

Some Remarks on the English Middle

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要約

英語の中間態構文に関する考察

上 紀子

Keyser & Roeper (1984) は、能格文と中間態構文は、前者が *lexicon* で派生されるのに対し、後者は統語レベルにおける移動変形で派生されるとし、この二つの違いを体系的に述べようと試みた。本稿では、第一に、中間態構文を統語規則で派生する分析は、格付与、中間態をとる動詞の分布に関し不備があるのに対し、Roberts (1987), Fagan (1988) で提案された語彙規則による派生は、格付与、中間態構文と受動文の違い、及び、分布を統語規則による分析より適切に説明出来ることを指摘する。しかしながら、語彙部門での派生による分析においても、中間態構文にあらわれる動詞が意味的に特徴ある一つの類を成すことが十分に捕えられていない。そこで、第二に、中間態構文が可能な動詞の特徴を観察し、Roberts, Jaeggli (1986) 等で議論されている *affectedness* という概念には、“出来事が終着点を持つ過程を含んでいる” という事が重要であることを主張する。

I

Since the appearance of Keyser and Roeper (1984) which discusses the differences between middles and ergatives, several approaches have been made as to the analysis of the English middles. Except for some differences such as lack of morphological element, middles appear to have similar properties as passives. The verbs that appear in middles are transitive verbs with two arguments. The surface subject corresponds to the logical object and the logical subject is suppressed. The properties ascribed to passives in Chomsky (1981) are (i) no θ -role assignment to NP/S and (ii) no Case-assignment to NP /VP (for some NP in VP), and middles seem to share these properties. One of the major issues concerning the middle sentences, therefore, is how to account for their derivation. Are middles derived by move-NP in syntax just like passives? Or are they to be derived by a lexical rule?

In this paper, first, we will examine two major proposals for the derivation of middles. Second, we will investigate into essential properties of middles. Especially, we will closely examine the verbs which can participate in middle formation and those which cannot and will try to characterize the semantic restriction on the verbs involved in middle formation.

II

One account of middles is given by Keyser and Roeper (1984) and Roberts (1987). They argue for a syntactic treatment of middles, according to which middles are derived by move-NP in syntax. K&R argue that the differences between ergatives and middles are syntactic as well as semantic on the basis of the following arguments.

- (a) Middles do not form compounds.
- (b) Middles cannot appear in preverbal *ing* Adjectives.
- (c) Middles cannot appear with the iterative particle *away*.
- (d) *Out*-Prefixation is impossible with middles.
- (e) Middles allow reanalysis more easily than ergatives.

They claim that their tests show that middles emerge from the lexicon as transitives and are derived syntactically. As in passives, the surface subject of middles is generated in object position and moves to subject position in order to avoid violating the Case Filter. Thus, the middle sentence (1) has the structure (2) underlyingly.

- (1) Firm tomatoes slice well.
- (2) [_{NP}e] slice firm tomatoes well

K & R's syntactic analysis has been challenged by Fagan (1988), however. Fagan argues that K & R's evidences given in support of the claim that middles are syntactically transitive are not sound and that there is no evidence that the differences between middles and ergatives can be attributed to differences in their syntactic properties. The differences between them, she argues, have a semantic rather than a syntactic basis: the

differences come from the stative property of middles.

Moreover, there are some inadequacies in K & R's syntactic analysis in that their analysis does not capture some important differences between middles and passives. They assume that middles are very similar to passives and that the characteristic properties of passives, namely the suppression of the external role of the base verb and the absorption of Case, hold true in middles as well. Given this, the immediate question that arises is 'What forces NP-movement in middles?' Passives contain passive morphology, which absorbs Case; however, a middle marker is not realized either syntactically or morphologically. Since the base transitive verb needs to assign Case to its object in the active sentence, there seems to be no way to account for the Case-assignment property of the middle verbs.

Another difference between middles and passives lies in their distribution. Compared with passives, middles are more restricted in distribution. Not all NPs which satisfy the relevant structural condition in the configuration can move to form middles. This is illustrated in the following (Hale & Keyser (1987)).

- (3) *Planets see easily.
(cf. Planets can be seen with the naked eye.)
- (4) a. *John considers a fool easily.
(cf. John is considered a fool.)
b. *John believes to be a fool easily.
(cf. John is believed to be a fool.)

(3) shows that middle formation is lexically governed and (4a,b) show that middle formation moves only true direct objects, not the subject of a small clause or infinitival.¹

The syntactic account proposed by Roberts overcomes the difficulties that K & R confront by introducing the following mechanism. He adopts the distinction made by Chomsky (1986) between Case-assignment and Case-realization and proposes the following for the structural Case of English (220).

- (5) ACC is assigned by Infl and realized by a coindexed [+transitive] Verb.

Assuming that V optionally coindexes with Infl, he claims that middles are derived by optional failure of V-Infl coindexing. As V and Infl are not coindexed in middles, the verb cannot assign ACC to the NP complement. Hence the NP is forced to move. The failure of Case-assignment to the object in middles crucially depends on V-Infl coindexing. He further argues that V-Infl coindexing is related to event vs. stative reading of a verb. If a verb is coindexed with Infl (namely, the Tense constituent of Infl), it is temporally dependent on Tense and it has an event reading. If it is not coindexed with Infl, it is not temporally dependent on Tense and has a stative reading.² Lack of V-Infl coindexing captures the aspectual properties of middles—middles are statives and stativity is a kind of temporal obviativity. As to the severely limited distribution of middles, Roberts claims that middles are derived from only accomplishment verbs which are characterized as having an internal Theme argument. The Theme is defined as the argument which undergoes a change of state and is assumed to be coindexed with V. By restricting the class of verbs that form middles to accomplishment verbs, he

accounts for the ungrammaticality of sentences in (3) and (4). Perception verbs, exceptional Casemarking verbs and verbs with small clause complements are not achievements, so they do not form middles as expected. The DS proposed for the middle sentence (1) is (6) according to Roberts.

- (6) [e] Infl slice_i firm potatoes_i

However, we will see below that there are verbs that do not have Theme objects and yet form good middle sentences. Hence Roberts' definition of Theme needs to be somewhat modified.

A second treatment of middles is a lexical one, according to which the formation of middles involves a lexical rule which operates on the argument structure of verbs. Roberts suggests this lexical analysis as an alternative analysis in his discussion, though he abandons it in favor of the syntactic analysis, and Fagan argues for it. We will take up Fagan's analysis here. She formulates the following rules for the formation of middles.

- (7) Assign *arb* to the external θ -role.³

- (8) Externalize the direct θ -role.

The rules operate on the thematic structure of verbs in the lexicon. The rule (7) is responsible for the fact that the external argument, which is typically the agent θ -role, is interpreted generically but cannot be realized structurally in the middles. The middle sentence (9) means roughly (10).

- (9) This flashlight plugs in easily.

- (10) Anybody can easily plug in this flashlight. (Fellbaum)

(9) states the general feasibility of the action referred to; it is the expression that any potential agent can perform the action of plugging in without any difficulty. The rule (7) has the effect of saturating the external θ -role (namely, the external θ -role is not projected in the syntax) and the bearer of this θ -role is interpreted generically. The rule (8) accounts for the fact that the direct θ -role of a verb is realized externally in the middle construction.

The lexical account of middles by Fagan has some desirable consequences. It can account for the differences between passives and middles which the syntactic analysis fails to capture. First, although both passives and middles have a suppressed subject, there is a clear difference in the status of the suppressed subject, as has frequently been observed. In contrast to passives, the external θ -role not only fails to appear on the surface but also fails to exercise control or cooccur with agent-oriented adverbs in the middle constructions.

- (11) * The paint sprayed on evenly by the painter. (Fellbaum)

- (12) * The houses sold quickly to make money.

- (13) * The house sold with enthusiasm.

This is what the lexical analysis predicts, since the external agent θ -role is saturated and hence it is not syntactically active. Second, it is also to be noted that the ungrammaticality of middles with exceptional Case-marking verbs and verbs with small clause complements illustrated in (4a) and (4b) is accounted for straightforwardly under

the lexical approach. The formulation (8) stipulates that the externalized argument must be the direct θ -role and, since the postverbal NP in exceptional Case-marking verb construction and in small clause complements is not the direct θ -role of the verb, the middle sentences like (4a) and (4b) are simply not generated. Third, the lexical analysis of middles is preferable in that it does not refer to morphological elements. Unlike passives, middles are morphologically identical with actives and the lexical rule of externalization seems to be capable of capturing this fact more adequately than a syntactic rule of move-NP employed in the formation of passives.

However, Fagan's lexical analysis of middles is deficient in that it does not capture the fact that not all direct θ -roles can be externalized to form middles. Middles are formed quite productively; however, it has also been pointed out in the previous studies that a very large number of verbs cannot appear in middle constructions. The following middles are not acceptable, for example.

- (14) * Romance languages acquire easily.
- (15) * This glass hits easily. (Roberts)
- (16) * The poem remembers easily.
- (17) * The game watches easily. (Smith)

There is clearly a semantic constraint on the formation of middles. In the lexical analysis of middles suggested by Roberts, he takes this semantic restriction into consideration and suggests that the middle formation involves the externalization of the Theme θ -role. He argues that a direct object corresponding to an unaffected θ -role cannot undergo middle formation and attempts to formalize the notion of 'affected argument' by using the term 'Theme'. Fagan, however, does not accept Roberts' Theme analysis because she regards a verb like *read* as a counterexample to Roberts' notion of Theme, since the object of the verb *read* does not exhibit an affected object and yet it forms a perfectly acceptable middle. Roberts' term Theme may not be satisfactory and surely we need to make further investigation into the problem of determining the semantic features that allow the verbs to be eligible for middle formation. However, Fagan's proposal that middle formation involves the externalization of the direct θ -role is problematical as it is and hence it needs to be modified.

III

The examination of the two approaches to middles in the preceding section—syntactic and lexical—reveals that the characterization of the class of verbs that undergo middle formation is crucial in accounting for middle sentences in English. In this section we will attempt to characterize as much as possible the class of verbs which may enter into the middle construction by looking at various kinds of examples. We will be interested to see what meaning of a verb determines its ability to enter into the middle construction.

Hale and Keyser (1987), who propose a lexical account of middles in terms of the Lexical Conceptual Structure representations of verbs, assume that ergatives are truly

representative of the class of English verbs which form good middles and argue that middle formation is essentially the same as the ergative formation.⁴ The following are examples of middles formed with ergatives.

- (18) This wood splits easily.
- (19) This door opens easily.
- (20) This cinch tightens easily.
- (21) This wheel spins easily. (Hale & Keyser)

They assume that the basic structure of the concept denoted by the canonical use of transitive counterpart in both ergative and middle pairs is that in which one participant (the 'actor' or 'agent') does something which brings about, or causes, the other participant (the 'theme' or 'patient') undergoes a change of some sort (7). Not only does this account claim that only those verbs which have the 'theme' or 'patient' argument allow middles but also it predicts that if a verb enters into a middle construction, it will also enter into an ergative construction. It is to be noted, however, that there are counterexamples to this.

- (22) a. This play reads better than it acts. (Curme)
- b. This play performs easily.
- (23) a. *The rope cut.
- b. *The chicken killed.

The verbs *read*, *act*, *perform* in (22) do not seem to describe the action in which their objects undergo some kind of change and yet they form acceptable sentences. In the case of *read*, we might say that its meaning involves a change of location, namely, the abstract motion of material into the agent's mind⁵; however, it is quite questionable that the same kind of explanation can be given to the verbs *act* and *perform*. The sentences in (23) illustrate that although they can appear in middle constructions, *cut* and *kill* cannot form good ergatives. They satisfy the lexical conceptual structure for middle/ergative alternation, but they are excluded in ergatives. It follows then that Hale and Keyser's assumption that middles and ergatives have the same semantic restriction on their verbs needs reconsideration.

The semantic constraint on which verbs form middles mentioned above has been subsumed under the Affectedness Constraint in the literature (Jaeggli 1986 : 607). The Affectedness Constraint entails that transitive verbs which take unaffected objects should be unable to form middles. The affected objects are those which are affected by the action expressed by the verb and the notion 'affectedness' is generally defined as the affected argument of the verb undergoing some change, i. e., a change of state or location. So the affected object corresponds closely to the notion 'theme'. We may say that Hale and Keyser's characterization of middle verbs is basically based on this notion.

Rizzi (1986) suggests that, since affected θ -roles play an important role in some syntactic processes, the affected-unaffected distinction appears to be of higher syntactic relevance than most distinctions offered by θ -theory. In addition to middles, possibility of passivization in NP depends on whether a direct object is an affected role or not. Passivization in NP is inapplicable to the carrier of an unaffected θ -role. Rizzi also

shows that in Italian a direct object cannot be a null object with arbitrary interpretation if it corresponds to an unaffected θ -role. Thus the Affectedness Constraint singles out the three processes: middle formation, passivization in NP, and null objects in Italian. Wilkins (1987) claims that resultative formation observes Affectedness Constraint as well. She argues that thematic relations have a dual status: they are related to the perceptual structure and the structure of events. Theme, she argues, belongs in the set of roles in the former while Affected belongs in the set of event roles and is distinct from Patient. We will follow Rizzi's and Wilkin's suggestion and take the position that the notion 'affected' plays an important role syntactically and it defines a natural syntactic class. In what follows, we will see if we can make any characterization of 'affectedness' in another viewpoint

In addition to ergative verbs illustrated in (18), (19), (20) and (21), there are a few more classes of transitive verbs that can enter into middle constructions.

- (24) Change of state verbs (*cut, slice, crush, smash, rip, kill, wash, iron, paint, polish, clean*, etc.)

- a. The meat doesn't cut. (Fellbaum)
- b. The chickens kill easily. (K & R)
- c. These shirts wash in the machine.
- d. Silk won't iron.
- e. The floor paints easily. (K & R)

- (25) Verbs of transfer (*transfer, transmit, transpose, transport*, etc.)

- a. The baggage transfers efficiently.
- b. Messages transmit rapidly by satellite.
- c. The letters transpose easily.
- d. Boxes like these will not transport easily. (Roberts)

- (26) Psychological predicates (*frighten, amuse, scare, surprise, convince*, etc.)

- a. Mary frightens easily.
- b. Mary doesn't surprise easily.
- c. Mary convinces easily.

In contrast to these verbs, the following classes of verbs are excluded in middle constructions.

- (27) Perception verbs (*hear, see, watch, observe, smell*, etc.)

- a. *The mountains see easily. (Roberts)
- b. *Cricket_s $\left\{ \begin{array}{l} \text{see} \\ \text{watch} \\ \text{hear} \end{array} \right\}$ on summer evenings. (Fellbaum)

- (28) Stative verbs (*know, want, like, believe*, etc.)

- a. *This answer knows easily. (Roberts)
- b. *This kind of story believes easily.

- (29) Verbs of surface contact (*hit, strike, touch, slap*, etc.)

- a. *This glass hits easily. (Roberts)
- b. *The bell touches easily.

- (30) Psychological-activity verbs (*acquire, learn, realize, visualize, assume, remember, etc.*)
- a. * Romance languages acquire easily.
 - b. * These poems remember easily.
 - c. * The multiplication tables learn easily. (Wilkins)
 - d. * An appropriate answer visualizes easily. (ibid.)

The verbs which enter into middles are not randomly constituted, nor are those which do not. It appears that the notion 'affectedness' defined on the basis of the affected argument undergoing some kind of change can correctly predict the difference between them. The ergative verbs and change of state verbs, verbs of transfer, and psychological predicates effect a change in the physical state of the argument, a dislocation of the argument, and a change in the psychological state of the argument respectively. On the other hand, no such change is implied in (27), (28), (29) and (30). The contrast in acceptability in each pair of the following clearly illustrates this.

- (31) a. This glass smashes easily.
- b. * This glass hits easily.
- (32) a. His mathematical papers circulate easily.
- b. * His mathematical papers disprove easily. (Fellbaum)
- (33) a. That young man demoralizes easily.
- b. * That expenditure authorizes easily. (Wilkins)

Note also that if anything undergoes any change in the sentences with psychological verbs, it may be the suppressed argument, not the surface subject. In (30a), for example, *Romance languages* could not be affected in the domain of the verb, namely, it does not undergo any kind of change, but the assumption is more likely to be that the logical subject, that is, the one who does the acquiring, is affected by the abstract mental activity of acquiring. Hence the ill-formedness of the sentences like (30).

Now, let us return to the well-known puzzling verbs such as *read*. *Read* forms a perfectly good middle.

- (34) This book reads well.

If we follow the same line of argument given in (30), we would predict (34) to be unacceptable, for we may say that the reader, rather than the book, undergoes some abstract psychological change of state. Then, what property of the verb makes it possible to enter into a middle construction? In order to answer this question, let us examine the following examples as well.

- (35) a. This play reads better than it acts.(=(22a))
- b. This play performs easily.(=(22b))
- (36) a. The book sells well.
- b. * The book buys well.
- (37) a. * Certain titles inherit automatically in France.
- b. * Flowers receive with pleasure. (Fellbaum)

As mentioned above, *the play* in (35) does not undergo any change in the action referred to. The verbs *sell* and *buy* are very similar except for the fact that they are opposite sides of

the same transaction. *The book*, we can say, undergoes a change of location in both. Yet, they behave differently with respect to middle formation. Van Oosten (1977) states that the difference comes from the fact that the verb *sell* allows the object sold to bear some responsibility for the transaction whereas the verb *buy* limits responsibility to the purchaser. Is there not any other difference in the properties of the verbs? (37) shows that *inherit* and *receive* do not form middles. However, inheriting and receiving, like selling and buying, involve a dislocation of *certain titles* and *flowers*. If so, then, how are they different from *sell*?

We would like to propose to redefine the notion 'affectedness' in terms of Vendler's Verb Classes. Vendler (1967) distinguishes four classes of verbs—accomplishments, activities, achievements and statives—on the basis of the aspectual properties of verbs. Roberts, who accepts Vendler's verb classification, claims that middles are possible only from accomplishment verbs. We consider the arguments given by Roberts to be basically correct, and we suggest that we interpret the notion 'affectedness' in a new light along the line given by Vendler.

According to Vendler, accomplishments describe an event which has a 'climax', which has to be reached if the action is to be what it is claimed to be (100). For example, *running a mile*, which is an accomplishment term, goes on in time and it proceeds toward a terminus which is logically necessary to its being what it is (101). On the other hand, activities (eg. *cry*) and achievements (eg. *notice*) do not indicate processes going on in time and do not set terminal point. Hence, it is possible to say 'It takes one hour to run a mile' while it sounds strange to say 'It takes one hour to cry' or 'It takes one hour to notice the picture'. Verbs are classified on the basis of whether they describe processes going on in time and whether they have temporal terminal point. This division is very instructive and enlightening in considering the notion 'affected-unaffected' and we suggest that this factor is criterial for the middle construction. Most of the verbs that enter into middle formation refer to activities that bring about change, whether physical or psychological or locational, in the object. Significantly, change implies the existence of a terminus: a certain process goes on in time until the terminal point and it does not continue after that. We may say that the verbs which fall under the so-called Affectedness Constraint involve temporal on-going processes and the endpoint of the processes. It is possible, therefore, to define the notion 'affectedness' in terms of a process with a terminus rather than in terms of change in the object. Given this assumption, the surprising behavior of such verbs as *read*, *act* and *perform* shown in (35) is not problematic any more. Reading the book, acting the play and performing the play go on for a certain amount of time and come to an end when the book is finished or when the play comes to an end. It is not necessary to consider whether the book or the play is affected by the action denoted or not. In a similar way we can account for the difference between *sell* on one hand and *buy*, *inherit* and *receive* on the other.

(38) It took a month to sell the book.

(39) a. ?* It took a month to buy the book.

b. (?) It took a month to inherit the title.

- c. ? It took a month to receive the flowers.
- (40) They sold the book in one month.
- (41) a. They bought the book in one month.
- b. They inherited the title in one month.
- c. They received the flowers in one month.

(38) and (40) are perfectly good sentences and they describe the same situation. The selling of the book went on for a month and the event completed when the book left the seller. (39) illustrates that buying, inheriting and receiving are not easily interpreted as processes which can go on in time. Note also that although sentences in (41) are possible, they are not related to (39) in the same way as (40) is closely related to (38). (41a), for example, only implies that the buying of the book took place at one time during that month. It does not imply that the buying of the book went on during that month. On the basis of these evidences, we may conclude that *buy*, *inherit* and *receive* differ from *sell*.

Stative verbs do not describe events with a terminal point. Knowing the answer, for example, cannot be a complete event. Strictly speaking, surface contact verbs and perception verbs can be predicated only for single moments of time and they do not indicate processes going on in time. It is not appropriate to say 'It took an hour to see crickets' or 'It took an hour to touch the bell'. Now, let us examine psychological-activity verbs. The acceptability of (42) appears to pose some problem to our proposal.

(42) It took many years to acquire Romance languages.

(42) may imply that the process can go on in time just as the process of reading in (43) does.

(43) It took an hour to read the book.

However, there is some difference between (42) and (43). If we say (43), we imply that the reading of the book went on during that hour. However, this is not true with psychological-activity verbs. Even if we say (42), we do not mean that the acquiring of Romance languages went on during those years. If we read the book in an hour, then we can say that we are reading the book at any time during that hour. But if it takes many years to acquire Romance languages, we cannot say that we are acquiring Romance languages at any time of that period. It is exactly this difference that accounts for the inability of psychological-activity verbs to form middles. The problem of determining what semantic properties of verbs allow them to undergo middle formation is a difficult one to solve. But we have suggested that verbs are eligible for middle formation if they describe events which go on in time and have a temporal endpoint.

IV

We have examined two approaches to English middles: syntactic and lexical. The syntactic analysis poses some problems in that it cannot capture the differences between passives and middles. The lexical analysis does not suffer from the difficulties that the syntactic analysis faces. However, we have seen that we have the problem of characterizing the class of verbs that may enter into the middle construction. Middle verbs form a semantic class. We have argued that middle formation observes Affected-

ness Constraint and that the notion 'affectedness' needs to be redefined. It has been proposed that middle verbs do not necessarily have affected objects; what is crucial for the notion 'affectedness' is whether the event described by the verb has an on-going process and a temporal endpoint, rather than whether the affected object undergoes some change in the action denoted by the verb.

NOTES

1. As Noguchi (1987) points out, the ill-formedness of (i) in contrast with the well-formedness of (ii) suggests that the middle does not involve NP-movement.

- (i) a. ??This bread cuts hot easily.
- b. ??Maple splits frozen easily.
- (ii) a. This bread can be cut hot (without difficulty).
- b. Maple can be split frozen (with ease).

If a depictive secondary predicate requires an NP in its C-command domain as has generally been argued, the ill-formed sentences in (i) can be used as evidence for there being no NP trace in the middles. However, Hale and Keyser gives the following acceptable middle sentence with a depictive.

- (iii) These dishes stack wet easily.

Therefore, the depictives do not argue for or against the syntactic NP-movement analysis of middles.

2. Roberts (1987: 196-8), following Enç (1985), states that statives and non-statives differ as to temporal interpretations. For example,

- (i) John said Mary left.
- (ii) John said Mary knew the answer.

in (i), the time of leaving must precede the time of saying while in (ii) the time of Mary knowing the answer can either precede or be simultaneous with the time of saying. The former has a 'shifted reading'; the latter, 'simultaneous readings'. He calls the former 'temporally dependent' and the latter 'temporally independent'. He says that middles are temporally independent just as statives are.

- (iii) John said chickens killed easily.

(iii) allows a temporally independent (i. e., simultaneous) reading.

3. *Arb* is a cover term for the feature specification identifying the set of properties generally referred to as 'arbitrary interpretation'; [+human, +generic, ±plural], etc. (Rizzi 1986: 509).
4. They propose the following lexical rule (20).

The Ergative-Middle Alternation

[x cause [y "undergo change"], (by. . .)]

←-----→

[[y "undergo change"], by. . .)]

5. See Noguchi (1987: 69).

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