

Middle Formation Revisited

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Chun, Boomee. 2003. Middle Formation Revisited. *The Linguistic Association of Korea Journal*, 11(1), 135-158. This paper investigates middle formation focusing on the internal argument in the subject position, examining what triggers it to occur in that position. Based on three arguments, it claims that middle verbs are causative and an internal argument is realized in the subject position because it carries the Cause thematic role assigned by the middle verb. The Agent remains in the lexicon saturated by a null arbitrary pronominal because Cause overrides Agent in subject realization and there's no other external argument position for it to be projected.

Key words: middle constructions, causative, argument structure, Cause, Agent, argument realization, subject selection

I . Introduction

Middle constructions as in (1) have several interesting syntactic and semantic properties shown in (2)

- (1) This bread toasts well.
- (2)
 - i . Direct object argument of a transitive verb appears in the subject position.
 - ii. The external Agent argument is not present although the interpretation of a middle always involves the θ -role Agent.
 - iii. An otherwise optional adverbial modifier is obligatory.
 - iv. Only generic interpretation is available, excluding an episodic reading.

Among these properties, (2 i - ii) seem to directly violate the general argument selection principle that the external Agent argument is realized in the subject position and the direct object argument is realized in the object position of the verb. (cf. Uniformity of Theta Assignment Hypothesis of Baker (1988) and Thematic Prominence for Argument Linking of Grimshaw (1990)) This paper investigates the puzzling marked argument realization property of middle verbs described in (2 i - ii). Previous analyses focused their studies on the status of the implicit external argument described in (2 ii) and attempted to explain the appearance of the object argument in the subject position in (2 i) as its consequence. This study takes the opposite approach, focusing the analysis on the occurrence of the object argument in the subject position in (2 i) and explain the nonoccurrence of the external argument in (2 ii) as the consequence. As for (2 i), I argue that it is because middles are causative and the internal argument in the subject position is the Cause argument. As for (2 ii), I claim that the Agent argument of middle verbs is saturated in the lexicon because Cause overrides Agent in subject realization and there's no other external argument position for it to be projected.

There is one study which also takes a causative approach to middles, Chung (1995). I will first briefly discuss the problems of the overall previous studies on middle formation in section 2 and then examine Chung's (1995) proposal in section 3. I will present three arguments for the present proposal in section 3 and discuss its consequences in section 4.

2. Problems of the Overall Previous analyses

Previous studies extensively discussed the marked argument realization of middle verbs described in (2 i - ii). Most studies can be divided into two kinds of approaches, movement vs non-movement. The movement approach argues that middle formation requires the suppression or demotion of the external argument and the syntactic promotion of the direct object argument to the subject position to

receive Case. (cf. Keyser & Roeper 1984, Roberts 1987, and Stroik 1992, 1995 and 1999) One serious problem of the movement approach is the fact that in addition to the direct object argument, other internal arguments such as Instrument and Material also appear in the subject position of middles:

- (3) Instrument
 - a. This pen writes well.
 - b. This toy knife cuts well.
 - c. This oven cooks well.
 - d. This machine records well.
 - e. This spray kills effectively.
- (4) Material
 - a. This ink writes well.
 - b. This whole wheat flour bakes wonderfully.
 - c. This wood carves beautifully.

According to the movement approach, (3a), for instance, is derived from a D-Structure given in (5)

- (5) [_{IP} [_{NP} e] [_{VP} writes [_{PP} with [_{NP} this pen] well]]

This derivation violates Case Theory since the NP, *this pen* is assigned two Cases, one from the preposition *with* and the other from the Infl.

The non-movement approach takes the position that the surface subject is base-generated in that position and the Agent θ -role is saturated in the lexicon. (cf. Fagan 1992, Zribi-Herts 1993 and Ackema & Schoorlemmer 1995)

Based on the interpretation that the implicit Agent is understood in the meaning of the sentence, all the previous studies, both movement and non-movement approaches proposed various but similar grammatical operations about the unexpressed Agent argument: the Agent θ -role is lexically suppressed (Keyser & Roeper 1984), demoted (Stroik 1992, 1995, and 1999), or saturated (Fagan 1992), hence cannot be realized

syntactically. Lexical suppression, demotion and saturation are all similar theoretical devices posited for the same purpose: They block the syntactic realization of the Agent θ -role. These proposals do not actually solve the problem of why the Agent is not expressed in the syntax; they just turned the question into a theoretical form, making us ponder on another *why*-question: Why should the external argument of middle verbs be suppressed, demoted, or saturated in the lexicon? An account which claims that the Agent is not expressed in the syntax because the Agent θ -role is suppressed (or demoted or saturated) in the lexicon, needs an independent motivation. What special property of the verb suppresses the syntactic realization of the Agent argument? Why should it be lexically saturated (or demoted or suppressed)? To my knowledge, no satisfactory answer to this question was offered in the previous studies. In this paper I argue that it is because middle verbs are causative. I argue that middles are formed when the Cause θ -role of the verb is assigned to an internal argument. The argument with the Cause θ -role is always projected in the subject position overriding the Agent θ -role. My claim that middles are causatives is based on three arguments: First, the subject referent of middles has a responsibility reading. Second, verbs participating in middles are all causatives. And third, a causative modal is actually detected in middles: German has middle constructions containing the auxiliary *lassen* which has the causative meaning 'have(done)' or 'cause (to do)'. Of these three arguments, the first argument was also introduced in Chung (1995). I'll first present this argument in the following section 3.1, then discuss Chung (1995) in section 3.2.

3. Causative Analysis of Middles

3.1. First Argument: Responsibility Reading of Middles

It has been discussed in several studies (van Oosten 1984 and Fellbaum 1986, among others) that the subject referent of middles has a responsibility reading. Middles have an interpretation that the subject of

the middle verb is responsible for the event described in the sentence. Consider data (6) from Fellbaum (1986).

- (6) a. The lawn mower handles easily.
 b. Sweatshirts wash in the machine.

Fellbaum notes that (6a) has the interpretation that "the lawn mower's particular properties make it easy to handle for anyone." (6b) has the interpretation that "sweatshirts are such that any owner may just wash them in the machine." The responsibility reading gets obvious in data (7).

- (7) a. This paper reads easily with its large print.
 b. Mary photographs well because of her wide smile.

Previous analyses assumed that the responsibility interpretation of the subject comes from 'the quasi-agent role' of the subject. They assumed that although the subject is the Patient or the Theme argument of the verb, it takes on a quasi-agent role in the subject position. Van Oosten (1984) noted that "The patient-subject construction is used when we want to say that the patient of the action is to some extent acting as an agent." (p.460-461) Hale & Keyser (1986) proposed to formalize 'constructional agent-role' to account for this responsibility reading.

These two notions, 'quasi-agent role' and 'constructional agent-role', are quite confusing because the subject is not clearly the Agent argument of the verb. In (6-7) above, the subject is the Patient or Theme argument of the verb. Hence, to call the Patient or Theme argument a subtype of agent-role is inadequate. Also to posit subtypes of θ -roles is certainly not a welcome to the theory.

I analyzed the responsibility reading as causative in my doctoral dissertation Kim (1995) when I discussed *tough*-constructions, which show exactly the same responsibility reading.¹⁾ In this paper, I argue

1) The interpretations of (i - iii) below are not exactly same.

that a responsibility reading of the subject referent of middle constructions arises because it is the Cause argument of the middle verb.

3.2. Chung's (1995) Semantic Condition on Middle

Chung (1995) also argued that English middles are causative based on the above responsibility reading. He made the following claim:

- (8) "English middles are causatives where subjects are Cause and the event denoted by the verb phrase is Causee." (p. 272)

Chung's interest lay in the fact that only certain types of transitive verbs form middles. What kind of verbs can form middles and what condition is necessary for middle formation? Some earlier studies (Hale and Keyser 1987, Roberts 1987, Fellbaum and Zribi-Hertz 1989) had tried to provide an answer with Affectedness Condition: Only verbs describing change of state or undergoing change participate in middles. Chung points out the problem of this condition: "there are verbs whose objects are not affected, but they form middles." (p. 275) He gives the following examples:

- (9) a. They read this book easily.
b. This book reads easily.
- (10) a. They translated Greek easily.
b. Greek translates easily.

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- (i) It is easy to play sonatas on this violin.
(ii) Sonatas are easy to play on this violin.
(iii) This violin is easy to play sonatas on.

Tough-constructions (ii-iii) have the meaning of (i) plus the 'responsibility reading'. (ii) implies that some property of sonatas makes it easy to play them on this violin and (iii) that some property of this violin makes it easy to play sonatas on it. Several similarities between *tough*-constructions and middles including a responsibility reading were discussed in Kim (1995) and Chun (1999).

Although the objects of the verbs in (9a) and (10a) are not considered affected, the verbs form middles as (b) sentences show. Chung proposed a different condition on middle formation:

- (11) "A transitive verb may form a middle only when an internal argument of the verb has some inherent property which can be Cause for the event denoted by the verb." (p. 272)

His proposals in (8) and (11) also have problems. First, it's not clear what Chung means by his proposals (8) and (11). Chung (1995) is not specific about what he exactly means by his claim (8). If he means the same as the present proposal that middle verbs are causative and the subject of a middle carries the Cause thematic role, he must show that all the verbs occurring in middles are causative. First of all, the verbs in (12a-b) (adapted from Chung's (14a) and (40b)) do not seem to be causative:

- (12) a. This book reads easily.
b. This book sells well.

In addition to (12), the verbs in (13) also look problematic. They are not seemingly causative:

- (13) a. This pen writes well. ((80b) of Chung (2001, p. 205))
b. This piano plays beautifully.

The verbs in (13a-b) are not, in general, treated as causative.

If he doesn't mean by his claim (8) that middle verbs are causatives, his proposed condition on middle formation in (11) would be also problematic. In order to find whether a transitive verb forms a middle or not, one should see the whole middle sentence. For example, in (14) below, in order to check whether a transitive verb *read* forms a middle or not, we should see the whole middle sentence in which it appears.

- (14) This book reads like a mystery novel.

We cannot find or infer from the lexicon of *read* whether its Theme argument has some inherent property which can be Cause for the event denoted by the verb, unless it is listed as causative. Another problem is that, even when we look at the whole sentence to see whether this condition is satisfied, it does not always make correct predictions. Consider (15) which I took from Chung's (1995):

- (15) a. *Planets see easily. (Chung's (13b))
b. *The flower loves easily. (Chung's (3b))
c. *French fabrics adore easily (Chung's 7b)

In (15), we can easily imagine a situation in which the subject referent, *planets* (not other kinds of stars), *the flower*, or *French fabrics* has some internal property which can be Cause for the event denoted by the verb. Still, they do not form middles. If we modify data (15) as (16), such situations are even more plausible.

- (16) a. *The moon sees easily.
b. *Roses love easily.
c. *Silk adores easily.

For example, in (16a), we can easily imagine the properties of *the moon* such as its brightness, shape or location in the sky which make it easy to see in the sky. We can also easily think of the properties of *roses* and *silk* which make us love or adore them. Thus, unless not only Chung's condition is not adequate as a condition on verbs, it does not also make the correct prediction.

In this paper, I claim (17-18) instead:

- (17) Middles are causatives: the subject carries the Cause θ -role assigned by the middle verbs.
(18) A transitive causative verb forms a middle when one of its

internal arguments carries the Cause θ -role assigned by the verb.

In order for the claim (17) to hold, it should be shown that all the verbs in middles are causatives. I turn to this second argument in section 3.3.

3.3. Second Argument: Middle Verbs as Causative

Much of the middle data discussed in earlier studies can be easily recognized as causatives. However, there are also middles which are not seemingly causatives. I collected all the middle data found in the previous studies in order to see whether they can be all considered causative. I grouped them into the following six types based on the meaning of the verbs:

- (19) i. change of state verbs: ex. *cut, carve, toast, paint*
- ii. image-converting verbs: ex. *translate, photograph, record*
- iii. verbs of driving and change of location: ex. *drive, shift, handle*
- iv. *write* as a verb of creation
- v. *read* as a verb of transfer
- vi. *play* and *sell*

Among the six groups, the first group of verbs, change of state verbs are obviously considered causative, and for the second and third groups, I had little hesitation in analyzing them as causative. However, it took me considerably more time to consider *write* and *read* in (iv-v) causative, and the most problematic data was the last group of verbs, *play* and *sell*. I'll argue that *write* and *read* in group (iv-v) are causative and *play* and *sell* in (vi) are not causatives. Let's consider the data in each group.

The first group of verbs represent typical middle constructions, verbs with the affected argument. They describe change of state of their

Theme argument. I will call them change of state verbs:

i. change of state verbs²⁾

- (20) a. This bread toasts well.
b. Her hair combs beautifully.
c. This dog kibble cuts like a meat and chews like a meat.
d. I think this is silver. It polishes like silver.
e. These mosquitos kill only with a certain type of instrument.

Verbs in (20) describe physical change of state of their Patient or Theme argument. They are obviously causatives and most frequently discussed ones in the previous studies.

The second group of verbs are exemplified in (21). I'll call them image-converting verbs.

ii. image-converting verbs.

- (21) a. Greek translates easily.
b. A person who isn't self-conscious photographs well.
c. This machine records well.

The meaning of the verbs in (21) implies some kind of conversion, which I'd say image-conversion. In (a) the Theme argument *German* (representing texts written in German) is converted into another language; in (b) the Patient argument in the subject position is converted into a photo image. In (c) the implicit Patient argument, e.g., a real human voice, a music piece, or a dialogue, whatsoever, is converted to a taped voice through the Instrument argument *this machine*. An action is performed on the Theme or Patient argument and converts it into another type of image. I argue that they are causatives in that they make their object argument change its form into another type of image.

The third group of verbs are verbs of driving and change of location

2) Other change of state verbs found in the previous studies are *carve, crush, paint, fold, open, saw, wash, unscrew, launder, split* and *bake*.

shown in (22).

iii. verbs of driving and change of location

- (22) a. This car shifts manually.
 b. The car drives nicely/easily.
 c. A Taurus handles like a racing car
 d. This shoe organizer mounts securely on a door or against a wall.
 e. Nasturtiums do not transplant well.

Verbs of driving in (a-c) are causative in the sense that there are some change of state in the Theme argument in the subject position by the action of the verb; the state of the gear of the car is changed (a), the location of the car is changed by driving or handling in (b-c). Likewise, the meaning of the verbs in (d-e) also implies change of location of the Theme argument in the subject position. They are causatives.

The next type of verb is *write*. I argue that *write* in (23) is causative because its meaning implies a creative action.

iv. *Write* as a verb of creation

- (23) a. This pen writes well.
 b. Love letters write easily.

(23a) implies that one can write letters and figures well with this pen, i.e., letters and figures are written more clearly or in a more easily readable form with this pen. The verb implies creation or production of letters or figures on a piece of paper. (23b) implies that love letters are produced or created with little effort. The meaning of the verb *write* in middle constructions implies creation, which is analytically causative.

The next type of verb to consider is *read*. *Read* is not seemingly causative, hence, looks like a problematic one for a causative analysis. However, its meaning in (24) can be analyzed as a verb of transfer.

v. *Read* as a verb of transfer

- (24) a. This dissertation reads like a mystery novel.
 b. This novel reads well.

The action of 'reading' implies acquisition of information, i.e., transfer of information from a book to the reader's mind. (24a-b) express how easily the transfer is accomplished. Although there is no physical change of state in the Theme argument, the information transferred through reading changes the information state of the reader's mind. In this respect, 'reading' involves change of state, i.e., causation, and the verb could be considered causative. Interestingly, the change of state occurred in the mind of the reader (i.e., Agent/Actor) not in the state of Theme argument.

For the next type of verbs, *play* and *sell*, I argue that they are not middle verbs. I argue that (25-26) below are not middle constructions because the verbs are not transitive.

- vi. *play* and *sell* - ergatives, hence not middles.
 (25) This piano plays beautifully.
 (26) Foreign cars sell well.

(25) is interpreted as 'This piano makes a beautiful sound.' Consider additional data (27).

- (27) a. This piano plays easily.
 b. *This sonata plays easily. (from Fellbaum 1986)
 c. *The song Chopsticks plays easily.
 d. The strings are playing well this evening.
 e. The organ is playing all by itself.

As (27b-c) show, a music piece such as *this sonata*, or *Chopsticks* cannot appear in the subject position although the music *Chopsticks* is very easy to play, hence it's very plausible to make a middle sentence with *Chopsticks* as its subject. The contrast in (27a) and (27b-c) can be understood if we assume that *play* in these sentences means

'make-sound'. Instruments make sound but music work itself does not make sound. (d-e) show that *play* in this interpretation occurs in progressive aspect unlike other general middle constructions. The phrase *all by itself* in (e) clearly shows that an agent is not implied in the meaning of the sentence.³⁾

Now consider *sell* in (26) above and (28) below:

- (28) a. Foreign cars are selling all by themselves.
 b. The new model cars are selling like hotcakes.

As (28a) shows, *sell* appears in present progressive. *All by themselves* in (28a) indicates that the sentence doesn't imply an agent in its meaning. All commercial transactions include both sellers and buyers, but in this world where we usually buy products in a large supermarket, the role of sellers is perceived rather small as buyers pick up the products in the store and get them by just paying at the counter. I think this perception is reflected in language; *sell* is used intransitively in (26) and (28) without the concept of the seller in the meaning of the sentence. The same holds for *play* in (25), too. In order for an instrument to make sound, it needs a player. But when the focus is put on the sound of the instrument, the player may not be in the mind of the utterer when he/she utters sentence (25).⁴⁾

3) Rapoport (1999) argues that there are middles which allow *all by itself*:

- (i) This kind of glass breaks easily all by itself.
 (ii) Milk chocolate melts smoothly all by itself.
 (iii) These heavy windows open easily all by themselves.

I argue that sentences (i-iii) are not middles, but ergatives (also called inchoatives) in generic tense. Consider the transitive/ergative alternation in (iv-v) below:

- (iv) Janet broke the cup.
 (v) The cup broke.

An ergative sentence (v) does not imply an Agent. An ergative verb doesn't have an Agent argument. Ergatives and middles are distinct constructions. (cf. Fellbaum 1986) One defining property of Middles is that they are formed from transitive verbs with the Agent argument. More discussion follows in footnote (4).

So far, I have examined various types of verbs occurring in middles. Most of them are easily analyzed as causatives. The most stubborn verbs for a causative analysis would be *write*, *read*, *play*, and *sell*, because their causative lexical meanings are not immediately apparent. Among these verbs, I claimed that *write* and *read* in middles are causative. For *play* and *sell*, I claimed that they are not causatives and do not participate in middles. I argued that seemingly middle sentences containing these two verbs are actually ergatives based on the data (25-26). The verbs are intransitively used in generic tense. The meaning of the sentence does not imply an agent. If my claim on these four verbs sustains, we can generalize that middle verbs are all causative.

3.4 Third Argument: German *Let*-Middles (from Fagan 1992)

The last argument for the claim that middles are causative constructions comes from German *let*-middle constructions.⁵⁾ There are actually middles containing a causative modal. According to Fagan (1992), German has middle constructions containing the auxiliary *lassen* which has the causative meaning 'have(done)' or 'cause (to do)':

- (29) Ich habe mir einen Kostenvoranschlag machen lassen.
 I have me-DAT an estimate make have
 'I had (someone) make me an estimate.'

(Fagan's (5), p. 211)

4) Many transitive verbs can appear both in middles and ergative constructions. Consider the difference between (i - ii) below, which is adapted from Fellbaum (1986), data (25-26):

- (i) The door closes easily; you just have to press down.
 (ii) The door closes easily; it only takes a gust of air.

Fellbaum argues that (i) is a middle implying an agent and (ii) is an ergative. (ii) "does not necessarily imply a human agent. It refers to events generated by an external cause." I claim that seemingly middle constructions (27-28) are, in fact, ergative constructions.

5) I take the term German *let*-middles from Fagan (1992), chapter 6.

When *lassen* is used as an auxiliary in a middle, it does not mean 'let'. Instead, it carries the modal meaning of ability or possibility. The *let*-middle in (30a), for example, is synonymous with the plain middle in (30b):⁶⁾

- (30) a. Der Wagen läßt sich angenehm fahren
 the car lets REFL comfortably drive
 'The car drives comfortably.'
 b. Der Wagen fährt sich angenehm
 the car drive REFL comfortably
 'The car drives comfortably.'

(Fagan's (6), p. 212)

Let-middles share the typical middle properties with plain middles such that they have an implied argument that is interpreted as 'people in general'. (30a-b) also have the responsibility reading that the car can be driven comfortably due to some inherent property of the car.

Although the causative meaning of *lassen* is reduced to the modal meaning of ability or possibility, presence of a causative modal in middles supports the idea that middles are causative and the subject is the Cause argument.

Summarizing, I claimed that middles are causative based on the three arguments: First, the subject of middle constructions has the responsibility reading. Second, all the verbs occurring in middles are causatives, and third, a causative modal is actually detected in German middles.

4. Theoretical Considerations

4.1. Cause and Other Thematic Roles

According to the present proposal that middles are causative and the

6) *läßt* in (30a) is an inflected form of *lassen*.

subject is the Cause argument of the verb, the subject gets two thematic roles from the verb. Consider (31).

(31) This toy assembles easily.

In (31) *this toy* bears two θ -roles: Theme and Cause. In this section, I will discuss the dual θ -roles of the middle subject, whether it is problematic for the Theta Criterion.⁷⁾

Thematic roles such as Agent, Theme, Patient, Instrument, Location, Goal, or Source express relations of participants of an event; they are labels of the participants of an event. Such thematic roles of eventive verbs are conceptually different from θ -role Cause. Cause is usually considered as a kind of θ -role that a causative verb assigns to its subject position. (32) exemplifies two types of causative constructions: syntactic and lexical causative constructions.

- (32) a. Kevin made his son study physics.
b. John broke the glass.

The matrix verb in (32a) is a purely causative verb in the sense that it only expresses a causal relation and does not have any other descriptive contents. It does not specify any action and the subject argument of such verbs is called Cause. (32b) is a lexical causative construction. The verb is causative and conceptually its Agent argument is the causer. The notion Agent implies cause: Usually it is the agent participant of an event which causes the event to occur. In (32b) above, the subject referent which is the causer bears the Agent θ -role. Although the agent is conceptually also the causer in agentive sentences, it is certainly plausible to have events in which a non-agent such as the patient or theme contributes more to realize the event in a certain way. For instance, Consider (33).

7) Theta Criterion:

Each argument bears one and only one θ -role and each θ -role is assigned to one and only one argument. (Chomsky 1981, p. 36)

- (33) a. John annoyed the teacher with his singing. (Agent Cause)
 b. This ball broke the window. (Instrument Cause)
 c. The movie frightened the audience. (Theme Cause)

In (33b-c), non-Agent θ -roles, Instrument and Theme also carry the Cause θ -role. I argue that middles are this type of construction: A non-agent participant of an event is the causer; it causes the event to proceed in a certain way described by the adverbial modifier.

Since the Cause θ -role and other θ -roles such as Agent, Patient or Theme are conceptually different θ -roles, the present proposal that the middle subjects carry two thematic roles such as Patient and Cause doesn't violate the Theta Criterion. We have such cases with dual θ -roles in (33) above.⁸

As predicted, in addition to Patient or Theme, other θ -roles can also carry the Cause θ -role in middles. As noted earlier, the Instrument or Material argument also occurs in the subject position in middles. I repeat the data in (34-35).

- (34) Instrument:
 a. This knife cuts easily.
 b. This pen writes well.
 c. Aluminum pans bake higher and brown more evenly.
- (35) Material:
 a. This ink writes well.
 b. This whole wheat flour bakes wonderfully.
 c. This wood carves beautifully.

In sum, the dual θ -roles the middle subject bears, do not present a problem to the theory because the two θ -roles are conceptually different

8) Grimshaw (1990, 22-30) distinguishes the Cause argument from other thematic arguments when she discusses argument structure of psycho predicates. The Cause argument refers to the event structure or aspect whereas other thematic arguments (Agent, Theme, Instrument, etc.) refer to the participants of an event. Grimshaw's proposal is discussed in the following section 4.2.

ones.

4.2. Cause and Subject Selection

In section 3, I argued that middles are formed when an internal argument of a transitive verb carries the Cause θ -role. Cause argument is always projected to the subject position. That's why an internal argument of a transitive verb appears in the subject position of middles.

Grimshaw (1990) argued that syntactic D-structure is projected from lexical argument structure of a verb and principles of X-bar theory. Hence, the external argument of a verb is projected externally and internal arguments internally onto the syntax. However, in order to account for the Cause subject data in (36), she also proposed to consider the lexical aspectual structure as well as the thematic structure in argument selection.

(36) The movie frightened the audience. (Theme Cause)

In addition to the thematic hierarchy in (37a), the aspectual hierarchy in (37b) should also be considered:⁹⁾

- (37) a. (Agent (Experiencer (Goal/Source/Location (Theme))))
- b. (Cause (other (. . .)))

((40) of Grimshaw (1990, p. 24))

Generalizing the Cause subject data such as (36) above, Grimshaw argued that the aspectual hierarchy determines which argument gets realized as the subject.

Middle constructions are another construction containing Cause subject data, providing further empirical motivation for Grimshaw's proposal. Middles are interesting in that they contain both Agent and

9) (37) is taken from Grimshaw (1990, p. 24). As (37b) shows, the Cause argument is most prominent in the aspectual hierarchy. She does not specify other arguments in the aspectual hierarchy, though.

Cause arguments. Middles show that in case Agent and Cause do not coincide, the Cause overrides Agent in subject realization: The non-Agent Cause argument is projected onto the subject position, not the Agent non-Cause argument.

4.3. Status of the Agent in Middles

In middles, an internal argument is projected onto the subject position because it is also the Cause argument of the middle verb. As a consequence, there's no syntactic argument position available for the external Agent argument to be projected. As I discussed in the Introduction, most of the earlier studies postulated that it is not realized in the syntax. One analysis, Stroik (1992) argued that the Agent is syntactically realized in the VP-adjoined A'-position as PRO. For instance, Stroik posited a structure in (38b) for (38a).

- (38) a. Bureaucrats bribe easily.
 b. [_{IP} bureaucrats_i [_{I'} [_{VP} [_{V'} bribe t_i easily]] PRO]]]

Although Stroik presented three kinds of data as evidence, his data was disputed as evidence in the subsequent analyses of Zribi-Hertz (1993) and Ackema & Schoorlemmer (1995). Although Stroik (1995 and 1999) attempted to defend his proposal with more data, it's still not convincing. I'll introduce just one type of data Stroik presented for his claim. Consider (39):

- (39) a. That book reads quickly for Mary.
 b. No Latin text translates easily for Bill.

Stroik claimed that the only interpretation possible for (39a-b) must read the prepositional objects as Agents. He claimed that the external θ -role is syntactically expressed in (39a-b).

Ackema and Schoorlemmer (1995) argued that the possibility of a *for*-phrase is independent of the presence of the middle context. The

arguments in the *for*-phrases in (40) are also interpreted as the reader and the translator, respectively, although the sentences in (40) are not middles.

- (40) a. That book is too thick for Mary.
 b. As far as translation is concerned, no Latin text poses a problem for Bill.

Stroik (1999) argues that the *for*-phrases in (39) and those in (40) are not identical, presenting data (41-42).

- (41) a. Mary_i photographs well (only) for herself/*her_i.
 b. Bureaucrats_i always bribe easily for each other/
 themselves/*them_i.
 (42) a. They_i are too unbearable for *themselves/*them_i.
 b. He_i is too tall for *himself/*him_i.

Stroik argues that the point-of-view *for*-PPs in (42) do not behave like the *for*-PPs in (41) with respect to the possibility of coreference with the subject, indicating that the *for*-PPs in middles are not identical to the *for*-PPs in point-of-view constructions.¹⁰ However, if we embed (42a) as in (43) below coreference with the subject is available against Stroik's prediction.

- (43) Mr. and Mrs. Smith say that they_i are too unbearable for each other_i.

Availability of coreference in (43) suggests that the different possibility of coindexation with the subject in (41-42) cannot be used as evidence of Stroik's claim that the Agent is syntactically realized in the VP-adjoined A'-position..

10) Stroik explains the possibility of coindexation with the subject in middles with Reinhart and Reuland's (1993) theory of reflexivity, which I'll not go into here.

I argue that the Agent θ -role of middle verbs is not realized in the syntax for two reasons: First, as an external argument, it should be projected onto an external argument position. However, there is no such position available in the syntax: the subject position is taken by the Cause argument of the verb. Second, there is no positive evidence that the Agent is syntactically realized. I assume that it is saturated by an arbitrary null pronominal, *pro_{arb}* in the lexicon as in the case of the null object in (44) receiving indefinite interpretation.

- (44) a. John ate ___ this morning.
 b. This sign cautions ___ against avalanche.

5. Conclusion

This paper attempted to account for the puzzling marked argument realization property of middles without positing any specific theoretical assumption or device. I argued that:

- (45) i. An internal argument of a transitive verb appears in the subject position because it is the Cause argument of the middle verb.
 ii. The external Agent argument is not expressed because there's no external argument position for it to be projected. The subject position is filled by the internal Cause argument.

The only assumption I have for (45 i) is that the Cause argument is always realized in the subject position. This assumption is a very general idea and also theoretically formulated in Grimshaw's (1990, 25-33) principle of subject selection.

The present analysis shows that middles are rather rare constructions in which Agent and Cause do not coincide. The analysis shows that Cause overrides Agent in subject selection, supporting Grimshaw's (1990) proposal on subject selection.

The account in (45) also explains:

- (46) i. Why the subject of middles has a responsibility reading.
- ii. Why there are so many causative verbs found in middles. In fact I argued that all middle verbs are causative and excluded *play* and *sell* from middle verbs.
- iii. Why only eventive verbs participate in middles. It is because middle verbs are causative.
- iv. Why not only the direct object (i.e., Theme or Patient) argument but also other internal arguments (Instrument and Material) appear in the subject position.

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