963-1973) shows that all the relevant instances of canonical middles before Modern English are in fact ergatives. Then, based on the collection of the data of canonical middles in OED, I found that all the examples of canonbical middles in Stage I (the 16th Century) are Type II middles with a modal verb *will*, which are ambiguous between ergatives and canonical middles. Therefore, I proposed that the meaning change of *will*, and, more importantly, the reanalysis of modal auxiliaries in the 16th century (Biberauer and Roberts (2010)) triggered the reanalysis of ergatives as canonical middles. Moreover, I followed Alexiadou (2012, 2013) in arguing that the properties of canonical middles are captured in syntactic terms, proposing that $\text{Voice}_{\text{middle}}$ in English middles is responsible for genericity on a par with Greek middles. Finally, I adopted the mechanism of secondary theta-role assignment (Osawa (2001), Kume (2009) and Honda (2012)) and proposed that the Patient/Theme DP moves to [Spec, VoiceP] on its way to [Spec, TP] and is assigned a secondary theta-role (Agent) by $\text{Voice}_{\text{middle}}$, thereby accounting for its responsibility.

As for the developmental process of canonical middles, I suggested dividing the development of canonical middles into four stages, by applying the analysis of Massam (1992) that they have a modal operator in T to be specified by a modal or an adverb. The development of canonical middles can be best characterized in terms of the change in the manner of specifying

the modal operator in T: from the direct merge of a modal in T as a basic strategy, to the covert movement of a facility adverb, then to the covert movement of an event adverb.

Reflexive middles in Present-day English have been seldom discussed in previous studies, even less dichornic studies of them. This thesis argued that reflexive middles are actually canonical middles in respect that they share the same syntactic and semantic properties. I discussed the origin and development of reflexive middles in the history of English, based on the data from three historical corpora and OED. The result of the corpus-based research has revealed that reflexive middles emerged in the 16th century, when CRPs were establishing their dominance in expressing the reflexive relation and canonical middles began to be attested. Along the lines of Fiengo (1980) and Massam (1992), I argued that the reflexive pronoun in reflexive middles functions as an adverbial modification similar to the adverb like *easily* in canonical middles, and hence has to move to T at LF to specify the modal operator in T. Then, I proposed that reflexive middles emerged via the reanalysis of reflexive ergatives, which was triggered by the development of CRPs and the reanalysis of modals.

In the last chapter of this thesis, I proposed a syntactic account for actives, passives, middles and ergatives in Present-day English within the recent minimalist framework. I argued that the functions of the light verb in the standard analysis of clause structure can be assigned to three functional categories, FP, VoiceP and υP: F which carries [*u*Agree] feature has the role of case assignment, Voice has the role of external theta-role

assignment and υ contributes to event interpretation. Accordingly, the differences of actives, passives, middles and ergatives has been accounted for in syntactic terms in the proposed analysis.

This thesis makes two contributions to linguistic studies of English middles. First, much linguistic work has generally distinguished canonical middles from reflexive middles. It is shown in this thesis, however, that both types of middles share the crucial syntactic and semantic properties, suggesting that they display the same syntactic structure which involves $\text{Voice}_{\text{middle}}$P and a null modal operator in T. More importantly, the diachronic studies in this thesis also support this synchronic analysis. Second, middles have received little attention from a diachronic viewpoint. This thesis sheds light on the development of both canonical middles and reflexive middles in the history of English, based on the data from OED and three history corpora. The proposal that middles emerged as a result of the reanalysis of (reflexive) ergatives helps to develop the ideas about correlations between constructions from a dichronic viewpoint.

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