

A Smuggling Approach to English Middle Constructions

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1. Introduction

English middle constructions have been a widely discussed topic in syntactic studies in the past three decades. Their typical examples are shown in (1).

- (1) a. The book reads easily.
b. The bureaucrats bribe easily.
c. The floor paints easily.

(Keyser and Roeper (1984: 383))

Generally, previous studies on English middles have concentrated on two questions: (i) What properties do English middles have? (ii) How are they derived from their transitive counterparts? This paper attempts to provide a unified account of the properties of English middles by applying the notion of “smuggling” proposed by Collins (2005).

The organization of this paper is as follows: section 2 briefly introduces the properties of English middles and reviews two types of previous analyses. Section 3 reviews the smuggling approach proposed by Collins (2005). Section 4 refines Collins’ smuggling approach, and proposes a new analysis of the derivation of English middle constructions. Section 5 provides a unified account of their properties as a consequence of the proposed analysis. Section 6 offers concluding remarks.

2. Basic Facts and Previous Analyses of English Middle Constructions

2.1 The Properties of English Middle Constructions

This section briefly reviews the properties of English middle constructions. Syntactically, English middles involve an implicit argument, and adverbial modification is obligatory in sentence-final position. Semantically, they have a generic construal, and conditions on aspect and/or affectedness have been claimed to hold of middle formation.¹

2.1.1 Presence of an Implicit Argument

English middle constructions have been assumed to involve an implicit argument syntactically like passives, based on examples like (2)-(5).

- (2) a. Physics books read poorly when drunk.
(Ackema and Schoorlemmer (2003: 178))
b. The car fixes easily even unaided.
(Matsumoto (1994: 86))
- (3) a. Most physics books read poorly [even after [PRO reading them several times]]
b. Bureaucrats bribe best [after [PRO doing them a favor or two]].
(Stroik (1995: 168))
- (4) a. Books about oneself never read poorly.
b. Letters to oneself compose quickly.
c. Arguments with oneself generally end abruptly.
(Stroik (1992: 129))
- (5) a. No Latin text translates easily for Bill.
b. Die stoel zit niet lekker voor opa.
that chair sits not comfortably for grandpa
'That is not a comfortable chair for grandpa.'
(Ackema and Schoorlemmer (2003: 188))

First of all, the examples in (2) show that a secondary predicate can be predicated of the implicit argument in middles: for example, the subject

of *even unaided* in (2b) cannot be *the car*, but the implicit agent argument of *fix*. Secondly, as illustrated in (3), the implicit argument in middles can control the PRO subject in an adjunct clause; the latter is construed as referring to the implicit agent argument of each verb, but not to the surface subject. Thirdly, it is observed in (4) that the implicit argument in middles can act as an antecedent in a binding relation; as is obvious, there is no overt element in these sentences that can be an antecedent of *oneself*. Last but not least, middles do allow a *for*-phrase, as shown in the English example (5a) and the Dutch example (5b). Stroik (1992) and Hoekstra and Roberts (1993) among others argue that the *for*-phrase in examples like (5) is an overt realization of the otherwise implicit agent argument in middles, which corresponds to the *by*-phrase in passives.

2.1.2 Adverbial Modification

The obligatory occurrence of manner adverbs or other kinds of adverbs characterize English middles.² They would become ungrammatical if there is no adverbial modification, as shown in (6).

- (6) a. Washington's letters do read * (easily).
 b. This salami slices * (easily).

(Fellbaum (1986: 7), Iwata (1999: 531))

Besides, it should be noted that adverbs in middles must appear in sentence-final position. This is quite different from the situation in other constructions such as passives that allow rather flexible adverb positions, as shown in the contrast of (7).

- (7) a. Small boys sure push (* easily) down (easily).
 (Erteschik-Shir & Rapoport (2004: 232))
 b. The book can be (easily) read (easily).

(Lekakou (2002: 403))

2.1.3 Genericity

It is widely accepted that 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). This is demonstrated by the fact that middle verbs cannot appear in imperative sentences which denote an action, like stative verbs.

- (8) a. * Bribe easily, bureaucrat!
 b. * Know the answer, John!

(Fagan (1988: 181))

Moreover, since generic statements are typically expressed with the present tense, it is often the case that middle verbs appear in their present tense forms. But middles are sometimes acceptable in the past tense or progressive aspect as in (9) and (10), as long as they denote generic statements like middles in the present tense. This indicates that there is no tense restriction on middle verbs; rather, genericity is the defining property of middles.

- (9) a. The curry digested surprisingly easily last night.
 b. Grandpa went out to kill a chicken for dinner, but the chicken he selected didn't kill easily. (Iwata (1999: 530))
- (10) a. This manuscript is reading better every day.

(Fagan (1988: 182))

- b. Bureaucrats are bribing more than ever. (Roberts (1987: 476))

2.1.4 Aspectual Condition

The aspectual condition on middles is defined as in (11) and illustrated by the examples in (12).

- (11) Only (transitive) activities and accomplishments undergo middle formation.

(Ackema and Schoorlemmer (2003: 178))

- (12) 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 middles proposed in the literature which is related to the aspectual condition, namely the affectedness condition. Ackema and Schoorlemmer (2003) define the affectedness condition as in (13).

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

(Ackema and Schoorlemmer (2003: 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 (14) and (15).

- (14) 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.
- (15) a. # What happened to the answer was everyone *knew* it.
 b. # What he tourists did to the Eiffel Tower was *recognize* it.

(Ackema and Schoorlemmer (2003: 166))

In (14a, 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 (15a, 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 (13) rules out middles based on state and achievement verbs which take a non-affected object, as illustrated in (16).

- (16) 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 Schoorlemmer (2003: 166))

It should be noticed that this is also what is predicted by the aspectual condition, as we saw in (11) and (12). Therefore, the affectedness condition can be said to be subsumed under the aspectual condition. Section 5.4 tries to probe into the aspectual properties shared by activity and accomplishment verbs, in order to provide a syntactic account of the aspectual condition.

2.2 Two Major Approaches

As to the second question mentioned at the beginning of this paper ((ii) how are English middles derived from their transitive counterparts?), there are two approaches proposed in the literature: syntactic approach and lexical approach. The points of departure between these two approaches are the status of the external argument and the way of promoting the internal argument.

Theorists such as Keyser and Roeper (1984) and Hoekstra and Roberts (1993) advocate the syntactic approach to middles. They argue that middle formation, which involves the suppression of the external argument and the promotion of the internal argument, occurs in syntax:

On the other hand, theorists such as Fagan (1988) and Ackema and Schoorlemmer (1994, 1995) are among the major proponents of the lexical approach. 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.

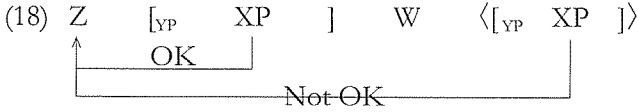
Though both types of analyses differ from each other on where middle formation takes place (in syntax or in the lexicon), they share the same idea that the suppression/deletion of the external argument correlates with the promotion/externalization of the internal argument in middle formation. Contrary to these approaches, section 4 proposes a new syntactic approach to English middles by applying the notion of smuggling proposed by Collins (2005), arguing that while they involve promotion of the internal argument, the external argument is not suppressed but realized in [Spec, vP] like their transitive counterparts.

3. A Smuggling Approach to Passives: Collins (2005)

Collins (2005) holds that passives have basically the same argument structure 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, vP] in accordance with the Uniformity of Theta Assignment Hypothesis proposed by Baker (1988), and it is syntactically licensed by the preposition *by* merged in the head of VoiceP which is located immediately above vP.

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 vP makes the internal argument closest to T, allowing for its promotion to [Spec, TP] without violating Relativized Minimality. Smuggling is defined as in (17) and (18).

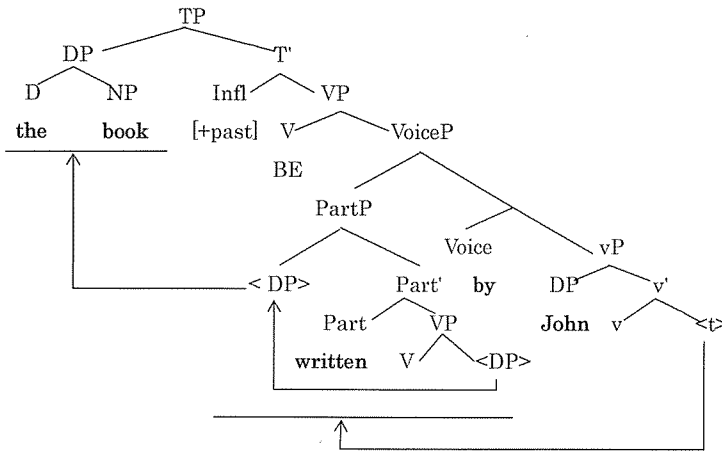
- (17) Suppose a constituent YP contains XP. Furthermore, XP is inaccessible to Z because of the presence of W, some kind of intervener that blocks any syntactic relation between Z and XP. If YP moves to a position c-commanding W, we say that YP smuggles XP past W.³



(Collins (2005: 97))

Under the smuggling approach, the derivation of passives is shown in (19), where *v* takes Part (iciple) P as its complement and Part takes VP as its complement.

(19) The book was written by John.



In (19), 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, vP] is assigned accusative Case by the preposition *by* merged in Voice. Thus, under the smuggling approach, passives have the external argument in [Spec, vP] and it is licensed by Voice.⁴

However, it is unclear under Collins' smuggling approach what the trigger is for the movement of PartP; a principled account must be provided on the status of smuggling in syntactic theory.

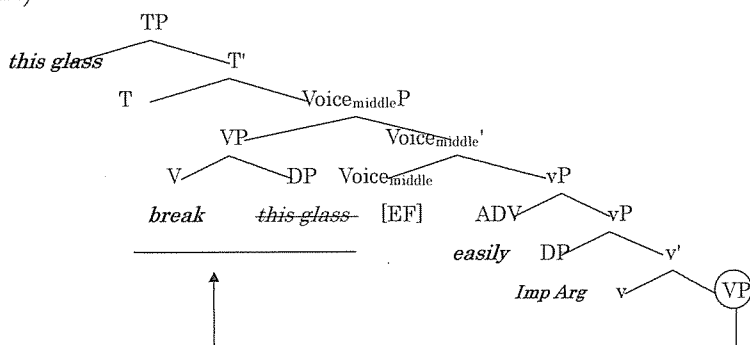
4. The Derivation of English Middle Constructions

This section applies the smuggling approach to English middles. Under the smuggling approach to passives reviewed above, VoiceP, but not vP, is regarded as a phase in the verbal domain. Following Belletti's (2004) idea that movement to the edge of a phase is always associated with interface interpretations, it seems plausible to assume that movement to [Spec, VoiceP] is triggered by the edge feature (EF) of Voice in the sense of Chomsky (2008), and it is closely connected with the aspectual properties of middles, as we will see in section 5.4.

Taking the middle sentence in (20) as an example, its derivation based on the smuggling approach is shown in (21).

(20) This glass breaks easily.

(21)



In (21), the EF of Voice attracts VP to move to [Spec, VoiceP], and then the internal argument moves out of VP to [Spec, TP] to get Nominative Case. As in the case of passives, the external argument, which is implicit, is merged in [Spec, vP], and it is licensed by the middle Voice head, which will be argued below to be responsible for the genericity of middles. In addition, the manner adverb is assumed to be merged in the outer specifier position of vP, where it serves to locally license the implicit external

argument of middles, together with Voice.

5. Consequences

This section provides a syntactic analysis of the properties of English middles reviewed in section 2, based on the smuggling approach proposed in section 4.

5.1 Presence of an Implicit Argument

Under the smuggling approach, middles always have the implicit external argument in [Spec, vP] licensed by Voice. Therefore, it immediately follows that it can function as a subject of a secondary predicate, a controller of PRO, and an antecedent of an anaphor. It should be noticed that in examples like (4), the anaphor is contained in the subject DP which is not c-commanded by the implicit argument in [Spec, vP]. But this does not pose a problem: *oneself* is merged as part of the internal argument, so it is c-commanded by the implicit argument in [Spec, vP] before the movement of VP to [Spec, VoiceP], as shown in (22), which represents the derivation of the relevant portion of (4b).

- (22) [_{VoiceP} Voice [_{vP} quickly IMP ARG_i [_{vP} compose letters to oneself_i]]]
 → [_{VoiceP} [_{vP} compose letters to oneself_i] Voice [_{vP} quickly IMP
 ARG_i ~~_{vP}~~]]

5.2 Adverbial Modification

As shown in (21), a manner adverb is merged in the outer specifier position of vP, and it serves to license the implicit argument of middles, together with Voice. This is in accordance with the ideas of Hoekstra and Roberts (1993) and Lekakou (2006), who argue that adverbial modification is a means of recovering the implicit argument of middles. In particular, Hoekstra and Roberts argue that the implicit argument of middles needs

to be “theta- licensed for content,” where an adverb plays an important role. In (21), for example, the adverb *easily* serves to provide an entity which the rest of the sentence is predicated of, which is in turn identified with the external theta- role of *break*. Therefore, the present analysis straightforwardly accounts for the obligatoriness of adverbial modification as in (6).

Moreover, middles must have manner adverbs in sentence-final position unlike passives, as shown in the contrast of (7), repeated here as (23).

(23) a. Small boys sure push (* easily) down (easily).

(Erteschik-Shir & Rapoport (2004: 232))

b. The book can be (easily) read (easily).

(Lekakou (2002: 403))

In middles, manner adverbs are merged in the outer specifier of vP to locally license the implicit argument in [Spec, vP], so they appear in sentence-final position after the movement of VP to [Spec, VoiceP]. In passives, on the other hand, manner adverbs have nothing to do with the licensing of the external argument in [Spec, vP]. They may be either left-adjoined to vP or PartP; the latter option leads to the preverbal positioning of manner adverbs in which they move to [Spec, VoiceP] as part of PartP.

5.3 Genericity

Lekakou (2002, 2005) and Kallulli (2006) argue at length that the fact that middles are generic statements results from the presence of a generic operator above vP. One of their arguments concerns Greek and Albanian middles as shown in (24), where the suffix of nonactive voice appears which serves the semantic function of denoting genericity.

(24) a. afto to vivlio diavazete efkola
 this the book read-NONACT. 3SG easily. (Greek)

(Lekakou (2002: 406))

b. Ky liber lexoh-et / * -n kollaj.

This NOM book read-NACT. PR. 3S /-ACT. PR. 3S easily
 This book reads easily. (Albanian)
 (Kallulli (2006: 210))

Though English middles do not have a nonactive voice suffix as in Greek and Albanian middles, the property of genericity shared by middles in these languages will lead us to assume that English has a null suffix in Voice which functions as a generic operator. Accordingly, the implicit argument in [Spec, vP] which is licensed by Voice can only have a generic interpretation. This is in line with the analyses by Levin (1982: 624) and Fagan (1988: 196), who argue that middles involve generic quantification over an implicit argument, which is interpreted as ‘people in general’.

5.4 Aspectual Condition

As we saw in section 2.1.4, only activity verbs and accomplishment verbs can undergo middle formation. Rappaport and Levin’s (1998) theory of event templates defines a basic inventory of event building blocks of activity and accomplishment, as shown in Table 1.

Table 1.

Activity	[x ACT _(MANNER)]
Accomplishment	[x CAUSE [BECOME [_y <STATE>]]]

(Rappaport and Levin (1998: 108))

According to them, unlike accomplishment verbs, activity verbs inherently do not have a final state and hence are not delimited. On the other hand, Tenny (1987, 1994) claims that the events denoted by activity verbs like *read*, *play*, and *drink* are measured out and delimited by their direct arguments. For example, in verb phrases like *read this book*, the direct argument *this book* can be said to measure out the reading event: if I read this book, I read part of it during T1, another part of it during T2 and so on until at Tn the whole book is read. By utilizing Rappaport and Levin’s

theory of event templates, Tenny's argument on activity verbs can be built into the following template, in which activity is decomposed into a CAUSE subevent and a BECOME subevent.

(25) Activity

[[x ACT⟨MANNER⟩] CAUSE [BECOME [y ⟨STATE⟩]]]

Thus, activity verbs can be analyzed as being delimited in terms of event decomposition. If this is correct, it is concluded that it is delimitedness that is shared by activity and accomplishment verbs which can undergo middle formation, as argued by Tenny (1987) and Ackema and Schoorlemmer (2003).

To sum up, the notion of delimitedness, which is determined by VP rather than the verb itself because the direct argument may also be relevant, plays a crucial role in middle formation. Recall also that the EF of Voice attracts VP to move to [Spec, VoiceP] in middles, as shown in (20). Given that movement to the edge of a phase is associated with interface interpretations (Belletti (2004)), it is reasonable to assume that the movement of VP to [Spec, VoiceP] in middles serves to establish delimitedness, which is a necessary component of middle formation.⁵

6. Concluding Remarks

This paper has attempted to account for the major properties of English middle constructions, by applying the smuggling approach in Collins (2005). It has been argued that English has a null suffix in the middle Voice head which functions as a generic operator; the implicit agent argument merged in [Spec, vP] is licensed by the middle Voice located immediately above it, together with a manner adverb in the outer specifier position of vP. The present analysis has also been shown to account for the obligatoriness and position of manner adverbs: they are involved in theta-licensing for content the implicit argument, and they appear in sentence-final position after the movement of VP to [Spec, VoiceP].

Furthermore, it has been claimed that the movement of VP serves to establish delimitedness which characterizes English middles, thereby capturing their aspectual properties. To the extent that the present analysis is on the right track, it follows that both syntactic and semantic properties of English middles can be given a unified syntactic explanation.

*I would like to express my sincere gratitude to Takeshi Omuro, Tomoyuki Tanaka and the anonymous reviewers of this paper for their helpful suggestions and valuable comments. Thanks also go to all the members of Department of English Linguistics, Nagoya University. All remaining errors and inadequacies are, of course, my own.

Notes

¹ There is another condition on English middles, “Responsibility Condition” proposed by Van Oosten (1977) among others.

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

(Akema and Schoolemmer (2003: 160))

I will leave a syntactic account of this condition for future study.

² Given a suitable context, middles without adverbial modification will be acceptable in some cases. However, some other elements than adverbs must be present in such cases, such as negation (ia), marked focus on middle verbs (ib), the emphatic operator *do/does/did* (ic), or a modal (id).

- (i) a. The glass does not break.

(Klingvall (2003: 1))

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

(Fellbaum (1986: 9))

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

(Dixon (1991: 326))

- d. This car will/can steel, after all.

(Rosta (1995: 132))

³ 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.

⁴ 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.

⁵ One might wonder why achievement verbs cannot undergo middle formation, because they have an end point like accomplishment verbs. However, they denote an instantaneous event with no internal processes, so the event cannot be measured out by the internal argument (see the discussion on *read this book* in the text), which will make impossible middle constructions based on achievement verbs. See Zubizarreta and Oh (2007: 191) for relevant discussion on the differences between achievement verbs and accomplishment verbs.

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Synopsis

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In previous studies on English middle constructions, both the lexical and syntactic approaches share the same idea that the suppression/deletion of the external argument correlates with the promotion/externalization of the internal argument in middle formation. Contrary to these approaches, this paper applies the smuggling approach in Collins (2005) to analyze English middle constructions, arguing that though they involve promotion of the internal argument, the external argument is not suppressed but realized in [Spec, vP] like their transitive counterparts.

Assuming with Belletti (2004) that movement to the edge of a phase is always associated with interface interpretations, VP movement to [Spec, VoiceP] is triggered by the edge feature of Voice in the sense of Chomsky (2008), and it serves to establish delimitedness which characterizes English middles, thereby capturing their aspectual properties. This movement is also responsible for the fact that manner adverbs, which are merged in the outer specifier position of vP, must appear in sentence-final position in English middles.

Moreover, it is argued that, parallel to their counterparts in Greek and Albanian, English middles have a null suffix in Voice which functions as a generic operator, which in turn serves to license the implicit argument merged in [Spec, vP], together with a manner adverb.