A COGNITIVE APPROACH
TO THE ENGLISH MIDDLE CONSTRUCTION

KAZUMI TANIGUCHI
Osaka University

This paper deals with the middle construction in English in the framework of cognitive grammar. Introducing fundamental aspects of our cognitive abilities gives rise to a finer-grained grammatical theory, which is capable of articulating the characteristics and accounting for the limited distribution of this construction in our usage. The analysis here utilizes the graphic representation of the action chain, one of the basic cognitive models. It reveals that the motivation for employing this construction for an expressive purpose principally resides in how we mentally construe and structure a conceived event. Suggested eventually is the significance of considering psychological factors for precise description of a grammatical phenomenon.

1. Introduction

English has a class of so-called middle constructions such as the examples in (1):

(1) a. This book sells well.
    b. This car drives easily.

Despite various linguistic views on this construction, there seems to be general agreement concerning its properties. First, it takes the Patient as its subject and implies the Agent, which is never expressed explicitly. This contrasts with the passive, as exemplified in (2).

(2) a. *This car drives easily by John.

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b. This car is driven easily by John.

Moreover, the paraphrase below suggests that the implied Agent in the middle is interpreted as generic in nature.

(3)  a. This car drives easily.
     b. People in general can drive this car easily.

Note that the subject of the middle is not only the Patient but often the Instrument as well.

(4)  a. This knife cuts well.
     b. This cream polishes nicely.

Secondly, most middles occur with some specific adverbs, of which the most prototypical ones are well and easily, observable in (1) above. Adverbs like carefully or skillfully cannot be used, while they would be included quite properly in the passive.

(5)  a. *This car drives carefully.
     b. This car is driven carefully.

Finally, although the verbs compatible with the middle construction are essentially transitive, not all transitives can participate in this construction.

(6)  a. This book sells well.

The contrast in (6a-b) shows that sell alone is acceptable in the middle, though the same transactional event would be describable with either sell or buy.

Let us review how linguists have treated the middle construction with the properties observed above. Keyser and Roeper (1984) provide a syntactic account, focusing on the status of the middle verb as a transitive, and conclude that the middle is derived by syntactic rules just as the passive. There is also a lexical analysis provided by Fagan (1992), who objects to Keyser and Roeper's idea, saying that in the lexicon middle verbs are intransitives produced via lexical rules. However, since those syntactic or lexical analyses concentrate on the level at which the middle is formed from a transitive verb, they still leave unsolved a large number of problems, especially the issue of why middle formation inevitably excludes some transitives. Unexplained as well is the co-occurrence of adverbs in the middle.

In this respect, it seems that a semantic and pragmatic account would be more effective in explaining the middle construction. Van Oosten (1986) observes, taking into consideration the middle construction's context-sensitivity, that it is used when the Agent is irrelevant to the
described activity, and at the same time the Patient is regarded as responsible for the performance of that activity. The crucial point of her claim concerns 'responsibility' which the Patient, the subject of the middle sentence, is supposed to bear. Intuitively, we can agree with the idea that the subject of the middle is not volitional but responsible for the activity expressed by the verb involved; in fact, this notion is adopted as a pragmatic condition in some other analyses, including Fagan's (1992). However, it is unclear whether the notion of responsibility is able to settle all the relevant issues, such as the contrast of sell and buy presented in (6) above. It would be hard to verify Van Oosten's observation that the items on sale have responsibility for selling activity but not for buying activity, unless the measurement of responsibility comes to be explicit.

Thus we can point out that neither the syntactic nor the pragmatic account has achieved a full explanation of this construction yet. To describe it more precisely, I would like to adopt the framework of cognitive linguistics, especially cognitive grammar advocated by R. Langacker, who asserts the significance of cognitive factors in grammar and maintains that linguistic expressions inevitably reflect fundamental aspects of our cognition or perception. In terms of cognitive grammar, the semantic value of an expression resides not only in the objective situation it describes but also in how the situation is construed through our multi-dimensional imagery. Specifically concerning clausal expressions, it is assumed that the selection of grammatical constructions depends on our construal of the scene; we are cognitively motivated to employ a certain linguistic form to code it.

It follows that we need first to explore how an event is construed when the middle construction is triggered. In the next section, we will begin by introducing cognitive models required to characterize this construction.

2. Cognitive Models

Clausal expressions, including the middle construction, equally de-
note the evolution of an event, which might be either a process or a state. That brings us to employ a cognitive model which is able to capture the internal structure of a conceived event and to represent our construal imposed upon it in detail.

In cognitive grammar, such a cognitive model corresponds to the *billiard-ball model* which cognitively idealizes the external world as being populated by an array of discrete objects.\(^2\) These objects, like billiard-balls, can move and interact with others through the transmission of energy. They form an interactive network, in which asymmetrical energy flows are called *action chains*, as illustrated in Figure 1. Furthermore, we limit the scope of an individuated action chain and impose relative cognitive salience on its participants. This process is sketched in Figure 2, which reflects our normal observation of an event to be coded in a clausal expression. Relative salience among the participants pertains to one of psychological factors, the figure-ground organization according to which our attention is focused on more energetic and specific objects. Typically, the head-participant of the action chain is the *figure*, in that it is the source of energy flow and thereby the most energetic of all.

![Figure 1](image1)

![Figure 2](image2)

In terms of linguistic coding of a conceived event, the subject of a clause corresponds to the *figure* and the object to the most salient participant within the *ground* of the action chain. However, as Langacker (1990) demonstrates employing the examples and diagram below, the selection of the subject and object greatly depends on how we impose the scope and relative salience on the action chain. Considered here is a prototypical transitive event involving three participants, whose roles are the Agent (*Floyd*), the Instrument (*the hammer*) and the Patient (*the glass*).\(^3\) It is suggested that an objectively unique scene can be described in various expressions according to how the scene is construed,

\(^2\) See Langacker (1990) for details.

\(^3\) The sentences in (7) and the diagram in Figure 3 are cited from Langacker (1990).
and that the selection of the subject and object is linked not with specific semantic roles but with the relative salience our figure-ground organization brings about.

(7)  
    a. Floyd broke/hit the glass with the hammer.  
    b. The hammer broke the glass.  
    c. The glass (easily) broke.  
    d. Floyd hit the hammer against the glass.

Here is another type of cognitive model, the causal chain proposed in Croft (1990). The causal chain is regarded as intrinsically compatible with Langacker’s action chain, in that it also idealizes an event as driven by the interaction among individual objects. What is conspicuous in this model is the notion of event-structure; Croft argues that a single event comprises three segments (CAUSE, BECOME and STATE), and that the form of the verb (causative, inchoative or stative) reflects what portion of the three-segmented chain is selected. The causative verb represents the whole of the causal chain, whereas the inchoative verb involves the last two segments, and the stative verb occupies only the last segment of the chain, as illustrated in Figure 4 of which (a)–(c) correspond to the verbs shown in (8a–c) respectively:

(8)  
    a. The rock broke the window.  
    b. The window broke.  
    c. The window is broken.

Since the two foregoing cognitive models, namely the action chain and the causal chain, are both based upon the same view of events, it is quite possible for us to integrate them. I would like to incorporate Croft’s notion of causal relations into Langacker’s action chain, as in
Figure 5, in order to reinforce its efficiency.

\[
\text{AG} \xrightarrow{\text{CAUSE}} \text{MV} \xrightarrow{\text{BECOME}} \text{MV}' \xrightarrow{\text{STATE}}
\]

**Figure 5**: normal transitive chain

In the integrated model newly proposed here, the leftmost participant transmits energy to the next one. The impacted entity is called the *Mover* if it is caused any transition physical or stative.\(^4\) The squared participant on the right indicates that the Mover has reached the ultimate state as a result of receiving energy. The double arrow labelled *CAUSE* symbolizes an energetic transition, while the single arrow labelled *BECOME* indicates a non-energetic transition of the state.

Note that what Figure 5 portrays is a prototypical transitive chain involving both an Agent and a Mover. Although verbs such as *break* or *open* are good candidates for such an action-chain representation, not all transitive verbs are eligible for it (consider, for example, stative verbs like *know* or *resemble*). By contrast, some verbs can be represented in the action chain, even if they involve not physical but metaphorically interpreted energy (e.g., *surprise* or *scare*). It is assumed therefore that the potentiality of the action-chain representation is one of the dimensions along which we can measure the degree of transitivity of a conceived event. I will refer to the configuration in Figure 5 as a *normal transitive chain*.

### 3. Action Chain Representing the Middle Construction

Based on the action chain introduced in the previous section, let us explore how we recognize an event in employing the middle construction to describe it. Langacker (1990) has already provided a brief comment on the differences among the transitive, ergative, and middle sentences in (9):\(^5\)

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\(^4\) I basically follow the terminology and classification of the semantic roles of participants in Langacker (1991a: Ch. 9). However, I regard the Mover in a broader sense as subsuming the Patient in that the Mover's change might be physical or stative.

\(^5\) I reproduce Figure 6 from the original notation of Langacker (1990), using our model proposed here instead, while preserving what he designs in essence.
Diagrammed in Figure 6(a) is the transitive (9a), which portrays all the three segments of a conceived event and construes the Agent as the figure in the profiled relation. Diagram (b) represents the ergative (intransitive) sentence (9b), indicating that it selects the Mover as the figure within the limited scope consisting of the last two segments. Diagram (c), representing the middle construction (9c), is similar to (9b) in that its figure is also the Mover. However, notice that diagram (c) does not exclude the Agent from the scope of the action chain, keeping it unprofiled and non-salient. Moreover, we find that the Mover-participant in (c) exerts energy which resists (or facilitates) the Agent’s exertion.

As for the action chain of the middle, Langacker (1990) briefly mentions that the implication of the unprofiled Agent and the energetic Mover are crucial to this construction. I agree with his observation in substance, but the action chain of the middle depicted in Figure 6(c) is not enough to accommodate various problems this construction raises: the constraints on adverbs and the selection of appropriate transitive verbs. In what follows, we will further examine and elaborate the action-chain representation, showing that it can describe the properties of the middle in all respects.

3.1. Non-specificity of the Agent

As observed thus far, middle constructions do imply the Agent, which is construed as generic and nonspecific.

(10) a. This car drives easily.
    b. People, in general, can drive this car easily.

I would like to assume that non-specificity of the Agent in the middle is required so that the Mover can always be salient enough to be selected as the subject. In terms of figure-ground organization, it has been rec-
ognized that an entity higher in specificity and energeticity is much more prone to become the *figure* in a conceived situation. If we apply this notion to our cognitive model, the Agent would be the most accessible *figure* in the default case where the Agent and the Mover are equally specific, since the Agent lies upstream with respect to the energy flow and is actually the most energetic. It has to be avoided, however, in the case of the middle which highlights not the Agent but the Mover. The Mover’s disadvantage for the *figure* status is that it occupies a lower position in the energy flow and is less energetic than the Agent. To counterbalance this, the Mover should surpass the Agent in specificity; what is needed on the part of the Agent is to be nonspecific to retreat into the background. That is how the Mover acquires the *figure* status linked with the subject in a clause; it is concluded that the nonspecific Agent is presupposed for the Mover’s occupation of the subject position as a result of figure-ground organization.

3.2. The Mover’s Exertion of Energy

Langacker’s observation that the Mover in the middle exerts energy is verified in the example below:

(11) This book became the best seller last year.

Generally, the suffix *-er* is combined with a verb to make a deverbal agentive noun such as *swimmer* or *runner*. In (11), what *best seller* refers to is no doubt a book, which is to be sold and therefore the Mover-participant. Thus, it is assumed that *seller* in (11) is a combination of the middle verb *sell* and *-er*, and that the book is interpreted as agentive and energetic.⁶

Admitting that the Mover can be energetic, it is almost impossible to regard its energy as being as physical and kinetic as the Agent’s. However, we can recognize the energy of the Mover relative to that of the Agent, even though the Mover itself actually emits no force. It is assumed that the Mover’s exertion is reactionary with respect to the

⁶ In fact, middle verbs other than *sell* cannot be followed by *-er*. This is so, I assume, because *sell* is regarded as the most unmarked of all the middle verbs, judged from its frequency in everyday usage. As a result, the relative unmarkedness of *sell* should allow richer morphological inflections. As for the discussion on unmarkedness, see Croft (1991).
Agent's, being created owing to some intrinsic "property". This property, abstract as it may be, functions as the *active zone* of the Mover and has an effect of resisting or facilitating the energy from the nonspecific Agent, as Figure 7 sketches.\(^7\)

![Figure 7](image)

Someone might doubt the existence of such an active zone, but there is a reason to assume it. In Romance languages, the middle construction involves the reflexive clitic. Exemplified below is the French middle:

(12) *Ce roman se lit facilement.*

If we are allowed to suppose simply that the semantic function of the reflexive clitic is to denote an internal entity of the participant in the subject, it is reasonable to think that the reflexive in (12) also represents such internal region as the property, the active zone in the diagram. In English, on the other hand, the middle just fails to express this internal region of the property for lack of reflexive clitics in its linguistic system.

### 3.3. Adverbs as Settings for the Action Chain

Having examined the characteristics of the relevant participants, we will look into the adverbs involved in the middle construction. Adding to the fact that the co-occurrence of an adverb is obligatory with very few exceptions, possible adverbs are classified into a couple of groups according to their semantic functions, as Fellbaum (1986) also suggests. Members of one group are called the facility adverbs, like *easily*, in (13); *smoothly, quickly* are also included in this category, since they refer to other facets of facility in performing some activity. The other group is that of achievement adverbs like *well*, illustrated in (14).

(13) a. This car drives easily.
    b. This umbrella folds up quickly.
    c. The car handles smoothly.

\(^7\) The *active zone* is a facet of an entity that interacts directly with a given relation, according to the definition in Langacker (1987).
(14)  a. This book sells well.
     b. She photographs beautifully.

In the framework of cognitive grammar, it is claimed that the semantic contribution of adverbs is to furnish a setting which consists of a certain scale along which the process, represented in the action chain, is located. Hence the action chain of the middle construction is also situated along a scale concerning either the facility or the achievement of an activity, as diagrammed in Figure 8.

![Figure 8](image)

Furthermore, if the Mover's energy facilitates the conceived process, the action chain will occupy a region near the positive pole; conversely, if the Mover's exertion is against the nonspecific Agent's, the action chain will be located around the negative pole, regardless of whether the scale refers to facility or achievement. Among adverbs of positive values are easily, well or smoothly; those of negative values are much less ubiquitous, badly or poorly for example. Figure 9 illustrates these correspondences:

![Figure 9](image)

Note that there is a difference between facility adverbs and achievement adverbs with respect to their target of modification. In general, whereas facility adverbs modify the overall process, achievement adverbs focus specifically on the culmination, since we have only to be concerned with the result of the activity in order to evaluate how it is achieved; for example, we can say the book sells well just looking at a book-chart in the newspaper, the result of selling activity. Also, we can judge a person to photograph beautifully or not just from his or her pictures, which are the result of photographing, even if we are not
engaged in the activity of taking a picture at all. Thus, it is assumed that facility adverbs are process-oriented, while achievement adverbs are result-oriented.\(^8\)

If the distinction observed above is incorporated into our model, it will be recognized that the type of adverbs, facility or achievement, determines what portion of the action chain is accessible to the scale they provide. In the scale of facility, the whole action chain corresponds to a region on the scale because of the process-orientedness of facility adverbs. In the scale of achievement, on the other hand, result-orientedness of achievement adverbs restricts the accessible part of the action chain only to the last segment labelled STATE; precisely, the STATE segment in the action chain represents the final state of the Mover as a result of performing the action. Figure 10 illustrates the difference between the two, which will be relevant and crucial to our argument later.

![Figure 10](image)

Having detailed the setting for the action chain of the middle, let us consider some residual problems concerning the adverb in this construction. First, some middles are exceptionally accepted even if they do not occur with any adverb, as in (15):

(15) a. This metal recycles.
   b. This dress won’t wash.

Recall that the Mover in the middle construction exerts a kind of energy which facilitates or resists the described action. Due to such exertion on the part of the Mover, the action chain occupies a special position along the scale either of facility or of achievement; it is assumed therefore that a particular adverb is required to denote the effect that the Mover has upon the action. However, adverbs will not be necessary if the action itself implies a special value on the scale; in (15a), for

\(^8\) In this respect, I have a different view from that of Fellbaum, who categorizes beautifully as a facility adverb.
example, the metal is evaluated as distinguished in that the metal in question possesses a special property, that of recyclability. If all metals were recyclable, (15a) would not be accepted unless it is altered into an expression with a certain adverb like this metal recycles easily.

The other problem is that middles cannot involve adverbs which refer to manners or attitudes of specific persons.

(16) a. *This car drives carefully.

This will be explained straightforwardly in our action-chain model, in which the Agent is present but nonspecific to the extent that it functions as the ground, as discussed in 3.1. The class of manner adverbs illustrated in (16) is thus inconsistent with the non-specificity of the Agent of the middle.

3.4. Other Aspects of the Middle Construction

Now I would like to explore some other issues concerning the middle construction, employing the action-chain representation elaborated above. This examination will reveal the descriptive efficiency and advantages of the analysis.

3.4.1. The Instrument-subject Middle Constructions

The participants eligible to become the subject of the middle construction include not only Movers but also Instruments, as seen below:

(17) a. This knife cuts well.
    b. This cream polishes nicely.

While such forms are sometimes called “pseudo-middles”, they can be characterized in a manner parallel to what we have seen, if similarly represented in the action chain.

Clearly, the Instrument lies between the Agent and the Mover in the action chain, transmitting energy from the Agent to the Mover, as Figure 11 depicts. Based upon that alignment of the participants, the Instrument-subject middle conveys a conceived event where a property of the Instrument serves to facilitate or resist the energy from the non-specific Agent. The diagram below sketches the representation of the Instrument-subject middle, comparable to the usual Mover-subject mid-
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It is proved therefore that the Instrument-subject middles can be incorporated into our model properly, without being differentiated as pseudo-middles.

3.4.2. The Sanctioning of the By-phrase in Middles and Passives

It has been pointed out that the implied Agent of the middle cannot be expressed overtly in a by-phrase, unlike that of the passive.

(18) a. This car drives easily
    b. *This car drives easily by any driver.

(19) a. This car is driven easily.
    b. This car is driven easily by any driver.

I would like to attribute the contrast in (18)-(19) to their different choices of responsible participants, together with the semantic function of the preposition by.

As for the notion of responsibility, Van Oosten (1986) points out that the subject of the middle, the Mover-participant, is regarded as responsible for the described action. Her claim seems to the point, yet the definition of responsibility is left unclear. Here, in terms of the action chain, I identify the responsible participant as follows:

(20) Responsibility Condition

It is the Primary Energy Source, a participant whose exertion of energy is crucial to the represented action, that has responsibility for that action.

Consider the action chain of the middle construction, illustrated in Figure 13 again, where we can find two energetic participants: the Agent and the Mover. However, the energy of the Mover is more crucial than that of the unprofiled Agent, since whether the action chain corresponds to the positive pole or to the negative pole of a certain scale depends on the direction of the Mover’s exertion, for or against the energy from the Agent. Hence, the Mover is the Primary Energy
Source in the middle construction and thereby responsible for the action.

Next, let us look into the active/passive pair below:

(21) a. The President drives this car every day.
    b. The car is driven by the President every day.

As shown in Figure 14, both sentences in (21) are based upon the same action chain. A conceivable difference between them is that the passive (b) selects the Mover as the most salient participant instead of the Agent. Note, however, that the Energy Source is the Agent either in the active or in the passive, because there is no other energetic participant. We can conclude therefore that the responsible participant in the passive is the Agent, unlike in the middle.

Then, let us examine the combination of the Agent-participant and the by-phrase both in the passive and in the middle. As for the semantic value of the preposition by, Langacker (1982) observes that it represents a proximity relation of entities, with the prepositional object being a reference point to locate the target entity in its neighborhood (for a spatial example, in the sentence my house is by the river, the river is a reference point to situate my house). If it is used in the domain of responsibility, the prepositional object is not just a reference point but a source of responsibility for creation or activity, maintaining the central function of by to denote a proximity relation. Such by-phrases are exemplified below:

(22) a. This symphony is by Beethoven.
    b. The demolishing of the old building by the government was quite unreasonable.

Likewise, it is quite reasonable to think that the by-phrase appearing in the passive also pertains to responsibility. From our observation above, responsibility borne by the Agent in the passive surely accords with the function of by to represent a source of responsibility.

This is not the case with the middle, however, where the responsible participant is not the Agent but the Mover. Combining the Agent
with the by-phrase will be problematic, since the lack of responsibility on the part of the Agent conflicts with the semantic contribution of by. That simply results in the prohibition of occurrences of by-phrases in the middle, as may be inferred from (18b).

It has been established that the contrast as to by-phrases between the middle and the passive is explained straightforwardly through consideration of responsible participants together with the semantic value of by. It is also implied that the problem dealt with here would not be solved if the preposition by were regarded as a mere syntactic device to realize the 'demoted' argument; its semantic contribution is not to be neglected.

Thus far we have seen how successfully the middle construction is characterized in the action chain involving certain basic cognitive factors. In the next section, we will look into the prediction of what verbs are able to participate in this construction, based on the action-chain representation established here.

4. Analysis

4.1. The Asymmetrical Relation of Sell and Buy

One of the most mysterious problems of the middle is possibly that one cannot say (23b), while (23a) is perfectly acceptable.

(23) a. This book sells well.

Intuitively, these two verbs, sell and buy, appear to be based upon the same transaction chain; if someone sells something, there must be someone else who buys it. Yet the examples in (23) show that we cannot simply replace one with the other.

First, let us consider the representation of sell and buy, illustrated in
Figure 15.9 They share the same action chain which consists of three participants: the Agent (the seller), the Mover (the item on sale), and the Possessor (the buyer). As diagram (a) illustrates, sell selects the Agent as the most salient participant, which would be coded in a clausal subject. If it is turned into a middle, the Agent is construed as nonspecific, and the Mover’s exertion is highlighted instead. In diagram (b), which depicts the structure of buy on the other hand, it focuses on the Possessor lying downstream with respect to the energy flow. The choice of the salient participant in buy deviates from the prototypical one (as in sell), because it does not highlight the Agent, which should be the most energetic and salient, due to its status as the initiator of a series of activities.

Recall the action chain of middles, elaborated in the preceding section. What is most prominent in this construction is the Mover’s exertion for or against the energy from the Agent. Furthermore, it is recognized that it presupposes the energy flow from the Agent to the Mover on which the Mover’s energy operates. Compared with this canonical chain, the action chain of buy clearly fails to involve the presupposed energy flow, the Possessor-participant being less energetic than the Agent, because of its position downstream in the energy flow. In general, configurations deviant from the presupposed transitive chain block the formation of the middle; verbs which require recipient-subjects like buy are hard to use in middles:

(24) a. *Flowers receive with pleasure.
   b. *Those titles inherit in France.

What is worse, (23b) displays another problem concerning the combination of buy and the adverb well. It was observed earlier that well is an adverb which represents the degree of achievement of an activity, and is consequently result-oriented; that is why the STATE segment of the action chain, the final state of the Mover, directly corresponds to a positive or negative position on the scale of achievement. It follows

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9 The asymmetry between sell and buy is inspired from the observation of give versus receive in Langacker (1990). The former pair differs from the latter in that one more participant, the money, is relevant to the transaction they describe. Note, however, that the money lacks cognitive salience enough to emerge as the direct object of sell/buy in a clausal expression (e.g., *I sold/bought five dollars yesterday). It is assumed therefore that, even if the Possessor energetically operates on the money, this interaction is too implicit to be taken into account now.
that the verb combined with well should involve the STATE segment to be modified. But, looking at diagram (b), we find that what buy designates is only the goal domain surrounding the Possessor and the Mover. We envisage no final state of buy itself, since it occupies and specifies the STATE segment of the overall chain. Hence the marked structure for buy, which lacks any “final state” of its own, is inconsistent with the function of the adverb well.

That brings us to expect that the connection between buy and adverbs other than well should be better, and so it is, in fact:

(25) The low mortgage on these houses means that they buy easily. (O'Grady (1980); my emphasis)

The verbal phrase buy easily is not impossible because a process-oriented adverb like easily can refer to the procedural contact between the Possessor and the Mover, providing that the contact is construed as dynamic enough to approximate the Possessor to the Agent.

To sum up, we conclude that the sentence this book buys well is doubly ill-formed; first, the marked structure of buy lacks the energy flow presupposed in the action chain of the middle. In addition, being void of a final state of its own, buy is not sanctioned to occur with the achievement adverb well, and this fact crucially makes the sentence in question unacceptable.

4.2. Transitivity and the Middle Construction

Through the examination of sell versus buy above, we are led to assume that the middle requires as a precondition a flow of energy from the Agent to the Mover, which can be represented in a normal transitive chain (see section 2). In this subsection, I would like to look into various examples of middles based upon this assumption in order to clarify the relation of the middle to transitivity.

First of all, there is a reason to posit such a presupposition. It has been pointed out that a verb can undergo middle formation if it has an affected argument (Keyser & Roeper (1984)). This affectedness condition is self-evident in the normal transitive chain proposed here; the transition of the Mover from the second to the last segment signifies that it is “affected”. Although the notion of affectedness is sometimes left vague and undefined, it will be represented explicitly in our model.

Before proceeding, note that the affectedness condition could not apply to the Instrument-subject middles we have seen in 3.4.1. It is not problematic if we abandon the analysis based on syntactic movement;
from our standpoint, the notion of affectedness, which many linguists have already noticed, is derived from the notion of transitivity. More precisely, the "affected argument" is recognized only when we construe the event as transitive enough to be modeled in the normal transitive chain. An event involving an Instrument is inevitably transitive, as the configuration in Figure 11 shows, since the role of the Instrument itself is to transmit force from the Agent and operate on the object (hence the Mover). The Instrument-subject middle is also characterized in terms of transitivity, even if its subject is not an affected argument. Actually, one finds more Instrument-subject middles than the Mover-subject ones; it tells us that the formation of the middle construction is connected with transitivity rather than affectedness. In what follows, our target will be restricted to Mover-subject middles, which are less ubiquitous than Instrument-subject middles.

4.2.1. Perceptual Verbs

It has been said that verbs pertaining to human perceptual experiences cannot participate in the middle construction.


Represented in the action chain, those perceptual experiences obviously do not match the presupposed normal transitive chain, as in Figure 16, since the object of the experience is not subject to the mental contact of the Experiencer. The unaffected object is called the Zero-role participant, which indicates that it does not undergo any change of state at all.

![Figure 16](image)

4.2.2. Surface-contact Verbs and the Resultatives

Verbs denoting the Agent’s activity which affects only the surface of the object are also excluded from the middle.

    b. *The ball hits easily.

![Figure 17](image)
Figure 17, which illustrates those surface-contact verbs, reflects the fact that it is not clear whether the recipient of the energy is caused to change its state. Such a configuration also requires the presupposed energy flow, especially the last segment of the normal transitive chain.

Note that resultatives including surface-contact verbs can be used in the middle construction. Compare the sentences below:

(28)  
   a. *The metal hammers easily.  
   b. The metal hammers flat easily.  

The resultative (28b) turns acceptable, complementing the last segment, which the surface-contact verb lacks, as sketched in Figure 18.

\[ \text{Figure 18} \]

Obviously, the contrast in (28) augments the validity of our presumption that the normal transitive chain is required for the middle.

4.2.3. Constructive versus Deconstructive Verbs

A class of constructive verbs, which pertain to creative performance, cannot participate in the middle constructions.

(29)  
   a. *These cabinets build easily.  
   b. *Wool sweaters knit easily.  
   c. *Those shoes manufacture in Brazil.

\[ \text{Figure 19} \]

As Figure 19 illustrates, the action chain of these verbs is deviant from the normal transitive chain in that its intermediate segment is null; the objects of creation, seen in the subject-position in each form in (29), does not appear until the energy flow reaches the final STATE segment. Notice that this is not the case with the pseudo-constructive verbs shown in (30), where the intermediate segment is not null but present as components of the created object. It subsumes the required action chain, and can be used in the middle properly.

(30)  
   a. Those toys assemble easily.  
   b. This film will develop in twenty minutes.

Deconstructive verbs, on the other hand, seem to be impossible, judging by the example below:

(31) *This cathedral destroys easily.
The verb *destroy* clearly constitutes a normal transitive chain, as in Figure 20, since the object of the destroying activity is affected by the energy from the Agent. The reason why (31) is not accepted regardless of its fulfillment of the precondition is a matter of cognitive plausibility, not of the action chain itself. In reality, we cannot tell whether the cathedral "destroys easily" or not as long as it remains standing. But it is cognitively more probable to infer how easily the building will be demolished, as illustrated in the following example:

(32) This cathedral will destroy easily.

It is assumed therefore that cognitive implausibility lowers the acceptability of (31). *Destroy* could be involved in the middle only if the plausibility is improved, since it basically satisfies the presupposed normal transitive chain.

**4.2.4. Summary**

Having examined various instances, we come to realize that the middle requires a highly transitive event represented in a normal transitive chain. Thus, we can summarize as follows: if a verb describes a transitive event satisfying a normal transitive chain, it can occur in the middle construction. Furthermore, if it is used in the middle expressing a conceived event, as in Figure 13, the participant in the subject position is responsible for the event or activity, as discussed in 3.4.2. The abstract notion of responsibility employed in Van Oosten's account should be derived from the recognition of the event shown in Figure 13, which is based upon a normal transitive chain. I conclude therefore that the sufficient condition for this construction is high transitivity rather than responsibility, though the latter might be a necessary condition.

**4.3. The Necessity of Transitivity for Middles**

While we have found a close relation between the middle and transitivity enough to be modeled in a normal transitive chain, a question arises now: why does it need such high transitivity? To reply to this, I would like to consider the middle in English, French and Japanese in terms of the unmarkedness of this construction in each language.

First, it is pointed out that the middles in French and Japanese do not require transitivity, as the English middle does. For example, they...
allow the perception verbs to occur.

(33)  
   a. La Tour Eiffel se voit de ma fenêtre.  
       "The Eiffel Tower sees well from my window.'
   b. Ce poème se comprend facilement.  
       "This poem understands easily.'

(34)  
   a. Fujisan-wa tooku-kara kirei-ni mieru.  
       Mt. Fuji-Subj from a distance clearly can-be-seen  
       "Mt. Fuji sees clearly from a distance.'
   b. Kare-no ronbun-wa kantan-ni wakaru.  
       He-Gen paper-Subj easily can-be-understood  
       "His paper understands easily.'

Such differences in the distribution of the middle construction can be ascribed to the inclination of how frequently inchoative verbs are used in each language. According to Croft (1990), the middle corresponds to the inchoative form in that the first segment of the action chain is latent, and actual profiling is restricted to the remaining two segments. In order to investigate the unmarkedness of the inchoative in English, French and Japanese, let us survey the distribution of psychological verbs for example:

(35)  
   a. The news surprised John. (causative)
   b. John got surprised at the news. (inchoative)
   c. John was surprised at the news. (stative)
(36)  
   a. La nouvelle a étonné Jean. (causative)
   b. Jean s'est étonné de la nouvelle. (inchoative)
   c. Jean a été étonné de la nouvelle. (stative)
(37)  
   a. Sono sirase-ga Jon-o odorok-ase-ta. (causative)
       The news-Subj John-Acc get-surprised-Caus-Past
   b. Jon-wa sono sirase-ni odoro-i-ta. (inchoative)
       John-Subj the news-at get-surprised-Past
   c. Jon-wa sono sirase-ni odoroi-tei-ta. (stative)
       John-Subj the news-at get-surprised-Stat-Past

10 In every action chain in Figure 21, the leftmost participant symbolizes the caus-er (the news) which stimulates the experiencer (John) occupying the remaining seg-ments. I speculate that it is not difficult to recognize a causal relation between them, the causation being interpreted metaphorically as akin to physical energy.
As the diagram represents explicitly, the inchoative of a psychological verb in English is dependent upon the causative, while French and Japanese have autonomous inchoative forms respectively. Note that in Japanese, contrary to English, the causative is produced from the inchoative by adding the causative morpheme -(s)ase. Although the data considered here are quite limited, it is intuitively recognized that the inchoative is more marked in English than in other languages.

In English, the difficulty of the inchoative-oriented construal of an event might have an effect on the formation of the middle. It implies that the participant occupying the second segment is little regarded as a spontaneous mover. This is a problem for the middle, which inevitably requires the second participant to be a Mover. Because of the rarity of the spontaneous mover, it has instead to be construed as a "reactionary" mover which can exert energy only as a reflex of energy from the other participant (namely from the Agent). Transitivity is thus required in the English middles in order to create reactionary power of a participant incapable of moving by itself. In French and Japanese, on the other hand, it becomes a spontaneous mover per se much more easily owing to the establishment of the unmarked inchoatives. High transitivity is not necessary to middles in those languages any more, because the second participant needs no reactionary effect in order to get into motion.

Figure 21

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11 The markedness of the inchoative in English is also found in Keyser and Roep-er (1984), where the ergatives are analyzed as being derived from the transitive verbs in the lexicon. This suggests that the inchoative, whose subject is inanimate in particular, is hard to separate from the causative, and therefore considerably marked.
5. Conclusion

In this paper we have considered the middle construction in English from the perspective of cognitive grammar employing a cognitive model called the action chain, advantages of which can be seen in the analysis of this construction; it precisely describes the distinct properties of the form and accounts for the reasons why some middles are acceptable while others are not. Especially, we have noticed that relatively high transitivity is presupposed for the middle, translating various examples into action-chain representations; it has also been suggested that degrees of transitivity among transitive verbs can be demonstrated in detail in our cognitive model. Ultimately, the argument presented here highlights the importance of cognitive aspects in linguistic analyses and the possibility of applying the cognitive approach to a broader range of linguistic phenomena.

REFERENCES

Langacker, Ronald W. (1990) “Settings, Participants, and Grammatical Rela-


3-10-3-207 Miyayama-cho
Toyonaka-shi
Osaka 560