

# An Argument Structure Analysis of Adjectival Passive Participles\*

Sung-Ho G. Ahn  
(Hanyang University)

**Ahn, Sung-Ho. G.** 2011. **An Argument Structure Analysis of Adjectival Passive Participles.** *Korean Journal of English Language and Linguistics* 11-4, 991-1010. This paper reviews major previous lexical and syntactic approaches to adjectival passives and shows that they have digged out conflicting sets of data. Presuming that they reflect two dialects of English, it attempts to account for the data representing the more inclusive dialect. It proposes introducing the construct of argument chain, which consists of two arguments in a complex argument structure. Then, it shows that the minor revision can improve the empirical coverage of the theory.

**Key Words:** adjectival passives, argument structure, argument chain

## 1. Lexical Approaches to Adjectival Passives

Levin and Rappaport (1986) show that not only verbal but also adjectival passivization is crucially correlated with the lexical-thematic properties of the base verb.

- (1) a. Stuff the feathers \*(into the pillow).  
b. Stuff the pillow (with feathers).
- (2) *stuff*: agent <material, location>; agent <(material), location><sup>1</sup>

---

\*This paper was presented at the Winter 2002 KASELL Conference, which was held on February 8, 2002, at Ewha Womans University, Seoul, Korea. The author is grateful to the commentators and audience of the conference, and to the three *Korean Journal of English Language and Linguistics* reviewers for their valuable discussions, comments, and criticism. He still declares that all potential errors and mistakes are under his own responsibility.

- (3) a. The feathers remained stuffed \*(in the pillow).  
 b. The pillow remained stuffed (with feathers).

The examples in (1) show that when the material is the direct argument of the verb *stuff*, the location argument is obligatory, and that when the location is the direct argument, the material one is optional. This lexico-thematic property in (2) is exactly reflected in the adjectival passives as in (3).

Levin and Rappaport propose that such facts are neatly captured with the following (4):

- (4) An adjectival passive is derived from its verbal passive counterpart (by means of category conversion).  
 (5) a. Adjectival passivization involves suppression of the external argument of the base.<sup>2</sup>  
 b. Adjectival passivization involves externalization of an internal argument of the verbal passive base.

Since (4) presupposes verbal passivization, it follows that adjectival passivization also involves suppression of the external argument of the base (5a); since the adjective generally requires an external argument, it follows that an internal argument of the base must be externalized (5b). Further, they argue, what is externalized must be the direct argument; otherwise, the Case Filter will rule the sentence out.

This theory can also account for the following contrasts:

---

<sup>1</sup>Following Marantz (1984), Levin and Rappaport distinguish the manners of  $\Theta$ -role assignment as follows: the verb "directly"  $\Theta$ -mark only one (internal) argument, and "indirectly"  $\Theta$ -mark others with the help from other predicates like prepositions. They graphically mark indirectly assigned  $\Theta$ -roles with italicization.

<sup>2</sup>Chung (2000: 406) adds to this clause the reservation of "if there is one" because many unaccusative verbs don't have external arguments to suppress but can have adjectival passive forms such as *elapsed time*, *a fallen leaf*, *a widely travelled man*, *a risen Christ*, etc.

- (6) a. Ralph is known to be a reactionary.  
b. \*Raph is unknown to be a reactionary.
- (7) a. Tabs seem to have been kept on the suspect.  
b. \*Tabs remain kept on the suspect.

[Levin and Rappaport 1986: 626]

As shown in (6), an argument which is not directly related to the base verb cannot occur as the subject of its adjectival passive form; this applies to idiom chunks like *tabs* in (7). The bad cases of adjectival passivization in (6b) and (7b) are excluded by (5b).

As Radford (1988) observes, unlike verbal passives, adjectival passive forms don't license DP movement.

- (8) a. There is known \_\_\_ to be opposition in Congress to the arms deal  
b. \*There is unknown \_\_\_ to be opposition in Congress to the arms deal

[Radford 1988: 433, (8.100, 8.102)]

The passive participle *known* in (8a) can be a verbal one, and it can have *there* as its subject along with a *to*-infinitival complement. On the other hand, the passive participle in (8b) is prefixed by the negative *un*, which attaches to adjectives only, so it must be an adjectival one; it cannot have *there* as its subject.

This difference seems to be explained by (5b). Since *unknown* must have an external argument, it cannot have as its subject the expletive *there*, which occurs in a non-theta position.

A related property of the adjectival passive is that it is not compatible with the Agent  $\Theta$ -role. Chung (2001) explains that the following facts might suggest that the external argument is deleted rather than simply suppressed.

- (9) a. \*The book was unsold [PRO to make money].  
 b. \*The book was voluntarily unsold.  
 c. \*The used car was unsold by the owner.

[Chung 2001: 113, (49-50)]

The adjectival passive doesn't allow a purpose clause, as shown in (9a); it is not compatible with an agentive adverb, nor with an agentive PP as shown in (9b) and (9c), respectively.

As Chung (2001: 114) suggests, this is perhaps because the stative meaning of adjectival passives is semantically incompatible with the agentive sense of the *by*-phrase. This semantic explanation sounds plausible especially when we consider the fact that non-agentive causers can occur optionally.

- (10) a. We were impressed (by his efforts).  
 b. Most of the east coast remains mercifully untouched (by tourism).

[Chung 2001: 113, (49)]

Grimshaw (1990), however, points out cases of adjectival passives which require a *by*-phrase.

- (11) a. The event was followed/preceded \*(by another).  
 b. The mountain was capped \*(by snow).  
 c. The volcano was rimmed \*(by craters).  
 d. The house was surrounded \*(by mature trees).

[Grimshaw 1990: 124]<sup>3</sup>

If she is right, these examples seem to show that external arguments are at least sometimes not suppressed but only "internalized" in a sense.<sup>4</sup> Based on this, she concludes that

---

<sup>3</sup>How can we prove the status of adjectival passives regarding Grimshaw (1990)? We will touch on this issue later in section 4.

adjectival passivization does not necessarily involve suppression of the external argument, and argues that contra Levin and Rappaport (1986), some adjectival passives cannot be derived from verbal passives via conversion.

She then proposes that adjectival passives are derived from verbs by conversion into adjectives, which adds an external argument R to be identified with an internal direct argument of the base (p. 125, and note 4.13), as in (12).

(12) *rim* ((x (y))) --> *rinned* (R <=*x*> (x (y)))

The external argument is identified with the Location argument (*x*) and the Theme argument is satisfied by the *by*-PP.

How does Grimshaw account for the fact that unergatives can never produce an adjectival passive participle? She assumes that the verb-to-adjective conversion is possible only for a verb that has no external argument, which implies the following:

(13) An argument structure can have only one external argument.

(13) in fact is a theorem in her relative determination of the external argument: the most prominent argument in both the thematic and aspectual argument structure is the external argument.

This implies that if an argument structure has no external argument, the verb-to-adjective conversion can occur by means of

---

<sup>4</sup>Levin and Rappaport (1986) indicate suppression of the external argument of the base verb as in (i):

(i) *break*: agent <*patient*> => [[*break*<sub>v</sub>] -*ed*<sub>v</sub>]: <*patient*>

But they note that Williams's (1981) adjectival passive formation (APF) removes the diacritic that marks a  $\Theta$ -role to be external, and that Marantz's (1984) APF removes the diacritic that the verb participates in the compositional assignment of a  $\Theta$ -role to an external argument.

addition of an external argument. Unaccusative verbs, psych verbs, and verbal passives will undergo the process (14).

- (14) a. melt<sub>V</sub> ((x)) --> melted<sub>A</sub> (R<=x> (x))  
 b. frighten<sub>V</sub> ((x (y))) --> frightened<sub>A</sub> (R<=x> (x (y)))  
 c. build<sub>V</sub> (x (y)) --> built<sub>V</sub> (x-∅(y)) --> built<sub>A</sub> (R<=y> (x-∅(y)))

## 2. Syntactic Approaches to Adjectival Passives

Yoon (2005), first of all, observes that adjectival passives are compatible with raising predicates, as shown by the following examples she collected from the internet and whose soundness she checked with three native speakers of English.

- (15) a. Most of the clones identified by cDNA macroarray<sub>i</sub> were unknown or unreported [ t<sub>i</sub> to be related or involved in ABA mediated signal transduction before].  
 b. An enchanting world with special charms and unique surprises which always hides something<sub>i</sub> [ e<sub>i</sub> unexpected [ t<sub>i</sub> to be discovered in a glass of wine]].  
 c. I am a life<sub>e<sub>i</sub></sub>, [ e<sub>i</sub> unbelieved [ t<sub>i</sub> to be a life]]. I am a preborn child.

[Yoon 2005: 43, (26)]

These examples are in direct conflict with the observation that adjectival passives cannot have a subject that is not directly related to their base verbs, exemplified with the unacceptability of (6b).

She further points out that adjectival passive participles can occur in the *there*-construction,<sup>5</sup> mostly when the passives

<sup>5</sup>She quotes the following groups of verbs from Levin 1993:90.

describe resulting states (Levin & Hovav 1995).

- (16) a. On the mountain top there were built houses and entertainment palaces for the tomb keepers.  
b. At last we saw the bridge over Coppename River and that there were placed oil barrels to block the road, a man came to our car and said we could not pass the bridge.  
c. There was written something on this wooden statue of Jesus Christ, which stood somewhere along main highway 134 ...  
d. Often, there is engraved on the stone a favorite saying, or poem, or picture.

[Yoon 2005: 70, (31)]

She notes that the examples contain verbs of accomplishment and describe the resulting states, and therefore that they are of adjectival passives. Apparently, these examples seem to imply that those adjectival passive participles also have no external arguments contra what Levin and Rappaport (1986) and Grimshaw (1990) claim.

Thirdly, she shows that some other adjectival passives have no external argument.

- (17) a. Before this, it was unknown [ that comets actually were periodic objects, that came back again after traveling into the starry deep ].

---

(i) Passive Verbs found in *There*-insertion Construction

- a. VERBS OF PERCEPTION: *discern, discover, hear, see*  
b. VERBS OF IMAGE CREATION: *engrave, imprint, inscribe, paint, scrawl, stamp, tattoo, write*  
c. VERBS OF PUTTING: *hang, lay, mount, place, pile, stack, suspend, scatter*  
d. TAPE VERBS: *glue, hook, pin, staple, strap*  
e. OTHER VERBS: *add, build, display, create, enact, find, show, understand, write*

[Yoon 2005: 69, (30)]

- b. The art of camouflage, she said, was at its highest when it was unnoticed [that the art was being employed ].

[Yoon 2005: 45, (30)]

Observe that the adjectival passive *unknown* can have the expletive *it* in its subject position.

Based on these examples, she argues that adjectival passives are exactly like their verbal counterparts in that their external arguments are suppressed, they can have internal arguments, and they can have a DP move to the surface subject position. A difference between them is found in passivization of dative constructions.

- (18) a. The school was given the gift.  
 b. \*The school was ungiven the gift.  
 c. The gift was given to the school.  
 d. \*The gift was ungiven to the school.

[Yoon 2005: 49, (38); quoted from Siegel 1973]

To account for this difference, she (p. 66) stipulates that adjectival passive participles have lost all capability to assign structural and/or inherent Case whereas verbal passives have only lost the capability to assign structural Case.

Although her theory is well-suited to explaining the examples in (15)-(18), as she admits (p. 71, section 4.2.3), it cannot easily deal with the contrast in (8).

- (8) a. There is known \_\_\_ to be opposition in Congress to the arms deal  
 b. \*There is unknown \_\_\_ to be opposition in Congress to the arms deal

[Radford 1988: 433, (8.100, 8.102)]



If A-movement is possible, why should *there* be prevented to raise in (8b)?

Another difficulty that her theory faces is that it cannot easily explain why idiom chunks cannot be raised as in (7b).

- (19) a. Advantage is easily taken of John.  
b. An example was (unfairly) made of John  
(20) a. \*Advantage sounds easily taken of John.  
b. \*An example seemed (unfairly) made of John  
(21) a. John sounds easily taken advantage of.  
b. John seemed unfairly made an example of.

[Yoon 2005: 56-7, (11)-(13), quoted from Wasow 1977: 345]

She says that (20)-(21) are "canonical" cases while (19) is of an idiosyncratic nature (pp. 67-68), but this description leaves unexplained the contrast between the verbal and adjective passives in (19) and (20).

Another syntactic approach to be discussed here is taken by Emonds (2000, 2006), whose theory can be summarized as follows:

- (21) Passive Participle entry: en, (A), +<V\_\_\_>, ∅F  
[Emonds 2006: (43)]

When the passive participle doesn't have the category specification of A at LF, it is inserted at PF<sup>6</sup> and is interpreted as verbal; otherwise, adjectival. "∅F", which indicates that the entry has the phi-features of the empty nominal projection sister subcategorized by the verb root, guarantees that in adjectival passives, the participle head agrees with the deep direct object of

---

<sup>6</sup>Emonds assumes that the Lexicon consists of the Dictionary (of open classes containing purely semantic features, etc.) and the Syntacticon (of all grammatical categories and syntactic features), and that lexical items from the Syntacticon can be inserted at different stages of a derivation.

the verb.<sup>7</sup>

Emonds's proposal in (21) in fact states that English involves a single morpheme for verbal and adjectival "passivization"; their difference derives from the timing of introducing the morpheme into a derivation: at LF or at core syntax.

Following Emonds, Chung (2007) states that the passive participle entry explains why the subject of a passive participle is an argument of its base verb; it simply inherits the argument of the base verb. He also says that the impossibility of (7b) can be explained: the A dominating the base verb prevents it from being connected to any idiom chunks.<sup>8</sup>

Then, what about the impossibility of *there*-raising as in (8b)? Chung states: "Most of the adjectival passives describe some (resultative) states or properties. However, *there* constructions have eventive readings, describing some non-stative situations. Thus, the expletive *there* is not compatible with the adjectival passive constructions with stative readings" (p. 233). That is, he appeals to a semantic incompatibility between the eventiveness of the *there*-construction and the stativeness of the adjectival passive.

Although attractive, this semantic explanation doesn't seem to be maintainable because we have examples like (16): these examples, which are presented by Yoon (2005) as counter-examples to lexical approaches to adjectival passives, are in fact *there*-constructions with adjectival passives!

Further, the bad example (8b) in question will also only apparently be subject to the alleged semantic incompatibility. Consider the following stages of its derivation.

---

<sup>7</sup>This is stated as the **Passive Adjective Condition** (PAC): "The subject of adjectival passives receives the theta-role that its verb root assigns to a deep direct object in an active VP. In other respects adjectival passives respect the subcategorization of the verb root" (Emonds 2006: (37)).

<sup>8</sup>Emonds (2006) states that "idiomatic combinations of heads and arguments tolerate no intervening heads in LF" (p. 25). strengthening O'Grady's (1998) Continuity Constraint: An idiom's component parts must form a chain.

- (23) a. unknown [there to be opposition in Congress ...]  
 b. There is unknown [\_\_\_ to be opposition in Congress ...]

As the stage described in (23a) shows, it is the embedded clause that is a genuine *there*-construction, not the matrix clause as in (23b). If the adjective *unknown* should not be compatible with a *there*-construction complement, then the following example would be predicted to be unacceptable as well, contrary to the fact.

- (24) a. **it is unknown that** there are different types of whey.  
 (movfitness.com/blog/archives/31)  
 b. often **it is unknown that there** is a problem within the space.  
 (www.safety.ed.ac.uk/resources/General/confined.shtm)

To summarize the discussion thus far, consider the following table:

Table 1: Evaluation of Previous Analyses

	schema		L&R	Grim-shaw	Yoon	Emonds	Chung
i	Arg <sub>1</sub> ... [V-en t <sub>1</sub> ...]	(3)	✓	✓	✓	✓	✓
ii	*Arg <sub>1</sub> ... [V-en [t <sub>1</sub> to V ...]]	(6b)	✓	✓	(*)	✓	✓
iii	*Idm <sub>1</sub> ... [V-en t <sub>1</sub> ...]	(7b)	✓	✓	*	✓	✓
iv	*there <sub>1</sub> ... [V-en [t <sub>1</sub> to be ...]]	(8b)	✓	✓	*	(*)	*
v	Arg <sub>1</sub> ... [V-en [t <sub>1</sub> to V ...]]	(15)	*	*	✓	*	✓
vi	there <sub>1</sub> ... [V-en [DP <sub>1</sub> XP]]	(16)	*	*	✓	?	✓
vii	it <sub>1</sub> ... V-en that-CP <sub>1</sub>	(17)	?	*	✓	(✓)	✓
viii	*Arg <sub>1</sub> ... [V-en t <sub>1</sub> DP]	(18b)	✓	✓	✓	✓	✓
ix	*Arg <sub>1</sub> ... [V-en t <sub>1</sub> ...]	(18d)	?	?	?	?	?

First let us note the conflict in judgment between the unacceptability of example (6b) and the acceptability of (15). Surely more research is needed to arrive at a firmer empirical ground, but for the time being let us assume that we are

dealing with two dialects here, and say that Dialect A cannot accept (6b) nor perhaps (15) either, and that Dialect B can accept them both. The two dialects are the same in refuting (7b) and (8b).

As noted by Yoon (2005) and Chung (2007) and in the previous section, Levin and Rappaport (1986) would have difficulties in explaining (15) and (16). Grimshaw (1990) will be problematic in a similar way.

Both Yoon's (2005) and Chung's (2007) approaches can appropriately account for the cases in (15), where a genuine passive participle has the subject argument of its infinitival complement clause surface as its own subject; the second approach can account for the cases in (7b), where a passive participle cannot have an idiom chunk subject of its infinitival complement be realized in its own subject position; both can account for (17). Neither of these two syntactic approaches seems to be able to provide an adequate account for why *there* cannot move as depicted in (8b).

Emonds's (2006) approach will perhaps account for (8b) depending on the interpretation of his PAC (cf. note 7), which can be interpreted to force the adjectival passive participle to pick up the direct argument of its base verb. His approach, however, will have problems with (15).

This dead-end situation invites us to explore an alternative solution to the problem of adjectival passives.

### **3. Toward a Solution: an Argument Structure Approach**

We will pursue a lexicalist approach on the side of Levin and Rappaport (1986), Grimshaw (1990) and Chung (2000, 2001) and follow Grimshaw (1990) in assuming that the adjectival passive

morpheme does not involve externalization of an internal argument, but rather introduces an external argument to be identified with the "direct" internal argument of its base. Since it attaches to a verb with no external argument, it may attach to a verbal passive as indicated in (14c); in this respect, we agree with Levin & Rappaport (1986), contra Emonds (2006), in that English involves two separate morphemes for the verbal and adjectival passivization. We believe this double-process is morphologically supported by the following cases basically noticed by Radford (1988).

(25) a. An Argentine destroyer has just been **sunk/\*sunken** by a British submarines.

b. He had **sunken** cheek bones.

(Radford 1988)

(26) a. This hulking forefather **was shrunk** down to become the brains of integrated circuits in everything from computers and mobile phones to guided missiles and pacemakers. [www.zdnet.co.uk/tsearch/shrunk.htm]

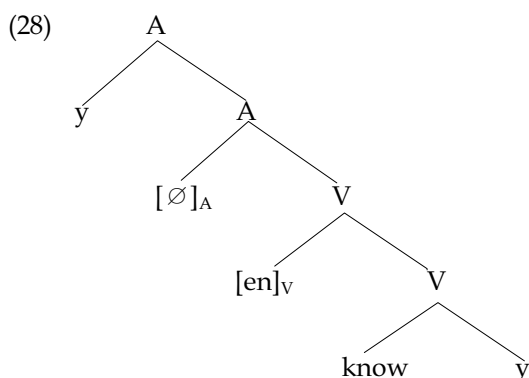
b. a **shrunk** old lady

Note that the adjectival passive participle *sunken*, for example, consists of the verbal passive participle *sunk* and the adjectival passive suffix *-en*. This is not in harmony with Yoon's (2005) thesis, either, that both verbal and adjectival passives are derived directly from the verbal base. If the newly introduced external argument *y* is to be identified with the direct internal argument *y*, we modify Grimshaw's (1990) argument binding and interpret this as constituting a chain of arguments in the lexical structure: (*y*, *y*). When two A-positions are linked to a chain, it is realized syntactically in two ways as in (27):

(27) a. A cat is *t* in the garden. (a cat, *t*)

b. There is a cat in the garden. (there, a cat)

In a similar way, when the verbal passive morpheme *-en* attaches to root *know*, as in (28), it removes the external argument of the verb; then the adjectival passive morpheme introduces an external argument *y*, which must form a chain with the verb's internal argument *y*.



If the argument is realized syntactically in the head *y* position, as in (27a), the effect obtained is the same as that of Levin and Rappaport's (1986) externalization of the internal argument as in (3). If it is realized in the tail position, like that in (27b), the head position remains empty and can be filled with an expletive as in (16)-(17).

- (3) a. The feathers remained stuffed \_\_\_ \*(in the pillow).  
 (16) c. There was written something on this wooden statue of Jesus christ, which stood somewhere along main highway 134,  
 (17) a. Before this, it was unknown [that comets actually were periodic objects, that came back again after traveling into the starry deep].

Even under this extension, examples in (15) cannot be explained properly unless a syntactic approach is taken; this is so because these examples seem to have arguments of embedded clauses

moved or linked to the subject expletive.

Is there any possibility that those embedded arguments are identified as belonging to the matrix verb? Following Williams (1980, 1985), Di Sciullo and Williams (1987) recognize the mechanism of "functional composition" by which the functor *seem* doesn't have its own external subject but combines with a predicate complement and takes its external argument in its own external argument position, as depicted in (29) (=their (37), p. 37).

(29) a. [<sub>S</sub> John [<sub>VPi</sub> seems<sub>i</sub> [<sub>APi</sub> sick<sub>i</sub>]]]

That is, the external argument of [<sub>AP</sub> *sick*] becomes the external argument of [<sub>VP</sub> *seems sick*], which involves functional composition.

When the functor itself has an external argument, like *consider*, they assume that the functional composition produces a "complex direct object-taking form" such as *consider-sick*, which will take the external argument of the functor *consider*.

(29) b. [<sub>VPi</sub> consider<sub>i</sub> [<sub>NP</sub> Bob] [<sub>APi</sub> sick<sub>i</sub>]]]

In the modern *v*-VP analysis, this can be understood as follows, which is more consistent with (29a):

(30) a. [<sub>VPi</sub> [<sub>NP</sub> Bob] [<sub>V'</sub> consider<sub>i</sub> [<sub>APi</sub> sick<sub>i</sub>]]]]

b. [<sub>v</sub> [<sub>NP</sub> Bill] [<sub>VPi</sub> [<sub>NP</sub> Bob] [<sub>V'</sub> consider<sub>i</sub> [<sub>APi</sub> sick<sub>i</sub>]]]]]

As in (30b), the external argument (like *Bill*) is introduced by the small verb. In this way, let us update the Di Sciullo-Williams theory of functional composition.

Isn't there any semantic-thematic relation between the functor and the predicate complement in functional composition? Di Sciullo and Williams don't seem to specify any.

Ahn (1986) posits thematic redundancy rules as in (31) (=his (34)) to operate in the lexicon.

(31) <PROPOSITION> ==> <AGENT/THEME, PROPERTY>

This means that ECM verbs like *believe*, *know*, etc. can be posited to take a single propositional argument or two arguments which, if combined, will constitute the proposition.

Given this, the cases in (15) problematic for a syntactic approach in fact involve verbs which can require two internal arguments.

(32) a. know: <y, z>

theme property

b. *v*-know: x <y, z>

experiencer theme property

(33) a. known<sub>v</sub>: <y, z>

theme property

b. known<sub>A</sub>: y <y, z>, where (y, y) is a chain.

theme property

In (15a), [*[m]ost of the clones ...*] will be the theme, and [*to be related ...*] will be analyzed as a property of the theme.

(15) a. Most of the clones identified by cDNA macroarray<sub>i</sub>  
were unknown or unreported [ t<sub>i</sub> to be related or  
involved in ABA mediated signal transduction before].

Then, what about the badness of example (8b)? Argument split as in (31) is impossible because the verb *be* doesn't have any external argument. Consequently, no effect of *there*-raising is possible with adjectival passives. The new approach excludes only the (8b) case correctly.



#### 4. Summary and Remaining Problems

In sections 1 and 2, we have reviewed previous analyses of adjectival passives in two groups: lexical and syntactic approaches, and shown that none of them is empirically comprehensive enough to capture all the relevant observations, as summarized in table 1. In section 3, we have proposed that a slight revision of Grimshaw's (1990) identification of arguments into an argument chain in argument structure provides a significant handle to deal with examples in (16) and (17). Further, we have adopted Di Sciullo and Williams's (1987) functional composition, and Ahn's (1986) proposal that a propositional argument can be split in argument structure by means of thematic redundancy rules, with which the A-movement effect as in (15) can be captured without syntactic movement involved.

One problem that hasn't been addressed is related to Grimshaw's (1990) observation that in cases like (11) adjectival passives still require the external arguments of the base verbs involved.

- (11) a. The event was followed/preceded \*(by another).
- b. The mountain was capped \*(by snow).
- c. The volcano was rimmed \*(by craters).
- d. The house was surrounded \*(by mature trees).

According to her, *followed*, *capped*, *rimmed* and *surrounded* are adjectival passive participles but they require a "by"-phrase as shown in (11). Is it true that they are adjectival? Emonds (2006: 19), however, shows that *followed* cannot be:

- (34) \*That good dinner felt {accompanied/followed} by too much drink. (= his (4))

It cannot occur as adjectival complement to the verb *feel*.

Focusing on such verbs as in (11), Pinker (1989) provides an additional piece of evidence that what Grimshaw (1990) claims to be adjectival passives are in fact verbal passives. He discusses examples involving the following:

- (35) a. The mountain was capped by snow.  
b. The street was lined by trees.

He argues that even though the sentences describe states, they are cases of verbal passivization. In his theory, the passived NP must be a type of Patient. The material of snow functions as an antagonist in terms of force dynamics, and it changes the state of the mountain as a state-changer. This means that the Location of mountain is affected and functions as a Patient. To support his claim, he shows that such sentences are all related to dynamic sentences as in (36).

- (36) a. Hurricane Gloria capped the mountain with snow.  
b. The planner lined the street with trees.

In the events they describe, *snow* and *the trees* are used as a sort of instrument to change the states of the locations.

Further, he shows that the "spacial verbs of changing a state by addition" can occur in a pseudo-cleft sentence, as in (37), which is in sharp contrast with the fact that the *contain*-type verbs which can never be passivized cannot occur in the construction, as in (38). This means that [*line the street*], for example, can have a type of "dynamic" sense even with subjects like [*the trees*].

- (37) a. What the fur does is line the coat.  
b. What the trees do is line the street.

- (38) a. \*What this bottle does is contain the ship.  
b. \*What this building does is lack a bathroom.

In addition to the empirical uncertainty related to (6b) and (15), there is an additional empirical conflict as well. As shown in table 1, Levin and Rappaport (1986) observe that the adjectival passive *stuffed* preserves the subcategorization of its base verb except for the direct object, while Siegel observes that the adjectival passive *ungiven* cannot have any argument of its base verb.

- (3) a. The feathers remained stuffed \*(in the pillow).  
b. The pillow remained stuffed (with feathers).  
(18)c. The gift was given to the school.  
d. \*The gift was ungiven to the school.

These observations are contradictory unless we take the lexical semantics of the base verbs into consideration. It will also require a more extensive survey over native speakers of English. These exceed the scope of this paper, so must be left for future research.

### References

- Ahn, S.-H. 1986. Some scope phenomena and thematic structures in English. *The Linguistic Journal of Korea* 11, 51-74.  
Chung, T. 2000. Argument structures of English intransitive verbs. *Studies in Generative Grammar* 10(2), 389-426.  
Chung, T. 2001. *Nonhanggujo-wa Yeongeo Tongsaron* ('Argument Structure and English Syntax'). Seoul: Hankook.  
Chung, T. 2007. On English adjectival passives: toward the syntactic approach. *The Korean Journal of Linguistics* 32, 213-239.  
Di Sciullo and E. Williams. 1987. *On the Definition of Word*. *Linguistic Inquiry* Monograph 14. Cambridge, Mass.: MIT Press.  
Emonds, J. E. 2000. *Lexicon and Grammar: The English Syntacticon*. New

York: Mouton de Gruyter.

- Emonds, J. E. 2006. Adjectival passives: the construction in the iron mask. In E. Martin and H. v. Riemsdijk, eds., *The Blackwell Companion to Syntax*, vol. 1, 17-60. Oxford: Blackwell.
- Grimshaw, J. 1990. *Argument Structure*. Cambridge, Mass.: MIT Press.
- Levin, B. 1993. *English Verb Classes and Alternations: A Preliminary Investigation*. Chicago, Ill.: The University of Chicago Press.
- Levin, B. and M. R. Hovav. 1995. *Unaccusativity: At the Syntax-Lexical Semantics Interface*. Cambridge, Mass.: MIT Press.
- Levin, B. and M. Rappaport. 1986. The formation of adjectival passives. *Linguistic Inquiry* 17, 623-661.
- Marantz, A. 1984. *On the Nature of Grammatical Relations*. Cambridge, Mass.: MIT Press.
- O'Grady, W. 1998. The syntax of idioms. *Natural Language and Linguistic Theory* 16, 279-312.
- Pinker, S. 1989. *Learnability and Cognition: the Acquisition of Argument Structure*. Cambridge, Mass.: MIT Press.
- Radford, A. 1988. *Transformational grammar: A first course*. Cambridge: Cambridge University Press.
- Siegel, D. 1973. Nonsources of unpassives. In Kimball, J. ed., *Syntax and Semantics* 2, 301-322. New York: Academic Press
- Wasow, T. 1977. Transformation and the Lexicon. In P.W. Culicover, T. Wasow, and A. Akmajian, eds., *Formal Syntax*, Academic Press, New York.
- Williams, E. 1980. Predication. *Linguistic Inquiry* 11, 208-238.
- Williams, E. 1981. Argument structure and morphology. *The Linguistic Review* 1, 81-114.
- Williams, E. 1985. NP trace in theta theory. Ms. University of Massachusetts, Amherst.
- Yoon, J. 2005. *A Syntactic Approach to Adjectival Passives in English*. MA thesis, Graduate School of Korea University, Seoul.

Sung-Ho Gyemyong Ahn  
 Dept. of English Education, Hanyang University  
 17 Haengdang-dong, Seongdong-gu  
 Seoul, 133-791  
 Tel: 02) 2220-1145  
 E-mail: shahn@hanyang.ac.kr

Received: 2011.10.31

Revised: 2011.12.05

Accepted: 2011.12.15