



- (1) The { broken } box sat on the table.  
           { filled }

Past participles may appear in a prenominal position, which is just the place for adjectives used attributively. So passive participles in prenominal positions should be put into the category of adjectival passives.

(ii) complements to verbs like *seem*

- (2) John { remained } { happy.  
           { seemed } { elated  
                       { annoyed at us.  
                       { convinced to run. }

Besides *be*, several verbs take adjectives as their complements: *seem, appear, get, become* etc. Passive participles appearing in this position are counted as adjectival passives.

(iii) the attachment of *un-*

- (3) The land was uninhabited by humans.

The third characteristic is the possibility of the attachment of a negative prefix *un-*.<sup>2</sup> Again, this is characteristic of adjectives.

(iv) modification by *very*

- (4) Your family was very { respected. }  
                               { frightened. }

Owing to their fully adjectival status, adjectival passives are modifiable by *very*, which does not tolerate verbal elements.

These are the four major characteristics of adjectival passives. With these in mind, let us now turn to the overview

of the previous analyses concerned with the derivation of adjectival passives.

### 1. The Theme Analysis

The following analyses can be all put into the same category under the heading *Theme Hypothesis*: Anderson(1977), Wasow(1980), Williams(1981), Bresnan(1982). Although there are subtle differences among these analyses, they all utilize *theme* to the effect:

#### (5) *The Theme Hypothesis*

The subject of an adjectival passive must be the theme of the verb from which the adjective is formed.

Here, *theme* is defined as in (6), following Gruber(1965) and Jackendoff(1972).

- (6) Something is a theme if it undergoes motion from one location to another, or if it is in a particular position. This notion extends also metaphorically.

According to the theme hypothesis, the NP of an active sentence can always become the subject of an adjectival passive if it is a theme. Otherwise, it cannot. We can see the validity of the theme analysis by checking the thematic role of the subject of passive sentences in the environments which allow only adjectival versions.

- (i) the attachment of *un-*

- (7) a. The rules are ungiven.  
       (Theme of *give* is subject of *given*)  
 b. \*We are ungiven (the rules).  
       (Goal of *give* is subject of *given*).

As already seen, only adjectival passives allow the attachment

of the negative prefix *un-*. In the corresponding active, *give us the rules, the rules* is a theme, while *us* is a goal. So the contrast between (7a) and (7b) is just as predicted.

(ii) the fronting by WH-movement

(8) a. How firmly promised are these things?

(Theme of *promise* is subject of *promised*)

b. \*How firmly promised were those people?

(Goal of *promise* is subject of *promised*)

Williams(1981) points out that only adjectival passives can be WH-moved.<sup>3</sup> Here as well, in *promise these things to those people, these things* is a theme, whereas *those people* is a goal.

(iii) prenominal position

(9) a. a frequently given present [*present* = theme]

b. \*a frequently given child [*child* = goal]

Prenominal positions are also only accessible to adjectives, and the prediction is borne out by the contrast between (9a) and (9b).

(iv) complements to verbs like *remain*

(10) a. Books remained ungiven. [*books* = theme]

b. \*Young children remained ungiven.

[*young children* = goal]

The Theme Analysis, which claims that the subject of an adjectival passive must be the theme of the corresponding verb, makes right predictions here as well.

## 2. Against theme analysis

So far, we have briefly overviewed the theme analysis and its validity. Next, we will see counterarguments to this

position.

### 2.1. Dryer (1985)

Dryer(1985) points out that there are many adjectival passives whose subject NPs do not receive theme roles in their corresponding actives.

- (11) a. Penguins (T) inhabit Antarctica (L).  
 b. Antarctica (L) is uninhabited.

In (11a), *Antarctica* should be a location. So, according to the theme analysis, the corresponding adjectival passive should not be well-formed. However, this is not the case, as shown in (11b).

- (12) a. We(S,A) informed Bill(G) that Mary had left(T).  
 b. Bill (G) was uninformed.

In (12a), *we* is an agent as well as a source. *Bill* is a goal, and *that*-clause a theme. Yet (12b) is possible, contrary to the prediction of the theme analysis.

- (13) a. The music pleased John.  
 b. John enjoyed the music.

Here, the theme analysis is open to severe criticism. In cases of *please* and *enjoy*, the determination of thematic roles is not well-established. However, one thing is certain. Both (13a) and (13b) have nearly identical meaning. So in both sentences, *the music* and *John* should have the same thematic roles. This means that *John* in (13a) and *the music* in (13b) cannot be both a theme at the same time. If *John* is a theme, then *the music* cannot be a theme, and vice versa. According to the theme analysis, then, at least either one cannot have an adjectival passive version, irrespective of

which NP has which thematic role. Yet this is false.

- (14) a. John was very pleased.  
 b. The music seemed enjoyed.

Contrary to the prediction of the theme analysis, (14a) and (14b) are both well-formed.

- (15) a. Mary (T) fell in love with John (G).  
 b. Mary (T) loved John (L).  
 c. John (L) was unloved.

Although the matter is delicate here, there is another counterargument. In (15a), not *John*, but *Mary*, is undergoing the change of state. So we might be able to regard *Mary* as a theme, *John* as a goal. (15b) describes the resultant state of (15a), so *Mary* should be a theme, and possibly *John* a location. As a consequence, the theme analysis must predict (15c) should not be derived. And the prediction fails again.

## 2.2. Itoh(1981), Levin and Rappaport(1985)<sup>4</sup>

Counterarguments to the theme analysis by Dryer(1985) are mainly based on two-place predicate verbs. In cases of three-place predicate verbs, too, counterexamples can be found.

The fatal mistake of the theme analysis is that it predicts only one adjectival passive per active sentence. According to the common conception of thematic roles, every sentence has exactly one theme.<sup>5</sup> So it follows that every active sentence has at most one adjectival passive version. But this is not correct.

A: Dative verbs

*teach*

- (16) a. John taught manual skills (T) to children (G).  
 b. John taught children (G/T) manual skills.

- (17) a. untaught skills  
 b. untaught children

In (16a), *manual skills* is a theme, *children* a goal. However, as shown in (17), both NPs can be subjects of the corresponding adjectival passives. In this case, if we are to defend the theme analysis, we can find a possible "solution": that (17b) is formed not from (16a), but from (16b). (16b) has the implication that children acquired manual skills as a result of John's teaching. This is not available in (16a). So a defender of the theme analysis would argue that *children* in (16b) has a theme role in addition to the original goal role, because of the additional meaning lacking in (16a).<sup>6</sup>

Yet even this way of argumentation fails when we look at other dative verbs. Consider the following sentences.

*serve, pay*

- (18) a. Max paid the money (T) to the agent (G).  
 b. Max paid the agent (G) the money (T).  
 (19) a. Bill served food (T) to the customer (G).  
 b. Bill served the customer (G) food (T).

In cases of *serve* and *pay*, we cannot claim there is a thematic role change based on the meaning change, since in these cases, no comparable meaning change can be discerned. In both (18a) and (18b), the agent received the money; in both (19a) and (19b), the customer received food. In both dative and non-dative versions, each argument in a.-and b.-sentences has exactly the same thematic role. Yet the adjectival passive formation (henceforth APF) is allowed for both internal arguments, just as in the case of *teach*.

- (20) a. unpaid money  
 b. a badly paid agent  
 (21) a. sloppily served food

## b. unserved customers

So the conclusion is: the thematic role of the subject of adjectival passives is not limited to a theme. Furthermore, even the basic assumption of the theme analysis is not feasible. There are several verbs which take three arguments and alternate the two internal arguments with prepositions. We name these three arguments *agent, material, location*, respectively.<sup>7</sup>

B: *Spray / load* verbs : *spray* (agent, material, location)

- (22) a. Smith sprayed water (M) on the plants (L).  
 b. Smith sprayed the plants (L) with water (M).

These verbs are well-known for their meaning change accompanying the alternation: namely, in (22b), where the location argument is in direct object position, water is sprayed all over the plants. Yet in (22a), where the material argument is in direct object position, this is not necessarily the case. Whether or not we take into account this meaning difference in determining the thematic role of the internal argument, all verbs in this class are alike in taking the same arguments. So from the viewpoint of thematic roles, verbs of this class are all alike. If, as is assumed in the theme analysis, APF were sensitive to the thematic role difference, these verbs should all behave similarly. But this is not the case.

*stuff, cram, wrap*

- (23) a. We stuffed the pillow with feathers  
 b. We stuffed feathers into the pillow

- (24) a. The pillow (L) remained stuffed.  
 b. \*The feathers (M) remained stuffed.

*load, pack*

- (25) a. Jones loaded the truck with hay  
 b. Jones loaded hay on the truck.
- (26) a. the recently loaded truck (L)  
 b. the recently loaded hay (M)

*pile, stack, smear*

- (27) a. We stacked dishes on the rack.  
 b. We stacked the rack with dishes.
- (28) a. carefully stacked dishes (M)  
 b. \*carefully stacked rack (L)

Logically, there are four possibilities concerning APF: both arguments allowed, only the location argument allowed, only the material argument allowed, both arguments disallowed. Of these, three possibilities are actually realized. If we insist on the thematic-role-based-account, these facts cannot possibly be explained.

### 2.3. The Analysis of Levin and Rappaport(1986)

Levin and Rappaport (1986) analyze adjectival passives in the light of the interaction of independent principles, the current mainstream of GB theory. Their argument goes as follows; Only two operations are necessary for the process of APF: suppression of the external  $\theta$ -role, and category conversion. The affixation of the passive morpheme to a verb prevents the verb from assigning its external  $\theta$ -role to the [NP, S] position. By Burzio's generalization, the verb can no longer assign Case. As a result, the direct argument must undergo NP Movement in order to receive Case. Externalization is explained this way in both cases of verbal and adjectival passives. So the process unique to APF is category conversion only.

Although Levin and Rappaport(henceforth L&R) don't state an explicit rule for APF, we can single out several parts from their analysis, which are of immediate relevance to the present discussion. Since we are now interested in the

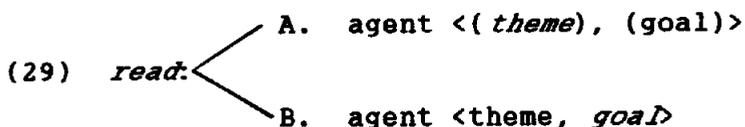
argument status of the subject NP of an adjectival passive, let us see how L&R handles that part. According to L&R, identification of the external argument of an adjectival passive is determined by the interaction of

- (i) the lexical-thematic properties of the base verb,
- (ii) the  $\theta$ -role assigning properties of adjectives,
- (iii) other general principles of grammar, such as the Projection Principle and the  $\theta$ -Criterion.

Let us see how the analysis of L&R goes. First, (i) the lexical-thematic properties of the base verb. They isolate two properties of verbs that need to be encoded in their lexical representations:

- (i) the way in which their arguments are assigned  $\theta$ -roles, and
- (ii) whether each  $\theta$ -role is optionally or obligatorily assigned.

In the case of *read*, the lexical representation is as in (29).



The italic type indicates that the argument is a direct argument. An NP assigned its role directly by the verb is called its direct argument. An NP assigned its role indirectly through the use of some other  $\theta$ -role assigner is called an indirect argument. And the parentheses indicate that the argument is optionally assigned its  $\theta$ -role. From the lexical representation of (29), the paradigm of the verb *read* emerges:

- (30) a. I read the book to Jane.  
 b. I read the book.  
 c. I read to Jane.  
 d. I read Jane the book.  
 e. \*I read Jane.

In pattern A, the theme argument is a direct argument and appears as a direct object in a. and b. The theme argument is optional, so the indirect goal argument can appear alone as in c. In pattern B, the goal argument is a direct argument this time, and the theme argument is obligatory. So the possible realization of the arguments is as in d, not e.

Next, (ii) the  $\theta$ -role assigning properties of adjectives. Adjectives may function either predicatively or attributively. An attributive adjective assigns an external  $\theta$ -role to the NP it modifies. When used predicatively, an adjective assigns an external  $\theta$ -role to the NP of which it is predicated. In either case, an adjective must have an external argument. Since an adjectival passive participle is an adjective, it must also have an external argument to assign a  $\theta$ -role to.

- (31) a broken vase  
 (32) The vase remained t broken.

Coupled with this, L&R argue, the distinction between direct/indirect arguments makes a difference: only a direct argument can be externalized by APF. This difference comes from the difference of a  $\theta$ -role assigner. Recall that a direct argument is directly assigned its  $\theta$ -role, while an indirect argument is not.

- (33) a. The teacher read the book.  
 b. The teacher read to the student.

In (33a), *the book* is a direct argument and hence is assigned its  $\theta$ -role by the verb *read*. In (33b), however, *the student* is an indirect argument. It cannot be  $\theta$ -identified by the verb and so requires another appropriate  $\theta$ -role marker *to* in this case. This lexical property, i.e. the difference of a  $\theta$ -role assigner, is inherited by the related adjectival passive participle.

- (34) a. The book remained unread.  
           (theme argument externalized)  
       b. \*The student remained unread.  
           (goal argument externalized)

In (34a), the direct argument *the book* can be  $\theta$ -identified by an AP *unread*. However, *the student* in (33b) is an indirect argument. It cannot be  $\theta$ -identified by an AP *unread*. Therefore, it will not be  $\theta$ -identified in the absence of a  $\theta$ -role assigner, resulting in a  $\theta$ -Criterion violation.

In the above discussion, the third factor has, although implicitly, already been shown to operate. Namely, (iii) other general principles of grammar. The Projection Principle requires that obligatory arguments be realized. In pattern A, *read* takes an obligatory theme argument and an optional goal argument. (34a) realizes a theme argument, thus satisfying the Projection Principle. On the other hand, in pattern B, both theme and goal arguments are obligatory. Even if we interpret (34b) in this pattern, that is, as a direct goal argument being externalized, the absence of the obligatory theme argument results in a violation of the Projection Principle ( in 2.3.3, we will see further how the Projection Principle is operative in APF).

Now we have derived two requirements from the analysis of L&R: externalize a direct argument, and observe the Projection Principle. In the following discussion, we regard

these two requirements as central parts of their claim.

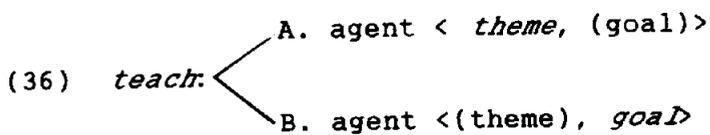
### 2.3.1. One internal argument

Let us see how the analysis of L&R actually works. For purposes of exposition, we will divide the substance of the analysis of L&R into two parts: in one part, cases where only one internal argument is realized. In the other part, cases where two internal arguments are realized. In this subsection, we will consider the former part. In order for APF to be licensed, this internal argument must meet two requirements: it be a direct argument, as well as being obligatory. These requirements are met if the internal argument is a sole complement of the verb. Here we derive the following generalization from the analysis of L&R.

#### (35) *Sole Complement Generalization (=SCG)\**

An argument which may stand as sole complement to a verb can be externalized by APF.

In what follows, let us see how SCG actually works. First consider the verb *teach*. This verb has the following lexical thematic representation.



This representation shows that *teach* allows either internal argument, i.e. theme or goal, to be a sole complement. So according to SCG, both arguments can be externalized by APF. And just the same thing holds for *serve* and *pay*.

*teach, serve, pay*

- (37) a. teach the children / teach manual skills  
b. serve the food / serve the customers

- c. pay the money / pay the agent
- (38) a. untaught children / untaught skills
- b. sloppily served food / unserved customers
- c. unpaid money / a badly paid agent

Recall that *teach*, *serve*, and *pay* were recalcitrant for the theme analysis in allowing two adjectival passives. In light of SCG, we can see that these verbs have one thing in common: *Teach*, *serve* and *pay* may have the goal argument, as well as the theme argument, stand as sole complement of the verb. Compare (37) with (39), where other dative verbs *offer*, *send*, and *give* have only the theme argument as sole complement of the verb.

- (39) a. offer a deal / \*offer a customer
- b. rent a house / \*rent a tenant
- c. give the prize / \*give the winner

The difference concerning the possibility of sole complement corresponds to the difference concerning the possibility of APF in a clear fashion. Arguments which cannot stand as sole complement of the verb cannot be subjects of the adjectival passive.

- (40) a. a recently offered deal /  
\*a recently offered customer
- b. a recently rented apartment /  
\*a recently rented tenant
- c. a recently given medal /  
\*a recently given winner

SCG also makes correct predictions about the paradigm of *spray/load* verbs, which might have appeared quite arbitrary at first glance.

*stuff, load, stack*

(41) *stuff*:  $\left\{ \begin{array}{l} \text{A. agent } \langle \textit{material}, \textit{location} \rangle \\ \text{B. agent } \langle (\textit{material}), \textit{location} \rangle \end{array} \right.$

(42) a. stuff the pillow (L)

b. \*stuff the feathers (M)

(43) a. The pillow (L) remained stuffed.

b. \*The feathers (M) remained stuffed.

(44) *stack*:  $\left\{ \begin{array}{l} \text{A. agent } \langle \textit{material}, (\textit{location}) \rangle \\ \text{B. agent } \langle \textit{material}, \textit{location} \rangle \end{array} \right.$

(45) a. stack the dishes (M)

b. \*stack the rack (L)

(46) a. carefully stacked dishes (M)

b. \*carefully stacked rack (L)

(47) *load*:  $\left\{ \begin{array}{l} \text{A. agent } \langle \textit{material}, (\textit{location}) \rangle \\ \text{B. agent } \langle (\textit{material}), \textit{location} \rangle \end{array} \right.$

(48) a. load the wagon (L)

b. load the hay (M)

(49) a. the recently loaded truck (L)

b. the recently loaded hay (M)

### 2.3.2. Further evidence for SCG

SCG covers a wide range of data concerning APF. Given two internal arguments, three possibilities are imaginable: only one allowed, both allowed, both disallowed. In terms of SCG, this means: only one can stand as sole complement, both can stand as sole complement, neither can stand as sole

complement. And these three possibilities are just as SCG predicts.

A: *feed*

- (50) a. feed some cereal to the baby
- b. feed the baby some cereal
- c. \*feed some cereal (T)
- d. feed the baby (G)
- (51) a. \*unfed cereal
- b. unfed baby

B: *hand*

- (52) a. hand a knife to Jim
- b. hand Jim a knife
- c. \*hand a knife (T)
- d. \*hand Jim (G)
- (53) a. \*a recently handed knife
- b. \*a recently handed person

C: *load*

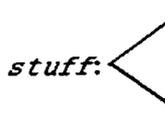
- (54) a. load the hay on the wagon
- b. load the wagon with the hay
- c. load the hay (M)
- d. load the wagon (L)
- (55) a. the recently loaded truck
- b. the recently loaded hay

*Feed* allows its goal argument to stand solely, yet does not allow the sole complement of the theme argument. Correspondingly, APF is only allowed for the goal argument. On the other hand, *hand* does not allow either of the two internal arguments to be a sole complement. Both the goal argument and the theme argument are obligatory and they must be

together realized at the same time. And APF is possible for neither of them. *Load* is just the opposite of *hand*. Either of the two arguments can stand as sole complement. No obligatoriness requirement is imposed as long as at least one argument is realized. And APF is possible in both cases.

### 2.3.3. Two internal arguments

In cases where two internal arguments are realized, the situation becomes somewhat different. Recall that APF must meet mainly two requirements: externalize a direct argument, and observe the Projection Principle. In the case of one argument, these requirements are met if it is an obligatory direct argument. In the case of two arguments, there are cases where the presence of only one argument is not sufficient for APF. Suppose a verb has one direct argument in one thematic pattern. If the other argument is optional, then this case too is covered by SCG. If it is obligatory, this argument must also appear. That is, the resultant adjectival passive must not only have the direct argument as its subject, but also realize the other argument. Otherwise, it will be barred because of the violation of the Projection Principle. So we can predict that there is a verb whose direct argument cannot go well with APF, but, with the addition of the other obligatory argument, this direct argument revives and participates in APF. And indeed there is. The verb *stuff* illustrates this case:

(56) *stuff*: 

- A. agent <*material*, location>
- B. agent <(material), location>

- (57) a. Stuff the pillow .  
 b. \*Stuff the feathers.  
 c. Stuff the feathers in the pillow.

(58) a. The pillow remained stuffed.

- b. \*The feathers remained stuffed.
- c. The feathers remained stuffed in the pillow.

As shown in (56), *stuff* allows its location argument to stand solely, but not the material argument. This is because of the violation of the Projection Principle. If the location argument is also present, the Projection Principle is met, as in (57c). Just the same thing happens in (58c), where APF is licensed. The same phenomena can be observed for *stack*.

- (59) *stack*:  $\left\{ \begin{array}{l} \text{A. agent } \langle \textit{material}, (\textit{location}) \rangle \\ \text{B. agent } \langle \textit{material}, \textit{location} \rangle \end{array} \right.$

- (60) a. Stack the dishes. (M)
- b. \*Stack the rack. (L)
- c. Stack the rack with dishes.
- (61) a. The dishes remained carefully stacked.
- b. \*The rack remained carefully stacked.
- c. The rack remained stacked with dishes.

#### 2.4. Inadequacies of L&R

So far we have seen how the analysis of L&R works. Indeed, it correctly handles the data which were problematic for the theme analysis. However, when we investigate further data, it becomes obvious that their analysis has problems. That is, there are cases where APF is impossible, in spite of the satisfaction of the requirements. We will see these in two parts. In cases where one internal argument is realized, APF should be possible if it is an obligatory direct argument. In cases where two arguments are realized, a direct argument must be externalized and obligatory arguments must be present. Let us begin with the former cases.

##### 2.4.1. One internal argument (=SCG)

In 2.3.1., we have already seen cases of one internal argument. If the argument is obligatory and direct, APF is licensed. We have derived the Sole Complement Generalization (SCG) and have examined its validity. On closer examination, however, there still remain cases which contradict the predictions of SCG; not all obligatory direct arguments can be externalized by APF. Consider the following paradigm.

(62) a. I asked Mary the question.

b. I asked Mary.

c. I asked the question.

(63) a. \*Mary was unasked.

b. The question was unasked.

(64) a. I told John the story.

b. I told John.

c. I told the story.

(65) a. \*John was untold.

b. The story was untold.

As shown in (62), *ask* allows either of the two arguments to be a sole complement. According to SCG, then, APF should be allowed in both cases. However, only one of them is allowed. The same thing can be said of *tell*. In (64), both *John* and *the story* can stand as sole complement, but *John* cannot be the subject of the adjectival passive. These are troublesome to SCG.

At this point, an objection might be raised: that (62b) and (64b) are not instances of the sole complement, but mere variants of (62a) and (64a) which drop one of the arguments by the "pragmatic deletion". If so, *ask* and *tell* are no different from other verbs which conform to the predictions of SCG. Yet we cannot turn down the cases of *ask* and *tell* simply as the results of the pragmatic deletion.

- (66) a. You asked Mary.  
 b. \*Who did John ask the question?  
 c. Who did you ask?
- (67) a. You told Mary.  
 b. \*Who did John tell the story?  
 c. Who did you tell?

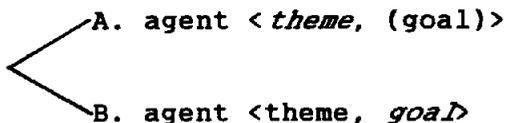
As shown in (66b), we cannot form a WH-question from *John asked Mary the question*. On the other hand, WH-fronting is possible for *You asked Mary*. So we can regard *Mary* in (66a) as a full-fledged sole complement. This is also the case for *tell*. If (67a) is only a variant of *You told Mary something* which underwent pragmatic deletion, then we should expect the anomaly of (67c). Yet (67c) is well-formed.

Furthermore, there are other verbs which allow the sole complement, but whose APF is prohibited.

- (68) a. You saw John.  
 b. ??John was unseen.
- (69) a. You heard this new song.  
 b. \*This new song was unheard.

#### 2.4.2. Two arguments

According to L&R, APF is always possible if a direct argument is externalized and obligatory arguments are realized. Yet close scrutiny reveals that this is not necessarily the case. That is, not all direct arguments can be externalized by APF, even when the Projection Principle is satisfied.

- (70) *sell*: 

The verb *sell* takes the theme argument as a direct argument in pattern A, and the goal argument in pattern B. So both

arguments should be externalizable in principle. But the goal argument cannot be externalized even with the help of the theme argument.

- (71) a. The car remained unsold.
- b. \*The customer remained unsold.
- c. \*The customer remained unsold of a car.

As seen in (71), when the goal argument is externalized, APF is not licensed. Notice that in (71c), *a car*, the theme argument, appears and the Projection Principle is observed. L&R falsely predicts the well-formedness of (71c). The same thing can be said of *teach*.

- (72) a. teach manual skills
- b. teach children
- c. teach children manual skills

- (73) a. untaught skills
- b. untaught children
- c. \*The children remained untaught of the skill.

As already seen, *teach* takes either internal argument as sole complement, and the corresponding APF is well-formed. As seen in (72c), *teach* takes a goal argument as a direct argument in the dative version. So, according to L&R, the goal argument could be externalized in this case too, if the theme argument is realized. But this is not the case. In terms of the argument status (direct/indirect) and the Projection Principle, there is no way out of this difficulty. L&R themselves notice such problems and have recourse to Case-theoretic considerations. They claim that (74a) is ruled out because Case is not assigned to *a car*, and that (74b) is barred because there is no productive rule of *Of*-insertion.

- (74) a. \*The customer remained unsold a car.  
 b. \*The customer remained unsold of a car.

So L&R will probably argue that the above data can be accounted for as well in their framework. But is this all? This solution does not seem to give an insight into the nature of APF. According to their treatment, *teach* and *sell* differ from *stuff* and *stack* only in that the former fail to assign Case. Aren't there any other differences between these verbs that clearly reflect the possibility of "revival"?

### 3. An alternative

#### 3.1. *of*-insertion in nominals

In the last section, we have seen several verbs which are problematic for L&R. Is there any particular behavior that these verbs share? If there is one, probably it will give us a key to solution. Let us begin with cases which realize one internal argument. When we closely investigate these verbs, we come across an interesting fact. That is, these verbs are not amenable to nominalization with *of*.

- (75) a. John told Mary.  
 b. \*John's telling of Mary  
 c. \*Mary was untold.
- (76) a. John asked Mary.  
 b. \*John's asking of Mary  
 c. \*Mary was unasked.
- (77) a. John saw Mary.  
 b. \*John's seeing of Mary  
 c. ??Mary was unseen.
- (78) a. John heard Mary.  
 b. \*John's hearing of Mary  
 c. \*Mary was unheard.

Here, we find a striking parallelism: Verbs which do not allow APF do not allow nominalization with *of*, either. Is this a pure accident? Evidently not. When we examine other verbs which were well within the realm of SCG, this parallelism still goes on.

- (79) a. The car remained unsold.  
 b. \*The customer remained unsold.  
 c. selling of the car  
 d. \*selling of the customer
- (80) a. \*unfed cereal  
 b. unfed baby  
 c. \*feeding of some cereal  
 d. feeding of the baby
- (81) a. untaught children  
 b. untaught skills  
 c. teaching of the children  
 d. teaching of the skills

In the case of *sell*, only the theme argument can be the subject of the adjectival passive, and not the goal argument. Correspondingly, nominalization with *of* is possible only for the theme argument. On the other hand, in the case of *feed*, APF is allowed only for the goal argument. And nominalization with *of* is possible only for the goal argument. *Teach* allows both the theme and the goal arguments to form adjectival passives. And both of these arguments take *of* when nominalization occurs.

Let us go on to the cases of two internal arguments. Does the correspondence also extend to these cases? The answer seems to be in the affirmative.

- (82) a. \*The customer remained unsold.  
 b. \*The customer remained unsold of a car.  
 c. \*selling of the customer

d. \*selling of the customer of the car

- (83) a. untaught children  
 b. \*The children remained untaught of the skill.  
 c. teaching of the children  
 d. \*teaching of the children of the skill

It should be noticed that only the argument appearing after *of* can be externalized by APF. In the case of *sell*, the goal argument cannot follow *of*, whether the theme argument is also present or not. *Teach* allows the goal argument to stand solely after *of*, but when the theme argument is also realized, this is no longer possible. The addition of the theme argument changes the status of the goal argument. If we are to realize both arguments simultaneously, only *teaching of the skill to children* is available.

From these, we see that nominalization with *of* well reflects the possibility of APF.

### 3.2. The semantic status of *of*

We have seen that nominalization with *of* bears a systematic relation to APF. One question immediately comes to our mind: what is the semantic status of *of*?

Rappaport makes the claim that the thematic role of the NP after *of* is always the theme.

- (84) Let us assume then that there is an OBL (theme) function, and arguments associated that function are realized as objects of the preposition *of*.

(Rappaport 1983 p.128)

Now see the following sentences:

- (85) a. \*John's writing of the British Museum  
 (wrong reading)

b. John's writing to the British Museum  
(Rappaport 1983)

As shown in (85), *write* takes *to*, rather than *of*, when nominalized. *Write* takes a goal argument, and *the British Museum* has to be so marked. But *of* cannot fulfill this task. So in this case, *to* must appear, and *to* marks the following argument as a goal. If *of* is used, the goal reading is unavailable and the theme reading is forced. In this regard, Rappaport is apparently in the right direction.

However, counterexamples to this generalization are abundant.

- (86) a. John inhabited Antarctica (L).
- b. the inhabiting of Antarctica
- (87) a. John paid Bill (G) the money (T).
- b. John paid Bill.
- c. John's paying of Bill
- (88) a. John served Bill (G) the dishes (T).
- b. John served Bill.
- c. John's serving of Bill
- (89) a. John loaded the truck (L) with hay (M).
- b. John loaded the truck.
- c. John's loading of the truck

In (86), *Antarctica* is naturally a location, and in both (87) and (88), *Bill* is a goal. In (89), *the truck* should be a location. Yet the preposition is *of* in all these cases. So, we can conclude that the thematic role after the preposition *of* is not restricted to THEME, and that *of* shows no thematic constancy. From our point of view, this is just as expected. We have already seen in chapter 2 that APF is not restricted to any thematic role, let alone theme role. And in 3.1., we have seen the systematic correspondence between APF and nominalization with *of*. Since we are now relating these two

phenomena, it cannot be the case that *of* shows any thematic constancy.

As opposed to Rappaport(1983), we regard *of* as a semantically empty case-marker. In the *of*-nominalization sentences that we have considered in this paper, verbs have inherent relations with arguments and their thematic relations can be identified without the help of the appropriate prepositions as thematic-role markers, unlike the examples (85a) and (85b). The preposition *of* only functions as a case-marker. We will call a Primary Argument an argument inherently related with a verb and an NP after a semantically empty case-marker *of*, and define this as follows:

Def. : Primary Argument -- arguments which bear inherent relations to a verb and are to be licensed without an appropriate thematic-role marker.

Non-Primary Argument -- Otherwise

We make use of *of*-nominalization as a test for Primary Argument: If an argument in a particular thematic pattern can occur after *of* in nominalization, it is a Primary Argument. If not, it isn't.

### 3.3. Primary Argument Condition

Having established a Primary Argument, we may be able to assume the following condition.

(90) *Primary Argument Condition (PAC)*

Only a Primary Argument can be externalized in the lexical process.\*

The possible basis of PAC is that, since a Primary Argument bears an inherent relation to a verb, its thematic relation

can be uniquely identified even when it is externalized.

We propose that PAC(90) be incorporated into the process of APF. Our proposal differs from that of L&R mainly in two respects: the status of the externalizable argument, and the relevant part of the lexical properties of the base verb. L&R argue that a direct argument can be externalized by APF. However, we make use of a Primary Argument. And the decision of a Primary Argument has to do with how many arguments are realized. This can be well seen in the case of *teach*.

(91) *teach*: 

- A. agent < *theme*, (goal) >
- B. agent < (theme), goal >

- (92) a. teach children  
 b. teach manual skills  
 c. teach manual skills to children  
 d. teach children manual skills

Recall that L&R take the 0-role assignment pattern as basic. That is, in the case of *teach*, patterns A and B in (91) are crucial. Particular instances where each argument is realized as in (92) do not play any role in their system. For instance, (92a) and (92d) differ only in that the latter realizes an optional argument. *Children* is a direct argument and should have entirely the same status in both (92a) and (92d). In our account, however, each argument-realization pattern (92a,b,c,and d) is relevant. For at this very level, *of-nominalization* shows that *children* in (92d) comes to have a different status from that in (92a).

- (93) a. teaching of the children  
 b. \*teaching of the children of the skill  
 c. teaching of the skill to the children

PAC(90) makes right predictions about the data troublesome to L&R, in addition to the data neatly handled by them. We show this by listing the following paradigm. The Primary Argument is underlined. We see a clear correspondence: Where there is a Primary Argument, externalization is possible. Where there is none, it is not.

- (94) a. stuffing of the pillow  
 b. \*stuffing of the feathers  
 c. stuffing of the feathers into the pillow
- (95) a. The pillow remained stuffed.  
 b. \*The feathers remained stuffed.  
 c. The feathers remained stuffed in the pillow.
- (96) a. \*selling of the customer  
 b. selling of the car  
 c. \*selling of the customer of a car  
 d. selling of the car to the customer
- (97) a. \*The customer remained unsold.  
 b. The car remained unsold.  
 c. \*The customer remained unsold of a car.  
 d. ?The car remained unsold to the customer.<sup>10</sup>
- (98) a. teaching of the children  
 b. teaching of the skill  
 c. \*teaching of the children of the skill  
 d. teaching of the skill to the children
- (99) a. untaught children  
 b. untaught skills  
 c. \*The children remained untaught of the skill.  
 d. ?The skill remained untaught to the children.<sup>10</sup>
- (100) a. \*handing of a letter  
 b. \*handing of John

- c. handing of a letter to John
  - d. \*handing of John of a letter
- (101)
- a. \*a recently handed knife
  - b. \*a recently handed person
  - c. ?\*A letter was unhanded to John.<sup>10</sup>
  - d. \*John was unhanded of a letter.

## NOTES

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<sup>1</sup> Other terminologies by some grammarians are: lexical passives, statal passives, etc. Yet throughout this paper, we will use the term 'adjectival passives.' For one thing, it seems to be the commonest usage. For another, it well reflects the properties of the relevant passive constructions.

<sup>2</sup> Notice that the negative *un-* is distinct from the reverse *un-*. The latter can be part of the verb and the corresponding verb exists: *unlock, undress*. In the case of the former, this is not the case: \**uninhabit*

<sup>3</sup> This was not referred to in Wasow(1977), and was first pointed out by Williams(1981).

<sup>4</sup> Both Itoh(1981) and Levin and Rappaport(1985, 86) noticed counterexamples to the theme analysis. The data in this section are from Levin and Rappaport(1985, 86).

<sup>5</sup> We don't think this is tenable, however. For there are many cases where a theme role is absent, if we strictly follow the definition (6). *Teach* is a good example.

- (i) John taught manual skills(T) to children(G).
- (ii) John taught manual skills(T).
- (iii) John taught children(G).

(iii) has no theme arguments. Those who claim *children* in (iii) to be a theme have no other grounds than a mere stipulation that every sentence has exactly one theme. If one persists in this stipulation, the determination of thematic roles should become very ad hoc. For in that case, the content of theme departs from the definition (6) and becomes almost equivalent to that of sole complements, under the heading "Theme Analysis."

<sup>6</sup> Note that we are strictly observing the definition (6), which is entirely based on the concepts 'motion' and 'location'. So whether there is an implication or not is totally irrelevant.

<sup>7</sup> An attentive reader might argue that a material argument is in fact a theme argument. Probably it is. Substitution of a theme for a material does not invalidate the following discussion, however.

<sup>8</sup> Actually, SCG(35) was first proposed in Levin and Rappaport(1985). But it was abandoned in favor of a principles-governed treatment in Levin and Rappaport(1986).

<sup>9</sup> In the course of research, we have noticed there seem to be several constructions which are subject to PAC: activo-passives, *able*-adjectives, verbal compounds, etc.

#### activo-passives

- a. John sprayed paint (on the wall).
- b. Paint sprayed on the wall easily. (Endo 1986)

#### *able*-adjectives

- a. Mary teaches this textbook to young children.
- b. This textbook is teachable.

- c. Young children are teachable. (Itoh 1981)

verbal compounds

- a. She teaches French to dogs.  
 b. dog-teacher  
 c. French-teacher (Takizawa 1987)

Of course, there are variations among these constructions as to the strength of the constraint, which come from idiosyncracies of each construction. The interested readers are referred to Itoh(1981).

<sup>10</sup> Fabb(1984) notes that adjectival passives(=his statal passives) must express a state. The phrases which too strongly imply an act or event are bad. This is probably the reason why several adjectival passives do not sound good.

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