Lexical Passivization

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Abstract

In this thesis, I show that the widely accepted view that passive clauses are formed by the object movement is in fact inadequate to describe passivization in English, presenting plenty of examples showing that Case and Structure is irrelevant to passivization. Arguing that what is actually relevant to passivization is the semantic aspect of verbs, I propose an alternative approach to passivization in English which is based on argument structure of verbs. I make some revision to the Argument Selection Principle and the proto-roles, which are proposed in Dowty (1991), and state passivization in light of them. My approach to passivization sheds fresh light on the problematic cases for the Case and Structure approach, and provides a simple and elegant explanation of them.

Acknowledgments

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Chapter 1

Introduction

In the earliest transformational grammar, passive was analyzed as derived from the corresponding active sentence via the rule specified for the passive formation. Chomsky (1957: 43) proposed the passivization rule as the following.

(1) If S_1 is a grammatical sentence of the form

$NP_1 - Aux - V - NP_2$,

Then the corresponding string of the form

$NP_2 - Aux + be + en - V - by + NP_1$

is also a grammatical sentence.

The rule above may correctly capture the passivization in English, but it is no more than the description. It dose not explain why passivization occurs in English as it does.

Chomsky (1981, 124) makes an influential claim concerning the passive, as in (2).

(2) (I) [NP, S] does not receive a θ-role.

(II) [NP, VP] does not receive Case within VP, ….

He explains why passivization occurs in the following way. According to him, passive is not derived form the corresponding active sentence by application of a single rule such as the one in (1), but it is derived as a consequence of interaction of the two independent properties, (I) and (II) in (2). Chomsky's claim is intriguing in that the surface specificity of passive is not due to application of the specific passivization rule, but due to collaboration of the two common properties. Therefore, passive constructions are just a superficial taxonomic distinction; in fact, they are derived

indifferently from active sentences except the affection of the two properties above. This is the explanation given to passive by Chomsky, and passive is still so analyzed even in the latest framework of the Chomskyan grammar, the Minimalist Program.

In this paper, I point out that one of the two properties proposed by Chomsky, that is '(II) [NP, VP] does not receive Case within VP', is in fact irrelevant to the description of passive, presenting various kinds of data. Instead of resorting to the property (II), I claim that only the property (I), '[NP, S] does not receive a θ-role', is crucial in describing passive in English, the Case and structure requirement such as the property (I) being irrelevant and, therefore, unnecessary. Given that Case and structure are irrelevant to passive, I claim that syntactic derivation is not the appropriate locus to state passivization, and in place of it, the lexicon is the more appropriate one to do so.

Before starting discussion specifically, I need to clarify how my position to the English passive construction should be seen within the context of the Minimalist Program, not to mislead the readers. Within the context of the Minimalism, two alternative views toward passive clauses might be possible. One of the two views is that passive clauses are, as seen above, exclusively derived in the course of syntactic derivations. This kind of approach has long been taken by many linguists from the time of the Government and Binding theory (hereafter, GB) (Wasow 1977, Chomsky 1981, Jaeggli 1986 and Baker, Johnson and Roberts 1989) to the latest framework, the Minimalist Program (Fujita and Matsumoto 2005). An alternative approach to passive clauses would be to analyze them in terms of argument structure (Williams 1985 and Grimshaw 1990). Throughout the rest of this paper, I criticize the former approach, pointing out that it is empirically inadequate; and I claim that the latter approach should be preferable, because there are some plausible evidence to doubt that Case and structure are relevant to passivization. The readers must keep in mind that this is a theory of the lexical approach to passives that is incorporated into the context of the Minimalism.

Some linguist who tries to explain passive or other phenomena in terms of syntax

leads to proliferation of functional categories without strong empirical motivations. To me, this attitude is questionable, given the spirit of the Minimalism, because the greatest motivation of transition from GB to the Minimalist Program seems reduction of such complex theory-internal apparatus, which are not strongly motivated as properties of human language. The tension between structure and the lexicon is quite a delicate problem. Recently, syntax has pulled the lexicon into its domain since the theories such as the Minimalist Program, in which morphology is assumed to locate after a part of syntactic computation, the Distributed Morphology proposed in Halle and Marantz (1993), and so on (see Fujita 1996, Fujita and Matsumoto 2005, and Lebeaux 2009). In contrast, my purpose is to draw back the tension into the domain of the lexicon. For that purpose, I try to show, in this thesis, that at least in the domain of passive, treating it in the lexicon leads to better descriptive adequacy and a simpler theory of human language as a whole, than treating them in structural derivation; as a result of it, we will have a theory of passive more compatible with the spirit of the Minimalist Program.

Chapter 2

The Approaches in GB and the Reconsideration of Them in the Minimalism

2.1 Chomsky's Claim on the Passive

As I mentioned in the introduction, Chomsky (1981, 124) makes an influential claim concerning passive in English, which states that English passive is not derived via application of a passivization rule specified only for the passive formation, but derived as a result of interaction of the following two independent properties.

(1) (I) [NP, S] does not receive a θ-role.
(II) [NP, VP] does not receive Case within VP, ….

The properties in (1) play roles in deriving passive sentences in the context of GB in the following way.

(2) a. John was killed.
b. [$_{NP}$ e] was killed John.

(2b) is the underlying D-Structure, from which the S-Structure (2a) is derived. According to the property (1II) above, the passive predicate *killed* does not assign Case to its complement, *John*. Hence, *John* does not have Case and is forced to move to some position where it can be assigned Case, because otherwise, it will cause violation of the Case Filter, which requires for every NP to be assigned Case by S-Structure. According to the property (1I), the subject position of (2b), which is a passive clause, is not θ-marked, put differently, not assigned a θ-role; therefore, it is a licit landing site of movement, because if *John* moves to this position, it will not result in being

assigned θ-roles doubly, avoiding violation of the θ-criterion, which requires that each argument bears one and only one θ-role. Given that it is necessary for *John* to move and the subject position is available for the movement, it moves to the subject position, so that (2a) is derived from (2b).

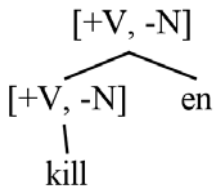
As seen above, the properties proposed by Chomsky (1981) correctly explain formation of English passive constructions, but one question arises: why on earth each property of passive, (Ia) and (Ib), exists in English passive constructions. In the next section, we will review the answers to this question proposed by Jaeggli (1986) and Baker, Johnson and Roberts (1989).

2.2 Jaeggli's Explanation

Following Chomsky's analysis, Jaeggli (1986) explains English passive as the following way. First, he proposes that, "subcategorization features only include elements strictly within the government domain of the governing elements" (586). Second, external arguments, as Williams (1981) proposes, are not within the government domain of predicates; hence, external arguments are not subcategorized by predicates. Third, since θ-roles of predicates are linked to subcategorization features of predicates and subcategorization features decide argument positions, θ-roles are linked to argument positions via subcategorization features. Hence, θ-roles such as assigned to external arguments are in fact not linked to a particular argument position; therefore, for transitive verbs, there is always one unlinked θ-role, and in principle, nothing should prevent it form being associated with any element.

Jaeggli proposes the following syntactic structure to passive participles.

(4)



In the structure (4) the passive morpheme, *-en*, appears as a sister of V, and, thus, it is clearly located within the government domain of the verb. Jaeggli assumes that an element that is within the government domain of a certain verb can be assigned a θ-role from the verb, even though it is not subcategorized by the verb and accordingly, linking is not available. Note that what appears in the government domain of the verb in this structure is not an NP, but a bound morpheme *-en*. Jaeggli then stipulates that the passive morpheme *-en* can receive θ-roles, in spite of its status as a bound morpheme. In (4), there is an assignable unlinked θ-role that corresponds to the one usually assigned to external arguments, and *-en* is a possible receiver of that θ-role; consequently, the θ-role is assigned to *-en*. In this way, Jaeggli explains why absorption of the external θ-role, the property (1I), takes place.

There is one more property of passive that must be explained: that is, the property (1II). Jaeggli gives a parallel account with θ-role absorption. He assumes simply that *-en* is also able to receive objective Case, again, despite its status. Within VP headed by V with the structure (4), there is only one assignable Case; once this Case is assigned to *-en*, the NP cannot receive Case, no Case being left with the VP. As a result, the complement NP, which is the sister of the V, has to move to the subject position, to be assigned Nominative Case and to avoid the violation of the Case Filter.

Thus, Jaeggli explains why the two properties that Chomsky proposes hold in English passive constructions. To explain the properties, he accords the special status to the passive morpheme *-en*: it is able to be assigned θ-role and Case. In the next section, we will review an account of passive developing the idea of Jaeggli's proposed by Baker, Johnson, and Roberts (1989).

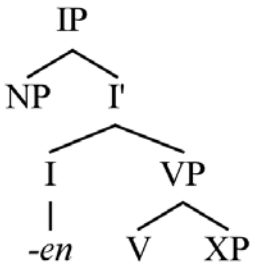
2.3 The Explanation by Baker, Johnson and Roberts

Baker, Johnson, and Roberts (1989) develop the idea posed by Jaeggli (1986) that the passive morpheme receives the external θ-role and Objective Case because of being within the government domain of verbs. They claim that the reason why the passive morpheme shows the properties noted above is that it is actually an argument in spite of its appearance as a morpheme.

Once the passive morpheme is an argument, those two properties follow immediately: as an argument, it is required to satisfy the Visibility Condition in Chomsky (1981, Chap 6), which states that to be visible to the θ-criterion, all θ-marked arguments must receive Abstract Case by S-Structure; in short, an argument must receive θ-role and Case. Thus, once the passive morpheme is an argument, it must receive θ-role and Case.

Note that in English passive constructions, the passive morpheme should always be assigned the external θ-role and Accusative Case. To ensure this, Baker, Johnson Roberts (1989) assume the following structure to English passive.

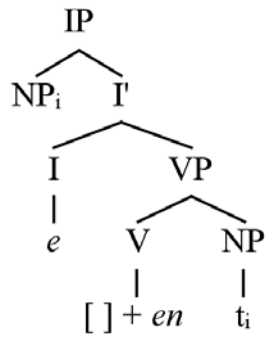
(5)



According to Baker, Johnson, and Roberts, (5) is the D-Structure representation of English passive; the morpheme *–en* is base-generated under I. They assume that *-en* receives the compositional θ-role form the VP, which corresponds to the external θ-role. Since the VP is only capable of assigning one θ-role and this θ-role is assigned to *–en*, there is no θ-role assignable to the subject position; hence, the subject position

must be empty in the D-Structure, which is only the locus of θ-assignment in the GB framework; this explains why the property (1I) holds. With respect to the property (1II), we need to look at what occurs in the derivation from D-Structure to S-Structure. The S-Structure is illustrated in (6):

(6)



In the S-Structure, the passive morpheme *-en* moves downwards and adjoins to the head V. Baker, Johnson, and Roberts assume that *-en* moves for an independent reason, which I do not review here for its irrelevance to my purpose. As noted above, *-en*, as an argument, requires to be assigned Case to satisfy the Visibility Condition; further, as the result of the movement for the independent reason, *-en* is now in the government domain of the verb; this situation makes obligatory the assignment of the only assignable Case of V's to the morpheme. Consequently, the complement NP fails to be assigned Case, no Case being available in that position. To avoid the violation of the Visibility Condition, the Complement NP moves to the subject position, where it can be assigned Nominative Case. Thus, the second property of passive (1II), Case absorption, and obligatory movement of object NPs in passive are explained in terms of the proposal by Johnson, Baker, and Roberts (1989).

The claim made by Baker, Johnson, and Roberts (1989), that the passive morpheme is an argument, provides a theoretically natural implementation of the claim proposed by Jaeggli (1986), in that what they are assuming is just the specific property of the passive morpheme, and the fact that the external θ-role and Objective Case are

assigned to it follows from its nature as an argument, without stipulating ad hoc theoretical apparatus.

We have reviewed two major approaches implementing the observation made by Chomsky (1981), (I) [NP, VP] does not receive Case within VP and (II) [NP, S] does not receive a θ-role. These two approaches, however, are proposed in the former framework of generative grammar, GB, but in the latest framework, the Minimalist Program, some key notions taken advantage of by these two approaches are dispensed with; hence, we cannot directly convert these approaches stated in GB to the ones restated in terms of the Minimalist Program, without changing anything.

In the next section, we will inspect that, of the two approaches, what part should be revised, and what part should be considered to be held, with the new apparatus available in the Minimalism.

2.4 Reconsidering Jaeggli's Analysis in Terms of the Minimalism

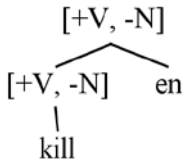
In this section, I inspect the analysis proposed by Jaeggli (1986) in terms of the Minimalism. I present three major reasons why it is inapplicable in the new system of the Minimalism as follows.

The first reason of inapplicability of Jaeggli's analysis to the Minimalism lies in the crucial use of the notion of government. He makes use of government to explain both θ absorption and Case absorption; specifically, he assumes that the passive morpheme receives the external θ-role and Objective Case under government. However, Chomsky (1995, 176) states that "[t]he concept of government would be dispensable, with principles of language restricted to something closer to conceptual necessity: …." What he is saying would amount to the following: the notion that government expresses can be expressed by the more fundamental properties of human language, and in the Minimalism, it would be undesirable to postulate such a notion that lacks strong conceptual motivation; hence, government should be dispensed with

as a primitive notion. Without the notion of government, Jaeggli's analysis of θ-absorption and Case absorption would greatly lose its conceptual ground.

The second reason of the inapplicability lies in his explanation of Case absorption. In the system of the Minimalism, the Checking theory is adopted; according to it, DPs enters derivation with Case feature being already specified, and they move from their base position to some higher position to check their Case feature for convergence of derivation. In addition, there are only two ways that DP's Case feature can be checked: DPs move to the specifier position of the licensing head overtly, or just their formal features adjoin to it covertly. In the structure proposed by Jaeggli, repeated in (7), the passive morpheme *-en* is not in the configuration where its Case feature may be checked, since it is not in the specifier position in the overt component and it will not adjoin to a head in the covert component. In the Checking theory, *-en*, therefore, cannot check its Case in the position where Jaeggli assumes that it appears and receives Case. Thus, Jaeggli's explanation of Case absorption is inapplicable in the system of the Minimalism.

(7)



The last reason of inapplicability lies in the explanation of θ-role absorption. Chomsky (1995, 313) proposes that "[a] θ-role is assigned in a certain structural configuration, ..." Jaeggli's assumption concerning θ-role assignment departs from Chomsky's proposal, because he assumes, as illustrated in the structure (7), that the passive morpheme *-en* receives within the projection of the verb the external θ-role, which must be assigned outside verbal projections. If the Minimalist approach to θ-role assignment, that is, a configurational approach as above, is adopted, the θ-role that would be assigned to *-en* is an internal θ-role, being in the verbal projection, contrary

to fact—in passive constructions, the θ-role absorbed is always the external one, never the internal one. Thus, Jaeggli's account of θ-role absorption is also inapplicable in the system of the Minimalism.

So far, we have seen three major reasons why Jaeggli's analysis of English passive is inapplicable in the Minimalism: dependency on the notion of government, unavailable Case-checking structural configuration, and unavailable θ-role assigning structural configuration.

2.5 Reconsidering the Analysis of Baker, Johnson, and Roberts in Terms of the Minimalism

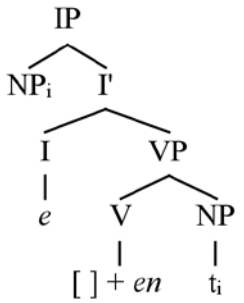
The most influential part of the proposal of Baker, Johnson, and Roberts (1989) is that they accord the argument status to the passive morpheme, but in this section, I put aside validity of that proposal, focusing only on whether their theoretical apparatus is compatible with the one available in the Minimalist Program.

The assumption that appears to immediately cause a problem in the Minimalism is that they postulate the downward movement of the passive morpheme *-en* from under I to V. Baker, Johnson, and Roberts (1989) assume that the morpheme moves downward onto the main verb to form a passive participle (p.242), and the verb is realized phonetically as the complex of the verb and the morpheme; if passive participles are formed as they assume, it amounts to saying that *-en* moves down onto the main verb in the overt syntax, in the Minimalist terms; since the result of the movement of *-en* is reflected overtly on the morphology of the main verb—the verb is pronounced in the form of the complex of the verb + *-en*, it must be the case that the movement occurs overtly, before Spell-Out.

Chomsky (1995, Chap 3) proposes that derivation should proceed, satisfying the Extension Condition, which stipulates that syntactic operations must proceed in the way that the structure is extended; to put it in another way, the syntactic operation,

Merge and Move, must operate, targeting root syntactic objects. Also, he states that "[the extension condition] dose not hold after Spell-Out…" (p.327). In other words, the Extension Condition and the proviso state that any overt operation must target root syntactic objects. In the structure proposed by Baker, Johnson, and Roberts (1989), repeated in (8), the argument morpheme *-en* moves downward from under I onto the main verb; and, this operation must be obvert, because the main verb is overtly morphologically inflected. When the movement occurs, the target V is within the larger category IP; therefore, this movement have targeted the non-root object, and clearly, this is a violation of the Extension Condition.

(8)

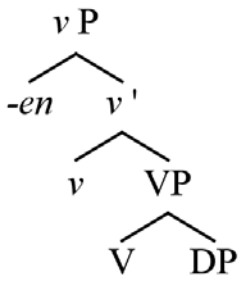


Baker, Johnson, and Roberts (1989), also, assume that *-en* receives the external θ-role from VP in the position of I. Chomsky, however, claims that external arguments in fact do not receive the external θ-role from VP, but they receive it from the complex of the main verb V and light verbs, which are represented as *v*. He states that "[a] θ-role is assigned in a certain structural configuration…", as we saw in the previous section, and "θ-relatedness is a "base property"…" (p.313), and he assumes that external arguments are in Spec- *v*P (p.315). Combining these two statements and the assumption, it seems natural to assume that the external argument receives the external θ-role form the already formed complex of *v* and V^1 in the position of Spec-*v*, because Spec-*v*P is the base position—the position in which external arguments strictly (firstly) merge with syntactic objects. In the structure (8), *-en* first appears under I, not in Spec-*v*P, and this position is the right configuration for external θ-role assignment, as

seen above; thus, to the extent that one assumes that *-en* is generated under I, that kind of analysis is not tenable in the system of the Minimalism.

In turn, if we assume that *-en* first appears in spec-*v*P—in terms of the Minimalism, strictly merges with *v'*, as illustrated in (9), the assumption proposed by Jaeggli (1986) and Johnson, Baker, and Roberts (1989) in common that the passive morpheme *-en* receives the external θ-role might be in principle maintainable also in the Minimalism. However, if we assume so, there arise two questions: how the compound of *-en* and the main verb can be formed overtly, and how the other property of passive, namely, the Case absorption, occurs.

(9)



Regarding the first question, there appear to be two ways to implement it: *-en* overtly moves down onto *v*, V, or their complex, or either of them moves up to *-en*. The first possibility is readily denied, because as I noted just above, overt downward movement is not allowed in the Minimalism. The second possibility is denied by another condition proposed in Chomsky (1995), which is the (chain) uniformity condition. The chain uniformity condition states that "[a] chain is uniform with regard to phrase structure status." and "the phrase structure status of an element is its (relational) property of being maximal, minimal, or neither." (p.253). Suppose that *v*, V, or their complex raise to Spec-*v*P. In their original position, their status is minimal, because they are heads there. However, in the raised position Spec-vP, their status must be nonminimal, because no zero-level projection is allowed to appear in the specifier position. Therefore, the movement of *v*, V, or their complex to Spec-vP is barred due to

the chain uniformity condition. Hence, the answer to the first question raised above, that is, "how the compound of *-en* and the main verb can be formed overtly", is as follows; *-en* cannot make a compound with the main verb overtly, because either downward movement of *-en* or upward movement of *v*, V, or their complex is barred for the independent reasons.

Let us consider the second question, "how does Case absorption occur?" In the Minimalism, roughly speaking, the maximal projection containing a head that has some uninterpretable feature causes the "closet" element containing the matching feature to move to the specifier of the maximal projection. In the case of the structure (9), the *v* has an uninterpretable feature, the Accusative Case feature, and the *v*P headed by the *v* requires in the specifier the closet element that can check the Accusative Case feature of the *v*. However, in this structure, *-en* counts as a neighborhood[2] of the *v*, so it is disregarded when considering whether or not the *v*P can move an element; hence, *-en* cannot move to the spec-*v*P to check the Accusative feature of the *v*, and should fail to absorb Accusative Case. Thus, Case absorption is also unexplained

As seen above, even if we assume that *-en* is strictly merged with *v*P in consonance with the assumption of the configuration of the external θ-role assignment, the other two properties of passive, the passive participle formation and Case absorption, become unexplainable in turn.

Summarizing this section, the account of passive proposed by Johnson, Baker, and Roberts (1989) is untenable in the Minimalism, largely in two respects: the Extension Condition banning the downward movement of *-en*, and the licit configuration in which external arguments receive the external θ-role, Spec-*v*P.

We have so far seen that the two influential analyses made in GB are inapplicable per se in the Minimalism. The observation made above strongly suggests that in the Minimalism, it is nearly impossible to explain English passive by giving to the passive morpheme the special argument-like status—the status as a licit bearer of Case and

θ-role. In the next section, I further call in doubt the assumption that the passive morpheme is an argument, from a crosslinguistic point of view.

2.6 The Status as an Argument

As Baker, Johnson, and Roberts (1989) admit, Case absorption appears not to be a universal property at first sight, and, therefore, the status of the passive morpheme as an argument also does not seem universal. To illustrate this, they cite the examples of the passive of German and Ukrainian, as in (10) and (11), respectively. (The papers appearing in this section are stated in terms of GB, but for the purpose of discussion, all of the notions referred to in these papers are converted to the nearly equivalent notions available in the Minimalism (e.g., Case assignment vs. Case checking)).

(10) *German*

a. Es wurde bis spat in die Nacht getrunken.
it was till late in the night drunk
'Drinking went on till late at night.' (Jaeggli 1986:22b)

b. Sonntags wird nicht gearbeitet.
Sunday is not worked
'On Sundays there is no working.' (Roberts 1985:512)

(11) Ukrainian

a. Cerkv-u bul-o zbudova-n-o v 1640 roc'i.
church-acc/fem was-imp built-pass-imp in 1640
'The church was built in 1640.'

b. Cerkv-a bul-a zbudova-n-a v 1640 roc'i.
church-nom/fem was-fem built-pass-fem in 1640
'The church was built in 1640.' (Sobin 1985:13))

In the German example (10), the passive morpheme attaches the intransitive verbs, *trinken* 'to drink' and *arbeiten* 'to work'; therefore, *v* should not have the Accusative Case feature to check, and only available Nominative Case is checked by the expletive; accordingly, these constructions should be barred as violation of the Full Interpretation, which requires all uninterpretable Case feature to be deleted by LF, because no Case is left to the passive morpheme. As for the Ukrainian example (11), the subject DP, *Cerkv-u* 'church', appears in the Accusative form in (11a), and the subject DP, *Cerkv-a*, this time, appears in the Nominative form in (11b). The assumption that the passive morpheme is an argument runs into problem. If the Case feature of the passive morpheme is obligatorily checked, as an ordinary argument, why do we obtain such an alternation?

Keeping to the assumption that the passive morpheme is universally an argument, Baker, Johnson, and Roberts (1989) claim that the passive morpheme counts as an incorporated noun, and its property varies cross-linguistically, to explain these facts.

Consider the German example first. Making the Visibility condition less restricted, they claim that in this language, to the extent that the passive morpheme is incorporated to the verb, even if no Case should be available to the morpheme, and accordingly, the morpheme fails to be assigned Case, it would not cause violation of the Visibility condition—in terms of the Minimalist, it would be almost equivalent to saying that the passive morpheme dose not contain uninterpretable Case features from the beginning; as a result of it, the derivation converges, satisfying FI at LF. However, this is not the whole story for the German passive. In German, when no Case is available to the passive morpheme, it does not necessarily require checking its Case; on the other hand, when there is Case available, the morpheme obligatorily checks its Case. This is illustrated in (12):

(12) *Es wird diesen Roman von vielen Studenten gelesen.
it is this-acc novel by many students read.
(Baker, Johnson, and Roberts 1989:236)

If the passive morpheme in German actually dose not require checking its Case, it should be still possible that the morpheme does not check Accusative Case of *v* and another DP checks the unchecked Case. This is, however, not the case. As shown in (12), when the passivized verb is the one with the Accusative Case feature to check, no DP having Accusative Case is allowed to appear in the passive construction. Consequently, the German passive morpheme has the following properties: when it attaches to intransitive verbs, it behaves as an incorporated noun that dose not require checking Accusative Case, yet it escapes violation of the Full Interpretation at LF, but when it attaches to transitive verbs that check Accusative Case, it obligatorily checks Accusative Case, and no other DPs are allowed to be in the Accusative form.

In Ukrainian, unlike German, DPs can appear inflected either as Accusative as in (11a), or as Nominative as in (11b). In the Minimalist terms, in (11a), repeated as in (13a), the DP, *Cerkv-u*, appears in the Accusative form and in the subject position, and the copula, *bul-o*, dose not show φ-feature inflection. Once *Cerkv-u* appears in the Accusative form, the passive morpheme must not have absorbed the Accusative Case. In (13a), the uninterpretable Accusative Case feature of *v* is checked by the DP; besides, since *bul-o* dose not show φ-feature agreement with the DP, we may assume that T in this construction does not contain the uninterpretable feature that should be checked and deleted. Consequently, there should not remain any uninterpretable feature at LF, and this derivation indeed converges.

(13) Ukrainian
a. Cerkv-u bul-o zbudova-n-o v 1640 roc'i.
church-acc/fem was-imp built-pass-imp in 1640

'The church was built in 1640.'

b. Cerkv-a bul-a zbudova-n-a v 1640roc'i.
church-nom/fem was-fem built-pass-fem in 1640
'The church was built in 1640.' (Sobin 1985:13))

In (13b), unlike (13a), the DP, *Cerkv-a*, appears in Nominative, and the copula, *bul-a*, shows φ-feature agreement. In this case, given that no DP bears Accusative in spite of the presence of the verb with Accusative Case, the passive morpheme should have the Accusative feature to check. In (13b), the uninterpretable Case and φ-feature of T are checked and deleted by the DP, and the uninterpretable Case feature of *v* is checked by the passive morpheme; again, there should not remain uninterpretable features, and this sentence is indeed acceptable. Thus, the Ukrainian passive morpheme may alternate between the one with a Case feature and the one without it.

To summarize, Baker, Johnson, and Roberts (1989) assume the following variation of the propertis of the passive morphemes among languages, including the English one, as illustrated in (14) (this analysis is originally made in GB, but it is translated to the Minimalist terms by the author).

(14) a. English passive morpheme: obligatorily has the Accusative Case feature

b. German passive morpheme:
in the case of transitive verbs, obligatorily has the Accusative Case feature; otherwise, dose not have it

c. Ukrainian passive morpheme:
freely alternates between the one with the Accusative Case feature and the one without it.

With the above properties of the passive morphemes, Baker, Johnson, and Roberts (1989) explain the apparent problematic facts of German and Ukrainian, retaining the

assumption that the passive morpheme is an argument. In addition, assuming that the passive morpheme is universally a kind of incorporated nouns, they conclude that only the patterns (14a-c) are the available choices of the passive morphemes among human languages, because incorporated nouns also only show the parallel patters of (14a-c).

To the analysis just noted above, Goodall (1993) presents several compelling counterexamples. Here, I will review three of them. First, a problem arises concerning the analysis of the Ukrainian passive; we have seen that the passive morpheme in Ukrainian is freely either the one having Case or the one not. Then, we expect that like the impersonal passive in German, intransitive verbs in Ukrainian also in principle allow passivization; since the passive morpheme may not have Case feature, no uninterpretable feature would remain at LF, without the element that can check Accusative Case feature in transitive verb constructions. In fact, this is empirically incorrect, however; such an impersonal passive is not allowed in Ukrainian. (No concrete example was given, because this data is due to the personal communication between Goodall and Sobin). Therefore, the analysis of German impersonal passive given by Baker, Johnson, and Roberts also becomes suspicous, because they crucially rely on the assumption that since the German passive morpheme dose not have Case, it can attach even to intransitive verbs; however, in Ukrainian, the passive morpheme also may have no Case, but it cannot attach to intransitive verbs. Thus, whether the passive morpheme has Case to check or not appears to be irrelevant to the impersonal passive.

Goodall (1993) also cites data from Kannada, and shows that the typology of the passive morphemes in (14) is not a complete one; indeed, the passive morpheme in Kannada should be treated as a counterexample to the assumption that it is an argument. In Kannada, there are two types of the passive morpheme, *padu* in (15b) and *agu* in (15c):

(15) a. Krishna-Ø-nu Rama-nannu kond-an-u.

Krishna-nom-3s Rama-acc-3s kill-3s-past

'Krishna killed Rama.'

b. Krishnanu-indu Ramu- Ø ko-pattu-nu.

Krishna-3s-inst rama-nom kill-pass-past

'Rama was killed by Krishna.'

c. Rama-nannu kollalayitu.

Rama-acc-3s kill-pass-past

'Rama was killed.' (Cole and Shridhar 1976, cited in Goodall 1993)

As shown in (15b), the passive morpheme *padu* seems the same type as the English passive morpheme, because the logical object, *Rama*, appears in the form of Nominative. On the other hand, in (15c), the logical object, *Rama*, appears in the form of Accusative; therefore, according to the typology given in (14), we expect that the passive morpheme, *agu*, would be the type that allows free alternation between the one with Accusative and the one without it, as the Ukrainian passive morpheme. According to the explanation of Baker, Johnson, and Roberts (1989), we also predict that the impersonal passive would be permissible—in other words, the passive morpheme *agu* can attach to intransitives verbs, just as the case of German. However, this prediction is incorrect, as shown in (16):

(16) a. Manalu- Ø hadid-al-u

daughter-nom sing-3s-past

b.*Hadalayitu

sing:pass:past

'There/it was sung.' (Cole and Shridhar 1976, cited in Goodall 1993)

(16a) is an ordinary intransitive sentence with an intransitive verb, and (16b) shows

that *agu* cannot attach to the verb. Goodall (1993) then concludes that the Kannada passive morpheme, *agu,* is not describable by the typology in (14), because we must assume its property as follows: *agu* requires the verb to which it attaches to have Accusative Case, namely, a transitive verb, but, at the same time, it either has Case as in (15b), or not as in (15c). Given that the passive morpheme is an argument, this behavior of *agu* would not follow, so this is a piece of evidence against the assumption that the passive morpheme is an argument.

The last example is from Finnish. The passive morpheme *tään* in Finnish also shows the property that is indescribable by the typology in (14), and provides the evidence that the passive morpheme should not be treated as an argument. Look at the example (17) and (18):

(17) a. Maija söi sen.
Maija:nom eat:3s it:acc
'Maija ate it.'

b. Syöttin sen
eat:pass.part it:acc
'It was eaten.'

(18) a. Me elä-mme hauskasti täällä.
we:nom live-press:1pl pleasantly here
'We live pleasantly here.'

b. Täällä eletään hauskasti
here live:pass.part pleasentaly
'It is lived pleasantly here." (Comrie 1975, cited in Goodall 1993)

As shown in (17), the logical object appears in the form of Accusative, in the passivized sentence in (17b), and the impersonal passive is allowable in this language, as shown in (18). If (14a-c) are all and only choices permissible in human language, we

expect, from these two facts, that the passive morpheme optionally has the Case feature, that is, the type (14c), like Ukrainian. The expectation is incorrect, here again. In the passive sentence in Finnish, logical objects are not allowed to appear in the Nominative form. Hence, the right description of the property of the passive morpheme in Finnish is not that it may be without Case, but it must not have Case to check. If the passive morpheme is an argument, we do not expect that such a description is obtained.

Summarizing, three examples presented by Goodall (1993), Ukrainian, Kannada, and Finnish, all show that the typology in (14) is not a complete one, and they call into question the assumption that the passive morpheme is an argument. Especially in Finnish, the passive morphemes are prohibited from checking Case. If the passive morpheme is an argument, these facts would not follow.

2.7 Conclusion

In this chapter, we reviewed the two influential proposals in GB made by Jaeggli (1986), and Baker, Johnson, and Roberts (1989), and we saw that these two approaches are inapplicable in the new framework, the Minimalist Program; the two approaches crucially rely on the apparatus assumed in GB, most of which is dispensed with in the Minimalism; therefore, they greatly lose conceptual ground. Furthermore, we saw that the dual properties of the English passive, Case absorption and θ-role absorption, cannot be implemented in the Minimalism, by assuming that the passive morpheme checks Case and receives the external θ-role. Lastly, we saw that independently of the transition of the theoretical framework, the assumption that the passive morpheme is an argument is untenable, viewed universally.

Chapter 3

The Problems of the Approaches in terms of Case and Structure

3.1 Introduction

The approaches to passive that we have so far seen are the ones in terms of structural configuration, in the sense that lack of the Case assigning/checking property of verbs that is a structural configurational property is assumed to give rise to movement of their complement—thematic object—DPs: specifically, in GB, the logical object DP cannot receive Case from the passivized V, which lacks the ability to assign Accusative Case; consequently, the DP moves to spec-IP, where it receives Nominative Case, the Case filter being satisfied. In the long history of Chomsky's theory, it has been taken for granted that this is the nature of passive without skepticism. In this section, I challenge the belief that this is the truth, presenting data showing that Case is irrelevant to the passivization, and therefore, resorting to the structural configuration is not the right direction to which we should proceed.

We have already seen one piece of evidence that call the configurational approach into question; in the section 2.6, we saw that in Ukrainian, Kannada, and Finnish, Accusative Case is still assignable in passive sentences. This state of affairs would not follow, if Case absorption universally holds; thus, the number of the languages where Case absorption hold is actually restricted than thought. English, nonetheless, seems to belong to the class in which Case absorption is obligatory: in the passive construction, no DP is allowed to appear in the Accusative form; hence, in English, there still remains the possibility that Case absorption holds. In this section, we, however, see that even in English, it is also difficult to maintain the Case absorption property, presenting examples from English.

3.2 Pseudopassives

In English, there is a construction called Pseudopassives, in which the object of prepositions, not the object of verbs, undergoes the movement of passivization. The examples are given in (1).

(1) a. John talked to Bill. (Fujita and Matsumoto 2005:171)
b. Bill was talked to(by John). (*ibid.*)
c. The Committee talked about Pauline's thesis. (Baltin and Postal 1996:127))
d. Pauline's thesis was talked about by the committee. (*ibid.*)

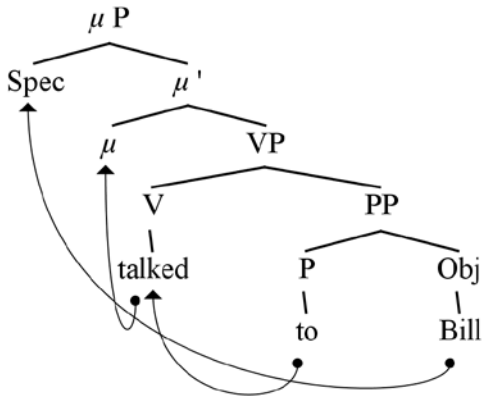
(1b, d) are the passive sentences corresponding to the active ones (1a, c), respectively. In the GB story, if, as we have been assuming, the ability of V to assign Case is always lost by passivization, it would not be necessary for the complement DP of the prepositions such as *Bill* and *Pauline's thesis* in (1) to move to spec-IP; the DPs can be assigned Oblique Case by the prepositions, which are Case assigners themselves, and there is then no reason for the DPs to move up to spec-IP for Case. In turn, if we think that the complement DPs of the prepositions move to spec-IP to be assigned Nominative Case, then we must assume that the Case assigning property of the prepositions, which are not morphologically affected by passivization, is lost by attachment of the passive morpheme to the verbs. Thus, pseudopassives are problematic for the analysis in which verbs are deprived of the Case assigning property by the passive morphology, and lack of Case gives rise to movement for the Case reason in passive; we seem to be in a dilemma between the uniform target of Case absorption and the uniform reason for the movement.

An approach that may overcome this dilemma is the structural "reanalysis", which syntactically reanalyzes an independent verb and an independent preposition into a

complex item that can be treated as a single verb; specifically, a preposition attaches to a verb like incorporation (see Hornstein and Weinberg 1981, Fujita 1996, Fujita and Matsumoto 2005). By reanalysis, *talk* and *to* (1a) and *talk* and *about* in (1c) respectively form the complex elements that are themselves identified with verbs, and the passive morphology deprives the complex verbs formed of the Case assigning property; then, the DPs *Bill* and *Pauline's thesis* move to spec-IP in the ordinary fashion of passive. Reanalysis thus provides with pseudopassives a uniform target of Case absorption and a uniform motivation of the movement in passive.

In the framework of the Minimalism, Fujita and Matsumoto (2005) explain how the structural reanalysis is implemented in the pseudopassive sentence (1b), assuming the following structure.

(2)



In the system that Fujita and Matsumoto assume, μ, which is a functional category that is responsible for activating or inactivating the Case information of elements, is projected in the structure. In the structure (2), the preposition *to* first raises to the V *talk*, forming a complex verb, and then the complex verb raises further to μ, finally forming a complex element consisting of the μ, the V, and the P there. Besides, the DP *Bill* raises to spec-μP. Since μ in passive is the type that inactivates Case information of DP, *Bill* must raise to some higher position for activation of its Case.

Given the structure (2) for pseudopassives, it follows that the complex of μ, V, and

P is formed in the overt syntax, because the object DP appears phonetically in spec-TP, and it is clear that it has reached there via the specifier of the projection of the complex element, where its Case information is inactivated. Therefore, we predict that V and P should apparently behave like a single lexical item and the apparent PP should behave differently from ordinary PPs, whatever operation, either overt one or covert one, applies to them. This prediction is incorrect, however. Baltin and Postal (1996) show that when an operation applies to the putative complex including V and P, it behaves as the discrete lexical items, contrary to our prediction. They provide several examples showing it, and I present a few of them here.

Baltin and Postal, citing Postal (1986), show that to the heavy NP shift, the putative reanalyzed PP shows parallelism with ordinary PPs. Consider the examples in (3). (Coindexation is modified by the author.)

(3) a. I discussed t_i with Lorenzo—[the problems he was having withdeliveries]$_i$.
b. *I argued with t_i about such problems—[the drivers' union leader]$_i$.
c. *I talked to t_i about himself$_i$—[the victim whose sight had been impaired by the explosion]$_i$.

(3a) shows that the object of the ordinary transitive accepts application of the heavy NP shift; in contrast, (3b) shows that the object of the ordinary preposition dose not accept the heavy NP shift. If P and V indeed form the complex lexical item that behaves like transitive verbs, we predict that the result of (3c), which is inarguably taken as the context of pseudopassives, would be parallel to (3a). This is not the case. The result of (3c) is parallel to (3b), so that it is shown that the object of the putative reanalyzed PP behaves as an object of an ordinary PP.

Baltin and Postal, citing Postal (1986) again, further provide the data showing that the preposition that is putatively reanalyzed—structurally incorporated into verbs—can be shared by the multiple verbs, and the verb of the putative complex can be shared by

the two prepositions. Look at the next examples in (4):

(4) a. Communism was talked, argued, and fought about.
b. Fascism was fought for by Goebbels and (then) against by De Gaulle.

In (4a), we expect that this sentence would result in ungrammaticality; because the preposition *about*, as have been assumed, is syntactically incorporated into a verb, it should not be shared by the other verbs; the prediction is incorrect again; this preposition shows the property of ordinary prepositions, in that it can be shared by the multiple verbs. In (4b), the verb *fought* is shared by the two prepositions *for* and *against*, one of which are not adjacent to the verb; this is the behavior of ordinary prepositions.

Furthermore, Baltin and Postal argue that the data of *subdeletion* (Bresnan 1973, 1977a, b), in which the reiterated element is deleted, shows that the putative reanalyzed preposition behaves exactly like ordinary prepositions. See the examples (5) and (6), where deletion site is indicated by underlining.

(5) a. Larry screamed more of those words than he did __ of these words.
b. *Larry screamed about more of those words that he did about __ of these books.

(6) a. Jane read more of these books than Sally read __ of those books.
b. *Jane read from more of these books than Sally read from __ of those books.

In the grammatical (5a) and (6a), what is deleted is the quantifier *more* of the direct objects of the true transitive verbs, respectively, whereas in the ungrammatical (5b) and (6b), what is deleted is the quantifiers of the objects of the prepositions in the sequences that are usually ‘not’ taken as being reanalyzed, that is, the quantifiers of the

objects of the ordinary prepositions. If the reanalyzed preposition and verb have the status like pure transitive verbs, the sequence of preposition and verb to which reanalysis is held to be applied should be parallel to the examples of the pure transitive verbs (5a) and (6a), namely show grammaticality to subdeletion. Again, the prediction fails, as illustrated in (7), where the putatively reanalyzed prepositions do not license subdeletion, and thus show the parallel grammatical pattern to the ordinary prepositions in (5b) and (6b).

(7) a. *Jane talked to more of these people than Sally talked to __ of those people.
b. *Jane talked about more of these people than Sally talked about __ of those people.

I have just presented three arguments against the structural reanalysis approach such as the one of Fujita and Matsumoto (2005), though Baltin and Postal (1996) provide in total eight arguments including heavy NP shift, stranded P, subdeletion, reflexive, verbal phrase ellipsis, passivization/object-raising correlation, pronoun-binding, and floating quantifiers, each of which indicates that the behavior of putative reanalyzed prepositions is the same as ordinary prepositions. In the structural analysis of reanalysis made by Fujita and Matsumoto, it must be the case that the complex including V and P is formed in the overt syntax, and therefore, it should behave as a single unit to both of overt and covert operations; hence, one cannot say that since reanalysis is applied in the covert syntax and all of the eight operations just mentioned apply in the overt syntax, reanalyzed complexes of verbs and prepositions behave like ordinary prepositions to the eight operations.

Let us turn to the Case-driven movement in passive. As seen above, the structural reanalysis approach to pseudopassives is empirically wrong, because putative reanalyzed prepositions hold the status as ordinary prepositions. The dilemma between the uniform target of Case absorption and the uniform motivation for the movement

revives therefore: given the indifference from ordinary prepositions, the preposition in pseudopassives should also be a licit Case-assigner, the object of the preposition is not necessary to move. Hence, we do not have a uniform account for the Case-driven movement in passive, and we have an argument against the analyses in which Case is relevant to passivization.

3.3 Double Object Constructions

In the Minimalism, it is assumed that light verbs play a crucial role in checking Accusative Case. In Chomsky (1995, chap 4), Vb, which is the complex of main verbs and light verbs, checks the Accusative Case feature of objects in its specifier position. Consider a double object construction such as (8):

(8) John sent Mary a letter. (Larson 1988)

Suppose that in the double object construction (8), the Goal argument *Mary* carries Dative Case, and the Theme argument *a letter* carries Accusative Case, parallel to the German double object construction such as (9), where the DPs morphologically reflect their Case.

(9) Ich gebe mein-em Sohn ein Buch.
I:nom gave my-dat son a:acc book
'I gave my son a book.'

Setting aside how Dative Case is checked in the Minimalism, if Case absorption always targets Accusative Case in passive constructions, we expect that in the Case assignment story, the passive alternative of the double object sentence (8) would be like the one in (10) below, where the Theme DP cannot receive Accusative Case in

spec-*v*P, and then raise to spec-TP for Case.

(10) a.*[$_{TP}$ a letter$_i$ [$_T$ was [$_{vP}$ t_i [$_v$ sent$_j$ [$_{VP}$ Mary t_j t_i]]]]]

b. Mary was sent a letter.

The result is inarguably ungrammatical; instead of the Theme DP, the Goal DP *Mary* actually moves to the subject position, as shown in (10b). Thus, we must modify our assumption; let us assume that English no longer has the distinction between Dative and Accusative Case, as the same morphology has shown, and either of the two arguments of double object constructions is identified as possessing uniform Objective Case; besides, Case absorption in passive targets Objective Case, not Accusative Case; furthermore, the Theme argument in double object constructions receives Inherent Objective Case, that is unnecessary to be checked. If we assume all of these, the passive of double object constructions can finally be derived correctly: the Goal argument moves to spec-TP for Nominative Case assignment, spec-*v*P being unavailable for Case assignment this time. Crucially, unless we assume that there is no distinction between Dative and Accusative, only Objective Case, and that Case absorption targets Objective Case differently from the widely held view that it targets Accusative Case, we cannot predict the passive of distransitive verbs correctly.

Lightfoot (1979), however, shows that also in Modern English, where the morphological distinction between Dative arguments and Accusative arguments is still held, the Dative argument moves in the passive construction, as illustrated in (11) and (12), where the italicized DPs have the form of Dative Case, and interestingly, in the corresponding passive alternatives (12) to the active ones (11), the Dative DPs are allowed to appear in the Subject positions in the Dative form.

(11) a. Mon *him*, ofteah þare claþa.

‘Someone took-away from-him his clothes.’

b. Mon strake *him* (*hine*) of his leg.

c. They banished him the realm.

(12) a. *Him* wæs oftogen þare claþa.

b. *Him* was stricken off his leg.

c. *Him* was banished the realm.

The examples in (12) clearly show that what are moved to the subject positions are the Dative Objects. Therefore, it is shown that whatever Case an element has, Dative, Accusative or Objective, the element that is moved to the subject position in passive is always Goal arguments. Note that if we pursue the Case-based account of passive, we inevitably face the situation where the assumption that Accusative Case is absorbed uniformly fails as in (10), and the assumption that Objective Case are absorbed uniformly also fails as in (11) and (12), where there is no uniform Objective Case, but are distinct Accusative Case and Dative Case.

To describe the passive of double object constructions in terms of Case correctly, we must assume that although in simple transitive constructions, Case absorption targets Accusative Case, Case absorption targets Dative Case in double object constructions. If light verbs are responsible for Accusative Case, as widely assumed, we will face the difficulty of implementation of this description in the Minimalism; what mechanism must we assume to light verbs? If we cease keeping to Case in describing passivization, then we have a simple answer to the puzzle of the passive of double object constructions in contemporary English and modern English; in both cases, the Goal arguments are displaced. In other words, recourse to Case makes the matter complex, and the matter become quite simpler, semantics of arguments being taken into account instead. Thus, the argument of the passive of double object constructions further calls into question the assumption that Case is relevant to passivization.

3.4 Experiencer-Object Psych Verbs

In English, there is a category of verb called psych verbs. Psych verbs, as their name indicates, express psychological state or change. Psych verbs are plausibly classified into two subcategories: Experiencer-subject (ES) ones as in (13a) and Experiencer-object (EO) ones as in (13b).

(13) a. They fear/hate/admire thunder.
b. Thunder frightens/disturbs them. (Grimshaw 1990, 8)

In both of two subcategories of psych verbs in (13ab), the assigned θ-roles are basically identical, that is, Experiencer and Theme, but the directionality of assignment of those θ-roles differ between the two subcategories: in the ES class, Experiencer is assigned to the subject, and Theme to the object; in the EO class, vice versa.

Among EO verbs such as (13b), there exist two further subcategories: the one that assigns the volitional Agent role to subjects and the ones that assign the nonvolitional Causer role to subjects, as illustrated in (14).

(14) a. {John/The rumor} annoyed Mary. (Fujita 1996, 151)
b. {John/The situation} frightened Mary.

In the examples (14ab), if the left ones of the two choices, *John*, are chosen as the subjects, they are interpreted as volitional Agent under natural reading, whereas if the right ones, *the rumor* and *the situation*, respectively, are chosen as the subjects, they are naturally interpreted as nonvolitional Causer.

Between these two subclasses of EO verbs, we can find an interesting difference in the behavior to passivization. Consider the examples in (15) and (16):

(15) a. Mary worries/concerns/perturbs/preoccupies Fred.

b. Fred is worried/concerned/perturbed/preoccupied by Mary.

(16) a. The situation worries/concerns/perturbs/preoccupies Fred.

(Grimshaw 1990, 114)

b. Fred is worried/concerned/perturbed/preoccupied by the situation. (*ibid*.)

In (15a), the EO verbs assign volitional Agent role to the subject *Mary* under natural reading; in (15b), the passive versions corresponding to the active ones in (15a) are provided. Grimshaw (1990) argues that this type of verbs—the EO verbs assigning volitional Agent to subjects—may have the event interpretation—put in another way, the non-state interpretation, and the event interpretation may be held after passivization. Grimshaw proposes a diagnostics that examines whether the event interpretation is established; it is to see whether the progressive aspect is accepted or not: if a sentence is converted to the progressive aspect and the result is acceptable, the sentence has the event interpretation; in contrast, if the result is unacceptable, the sentence only has the state interpretation. If the passivized sentences in (15b) hold the event interpretation from before passivization, then we predict that they should fit with the progressive aspect. This prediction is correct, as in (17).

(17) Fred is being worried/concerned/perturbed/preoccupied by Mary.

Next, consider the examples in (16). In (16a), the EO verbs, under natural reading, assign nonvolitional Causer role to the subject *the situation*, and these sentences may have the event interpretation, as exemplified in (18).

(18) a. The situation was worrying/concerning/perturbing/preoccupying Fred.

b. The birthday party is surprising/[…] Mary (right now).

(Dowty 1991: 587)

However, if we apply the diagnostics to the passive alternatives of (16a), that is, (16b), the result is unacceptable, as in (19):

(19) a. *Fred is being worried/concerned/perturbed/preoccupied by the situation.
b. *Mary is being surprised at/[…] the birthday party (right now). (*ibid*.)

Since the passive of the nonvolitional Causer type of EO verbs may no longer have the event interpretation differently from before passivization, as the unacceptability of (19) shows, it follows that the interpretation of those verbs is restricted only to the state interpretation by passivization. Grimshaw further argues that this is because their status is changed from verb to adjective by passivization. This argument is exemplified by the example (20), where the passivized forms of those verbs show the parallel distribution to adjectives: they appear in the complement position of verbs such as *seem*, which only take adjectives as their complement, and at the same time, they also allow *un*-prefixation, which is generally allowed for adjectives.

(20) Fred is/seems unworried/unconcerned/unperturbed/unpreoccupied by the situation. (*ibid.* 114)

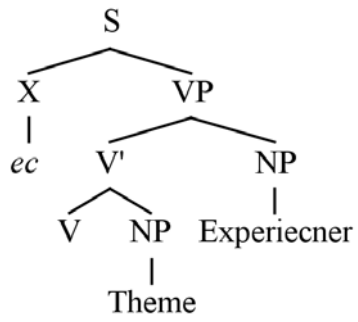
Thus, Grimshaw concludes that volitional Agent EO verbs may be passivized verbally (i.e., their categorical status as verbs are not affected), with their event reading retained, whereas nonvolitional Causer EO verbs are only allowed to be passivized adjectivally (their categorical status are changed from verb to adjective by passivization), with the event reading lost and their reading restricted only to state.

The crucial point here is that whether a verb can be passivized verbally or not is dependent on whether the verb entails volition on the subject. If we keep to Case to account for passivization, then how can we derive the fact? In both types of the verb with volition and the one without it, the assigned Case is identical: Nominative is

assigned to the subject and Accusative to the object. To the extent that there is no difference in Case between them, we cannot resort to Case to explain the difference in the behavior to passivization between them. Thus we have an argument against the Case-based analysis of passivization on the ground of meaning of verbs.

Then, we have a further question: if Case is irrelevant to the difference between them, is it likely that structure is relevant? A possible approach that might explain the difference in terms of structure is the one proposed in the context of GB by Belletti and Rizzi (1988). They assume the D-structure representation such as the one in (21) (irrelevant details omitted) to Italian EO verbs:

(21)

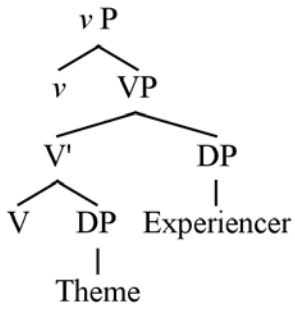


In the structure (21), the Theme argument is generated as a complement of the main verb, the Experiencer argument is generated as a sister to V', and the subject position is empty. In this structure, no argument bears Agent, because no argument is generated in the subject position; therefore, we may assume that nonvolitional Caser EO verbs have this kind of structure, in which each of their two arguments are projected to the corresponding sites. Assuming so, we have a natural explanation why Agent EO verbs and Causer EO verbs behave differently to passivization; in the chapter 1, we saw that the external θ-role, which is assigned externally to VP, is absorbed in the passive; since in the putative structure of Causer EO verbs such as (21), no argument is generated externally to VP (all arguments are generated inside VP), there should also be no external θ-role that is fed to the passivized operation; therefore, Causer EO verbs fail to be passivized normally (i.e., verbally), and only the more marked Adjectival

passivization is allowed to them.

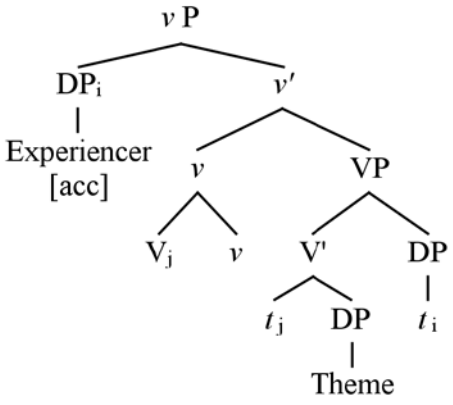
Next question is whether we may assume this kind of structure such as (21) in the context of the Minimalism. Let us see how the derivation proceeds, if the VP structure such as (21) is embedded under *v*P with no subject element merging with *v*P, as illustrated in (22):

(22)



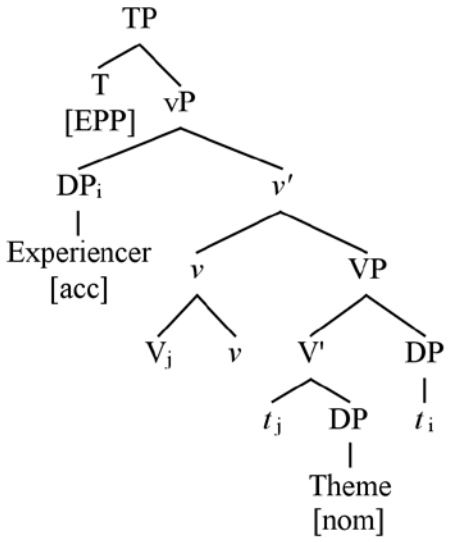
Given that the Experiencer argument appears in the Accusative form, it must raise to spec-*v*P and check its Accusative Case feature against the Vb (the complex of *v* and V) under the spec-head relation, as in (23):

(23)



The derivation further proceeds until T merges with the structure and TP is thereby formed, as in (24):

(24)



The question here is whether at this point of the derivation, it is possible to raise the Theme DP to spec-TP crossing the Experiencer DP with the D-feature that can enter the checking relation with the strong EPP feature of T. The strong EPP feature checks overly, or the derivation will crash.

Chomsky (1995: 356) defines *closeness* as in (25); the operation Attraction can only attract the closer element.

(25) Closeness

> If β c-commands α and τ is the target of raising, then β is *closer to* K than α unless β is in the same minimal domain as (a) τ or (b) α.

In the structure (24), let us say that, β = the Experiencer DP, α = the Theme DP, K = TP, and τ = spec-TP, putting aside the definition of *minimal domain*. The Experiencer DP and the Theme DP is not in the same minimal domain, because the Experiencer DP is in the minimal domain of *v* and the Theme DP is in that of V; thus, in this case, β is not in the same minimal domain as α. Further, in the structure (24), β c-commands α. Hence, the condition (25b) is not violated, and therefore, β is closer to K than α, namely, the Experiencer DP is closer to TP than the Theme DP. If we follow the

definition of closeness, we predict that the operation Attraction for checking the strong EPP of T attracts the Experiencer DP 'overtly', contrary to fact. Consequently, we must conclude that assuming the VP structure such as proposed by Belletti and Rizzi (1988) in the context of the Minimalism leads to the wrong derivation; for the derivation to proceed correctly, Accusative objects must be strictly merged under VP, and Nominative subjects must be merged with *v*P, or the derivation crashes.[3]

Thus, as we have seen, the different behavior of Agent EO verbs and Causer EO verbs to passivization is also unidentifiable in terms of Structure, because the manner of the derivation in the Minimalism forces one uniform way of derivation for both types of verbs. We have also seen that this difference is also unexplainable in terms of Case. This argument of the different behavior stemming from the slight difference of semantics of verbs undermines the validity of the approach to passive based on Case and structure.

3.5 Other Cases of Failure of Passivization

Some verbs and some use of verbs are unpassivizable. In this section, we will look at some of these. There is a class of verbs that impose symmetric relation between their arguments, which are sometimes called as 'symmetric' verbs or predicates: for example, *resemble*, *marry*, and *meet*. These verbs show an interesting property; even if the grammatical function of their two arguments is inversed, the truth condition of the sentences does not change; as an illustration, look at (26):

(26) a. John resembles Bill.
b. Bill resembles John.
c. John met Mary. (Kuno and Takami 2005: 38)
d. Mary met John. (*ibid*.)
e. John married Mary. (*ibid*.)

f. Mary married John. (*ibid*.)

In (26a), if *John resembles Bill* is true, then *Bill resembles John* is also true, and if *John resembles Bill* is false, *Bill resembles John* is also false. This is also true for (26c-f). This kind of verbs invariably may not be passivized, as in (27).[4]

(27) a. *Bill is resembled by John.
b. *Mary was met by John at Harvard Square today. (*ibid*. : 39)
c. *Mary was married by John in 1960. (*ibid*.)

Note that this kind of verb assigns Nominative to the subject and Accusative to the object as ordinary transitive verbs, as can be seen in (28), where pronouns are used instead of proper nouns.

(28) He/she resembles/met/married him/her.

As we have seen in section 3.3, in the Minimalism, whenever a Nominative argument and an Accusative argument appear in a sentence, the only allowable way of derivation is that the Nominative argument are merged with *v*P, and the Accusative one with V. If the properties of passivization are just the ones such as pursued by Chomsky (1981), Jaeggli (1986), and Baker, Johnson, and Roberts (1989), that is, (I) [NP, S] does not receive a θ-role and (II) [NP, VP] does not receive Case within VP, symmetric verbs surely meet the structural requirements in that the Nominative argument is assigned the external θ-role in spec-*v*P, and Accusative Case is assigned to the other argument. Can we syntactically derive this fact without resorting to ad hoc stipulations? The answer to the question is quite unclear, though, it might be objected that symmetric verbs as in (26) do not have Agent arguments, and this fact prevents them from being passivized syntactically somehow. However, these objections are invalid, because we have

examples such as in (29):

(29) a. John read *Hamlet* last night. (Kuno and Takami 2005: 32)
b. John entered the lecture hall on time. (*ibid*.: 41)
c. Professor Smith quit the University of Hawaii in 1960. (*ibid*.: 43)

In all of the sentences in (29), the subjects, *John* in (29a), *John* in (29b), and *Professor Smith* (29c), respectively, are naturally understood to performe the actions described by the verbs volitionally. If the presence of Agentivity has an impact on passivization, the sentences in (29) all should be passivized grammatically. This is not the case, however, as shown in (30).

(30) a. ??/**Hamlet* was read by John last night. (*ibid*.: 32)
b. *The lecture hall was entered by John on time. (*ibid*.: 41)
c. *The University of Hawaii was quit by Professor Smith in (1960). (*ibid*.: 43)

Similarly to verbs, these verbs should have the structural properties for passivization, plus their subjects being agentive. In terms of Structure, it is quite unexpected that these verbs are resistant to being passivized. Here, we have another argument against the proposal that structure is relevant to passivization, and this case seems to strongly suggest that only referring to Case and structure is insufficient to explain passivization; rather, we must consider the semantic aspect of verbs.

3.6 Conclusion

In this chapter, we have seen four arguments against the proposal that passivization is explained syntactically: pseudopassives, double object constructions,

EO verbs, and some unpassivizable cases. Pseudopassives are an apparent exception of the traditional account of passive, in that the object of the preposition undergoes the movement; furthermore, the analysis in which the pair of an object and a preposition is identified like a single lexical item to keep the uniformity of the motivation of the movement in passive causes the empirical problem. The passive of double object constructions shows that if we keep to Case to explain passivization, we come to the wrong prediction. EO verbs and some unpassivizable cases show that in addition to Case, structure is also insufficient to explain passivization, and in turn, they suggest that it is inevitable to refer to the semantic aspect of verbs in order to explain the fact of passivization correctly.

Chapter 4

Argument Selection and Passivization

4.1 Argument Selection Principle

We have so far seen negative arguments for treating passive in terms of Case and Structure. Once the Case and Structure approach is unsuccessful, what kind of approach should we take? In chapter 3, we saw two examples showing that the semantic aspect of verbs has impact on passivization, which are EO verbs and some unpassivizable verbs. One familiar and potential approach would be to relay on θ-roles. If we focus on θ-roles, we might be able to reduce the difference in behavior to passivization to the difference in θ-roles that verbs assign. However, this approach does not seem successful; some authors assume that Agentive EO verbs assign Agent to the subject, but Causer EO verbs also assign Agent (nonvolitional) to the subject (see Carnie 2002); therefore, traditional θ-roles are insufficient to explain the different behavior of Agent and Causative EO verbs to passivization. What is more, the example (1) shows that such traditional θ-roles are also inadequate to predict acceptability of the passives in (1bc) correctly.

(1) a. John read *Hamlet* last night. (Kuno and Takami 2005: 32)
b. ??/**Hamlet* was read by John last night. (*ibid*.)
c. *Hamlet* was read even by John. (*ibid*.)

In (1a), the verb *read* assigns Agent to the subject *John*, who volitionally performs the action of reading, and Theme to *Hamlet*, which undergoes the action of reading; besides, both (1b) and (1c) should be the passive forms corresponding to (1a) inarguably; therefore, it can be assumed that the identical θ-relations are established between the two arguments *Hamlet* and *John* also in (1b) and (1c), but the result

diverges: (1b) is unacceptable, and (1c) is acceptable. Since we cannot find the difference in θ-relation between them, we cannot attribute the difference in acceptability to θ-relation.

The situation is uneasy: the relevance of Case and structure has been denied, as we have seen, and a potential alternative, θ-relation, seems less than adequate as well; hence, the two widely accepted views are denied. Although traditional θ-roles are revealed to be inadequate, however, the relevance of the semantic aspect should not be dismissed, as the examples such as (1) and EO verbs show. In the following, I introduce an alternative idea that may give us a clue to the puzzle of passive.

Dowty (1991) points out that some phenomena are wrongly analyzed in the domain of θ-roles, and argues that for each of the phenomena, there are better domains in which they should be treated: they might be syntax, semantics, discourse, or pragmatics. Also, he argues that there is no general consensus about what kind of θ-roles should be assumed; the kinds of θ-roles vary much, depending on authors. Pointing out those defects of θ-roles, his main concern in the paper is to provide an account of argument selection, which determines which argument of a predicate is realized in which grammatical function. To carry out the purpose, he singles out purely semantic properties relevant for argument selection from the factors that seemingly relate to argument selection, some of which actually might stem from the domains other than semantics: such as pragmatics, discourse, and so on; in addition, θ-roles are also irrelevant, since they are not a reliable notion, as already pointed out. Then, he proposes an intriguing idea as follows: he assumes that there exist only two macro-roles, Proto-Agent role and Proto-Patient role (hereafter, P-Agent and P-Patient). Each of the two roles consists of the purely semantic properties which necessarily contribute to argument selection, and some of them are identified as contributing to P-Agent and the others of them as contributing to P-Patient. The list of them is provided below. (For the simplicity of the argument, we will disregard the properties (1e) and (2e), because Dowty admits himself that their contribution to proto-role

definition is unclear.)

(2) Contributing properties for the Agent Proto-Role

a. volitional involvement in the event or state

b. sentience (and/or perception)

c. causing an event or change of state in another participant

d. movement (relative to the position of another participant)

(e. exists independently of the event named by the verb)

(3) Contributing properties for the Patient Proto-Role

a. undergoes change of state

b. incremental theme

c. causally affected by another participant

d. stationary relative to movement of another participant

(e. does not exist independently of the event, or not at all)

These properties of the proto-roles assumed, traditional θ-roles are expressible as a combination of these properties; Dowty provides some typical examples: Agent is a combination of volition, causation, sentience, and movement; Experiencer is sentience without volition or causation; Theme is change-of-state + Incremental-Theme + dependent existence + causally-affected, but Patient would lack causally-affected. Note that these are just typical cases, and more various entailments are expressible as combinations of these proto-role properties; proto-role properties may express what is not expressible by traditional θ-roles: e.g., Causer, which is sometimes identified as a kind of Agent, may be expressible as causation alone without volition or sentience. As can be seen, traditional roles are actually not a clear-cut notion and hard to pin down, since Agent and Causer are sometimes treated as forming the same role in the name of Agent. Besides, if we recognize them as the same θ-role, the crucial difference in the behavior of Agent EO verbs and Causative EO verbs to passivization caused by

presence of volition would not be expressible. Dowty himself (1991) notes that one of the gists of his paper is to show the danger of taking the notion of θ-roles for granted and of assuming that they are well motivated.

To predict argument selection, he proposes the argument selection principle (4), the two corollaries (5) and (6), and the characteristics (7), making use of the properties in (2) and (3):

(4) Argument Selection Principle

In predicates with grammatical subject and object, the argument for which the predicate entails the greatest number of Proto-Agent properties will be lexicalized as the subject of the predicate; the argument having the greatest number of Proto-Patient entailments will be lexicalized as the direct object.

(5) Corollary 1

If two arguments of a relation have (approximately) equal numbers of entailed Proto-Agent and Proto-Patient properties, then either or both may be lexicalized as the subject (and similarly for objects).

(6) Corollary 2

With a three-place predicate, the nonsubject argument having the greater number of entailed Proto-Patient properties will be lexicalized as the direct object and the nonsubject argument having fewer entailed Proto-Patient properties will be lexicalized as an oblique or prepositional object (and if two nonsubject arguments have approximately equal numbers of entailed Proto-Patient properties, either or both may be lexicalized as direct object).

(7) Nondiscreteness

Proto-roles obviously do not classify argument exhasusitvely (some arguments have neither role) or uniquely (some argument may share the same role) or discretely (some arguments could qualify partially but equally for both proto-roles).

With respect to (5) and (6), since these will be relevant in section 4.3 and in the section 4.6, respectively, we set aside these characteristics for the moment. What the principle (4) stipulates is that in the case of transitive verbs, an argument entailing the greatest number of the P-Agent properties in (2), compared to the other argument, will be realized as the subject, and an argument entailing the greatest number of the P-Patient properties, compared to the other argument, will be realized as the direct object; in short, if an argument has the largest number of the P-Agent properties and the smallest number of the P-Patient properties, it must be the subject, and if vice versa, it must be the object; the principle should be revised to clarify this point (the definition of the principle is revised so in (11), with another refinement). As noted in (7), however, this principle is not an absolute and complete one, and it may be overcome by other requirements of discourse, pragmatics, and so on, or may be insufficient to predict argument selection due to equal number or absence of proto-role properties; thus, this principle should be identified as preference of argument selection.

Let us look at the argument selection of the problematic case of psych verbs, ES verbs vs. EO verbs. We saw that ES verbs such as *fear* and *like* and EO verbs such as *frighten* and *please* show the converse argument realization, although the θ-roles that both kinds of verbs assign are assumed to be arguably identical: ES verbs assign Experiencer to their subject and Theme (Stimulus, in Dowty's term) to their object, and for EO verbs, vice versa, as illustrated in (8), where *x* is an argument bearing Experiencer, and *y* bearing Theme.

(8) Psychological Predicates

Experiencer subject:	[Theme] subject:
x likes *y*	*y* pleases *x*
x fears *y*	*y* frightens *x*
x supposes (that) S	(it) seems (to) *x* (that) S
x regards *y* (as) VP	*y* strikes *x* (as) VP

x is surprised at *y*	*y* surprises *x*	
x is disturbed at *y*	*y* disturbs *x*	(Dowty 1991: 579)

In terms of the approach to argument selection based on traditional θ-roles, this converse grammatical realization of the arguments is problematic, because the arguments bearing an identical θ-role appear in the different grammatical functions between the left column and the right column; therefore, we cannot attribute the converse realization to θ-roles.

Dowty explains the argument realizations with his proto-role properties and argument selection principle in the following way; in (8), the Experiencer argument *x* has some perception of the Theme argument *y*, so the Experiencer is entailed to be sentient/perceiving (2b), which is one of P-Agent properties; the Theme causes some emotional reaction or cognitive judgment in the Experiencer; hence, (2c), which is also one of the P-Agent properties. Thus, both of the arguments have the equal number of P-Agent properties, and therefore, either argument is equally likely to be realized as the subject, at first sight. With respect to this point, Dowty, citing Croft (1986), gives an explanation in the following way; ES verbs such as in (8) are always stative, but EO verbs can be either stative or inchoative—eventive; further, he claims that the eventive interpretation of EO verbs causes a change of state in the Experiencer argument, but they do not necessarily cause any motion or other change in the Theme; only in EO verbs, may the Experiencer argument have the P-Patient property, undergoing change-of-state (3a), unlike ES verbs; hence, although the two arguments are equal in number of P-Agent properties, they are unequal in that the Experiencer argument has one more P-Patient property; therefore, it is correctly realized as the object according to the principle (4).

He stops his argument there, but the argument selection of ES verbs such as in (8) remains unexplained; however, it is not difficult to explain it. Dowty observes that ES verbs are invariably stative; then, according to his observation, his argument that in ES

verbs, some emotional reaction or cognitive judgment in the Experiencer is caused by the Theme argument seems implausible, because emotional reaction and cognitive judgment should count as telic events, not as state; therefore, if ES verbs are stative, as he argues, they should not be interpreted so, namely, such an event reading should not be obtained. Hence, the Theme argument of ES verbs does not contain the P-Agent property, causation (2c), and it does not have any P-Agent property; consequently, in ES verbs, the Experiencer argument has a P-Agent property, sentience, and no P-Patient property, and the Theme argument has none of the P-Agent properties and P-Patient properties; then, according to the principle (4), the Experiencer is correctly realized as the subject, and the Theme as the object.

Although Dowty's argument selection principle and proto-role properties correctly predict the problematic case of psych verbs, as we have seen, Grimshaw (1990) makes an interesting observation: noting that causation arguments are always realized as the subject, she assumes, citing Jackendoff (1987, 1990), that the causal status constitutes its own aspectual dimension, apart from the thematic dimension; if we dismiss the difference between proto-role properties and θ-roles for the moment (I definitely do not assume so throughout), her proposal roughly amounts to saying that among the P-Agent properties, only causation belongs to the aspectual dimension, and the others belong to the thematic dimension. Further, she argues that the aspectual dimension constitutes a hierarchy, and causation is set at the top of the hierarchy; according to her proposal, since causation is at the top of the hierarchy in the dimension, Causer, which is the argument containing only the causation property in terms of proto-roles, is always realized as the subject.

We do not enter the discussion of whether her two-dimensional approach is plausible or not, but Dowty also partly observes that causation has priority to the other P-Agent properties. Consider the examples below:

(9) a. The cloud passed the tree. (Dowty 1991: 574)

b. Water filled the tank. (*ibid*.)

(10) a. John threw the ball. (*ibid*.)

b. The wall deflected the bullet. (*ibid*.)

Dowty notes that when movement is not caused by another participant in the event named by the verb as in (9), it counts as a P-Agent property: in (9a), *the cloud* moves by itself, and in (9b), *water* drops by itself; those actions are not caused by something else. On the other hand, when movement is caused by something else, as in (10), it dose not count as a P-Agent property; rather, it contributes to Proto-Patient. In (10a), *the ball* moves, but this time, the movement is caused by the action *throwing*; in (10b), *the bullet* moves, but the movement is caused as a result of the deflection by the wall. Dowty (1991: 574) states:

> [I]n this sense, causation has priority over movement for distinguishing agents from patients. […] I also would not rule out the desirability of 'weighting' some entailments more than others for purpose of argument selection (as just mentioned with causation).

In this statement, he admits that causation has some priority over movement, and the possibility that some proto-role property outranks other properties for purpose of argument selection is not barred in the framework of proto-roles and argument selection. Distinguishing causation from the other P-Agent properties, supposedly, seems intuitively natural, because causation is slightly different from the other P-Agent properties in that it does not relate to the manner of action in event unlike volition, sentience, and movement, but it refers to the characteristics of event itself; rather, treating it similarly to the other P-Agent properties sounds little strange.

Following Grimshaw (1990) and partially Dowty (1991), let us assume that Causation is removed from the inventory of P-Agent role properties (2), and there is a

specific rule that an argument involving causation is determined to be realized as the subject before application of the argument selection principle. I call this rule as *the causation rule*, which is formulated as follows:

(10) The Causation Rule

Before application of the argument selection principle, if there is an argument involving the causation property, determine it to be realized as the subject; if there is no such argument, determine nothing.

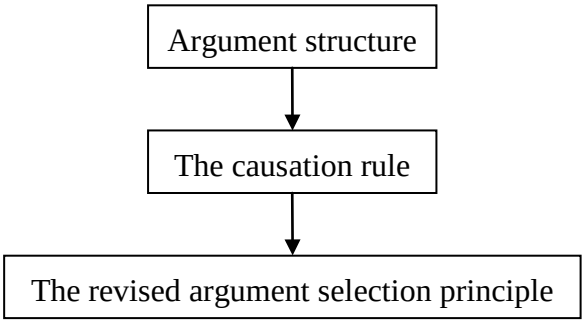
(10) states that even if there is no argument involving causation, the causation rule must apply—but vacuously, in that case. Postulating the causation rule, the argument selection principle (4) now needs to be revised with the refinement mentioned earlier, as in (11):

(11) Revised Argument Selection Principle

Except for the case in which the grammatical subject is otherwise determined, for predicates with the grammatical subject and object, the argument for which the predicate entails the largest number of P-Agent properties and the smallest number of P-Patient properties will be lexicalized as the subject of the predicate; the argument having the largest number of P-Patient properties and the smallest number of P-Agent properties will be lexicalized as the direct object.

Note that these two rules are assumed in the lexicon; therefore, we have the following schema of the rules in (12), where argument structures, which consist of predicates and their arguments, as input, enter the two modules, the causation rule and the revised argument selection principle (hereafter, RASP).

(12) The schema of the principle and the rule within the lexicon



We are assuming that causation is removed from the inventory of the P-Agent properties; besides, we saw Dowty's argument that when event was causal, movement may count as a P-Patient role; thus, the inventory of proto-roles should be revised as follows:

(13) Revised Contributing properties for the Agent Proto-Role

a. volitional involvement in the event or state

b. sentience (and/or perception)

c. movement (relative to the position of another participant), but when event is causal, this may count as a P-Patient property.

(d. exists independently of the event named by the verb)

Let us look at how the argument selections of ES verbs, Agent EO verbs, and Causative EO verbs with the new apparatus, RASP and the revised proto-role properties, for example. ES verbs, Agent EO verbs, and Causative EO verbs are expressible respectively by the informal and partial[5] argument structure as in (14abc), where these schemata are read in the following way: there are brackets right to the predicates that are used in the example sentences just above; and in the brackets, the arguments of the predicates are represented as variables such as *x* and *y* corresponding to each of the arguments just above in the example sentence, and there are also brackets right to the variable arguments; within that brackets, two proto-roles are

written, right side of which the names of the specific properties are put; when there is no property belonging to the proto-roles, Ø is put on the right side of the proto-role, meaning that there is none (We are distinguishing the homophonic predicates used in (14bc) as frighten[1] and frighten[2], respectively).

(14) a. john fears thunder

$$\text{fear}\left(x\begin{bmatrix}\text{P-AGENT:} & \text{sentience}\\ \text{P-PATIENT:} & \text{Ø}\end{bmatrix},\ y\begin{bmatrix}\text{P-AGENT:} & \text{Ø}\\ \text{P-PATIENT:} & \text{Ø}\end{bmatrix}\right)$$

b. mary frightens john

$$\text{frighten}^1\left(x\begin{bmatrix}\text{P-AGENT:} & \text{volition}\\ \text{P-PATIENT:} & \text{Ø}\end{bmatrix},\ y\begin{bmatrix}\text{P-AGENT:} & \text{sentience}\\ \text{P-PATIENT:} & \text{change-of-state}\\ & \text{causally-affected}\end{bmatrix}\right)$$

c. the situation frightens john

$$\text{frighten}^2\left(x\begin{bmatrix}\text{P-AGENT:} & \text{Ø}\\ \text{P-PATIENT:} & \text{Ø}\end{bmatrix},\ y\begin{bmatrix}\text{P-AGENT:} & \text{sentience}\\ \text{P-PATIENT:} & \text{change-of-state}\\ & \text{causally-affected}\end{bmatrix}\right)$$

In the example of the ES verb (14a), the subject argument involving the largest number of the P-Agent properties and the smallest number of the P-Patient properties (in fact both arguments involve none—but still the smallest) is *john*, and the object is *thunder*, needless to say. In the example of the Agent EO verb (14b), although the argument selection is correctly predicted only by RASP and the revised proto-role properties obviously, but before RASP applies, the causation rule has already decided that *mary* is the subject. The example of the Causative EO verb (14c) is interesting in that the subject *the situation* involves the smallest number of the P-Patient properties, but does not involve the largest number of the P-Agent properties; at the same time, the object *john* involves the largest number of the P-Patient properties, but does not involve the smallest number of the P-Agent properties; therefore, we cannot establish the argument

selection, according to RASP and the revised proto-role properites. However, this situation actually would not have arisen, because the causation rule has already decided that *the situation* is realized as the subject, and this case is therefore an exception to RASP, as its definition states, namely, this is the case that is rescued by the causation rule.

In this section, I presented the argument selection principle (4) and the proto-role properties (2) and (3), and I made revision to them, noting that causation outranks the other P-Agent properties for argument selection. Following Grimshaw (1990), I assumed that causation is a property that should be treated in another dimension, and accordingly, I proposed the Causation rule, which determines realization as the subject of an argument involving causation before the argument selection principle applies. As a result, the argument selection principle and the P-Agent properties were changed into RASP and the revised P-Agent properties, respectively. In the next section, I present a new analysis of passivization in light of RASP and the revised P-Agent properties.

4.2 The Verbal Passivization Principle

Before entering the discussion of passivization in terms of RASP and the revised P-Agent properties, let us briefly look at how the verbal passivization is explained in Grimshaw (1990). As mentioned above, she proposes the two hierarchies: the one for thematic structure as (15a), and the other for causal structure as (15b) (in (15ab), left ones are more prominent than right ones):

(15) a. (Agent (Experiencer (Goal/Source/Location (Theme))))
b. (Cause (other (…))) (*ibid*.: 24)

Assuming these two hierarchies, she proposes that an argument whose roles are prominent—ranked highest—in both hierarchies is the external argument, and

passivization is an operation that ‘suppresses’ the external argument; if a predicate does not have an argument that is prominent in both hierarchies, it fails to be passivized verbally (it can only be passivized adjectivally).

Let us consider the case of the passivization of Agent EO verbs and Causative EO verbs: the former may be passivized verbally, and the latter is only passivized adjectivally. The subject of Agent EO verbs is Agent and Causer, and the object of them is Experiencer; according to (15), the subject is the external argument, since it is prominent in both of the hierarchies; thus, passivization suppresses the external argument, the Agent and Causer argument, and Agent EO verbs are correctly passivized verbally. On the other hand, the subject of Causative EO verbs is Theme and Causer, and the object of them is Experiencer; according to (15), Theme is lower than Experiencer; thus, there is no external argument, since neither argument is prominent in both of the hierarchies; then, passivization cannot suppress the external argument, because there is none; consequently, Causative EO verbs fail to be passivized verbally; this is also the case.

As seen above, Grimshaw (1990) correctly explains the different behavior of Agent and Causative EO verbs in terms of θ-roles and the two dimensional hierarchies. At the beginning of this chapter, we saw Dowty’s argument that θ-roles are actually not a well motivated notion and they are hard to pin down and not clear-cut. Given this argument, should we avoid dependence on θ-roles? Nevertheless, her proposal that passivization is the operation targeting predicates’ argument structure still should not be dismissed, because it plausibly explains passivization without resorting to either Case or Structure. Besides, the view of passivization in terms of argument structure is also empirically plausible, since under passivization, adicity of predicates is changed: e.g., two-place predicates are changed into one-place predicates, and three-place predicates are changed into two-place predicates. Hence, if passivization can be stated in terms of argument structure without recourse to any of Case, Structure, and θ-roles, we will have a theory of passivization satisfying our demand. For now, we have an

alternative idea to θ-roles overcoming their flaws, that is, RASP and revised proto-role properties. Thus, the theory of passivization stated in argument structure with RASP and revised proto-roles would be the one that we should long for, provided the argument that we have long seen.

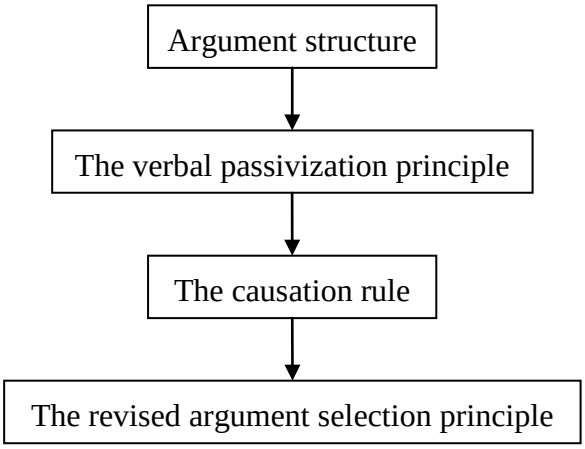
What would the analysis of passivization in terms of RASP and revised proto-role properties be like? Note that in passivization, the subject of the corresponding active sentence is suppressed. Translated into the terms of RASP and revised proto-role properties, this means that in passivization, the would-be subject argument designated by RASP is suppressed—in other words, the argument involving the largest number of the P-Agent properties and the smallest number of the P-Patient properties is suppressed by passivization. We state this as a principle for passivization, as in (16), where 'suppress' means that, 'block the grammatical realization of the argument.'

(16) The Verbal Passivization Principle

The argument involving the largest number of the P-Agent properties and the smallest number of the P-Patient properties is suppressed.[6]

Where should we assume that the verbal passivization principle is applied in the lexicon? I assume that the principle should apply before the causation rule is applied. Therefore, the schema of the rules of verbal passivization would be like the one of (17):

(17) The schema of the rule and the principles within the lexicon



The reason to assume that the passivization principle applies before the causation rule is self-evident. If we assume that the causation rule applies before the passivization principle applies, the passivization would not work at all: for example, suppose that the causation rule determines that an argument of a predicate is lexicalized as the subject; if the passivization rule tries to suppress that argument after the causation rule, it cannot; this is because the argument has been already determined to be lexicalized as the subject; a conflict would result between the two opposite demands: the demand for the realization of Causer argument as the subject and the demand for the suppression of its grammatical realization. In turn, if we assume that the causation rule applies after the passivization rule, this kind of problem would not arise; in most cases, the argument involving causation has been decided to be suppressed by the passivization rule at the point where the causation rule is applied, so the rule is just applied vacuously. What you should not miss at this point, however, is that argument structures can be input into the verbal passivization principle with the causation property, but it is simply invisible to the principle, which can only see revised proto-role properties.

A further question is how suppression of an argument can be implemented in our system with RASP. Let us assume that the argument which is determined to be suppressed is marked as suppressed formally by the verbal passivization principle, and the argument thereby is basically ignored by RASP (there is an exceptional case; we

will discuss it in section 5.1). We further assume that the argument marked as suppressed cannot be linked to any DP due to the lack of the license by RASP.

Let us look at how the derivation of passive proceeds in the lexicon, specifically. Say that the predicate with simple transitive argument structure such as *kill* in the sentence *the cat killed the rat* is passivized. The informal representation of the argument structure is as in (19):

(19) kill [*x* [P-AGENT: volition ; P-PATIENT: Ø] , *y* [P-AGENT: sentience ; P-PATIENT: change-of-state ; causally-affected]]

This argument structure is input to the verbal passivization principle first, under which the x argument is determined to be suppressed and marked as suppressed, yielding the passivized argument structure such as (20) (the suppressed argument is indicated by crossed out).

(20) kill [~~*x*~~ [P-AGENT: volition ; P-PATIENT: Ø] , *y* [P-AGENT: sentience ; P-PATIENT: change-of-state ; causally-affected]]

Then, the passivized argument structure is input to the causation rule, where the rule is applied to the argument structure, but vacuously, since there is no causation argument. After that, the argument structure is input to RASP, by which the argument *y* is determined to be the subject, and the argument *x* is ignored by the principle. In this sense, passivized argument structures behave as quasi-intransitive verbs to RASP.

Then, let us look at the passivization of psych verbs with RASP and the verbal passivization principle. Consider the informal argument structure of the active versions of the three types of psych verbs (14) and the verbal passivization rule (16), as repeated

in (21) and (22), respectively:

a. john fears thunder

$$\text{fear}\left[\text{x}\left[\begin{array}{ll}\text{P-AGENT:} & \text{sentience}\\ \text{P-PATIENT:} & \text{Ø}\end{array}\right],\ \text{y}\left[\begin{array}{ll}\text{P-AGENT:} & \text{Ø}\\ \text{P-PATIENT:} & \text{Ø}\end{array}\right]\right]$$

b. mary frightens john

$$\text{frighten}^{1}\left[\text{x}\left[\begin{array}{ll}\text{P-AGENT:} & \text{volition}\\ \text{P-PATIENT:} & \text{Ø}\end{array}\right],\ \text{y}\left[\begin{array}{ll}\text{P-AGENT:} & \text{sentience}\\ \text{P-PATIENT:} & \text{change-of-state}\\ & \text{causally-affected}\end{array}\right]\right]$$

c. the situation frightens john

$$\text{frighten}^{2}\left[\text{x}\left[\begin{array}{ll}\text{P-AGENT:} & \text{Ø}\\ \text{P-PATIENT:} & \text{Ø}\end{array}\right],\ \text{y}\left[\begin{array}{ll}\text{P-AGENT:} & \text{sentience}\\ \text{P-PATIENT:} & \text{change-of-state}\\ & \text{causally-affected}\end{array}\right]\right]$$

(19) The Verbal Passivization Principle

The argument involving the largest number of the P-Agent properties and the smallest number of the P-Patient properties is suppressed.

Note that active (base) versions of argument structure are input to the passivization principle. In the case of the passivization of (21a), this informal argument structure is input into the verbal passivization principle; there, the principle finds the argument involving the largest number of the P-Agent properties and the smallest number of the P-Patient properties, that is, *john*, and suppresses its argument realization. Then, the causation rule is applied to this passivized argument structure; however, the passivized argument structure does not have an argument containing causation, the rule applies vacuously. Finally, the passivized argument structure enters RASP. In the judgment by RASP, the passivized argument structure behaves like an intransitive verb, because one of its two arguments has been suppressed by the verbal passivization principle, and therefore only one argument seems to be included in the argument structure. Hence, the

only argument of the predicate is realized as the subject, exactly like the case of ordinary intransitive verbs. The passivization of the Agentive EO verb such as in (21b) proceeds in the identical way, so I avoid the explanation.

Next, let us consider the passivization of the Causative EO verb as in (21c). Note that this informal argument structure is input to the verbal passivization principle. After input, the principle tries to find the argument involving the largest number of the P-Agent properties and the smallest number of the P-Patient properties, but as already discussed above, there is no argument satisfying this requirement; either argument lacks the qualification to be suppressed by the verbal passivization principle: on one hand, the argument *the situation* involves the smallest number of the P-Patient properties and the smallest number of the P-Agent properties; on the other hand, the argument *john* involves the largest number of the P-Agent properties and the largest number of the P-Patient properties. As a result, the passivization principle cannot find the argument that should be suppressed, and thus it fails to apply. In this way, the reason why Causative EO verbs are resistant to verbal passivization is explained.

4.3 The Formerly Problematic Cases

In section 3.4, we have seen that the symmetric verbs such as *resemble*, *marry*, and *meet* are resistant to passivization. Let us consider how the failure of passivization is explained in light of the verbal passivization principle. The informal argument structures of each verb are given in (23).

(23) a. John resembles Bill.

$$\text{resemble}\left[\text{x}\left[\begin{array}{l}\text{P-AGENT: Ø}\\ \text{P-PATIENT: Ø}\end{array}\right],\ \text{y}\left[\begin{array}{l}\text{P-AGENT: Ø}\\ \text{P-PATIENT: Ø}\end{array}\right]\right]$$

b. John met Mary. (Kuno and Takami 2005: 38)

meet ⟨x [P-AGENT: sentience; P-PATIENT: ?Ø[7]], y [P-AGENT: sentience; P-PATIENT: ?Ø]⟩

c. John married Mary. (*ibid*.)

mary ⟨x [P-AGENT: sentience; P-PATIENT: change-of-state], y [P-AGENT: sentience; P-PATIENT: change-of-state]⟩

In (23a), neither of the arguments involves any of the P-Agent properties and the P-Patient properties. Suppose that this argument structure enters the verbal passivization principle; the principle tries to find the argument involving the largest number of the P-Agent properties and the smallest number of the P-Patient properties in the usual way. However, neither of the arguments has proto-role properties; then, the verbal passivization principle cannot find the argument that should be suppressed, and hence the verbal passivization fails, correctly. Consider (23b) next. In this case, both arguments have the equal number and type of proto-roles: under natural interpretation, if someone meets someone else, both of them notice the opponent (the sentence 'I met her, but she didn't notice me.' seems odd); and, both of the arguments arguably have no P-Patient properties. If this argument structure is input into the verbal passivization principle, just like the case of (23a), it fails; there is no argument satisfying the requirement imposed by the principle. The case of (23c) is also basically identical to (23b). The argument selection of these verbs cannot be predicted by RASP and the revised proto-role properties, since either of the arguments of them involves the equal number of P-Agent properties and P-Patient properties; therefore, the argument selection must be determined by the modules external to the computation of human language: for example, pragmatics or discourse, and this is the case described by the corollary 1 (5) of Dowty's.

What about the problematic cases for the analysis of passivization in terms of Case and structure, one of which is psuedopassive, as we saw in section 3.1? Actually, there

are two kinds of pseudopassives: the pseudopassive of the idiomatic pair of a verb and a preposition, such as *laugh at, rely on, deal with*, and so on, and the one in which the prepositional phrase functions as an adverbial, such as *swim in this river, walk under the bridge, sit on the hat*, and so on. Seemingly, these two types of pseudopassives are obeying different conditions, which differentiate their acceptability, as illustrated in (24) and (25):

(24) a. Her classmates laugh at her. (Kuno and Takami 2005: 77)
b. The police dealt with the suspect roughly. (*ibid*.)
c. John swam in this river. (*ibid*.)
d. The dog walked under the bridge. (*ibid*.: 78)

(25) a. She was laugh at by her classmates. (*ibid*.: 77)
b. The suspect was dealt with roughly by the police. (*ibid*.)
c. *This river was swum in by John. (*ibid*.: 78)
d. *The bridge was walked under by the dog. (*ibid*.)

The pseudopassives of the idiomatic pairs of the verb and the preposition corresponding to (24ab), that is, (25ab), are acceptable, whereas the pseudopassives of the pairs of the verb and the adverbial prepositional phrase corresponding to (24cd), that is, (25cd), are unacceptable. Why do we have this kind of the difference between the two?

Look at the example (24ab), again. It is arguably accepted that the idiomatic expressions such as *look at* and *deal with* are like transitive verbs, with the verb and the preposition identified as a single lexical unit; in this sense, the objects of these idiomatic expressions are actually the object of the putative transitive verb as *look-at* and *deal with*. Therefore, as an object of ordinary transitive verbs, the objects of these expressions undergo change-of-state. With the reanalysis as a single lexical item and the qualification as an object, the pseudopassives such as (25ab) are generable (see

Anderson 1977). In contrast, the pairs of the verbs and the prepositions in (24cd) do not have an idiomatic reading; the prepositions retain their original meaning: *in* in (24c) means enclosed or surrounded, and *under* in (24d) means lower; therefore, the verbs and the prepositions cannot undergo the reanalysis, and the objects of the prepositions are genuinely so; hence, the verbs are judged as the monoadic predicates by the verbal passivization rule, and they fail to be passivized verbally.

However, the fact is not that simple. The pseudopassives of the pair of a verb and a genuine adverbial prepositional phrase are actually perfectly acceptable in the examples such as in (26):

(26) a. This porch was walked on by Teddy Roosevelt. (Davidon: 1980: 44)
b. This chair was sat on by Adolf Hitler. (*ibid*.: 54)
c. Susan is being run after by numerous admires. (*ibid*.: 45)

In all of the examples in (26), the prepositions *on* and *after* retains their original meaning as a preposition, but the pseudopassivization is still possible, without digression of acceptability. Besides, the example (26c) shows that this pseudopassive is derived by the verbal passivization, because it accepts the progressive aspect. Why are the examples (25cd) unacceptable, and (26abc) acceptable in contrast?

Some authors observe that the subject of pseudo-passives is interpreted as affected somehow by the action named by the verb (see Anderson 1977, Davison 1980, Riddle and Sheintuch 1983, Kuno and Takami 2005). In the example (26ab), *the porch* and *the chair*, respectively, are used by the historical celebrities; by these actions, we can assume that *the porch* and *the chair* are affected, because they have obtained to the qualification to be distinguished by other chairs, due to the events. Kuno and Takami (2005) call the qualification as ‘characterization’, and they propose that for the pseudo-passivization of a verb and an adverbial prepositional phrase, the subject of the pseudopassive must satisfy this characterization function. In the example (26a), *the*

porch receives the characterization as the porch that was walked on by a historical celebrity Theodore Roosevelt and so does *the chair* in (26b). The characterization functional approach proposed by Kuno and Takami, however, is inadequate to explain (26c), because *being run after* cannot be considered as characterization of *Susan*; rather, *Susan* is just interpreted as affected by the action, the event not leading to the characterization of *Susan*. Thus, what we can say about the examples (26a-c) is that each subject is uniformly affected by the actions named by the verbs.

How can the affectedness condition of the pseudopassive with the pure adverbial preposition be incorporated in our theory of verbal passivization with the verbal passivization principle and the revised proto-roles properties? One candidate would be to rely on one of the P-Patient properties, which is change-of-state; if something is affected by something else, then it is plausible to think that the thing undergoes change-of-state. Thus, we may express the affectedness condition on the subject of the pseudopassive in terms of our approach, as in (27) (we will discuss where this condition applies later).

(27) The change-of-state condition

The subject of the pseudopassive of the pure adverbial preposition must involve the change-of-state property.[8]

In the example (25cd), repeated as (28ab), we can not think that *this river* undergoes change-of-state by John's swimming in it, and *the bridge* does so by the dog's walking under it.

(28) a. *This river was swum in by John. (Kuno and Takami 2005: 78)

b. *The bridge was walked under by the dog. (*ibid*.)

Look at the case of the pseudopassivization of the idiomatic expressions, as repeated

below:

(29) a. She was laugh at by her classmates. (*ibid*.: 77)

b. The suspect was dealt with roughly by the police. (*ibid*.)

We have seen that the objects of these idiomatic expressions are actually the objects of the putative transitive; then, we naturally assume that these objects undergoes change-of-state just as ordinary objects of transitive verbs; hence, we no longer have a reason to limit the change-of-state condition only to the pseudopassive with the pure adverbial prepositions, and therefore relax its definition as in (30):

(30) The change-of-state condition. (Revised)

The subject of pseudopassives must involve the change-of-state property.

Why this condition is seemingly applied only to the pseudopassive with the pure preposition is because pure prepositions do not typically contribute to the interpretation of change-of-state, just referring to the location, the instrument, or the time of event, unlike the pseudopassive of idiomatic expressions (see Davison 1980).

Next, we have to explain why intransitive verbs, which the verbal passivization principle should not be applied to usually in English, may undergo it, when they are with a preposition. Anderson (1977) proposes the lexical reanalysis rule, the function of which is almost equivalent to the structural reanalysis such as proposed by Fujita and Matsumoto (2005) in section 3.1; but, here, the reanalysis rule is assumed within the lexicon. The rule changes the idiomatic pair of a verb and a preposition into a single lexical unit in the lexicon. It is clear, however, that we cannot adopt this analysis directly, because we saw, in section 3.2, that the putative reanalyzed prepositions, even in the context of the pseudopassive, behave syntactically independently of the verbs for conjunction, like ordinary prepositions.

Note that intransitive verbs alone are resistant to passivization, without support of a preposition. Insofar as intransitive verbs accompany prepositions, they can be passivized. To the extent that the verbal passivization principle is assumed to be in the lexicon, it is necessary that an intransitive verb and a preposition form a single unit with two arguments in the lexicon before the principle is applied; otherwise, the verbal passivization is not permitted. Therefore, what we do is to have the verbal passivization principle permit pairs of a verb and a preposition as a licit input to the verbal passivization principle, namely, as a quasi-predicate with two arguments. In this respect, my proposal might be similar to the one of Anderson's in that something like the reanalysis is assumed in the lexicon, but we know that the single unit does not constitute a syntactically single unit. Thus, we assume that the quasi-predicate formation does not refer to the syntactic status[9], the status as a preposition being intact; as a result of it, the quasi-predicate behaves to syntactic operations as an independent element.

Do we need to compose the meanings of a verb and a preposition in the lexicon, to see whether the pair of them may be passivizable? The answer to this question is negative; after the composition in the lexicon, we have to build the pair of the verb and the preposition again in syntax; this is redundant, and the redundancy must be avoided.

In our system, there are two requirements to be passivized verbally in English: (i) a predicate has at least two arguments, and (ii) one of the arguments of the predicate satisfies the requirement to be passivized. As far as these two requirements are satisfied, any predicate can be passivized verbally. Therefore, a pair of a verb and a preposition may be passivized in the lexicon, even though it is unclear whether the subject of its passive will receive change-of-state in the lexicon or after syntactic derivations. Whether the subject of passive will receive change-of-state is irrelevant to the consideration whether a predicate can be passivized by the verbal passivization principle. In this sense, the meanings of a verb and a preposition need not to be strictly composed in the lexicon to see whether the pair of them may be passivized. In other

words, the connection of the verb and the preposition may be rather weak: for example, even if two arguments of the quasi-predicate are recognized as the arguments of the independent intransitive verb and preposition, one of which is the subject argument of the intransitive verb, and the other of which is the complement of the preposition, the predicate is allowed to be passivized, as far as the only argument of the intransitive verb satisfies the requirement of the verbal passivization compared to the only argument of the preposition.

The redundancy mentioned above may be avoided, if syntax is exclusively responsible for the composition of meaning and the lexicon is irrelevant to it at all. (This view suggests that the change-of-state condition is applied not in the lexicon. We will return to this question soon.)

Consider the problematic case for the approach to passive in terms of θ-role, which is the example (1) from Kuno and Takami (2005), repeated in (31) with the relevant informal argument structure below each sentence.

(31) a. John read *Hamlet* last night.

$$\text{read}\left[\text{x}\left[\begin{array}{ll}\text{P-AGENT:} & \text{volition}\\ & \text{sentience}\\ \text{P-PATIENT:} & \text{Ø}\end{array}\right],\ \text{y}\left[\begin{array}{ll}\text{P-AGENT:} & \text{Ø}\\ \text{P-PATIENT:} & \text{Ø}\end{array}\right]\right]$$

b. ??/**Hamlet* was read by John last night.

c. *Hamlet* was read even by John.

Given the argument structure of (31a), the unacceptability of the corresponding passive (31b) is unexpected; if the argument structure like (31a) enters the verbal passivization principle, the principle can find the argument involving the largest number of the P-Agent properties and the smallest number of the P-Patient properties, namely, *John*, and should suppress argument realization of it; therefore, it predicts that (31b) is acceptable, contrary to fact. Interestingly, the passive (31c) also corresponding to (31a)

with the minimal difference from (31b) (the presence of '*even*') is acceptable. Why the passive sentences (31b) and (31c) both corresponding to (31a) result in the difference in acceptability? We can find a solution to this problem by closely inspecting unacceptable (31b) and acceptable (31c); in (31b), the subject *Hamlet* dose not involve the change-of-state property: it is not affected and characterized by John's reading. In contrast, in (31c), *even* in front of *John* makes the sentence acceptable; the presence of it characterizes *Hamlet* as the one read even by John, who probably hates reading books. This state of affairs is exactly like that of pseudopassives, and there seems no barrier preventing us from extending the change-of-state condition to cover ordinary verbal passives. Hence, we assume that the change-of-state condition is not only responsible for pseudo-passives, but for all passive, and the change-of-state condition is restated as in (32):

(32) The change-of-state condition (The final version)

The subject of passive must involve the change-of-state property.

Where should this condition be stated? If this condition was stated in the lexicon, the acceptable sentence (31c) would not be derived; this is because the first time that the subject of the sentence turns out to be affected by the action name by the verb is at the point that all part of the structure has been built up, and all computation of the meaning has finished. In the Minimalist terms, therefore, this condition should be stated at LF or the C-I interface; besides, I here do not deny the possibility that the subject of (31c) does not involve change-of-state at the beginning of the derivation, but it receives the property somehow at a certain stage of the derivation, or after the derivation.

In this section, we have seen how the formerly problematic cases of passivization can be explained with our new apparatus, the verbal passivization principle and the revised proto-role properties. In accounting for those cases, we propose a condition

filtering out the passive without the subject involving change-of-state. Davison (1980) remarks that in pseudopassives, what semantics and syntax do is just promoting objects to subjects, and the peculiar interpretation of them that is generally assumed, such as affectedness and characterization, is pragmatically derived from Gricean maxims; they have such narrower meanings, because their construction is marked. I disagree with this idea, because the origin of these kinds of peculiar interpretation is nonetheless expressible by purely semantic terms such as change-of-state; choosing the proto-role properties, Dowty tries to single out the properties independent either from discourse and pragmatics. However, I also admit that what syntax and semantics can do is just to specify that the subject of pseudopassives or ordinary passives involves the change-of-state property; deciding whether the change-of-state property is interpreted as effect or characterization is not business of semantics and syntax, and it is out of the scope of this paper.

4.4 Adjectival Passives

Much work has been dedicated to adjectival passives (see Wasow 1977, Anderson 1977, Chomsky 1981, Levin and Rappaport 1986, Grimshaw 1990). However, we have not so far discussed adjectival passives, because we have not had enough apparatus to explain them. For now, we are ready for exploring them, with the apparatus that we have been proposing.

Grimshaw (1990) claims that the following three kinds of elements may be converted to adjectival passives:

(33) a. Passivized verbs: a *well-built* house, a *broken* box
b. Unaccusatives: a *fallen* leaf, a *melted* ice-cream
c. Causative EO psych verbs: a *frightened* man, the *depressed* patient

Levin and Rappaport (1986) propose that adjectival passives are derived from the corresponding verbal passive; however, Grimshaw denies this possibility, noting that unaccusative verbs (33b) and Causative EO psych verbs do not have the corresponding verbal passive, but still may have the form of adjectival passives; therefore, she claims that adjectival passives are not derivable from verbal passives.

If we closely inspect the cases of the allowable adjectival passives, we can find what they have in common; that is, they are not licit input to the verbal passivization principle: passivized verbs (33a) cannot be passivized verbally again, or doubly, unaccusative verbs (33b) cannot be passivized verbally because of the lack of the number of arguments, and Causative EO verbs, as already mentioned in section 3.3, may not be passivized verbally since their argument structure dose not satisfy the condition on the verbal passivization. If (33abc) are all and only instances of adjectival passives, as claimed in Grimshaw (1990), we may assume that the verbal passivization principle has a filtering effect: if an argument structure satisfies the requirement of the verbal passivization principle, it passes the filter and undergoes the verbal passivization; if not so, however, it is filtered out and sent to the adjectival passivization.

In addition to the three kinds of licit input, there is also a subdivision among them: one that retains its argument structure and one that reduces the number of the arguments, as illustrated in (34) (* means that the sentence is ungrammatical without the parenthesized element):

(34) a. This 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)

As can be seen in (34), these sentences are unacceptable without the parenthesized

elements, and this means in terms of argument structure that they are the obligatory arguments of the predicates and therefore must be expressed in the sentences. It follows, further, that the adjectival passivization did not affect the adicity of the predicates, given that their base forms are also two-place predicates. In contrast, look at the examples in (33c), in which the adjectivally passivized verbs take one argument attributively; since their base forms take two-arguments, they lost one obligatory argument in the process of the adjectival passivization. Where dose the different behavior between the two arise from?

The answer lies in the interpretation of adjectival passives; Grimshaw (1990) proposes that the interpretation of adjective is state and resistant to the eventive interpretation such as accomplishment, achievement, and process; and adjectival passives are not the exception; therefore, their interpretation also must be stative. Further, it is clear that Causer is closely related to the eventive interpretation; hence, the Causer argument of the Causative verb must be deleted for change of its interpretation from event to state. This is why the verbs passivized adjectively in (33c) lost the causative one of their arguments in the process. Viewed in terms of our theory, this is nearly equivalent to saying that for adjectivization of the eventive predicate, the argument involving the causation property must be deleted; otherwise, the eventive interpretation that the causation argument is related to conflicts with the stative interpretation of adjectives. Hence, we can assume that adjectival passivization consists of the following principle:

(35) The Adjectival Passivization Principle

> The category of input is changed into adjective and if any, the argument involving the causation property is suppressed.

This principle is applied to Causative EO verbs in the following way: firstly, they are input to the verbal passivization principle, by which they are filtered out and sent to the

adjectival passivization principle as input. The adjectival passivization principle forces them to change their category into adjective, and as a by-product of the change of the grammatical category, their causation argument is also required to be suppressed.

Let us consider the case in which the number of arguments is preserved (34a-d). The base forms of these verbs only has the stative interpretation, and no causation argument appears in the argument structures, as shown in (36); then, no argument have to be deleted for stativization of their interpretation.

(36) a. Another event followed/preceded this event.
b. Snow capped the mountain.
c. Craters rimmed the volcano.
d. Mature trees surrounded the house.

What about verbal passives (33a)? The adjectival passives of them have only one argument, but the other argument that does not appear is not suppressed by the requirement of the adjectival passivization principle. Note that the adjectival passives in (33a) have already been the outputs of the verbal passivization at the point of input to the adjectival passivization principle; therefore, to my knowledge, in all the cases, the causation argument has been already suppressed by the verbal passivization principle, when they are input to the adjectival passivization principle; thus, their arguments are not suppressed by the adjectival passivization principle. The case of unaccusatives (33b) is simpler; unaccusatives never have the causation argument, so their arguments are not suppressed by the adjectival passivization principle.

After the application of the adjectival passivization principle, predicates are input into RASP, like verbally-passivized predicates. In that process, though RASP determines an argument as the subject, it cannot determine an argument as the direct object; this is because adjectives do not select DP directly, and they always need the help of prepositions; I put aside this problem for a while, and I will clarify this issue in

the next section.

Regarding adjectival passives, Levin and Rappaport (1986) make an interesting claim, what is called Sole Complement Generalization (SCG), as stated in (37):

(37) Sole Compliment Generalization (SCG)

An argument that may stand as sole NP complement to a verb can be externalized by APF [Adjectival Passive Formation].

What this generalization states is simple. Look at the example in (38) and (39):

(38) a. feed some cereal to the baby

b. feed the baby some cereal

c. *feed some cereal

d. feed the baby

(39) a. *unfed cereal

b. unfed baby

(For exposition, I use the terms of traditional θ-roles, but each of them should be identified as a specific combination of proto-role properties per se.) (38ab) show that *feed* permits two types of constructions: the dative construction (38a) and the double object construction (38b); in (38ab), it is shown that both the Theme argument *some cereal* and the Goal argument *the baby* can be directly selected by the verb. However, (38c), whose source should be (38a), shows that the Theme argument cannot solely stand as the direct object without the Goal argument, whereas (38d), whose source should be (38b), shows that the Goal argument may stand as the sole direct object without the Theme argument. This result corresponds to the grammaticality of the adjectival passives derived from them, as in (39): the Theme argument, which cannot be the sole object, cannot be predicated of the adjectivally passivized predicate, in

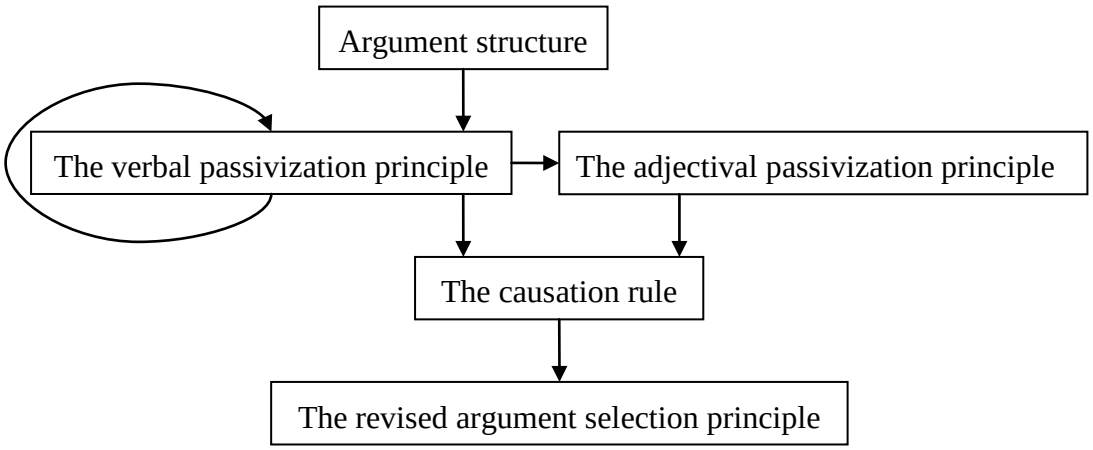
(39a); in contrast, the Goal argument, which may stand as the sole object, may be predicated of the adjective.

Although we do not enter the discussion of why the indirect object in (38b) is deletable, this generalization may be explained in our theory. In terms of argument structure, if a certain element is undeletable, it means that the element is an obligatory argument of the predicate; therefore, in (38a), both arguments are the obligatory arguments of the predicate, and in (38b), in spite of its appearance as double object constructions, the Theme argument is only an obligatory argument of the predicate and the Goal one is not. With this in mind, let us look how the adjectival passivization of (38ab) proceeds. In (38a), the argument structure contains the Agent argument, the Theme argument, and the Goal argument, as they are all the obligatory arguments of the predicate; first, it is input to the verbal passivization principle; there, it satisfies the principle, and the Agent argument is suppressed; after the verbal passivization, the passivized argument structure is again input to the verbal passivization principle, but it is filtered out this time and then input to the adjectival passivization principle. Note that this principle requires suppression of the causation argument, if any, and unless there is no such argument, it does not affect argument structure at all. The relevant argument structure has already lost its Agent argument at the point of input to adjectival passivization, and there is no argument that should be suppressed by the adjectival passivization principle; therefore, after the application of the adjectival passivization principle, the Theme argument and the Goal argument should remain as the obligatory arguments of the predicate; in (39a), however, only the Theme argument is expressed, but the Goal argument is not expressed, although its argument structure requires the realization of both arguments. Thus, (39a) is unacceptable. In contrast, in the argument structure corresponding to (38b), only the Agent argument and the Goal argument are the obligatory arguments of the predicate; therefore, after the Agent argument is suppressed by the verbal passivization, the relevant argument structure has only the Goal argument; the derivation proceeds further in the following way: it is

input into the principle again, filtered out by the principle, and input to the Adjectival passivization principle, but no argument is suppressed in the absence of the relevant argument; consequently, the adjectivally passivized argument structure has the only obligatory Goal argument; in (39b), the argument structure is satisfied by the argument, and hence, this is acceptable.

In this section, I presented a principle that derives adjectival passives, and we saw this principle nicely predicts the properties of adjectival passives; further, this theory covers the wider range of adjectival passives than the theory of Levin and Rappaport (1986), which cannot predict the adjectival passive of unaccusatives due to the lack of the corresponding verbal passive. By adding the adjectival passivization principle, the schema of the principles and the rule in the lexicon is refined as follows:

(50) The schema of the principles and the rule in the lexicon (The revised version)



In the schema (40), the leftmost circling arrow expresses the secondary input of the verbally passivized predicate. The already passivized predicates, unaccusatives, and Causative EO verbs are filtered out by the verbal passivization principle, and they are input to the adjectival passivization principle. The computation after the relevant types of passivization proceeds identically.

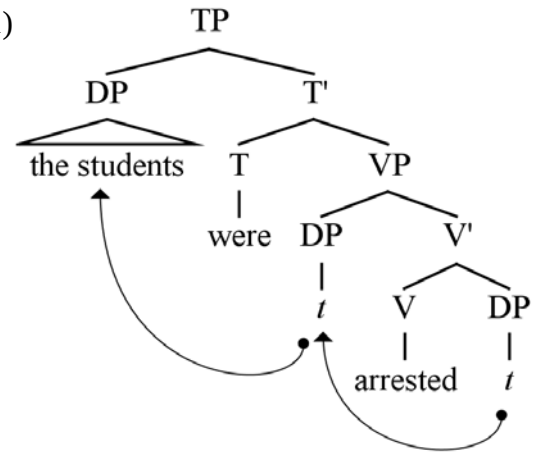
4.5 Structure and Morphology of Verbal Passives

Though we need not talk about adjectival passives, the structure and the morphology of verbal passives still need to be explained for its peculiarity—the obligatoriness of the passive morpheme and the auxiliary *be*. In chapter 2, we saw that the analyses made in the framework of GB are almost entirely inapplicable in the new system of the Minimalist Program. If so, what is the valid analysis in terms of the Minimalism? To my knowledge, few analyses have been dedicated to the passive construction to date. Fujita and Matsumoto (2005) extendedly treat English passives within the framework of the Minimalism, but their analysis seems to be rather independent from the original framework, in that they postulate several original functional categories to explain passivization. Apart from whether their analysis is descriptively adequate, it seems that we should not take this approach to passive, because one of the goals of our theory is to show that enriching the lexicon and reducing complexity of structure lead to the empirically adequate and conceptually simple theory. Therefore, it is enough for my purpose just to show that the passive may be described by the simplest structural apparatus available in the Minimalism. Accordingly, there seems to be left no reason to take the approach enriching the structural apparatus such as Fujita and Matsumoto (2005); rather, we should not take that kind of approach. We start discussion of the structural description of passive, by inspecting literatures that are written keeping to the original framework (Chomsky 1995).

Chomsky (1995, 316) proposes that, "…only unaccusatives lacking agents would be simple VP structures." Given the parallelism in interpretation between passive and unaccusative (e.g., the logical object appear in the subject position), we may expect that passive also has a similar structure to the one of unaccusatives, that is, a simple VP structure without the light verb projections. Radford (1997) assumes that the passive

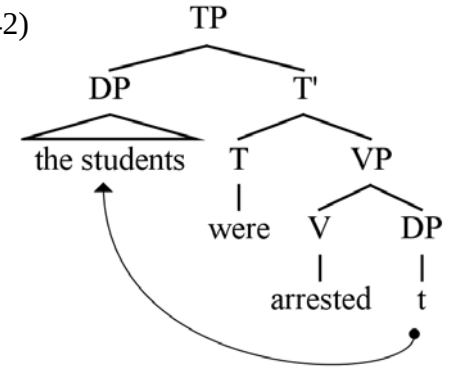
construction is formed without the projection of the light verb, proposing that the passive sentence ‘the students are arrested’ is formed in the following way:

(41)



In the structure (41), the light verb is not projected, and the DP, *the students*, moves from its base position to the specifier of the VP and then to the specifier of the TP. However, this derivation has an apparent problem; the movement from the complement of V to the specifier of the VP violates the Last Resort condition of movement, because no checking relation is established by the movement. Although Radford presents independent reasons to postulate that movement, we would have to abandon it for the theoretical coherence—the coherent interpretation of the Last Resort. Hence, we would assume the structure as in (42) to passive, in which the DP moves directly to the specifier of the TP, without stopping at the specifier of the VP, naturally following the suggestion made in Chomsky (1995), in respect of the Last Resort.

(42)

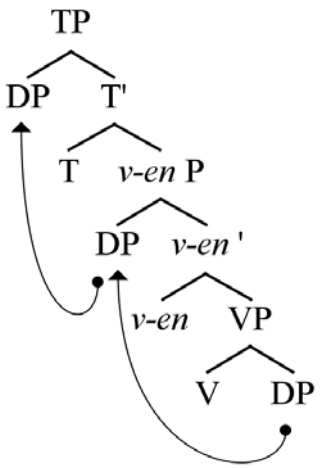


On the other hand, Hornstein, Nunes, and Grohman (2005, 103) suggest that since the light verb is the element that is responsible for both the external θ-role and Accusative Case, on one hand, and passive constructions involve suppression of Accusative Case assignment and change of status of the external θ-role, on the other, we may assume that in passive, morphological process affecting the light verb can alter both its Case and θ-properties. In contrast to Chomsky (1995), they claim that the possibility that the light verb is still projected to structure in passive may be retained, but its ordinary property that it is responsible for Case and the external θ-role is lost by the morphological process that forms passive participles.

Which of the two approaches should we take? In other words, is the light verb projected in passive? Although not so strong, there is a clue that might answer to this question. Suppose that the structure of passive is the one such as (42), with no intervening projection between TP and VP. Besides, if the structure of unaccusatives is also the one such as (42), as Chomsky suggests, we face the situation where both passives and unaccusatives have the same structure. However, the superficial syntactic structures of them are indeed not identical: a copula appears in passive, but not in unaccusatives. If they share the same structure, the superficial difference is unexpected. Instead, if we assume that unaccusatives have the structure such as (42) and passive has a structure with the light verb, however, we may explain the superficial difference between them.

The reason is somewhat weak, but nevertheless, seems plausible, so I take the latter approach, that is, the one in which the (morphologically affected) light verb is projected in passive. Thus, we assume the structure as in (43) to passive (In (43) the affected light verb is represented as *v-en* for ease of exposition, though I do not intend that *v* and *-en* actually make up a complex. I will clarify this matter later in this section).

(43)



The structure (43) assumed, the derivation of passive proceeds in the following way: the DP is strictly merged with the V and then, it is overtly raised to the specifier of the *v-en*P, for the checking of the strong [nominal-] feature on *v*, the Last Resort condition and Procrastinate being satisfied (see Chomsky 1995 for detail). After raising, the DP cannot check its Case feature, however, and therefore it is still active to attraction. When the derivation has proceeded at the step where the TP is built up, the TP attracts the DP for Case checking. This would be a natural derivation under the assumption that the light verb is responsible both for the external θ-role and Accusative Case, and the passive morphology affects the light verb somehow.

Let us say that this is the structure of passives for the moment. Next question is how RASP interfaces with the structure building component. RASP just determines what becomes subject and what becomes object. However, what dose becoming subject and becoming object mean in terms of the Minimalism. The answer is rather evident. The subject argument is merged in the specifier of *v*P, and the object argument is merged with V as the complement. What we need now is the principle ensuring it. Thus, we may meet the need, if we assume the linking principle that links the determined subject argument to a DP that is in the specifier of *v*P and the determined object argument to a DP that is the complement of V. Here, we must note that a predicate is not always a verb, but it can be an adjective, as the case of adjectival

passivization. We know that adjectives do not directly take the direct object, but take it with the help of the preposition; therefore, we must posit two distinct clauses in the definition of the linking principle, each of which is responsible for verb and adjective, respectively, as illustrated in (44), where the determination as the subject or as the object has been already done by RASP.

(44) The Linking Principle

(I) If the predicate is a verb, the determined subject is linked to a DP by the strict merger of *v*P (*v*') and the DP, and if any, the determined object is linked to a DP by the strict merger of V and the DP.

(II) If the predicate is an adjective, the determined subject is linked to a DP by the strict merger of AdjP (Adj') and the DP, and if any, the determined object is linked to a DP by the strict merger of Adj and PP taking the DP as the complement.

I assume that this linking principle holds in syntax, governing how structures are build.

Note that in the configurational approach to θ-role assignment, the proper θ-role assignment is ensured by the structural configuration: for instance, if DP appears as a complement of V, the DP receives the θ-role that should be assigned to the object, and if DP appears in spec-*v*P, it receives the subject θ-role. On the other hand, the correct configurational order is ensured by the θ-role assignment: for the proper θ-role assignment, the element bearing the object θ-role must appear as a complement to V, and the element bearing the subject θ-role must appear in spec-*v*P (the uniform theta assignment hypothesis (UTAH) in Baker 1988). However, we have abandoned the notion of θ-role and accordingly θ-role assignment; the correct configurational order is, instead, ensured by RASP and the linking principle, as we have discussed above. In the former view with θ-roles, syntax is the place of linking in the guise of θ-role assignment; in the present view, this part remains intact, but it is overtly manifested as

the linking principle.

Concerning the derivation of passive, in the former view, the superficial subject has to be merged with V for the assignment of the object θ-role; in the present view, however, the logical object is determined to be the subject by RASP in the lexicon, and the subject is required to be merged in spec-*v*P by the linking principle. Given our assumption, we do not need any more the familiar assumption that the subject of passive—the logical object—strictly merges with V. This movement is motivated by the configurational approach of θ-role assignment, but with RASP and the linking principle, we dispense with θ-roles; hence, this movement loses the motivation. Once there is no motivation, the subject DP's strict merger with V and the movement from the complement position of V to spec-*v*-*en*P as in (43) in passive are unnecessary, and therefore prohibited, because the derivation without this movement is superior to the one with this movement in light of economy, and the more economical derivation should block the less economical one. Once we take RASP and the linking principle, the familiar object movement in passive is thus abandoned.

There is an empirical support to this conclusion. It is arguably accepted that so-called 'floating quantifiers' may appear only in the trace site left by movement. Sportiche (1988) provides an interesting data as in (45):

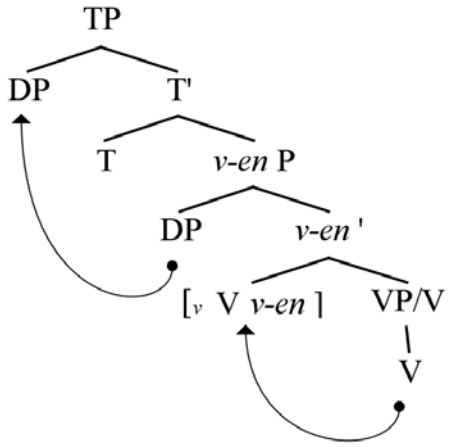
(45) *The children were seen all. (Sportiche 1988: 444)

If *the children* moves from the post verbal position, we predict that the floating quantifier *all* also appears there in principle. This is not the case, however; contrary to our prediction, it is not allowed to be there. Sportiche suggests that the θ-role is assigned to spec-VP directly, so no floating quantifiers should be allowed there. However, this treatment is rather ad hoc; further, it is a clear exception to the configurational approach to θ-role assignment.

As shown above, the object movement in passive is conceptually unmotivated in

terms of our theory and empirically doubtful as exemplified by the example of floating quantifiers. My solution to this problem is to assume that in passive, subjects are strictly merged with *v-en*P, and become spec-*v-en*P, as shown in (46):

(46)



In the abstract structure of passive (46), the subject DP strictly merges with *v-en*', and raises to spec-TP for Case checking. Note that in English, it is assumed that the complex of V and *v* always raises to T covertly; consequently, in the pronounced form of passive, the floating quantifier quantifying the subject never shows up just behind a passive participle.

Verbal passive sentences, unlike ordinary simple sentences, show peculiar syntactic behavior, that is, the obligatory appearance of a copula. Some might assume that a copula obligatorily appears, because the category of the passive participle is changed form verb to adjective by the verbal passivization; this assumption, however, is immediately objected by the following examples in (47):

(47) a. Bill was told the story. (Wasow 1977: 344)
b. Sue was sent the letter. (*ibid.*)

If the category of the participle in the verbal passive is adjective, they should not take the direct argument; however, the sentences in (47) are perfectly acceptable. Further,

the example (42) shows that the category of the participle in the verbal passive is definitely verb, which can take a direct argument.

Lasnik and Uriagereka (2005) propose, citing Chomsky and Lasnik (1977), that though the default value of syntactic feature of verbs is [+V, –N], but the passive morphology—the addition of *-en* to the verbal stem—renders the N feature underspecified: specifically, [+V, –N] is changed to [+V, N] by the passive morphology. Assuming so, we can derive the fact that passive participles do not assign Case, because only [–N] elements assign Case. Adopting their proposal, let us assume that one of the functions of the verbal passivization principle is to render the syntactic feature value of [–N] of input verbs underspecified, as illustrated in (48):

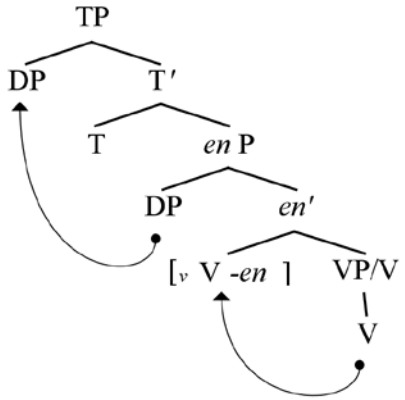
(48) A function of the verbal passivization principle
The verbal passivization principle changes [–N] to [N].

This assumption further explains the other syntactic peculiarity of passive, the obligatory presence of the auxiliary *be*. It is evident that the only element that can appear without the support of *be* is verbs, namely, elements with the syntactic feature [+V, –N]. The projection headed by all the other major categories with the different combinations of syntactic feature, NP, PP, and AP, need the support of *be*, when used as predicates. Hence, passivized verbs with the syntactic feature [+V, N] should require the support of *be*, because their syntactic feature is not [+V, –N].

Where should we suppose that the passive morphology takes place, in structure, in the lexicon, or somewhere else? Chomsky (1995: 319) assumes that the structure already formed enters morphology, after Spell-Out; in other words, he assumes that morphology is located on the way from syntactic structure to PF. Therefore, we can assume that the passive morphology takes place overtly in structure—put differently, the complex of a verb and the passive morpheme *-en* can be made up overtly in structure. As a result, we can lend to syntax the large part of what was formerly

assumed to be done by morphology: it is not necessary to postulate a specific morphological device in the lexicon which exclusively generates passive participles; and we may assume that what morphology does is just reorder the input elements. To implement these considerations, let us say that *v-en* in the structures such as (43) and (46), whose identity we have not discussed yet, is actually the passive morpheme *-en* itself, and *-en* selects (probably c-selects, as in Chomsky (1986a)) only underspecified [N] elements. Therefore, we would have the structure such as (49) for verbal passives.

(49)



In the derivation of passive sentences as (49), maximal and minimal V merges with the passive morpheme *-en*; then, the strong V feature of *-en* attracts V, and it requires the overt raising of V to *-en*. After Spell-Out, this X^0 level projection is treated like a single word by morphology, which is assumed to be between syntactic structure and PF. At PF, the formed complex is interpreted as a single word, and also at syntactic derivation after the adjunction, it behaves so. The subject DP is merged with *-en'*, and becomes spec-*en*P. The subject DP further raises to spec-TP overtly for EPP and Case. Lastly, the whole structure is Spelled-Out, and then the correct surface order is formed. Thus, the derivation of the verbal passive proceeds.

4.6. Ditransitive Verbs and Their Passives

We saw in section 3.2 that the passive of double object constructions is

problematic for the Case-based analysis to passivization, but we have not touched the passive of double object constructions. Recall the corollary 2 of Dowty's argument selection principle, repeated in (50):

(50) Corollary 2

With a three-place predicate, the nonsubject argument having the greater number of entailed Proto-Patient properties will be lexicalized as the direct object and the nonsubject argument having fewer entailed Proto-Patient properties will be lexicalized as an oblique or prepositional object (and if two nonsubject arguments have approximately equal numbers of entailed Proto-Patient properties, either or both may be lexicalized as direct object).

With this corollary, let us see how the argument realization of double object constructions is predicted; look at the examples in (51), with the relevant informal argument structures below them.

(51) a. John gave Mary the book.

give ⟨ *x* [P-AGENT: volition; P-PATIENT: Ø], *y* [P-AGENT: sentience; P-PATIENT: ?change-of-state], *z* [P-AGENT: Ø; P-PATIENT: change-of-state, causally-affected] ⟩

b. John sent Bill the letter.

send ⟨ *x* [P-AGENT: volition; P-PATIENT: Ø], *y* [P-AGENT: sentience; P-PATIENT: ?change-of state], *z* [P-AGENT: Ø; P-PATIENT: change-of-state, causally-affected] ⟩

As shown in (51ab), given the corollary, it is reasonably predicted that the Theme arguments corresponding to *the book* and *the letter* become the direct object, since they have more P-Patient roles than the Goal arguments corresponding to *Mary* in (51a) and

Bill in (51b), respectively; this is the case. If we look at the informal argument structures carefully, we find that the Theme arguments involve the largest number of the P-Patient properties and the smallest number of the P-Agent properties, and this is no different from the situation in which the arguments are determined as the direct objects by the definition of RASP; in other words, once RASP defines them as the direct objects, it follows without recourse to the corollary that the Theme arguments are the direct objects; what RASP must do for the rest is to determine the non-subject and non-direct object arguments as the indirect objects; therefore, the corollary 2 of Dowty's is not necessary anymore, and RASP is further revised as follows:

(52) RASP

Except for the case in which the grammatical subject is otherwise determined,

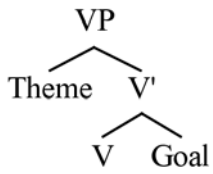
The argument for which the predicate entails the largest number of the P- (I) Agent properties and the smallest number of the P-Patient properties will be lexicalized as the subject of the predicate.

(II) The argument having the largest number of the P-Patient properties and the smallest number of the P-Agent properties will be lexicalized as the direct object.

(III) The argument that is exception for the above two qualifications will be lexicalized as the indirect object.

According to the change of RASP, the liking principle needs to be revised, because they are defined for the case in which input is intransitive verbs or transitive verbs, and not defined for ditransitive verbs. However, how is the indirect object linked to a DP? Larson (1988), Fujita (1996), and Hornstein, Nunes, and Grohman (2005) assume that in double object constructions, the Theme argument, which is the direct object, appears in spec-VP and the Goal argument, which is the indirect object, appears in the complement of V, as in (53):

(53)



However, if object raising for Case checking is simply covert as is usually assumed in the Minimalism, a problem arises: it is predicted that the Theme argument proceeds the Goal argument, contrary to fact. Therefore, we must assume, differently from them, that the Goal argument is merged in spec-VP and the Theme argument is merged with V as shown in (54), taking the surface order of the double object construction into account.

(54)

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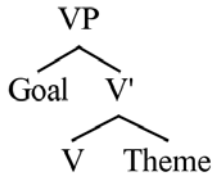


Therefore, the liking principle must be revised as in (55), where the case of the dative construction is out of consideration; the reason will be discussed at the end of this section.

(55) The Linking Principle

(I) If the predicate is a verb, the determined subject is linked to a DP by the strict merger of *v*P (*v*') and the DP, and if any, the determined object is linked to a DP by the strict merger of V and the DP, and if any, the determined indirect object is linked to a DP by the strict merger of VP (V') and the DP.

(II) If the predicate is an adjective, the determined subject is linked to a DP by the strict merger of AdjP (Adj') and the DP, and if any, the determined object is linked to a DP by the strict merger of Adj and PP taking the DP

as the complement.

Let us consider the passivization of double object constructions. Suppose that the informal argument structure of *give* is as (56), where *x*, *y*, and *z* are all the arguments of the predicate, and *x* is an Agent, *y* is Goal, and *z* is Theme, as can be identified from (51).

(56) John gave Mary the book.

give [*x* [P-AGENT: volition; P-PATIENT: Ø], *y* [P-AGENT: Ø; P-PATIENT:?change-of state], *z* [P-AGENT: Ø; P-PATIENT: change-of-state; causally-affected]]

This argument structure is input to the verbal passivization principle, under which *x* is suppressed by the principle; accordingly, the argument structure is changed into the apparent two-place predicate represented as give', as in (57):

(57)

give' [∗ [P-AGENT: volition; P-PATIENT: Ø], *y* [P-AGENT: Ø; P-PATIENT:?change-of state], *z* [P-AGENT: Ø; P-PATIENT: change-of-state; causally-affected]]

This passivized argument structure is then input to RASP, where the Goal argument *y* is determined as the subject, because it entails the largest number of the P-Agent properties (equal to *z*) and the smallest number of the P-Patient properties, and the Theme argument *z* is determined as the direct object, because it involves the largest number of the P-Patient properties and the smallest number of the P-Agent properties (equal to *y*); this is the correct prediction, as illustrated in (58):

(58) a. *The book was given Mary.

b. Mary was given the book.

As (58a) shows, the Theme argument *the book*, which is *z*, may not be the subject of the passive; instead, as in (58b), the Goal argument *Mary*, which is *y*, must be the subject. Thus, with RASP, the verbal passivization principle, and the linking principle, only grammatical passives of double object constructions are generated, and ungrammatical ones are not generated.

What about the dative construction such as (59), with the new RASP and the revised linking principle.

(59) a. John gave the book to Mary.

b. John sent the letter to Bill.

If both the Goal arguments and the Theme arguments are actually the arguments of the predicates *give* and *send*, respectively, RASP and the linking principle predict that the Theme arguments will be the direct object and the Goal arguments will be the indirect object; this seems the case. In the passive, if both of the Theme argument and the Goal argument are grammatical arguments as double object constructions, we expect that the Goal arguments, *Mary* and *Bill*, will be realized as the subjects, as in (60); however, the result is unacceptable.

(60) a. *Mary was given the book to. (Fujita and Matsumoto 2005: 175)

b. *Bill was sent the letter to.

Why is the prediction incorrect? There are examples showing that the Goal argument can be realized as adverbs, which do not contain DPs, as illustrated in (61):

(61) a. give the book away

b. sent the letter away

(61) shows that an indirect object argument is not necessary to be satisfied with prepositional phrases containing DPs, but it can also be fulfilled with adverbs that express Location. Besides, Larson (1988, 370) states that the preposition *to* in dative constructions such as (59ab) is not just a Case-marker, but a genuine preposition that expresses Location. If so, the prepositional phrase in dative constructions such as *to Mary* in (59a) and *to Bill* in (59b) expresses Location. Here, we must note that *Mary* (59a) and *Bill* in (59b) do not solely express Location, but they express Location by combined with *to*—making a pair with *to*. Because the indirect object may be fulfilled by an adverb in these dative constructions as we saw above, we conclude that the true indirect object in the dative construction is the prepositional phrase as a whole, that is, *to Mary* in (59a) and *to Bill* in (59b), not just *Mary* and *Bill*.

The argument that will be realized as *away*, *to Mary* or *to Bill* may not be allowed to be the subject, needless to say. In our system, we are assuming, however, that RASP, which treats arguments, is applied before we know that an argument is realized as *away* or *to someone*; therefore, we cannot simple say that *away*, *to Mary*, or *to Bill* are adverbials, so they may not be the subject categorically. Rather, what we must assume is that RASP does not admit in the lexicon that such arguments are lexicalized as the subject, before those arguments are revealed to be realized in the form of adverbials. Let us assume that this is a property of RASP.

At first sight, it seems stipulative to assume this property to RASP. However, the motivation is empirical and natural; elements that purely express Location, Time, or Manner are usually adverbials, and adverbials may not be the grammatical subject in almost all cases; hence, it is natural to suppose that such arguments purely expressing Location, Time, or Manner are not allowed to be the subject by RASP (perhaps, because of the total lack of proto-role properties). Specifically, the Goal argument in

dative constructions, such as *to Mary* in (59a), is surely an obligatory argument of the predicate, but the argument purely expresses Location; therefore, RASP does not admit that the argument is realized as the subject, even if it fulfills the requirement to be the subject. Consequently, in dative constructions, the Theme argument is determined to be the subject, and the Goal argument is determined to be the (adverbial) object; this is the correct prediction, as illustrated in (62) below.

(62) a. The book was given to Mary.
b. The letter was sent to Bill.

The explanation above implicitly admits the difference in argument structure between double object predicates and dative object predicates: in double object predicates, the Goal argument is the true object that is affected by the action named by the predicate, whereas in dative object predicates, the Goal argument is just indicating Location. Kuno and Takami (2005) exemplify this assumption, citing the following examples in (63).

(63) a. John taught Mary English. (*ibid*.: 110)
b. John taught English to Mary. (*ibid.*)
c. John sent Mary a letter. (*ibid*.)
d. John sent a letter to Mary. (*ibid*.: 111)

They claim that in the double object construction (63a), it is implied that the Goal argument *Mary* mastered English, whereas in the dative object construction (63b), there is no such implicature; similarly, in the double object (63c), some speakers consider that Mary received a letter, whereas in the dative object (63d), they consider that it is unclear that Mary received a letter.

The contrast can be explained in our theory. If the Goal argument in the double

object construction is a licit object of the predicate and it involves change-of-state as we are assuming, it should be affected by the action named by the predicate; this seems correct: the Goal argument is affected in that in (63a), *Mary* mastered English, and in (63c), *Mary* received a letter. On the other hand, if the Goal argument in the dative object construction is the defective argument in the sense discussed earlier and it just expresses Location, including no P-Patient property, it should not be affected by the action; this also seems correct: in (63bd), it is certain that the actions are toward *Mary*, but it is unclear that *Mary* is affected: in (63bd) respectively, it is unclear that *Mary* actually mastered English and *Mary* actually received a letter.

This is the reason why we remove the case of dative constructions from the consideration of the linking principle. The Goal argument in dative constructions is a defective argument that may be fulfilled by adverbials; therefore, it is hardly acceptable that predicates assign a grammatical function to that argument; this means, in our system, that RASP does not assign a grammatical function to those defective arguments. Given that the defective argument lacks a grammatical function, it is not a licit object that can be handled by the linking principle, which stipulates linking being contingent on the grammatical function. Thus, the linking principle need not be prepared for the Goal argument of the dative construction.

4.7 Conclusion

In this chapter, we saw a new theory of passive, which does not rely on Case, structure, and θ-roles. This new theory has the wider empirical coverage to include the different behavior between Agent and Causative EO verbs, the unexpectedly unacceptable cases, and adjectival passivization; especially, these three cases are totally unexplainable in terms of the Case and structure approach. Lastly, I present the derivation of the verbal passive. By clarifying the location of each module, namely, making clear what should be done in the lexicon and what should be done in the

structural derivation, the simpler and correct syntactic derivation of the verbal passive is obtained.

Chapter 5

Two Topics Concerning Passive

5.1 *By*-phrase

Many linguists (Marantz 1984, Jaeggli 1986, Lasnik 1988, Baker, Johnson, and Roberts 1989, Grimshaw 1990, and others) observe that there is correspondence between the suppressed external θ-role in the verbal passive and the θ-role that is assigned to DP in the *by*-phrase, as illustrated in (1) (for exposition, I use traditional θ-roles):

(1) a. Hortense was pushed by Elmer. (AGENT)
b. Elmer was seen by everyone who entered. (EXPERIENCER)
c. The intersection was approached by five cars at once. (THEME)
d. The porcupine crate was receives by Elmer's film. (GOAL)
e. The house is surrounded by trees (LOCATION) (Marantz 1984: 129)

As shown in (1), the θ-roles assigned to the DPs within the *by*-phrases are not restricted to a particular θ-role, and they are assigned a range of θ-roles, each of which corresponds to the suppressed θ-role of the passivized verb.

In the Case and structure approach to passive, Jaeggli (1986) proposes that the external θ-role assigned to *-en* in the passive is transferred to the DP within *by*-phrase. However, his explanation is untenable, because we saw in chapter 2 that Jaeggli's assumption that the morpheme *-en* receives the external θ-role is inapplicable in the Minimalism. Grimshaw (1990) provides an alternative analysis that can explain the correspondence. She proposes that *by*-phrase is a kind of adjuncts (a(rgument)-adjuncts, in her terms), and only suppressed arguments can license *by*-phrase. We saw in chapter 4 that the passivization principles, whether verbal or adjectival, suppress argument

realization of an argument. Grimshaw proposes that only when there exits a suppressed argument, *by*-phrase is licensed; in short, the suppressed argument licenses *by*-phrase; and the suppressed external θ-role is assigned to the DP in *by*-phrase. As a support for her proposal, she presents the examples as in (2), where unaccusatives and inchoatives, which are interpretively similar to passive, are resistant to *by*-phrase.

(2) a. The window was broken by the wind/boys/balls.
b. *Windows break easily by the wind/boys/balls.
c. *The window broke by the wind/boys/balls. (Grimshaw 1990: 143)

In the argument structures of the unaccusative sentence (2b) and the inchoative sentence (2c), no suppressed argument should be included, because they are basically monoadic predicates that only take the Theme argument, and the argument is realized as the subjects. Therefore, Grimshaw's proposal correctly predicts this fact.

How can we implement her consideration on *by*-phrase in terms of our theory, if we follow her proposal fundamentally? In our theory, there also exist arguments in argument structure suppressed by passivization. Recall that in the verbal passivization, the argument involving the largest number of the P-Agent properties and the smallest number of the P-Patient properties is suppressed, and in the adjectival passivization, the causation argument is suppressed. Let us assume that these suppressed arguments license *by*-phrase, and the argument that otherwise would be subject, which is suppressed by the passivization principles, is realized within *by*-phrase.

How is this analysis technically incorporated into our theory? We postulated that suppressed arguments are basically ignored by RASP and therefore, they are not linked to any DP in section 4.2. In our theory, what does it then mean that arguments are prevented from linking to a DP. In section 4.5, we assume that the liking principle, which is stated based on the grammatical function determined by RASP, is responsible for linking. Hence, if the grammatical function of an argument has not been determined

by RASP, the argument may not be linked to any DP by the linking principle; conversely, we may suppose that the reason why an argument is not realized is because the grammatical function of it is not determined. The fact of *by*-phrase clearly shows that there is a way to revive the suppressed argument as an adjunct. Given these considerations, one way to revive the suppressed argument would be that RASP optionally assigns a grammatical function to the argument; specifically, since a *by*-phrase is an adjunct, RASP determines the suppressed argument to be lexicalized as the adjunct, which is different from the ordinary adjunct; let us call it the argument adjunct after Grimshaw's proposal. Therefore, we add the forth clause as in (3) to RASP.

(3) RASP

(IV) The suppressed argument may optionally be lexicalized as the argument adjunct.

A question still remains: why are suppressed arguments always linked to a DP that is the complement of PP headed by *by*? We assume that the linking principle is responsible for the phenomenon too. Given these arguments, let us add to the linking principle the third clause, which describes the linking between a suppressed argument and a DP in *by*-phrase, as in (4):

(4) The Linking Principle

(III)If any, the argument adjunct is linked to a DP by the strict merger between VP and the *by*-phrase taking the DP as the complement.

These principles (3) and (4) ensure that the suppressed argument is optionally linked to a DP within *by*-phrase.

Grimshaw (1990) proposes that in adjectival passives, the Causative argument is

deleted, not suppressed for independent reasons. Therefore, in her terms, the adjectival passive of Causative EO verbs should not accompany *by*-phrase. Her proposal seems correct at first sight. (With respect to (5ab), the use of *by* would be marked and unordinary; it seems to me that *by* in them is a genuine preposition, which marks Agentivity; therefore, we should consider that it metaphorically marks Agentivity of the objects.)

(5) a. The fisherman was very surprised at [by] the huge fish.
b. The jury was amused at [by] the contestant's witty answers.
c. He is very disappointed in his new secretary.
d. Your boss is quite satisfied with your work.
e. Jim was scared of failing the math exam. (Watanuki, et al 2000: 580)

Although Grimshaw (1990) might correctly predict that *by* is not allowable in these constructions, she misses an important generalization, which is that in all of the sentences in (5), the peculiar prepositions appear and their meaning is unpredictable from their original meaning. For example, *at* in (5a) marks Theme, although *at* usually marks Location, and in (5e), although *of* usually marks Possessor, it also marks Theme. In the account of adjectival passives in Grimshaw (1990), this is a mystery.

In my theory, these peculiar prepositions are partially explainable. Unlike Grimshaw (1990), we assume that also in adjectival passives, the causation argument is 'suppressed', not deleted. Consequently, there also exists a suppressed argument in some adjectival passives, and the *by*-phrase principle then should be applicable. However, *by*-phrase is not allowed, and instead the peculiar prepositions, which are specific to each lexical item, are made use of. Why *by*-phrase is not available in adjectival passives and the choice of the peculiar preposition (probably, abstract extension of the original meaning) remains unclear, but our account is still plausible.

Jackendoff (1972) proposes the Thematic Hierarchy as in (6) and observes that

by-phrase in passives obey the Thematic Hierarchy Condition (THC), as in (7) (we take this condition as imposing exclusively on the verbal (normal) passivization, because he does not mention adjectival passives at all):

(6) The Thematic Hierarchy
    1. Agent
    2. Location, Source, Goal
    3. Theme

(7) The Thematic Hierarchy Condition
    The passive *by*-phrase must be higher on the Thematic Hierarchy than the derived subject.

(*ibid.*: 43)

The hierarchy in (6) and the condition in (7) can explain unacceptability of some examples. Look at the examples in (8):

(8) a. John was touching the bookcase.
    b. John hit the car with a crash. (*ibid.*: 44)

The sentences in (8) are ambiguous in that the subjects *John* in (8a) and (8b) are ambiguously interpreted as Agent or Theme, just as the case of Agentive and Causative EO verbs. When passivized, however, the ambiguity disappears, as in (9), where the logical subjects within the *by*-phrase are invariably interpreted as Agent:

(9) a. The bookcase was being touched by John.
    b. The car was hit by John (?with a crash). (*ibid.*)

Jackendoff explains the disambiguation in the following way; he claims that *the*

bookcase in (9a) and *the car* in (9b) bear Location or Goal, respectively; if *John* in (9ab) bore Theme, its θ-role would be lower on the hierarchy (6) than that of *the bookcase* and *the car*, respectively; as a result, the condition (7) is violated and this reading is not obtained. In contrast, if *John* bears Agent, its θ-role is higher on the hierarchy than that of the derived subjects. Therefore, only when *John* bears Agent, the condition (7) is fulfilled; the sentence in (9ab) are invariably interpreted so.

In our theory, we predict that in (8ab), when *John* is Agent, it should involve volition and no P-Patient property, and *the bookcase* and *the car* should involve no proto-roles; therefore, the argument structures should satisfy the requirement on the verbal passivization, and they are correctly passivized verbally as in (9ab); on the other hand, if *John* is Theme in (8a), *John* dose not involve any proto-role property and neither does *the bookcase*; if so in (8b), *John* may only involve movement but *the car* also may involve movement; therefore, as far as the subjects are interpreted as Theme, the argument structures in (8ab) fail to be passivized verbally. Although Jackendoff (1972) dose not present why the Thematic Hierarchy and THC exist, our theory may derive the THC effect in terms of our fundamental assumptions and without resorting to the hierarchy.

5.2 The Implicit Argument

Jaeggli (1986), citing the following observation in (10) (where the purpose clauses are bracketed and the relevant PRO is inserted by the author) from Manzini (1983), proposes that in the passive even without *by*-phrase, Agent role is realized on the passive morpheme *-en*, and the Agent role, as an implicit argument, participates in control of PRO subjects in purpose clauses.

(10) a. They decreased the price [[PRO] to help the poor].
b. The price was decreased [[PRO] to help the poor].

c. *The price decreased to [[PRO] to help the poor].

He argues that in (10b), Agent is in fact realized on *-en*, which controls the PRO in the purpose clause; in contrast, because in (10c), which is a middle construction, the Agent role is deleted, PRO cannot be controlled properly. If this explanation is on the right track, the examples (10) would be problematic for our theory; this is because our theory abandoned the analysis in Jaeggli (1986) and Baker, Johnson, and Roberts (1989) that the passive argument receives the external θ-role as an argument.

However, Williams (1985) provides the data that strongly calls Jaeggli's proposal into doubt. Consider the examples in (11):

(11) a. *The boat was sunk to become a hero.
(Lasnik pers comm. cited in Williams 1985: 309)

b. *Mary was arrested to indict Bill. (Willams 1974)

He argues that if the suppressed Agent indeed controlled the PRO subjects of the purpose clauses in (11), the sentences would be acceptable; however, they are unexpectedly unacceptable, given Jaeggli's analysis. Williams explains the unacceptability of (11ab), proposing that what controls the PROs in the purpose clauses is not the implicit arguments, but the matrix sentences; he calls this kind of control as S-control. If the controllers are in fact the matrix sentences in (11), the unacceptability of them can be explained: in (11a), if the matrix *the boat was sunk* controls the PRO, the purpose clause means like, '*the fact that the boat was sunk becomes a hero*'; this is clearly nonsense, and this is why (11a) is unacceptable. The problem in (11b) is identical to that of (11b).

Lasnik (1988), following William (1985), presents the examples that support the S-control analysis. He proposes that if S-control indeed exists, the passive sentence should be acceptable with the purpose clause which allows event as the subject; this

prediction seems correct, as illustrated in (12a):

(12) a. ?The base was attacked [PRO to be reported by the media].
b. The event was reported by the media. (Lasnik 1988: 13)

He claims that (12a) is quite acceptable; this is because the purpose clause *PRO to be reported by the media* may be predicated of the event *the base was attacked*, as shown in (12b) that the same predicate allows *the event* as the subject, semantically.

Lasnik further offers an example showing that PRO subjects in purposes clauses are not controlled by implicit arguments, which should bear the external θ-role of unrealized subjects. Consider the examples in (13):

(13) a. The ship was sunk by a torpedo [PRO to prove a point]. (Lasnik 1988: 10)
b. A torpedo sank the enemy ship. (*ibid.*:4)

In section 5.1, we saw Grimshaw's argument that elements within *by*-phrases bear the external θ-role of suppressed arguments; since *a torpedo* is assigned the external θ-role (Instruments) in the active form (13b), the *by*-phrase in (13a) is not an adjunct expressing means, but a genuine *by*-phrase that bears the suppressed Instrument role; hence, *a torpedo* bears the suppressed external θ-role in (13a). If the implicit argument that bear the external θ-role controls PRO, *a torpedo* bearing the external θ-role should also control PRO. However, *a torpedo proves a point* is gibberish; therefore, it follows that *a torpedo* dose not control PRO in (13a); rather, we should consider that the event *the ship was sunk by a torpedo* controls PRO.

Williams (1985) further argues that whether Agents are syntactically realized or not is irrelevant to the acceptability in (10), providing the data such as in (14):

(14) Grass is green to promote photosynthesis. (Williams 1974)

Obviously, there should not be any syntactic argument that bears Agent; and there should not be implicit Agent arguments either, since (14) is not a passive sentence; nonetheless, the purpose clause is permissible. Williams (1985: 310) suggests that (14) is acceptable, because '…there is some purposeful agent (evolution, God) under whose control is the circumstance 'grass is green'.', and this kind of agent is quite different from the Agent θ-role.

Once S-control is available in (10b), the question that remains is why (10c) is unacceptable; put differently, why S-control is not available also in (10c), as in (10a). Rejecting Jaeggli's proposal that the unacceptability of (10c) is due to the lack of implicit Agent argument, Fujita and Matsumoto (2005) explains the unacceptability of (10c) in the following way; they note that purpose clauses express purpose and reason of action or act, so their distribution is restricted to event sentences; however, unaccusatives are only interpreted as stative; hence, unaccusatives are resistant to purpose clauses.

As seen above, Jaeggli's proposal that the implicit Agent argument controls PRO in purpose clauses is totally untenable; in passive, the matrix clause may control the PRO, if compatible with the predicate in the purpose clause, and in unaccusatives, they are independently resistant to purpose clauses because of the incompatibility between event reading required by purpose clauses and stative reading of unaccusatives. Hence, the examples in (10) are not a flaw of our theory of passives.

5.3 Conclusion

In this chapter, we briefly discussed two familiar topics concerning passive: *by*-phrase and the implicit argument. As for *by*-phrase, on the one hand, we assume, following Grimshaw (1990), that suppressed arguments in verbal passives license them; assuming so, we may explain why unaccusatives do not co-occur with *by*-phrase

(unaccusatives do not have suppressed arguments). However, by assuming, unlike Grimshaw, that arguments may be suppressed also in the adjectival passive, we can give a partial explanation to the fact that the peculiar preposition specific to each lexical item is used to mark suppressed arguments. Besides, THC in Jackendoff (1972) can be given a natural explanation, if we take the proto-role approach to passive proposed in the present theory. On the other hand, regarding Jaeggli's proposal that the implicit argument controls PRO, we saw that the proposal is incorrect; rather, the example presented by Jaeggli should be treated as instances of S-control proposed in Williams (1985), followed by Lasnik (1988) and Grimshaw (1990). Consequently, even though our theory rejects the existence of the implicit argument in passive, no problem arises.

Chapter 6

Conclusion

In this thesis, I propose an alternative idea to passivization in English, criticizing the widely accepted approach to passivization, which crucially relies on Case and Structure.

In chapter 2, we saw that the influential proposals made by Jaeggli (1986) and Baker, Johnson, and Roberts (1989) are simply inapplicable in the new framework, the Minimalist Program. Apart from the transition from GB to the Minimalism, we saw, furthermore, that the argument that the passive morpheme is an element that receives the external θ-role and Case as an ordinary argument is independently proved to be incorrect, from the universal point of view.

In chapter 3, we saw the approach based on Case and structure is radically inadequate and incorrect: pseudo-passives show that we cannot maintain the uniform motivation of object-movement, the passive of double object constructions shows that if we depend on Case, we run into the problem, and the fact that Causative EO psych verbs, symmetrical verbs, and the others are not passivized verbally, in spite that they satisfy the Case and structural requirement to be passivized cannot be handled.

In chapter 4, I presented an alternative approach to passive based on argument structure. I made some revision to the argument selection principle and proto-role properties proposed in Dowty (1991), and proposed that passivization may be stated correctly in terms of them. Assuming so, we obtain the theory of passive that has wider empirical coverage including the cases such as mentioned above that the Case and structure approach may not explain.

In chapter 5, we discussed the two familiar topics concerning passive: *by*-phrase and the implicit argument; as for *by*-phrase, the present theory gives an elegant explanation, by assuming that suppressed arguments are realized within *by*-phrase, following Grimshaw (1990), and regarding the implicit argument, we saw that

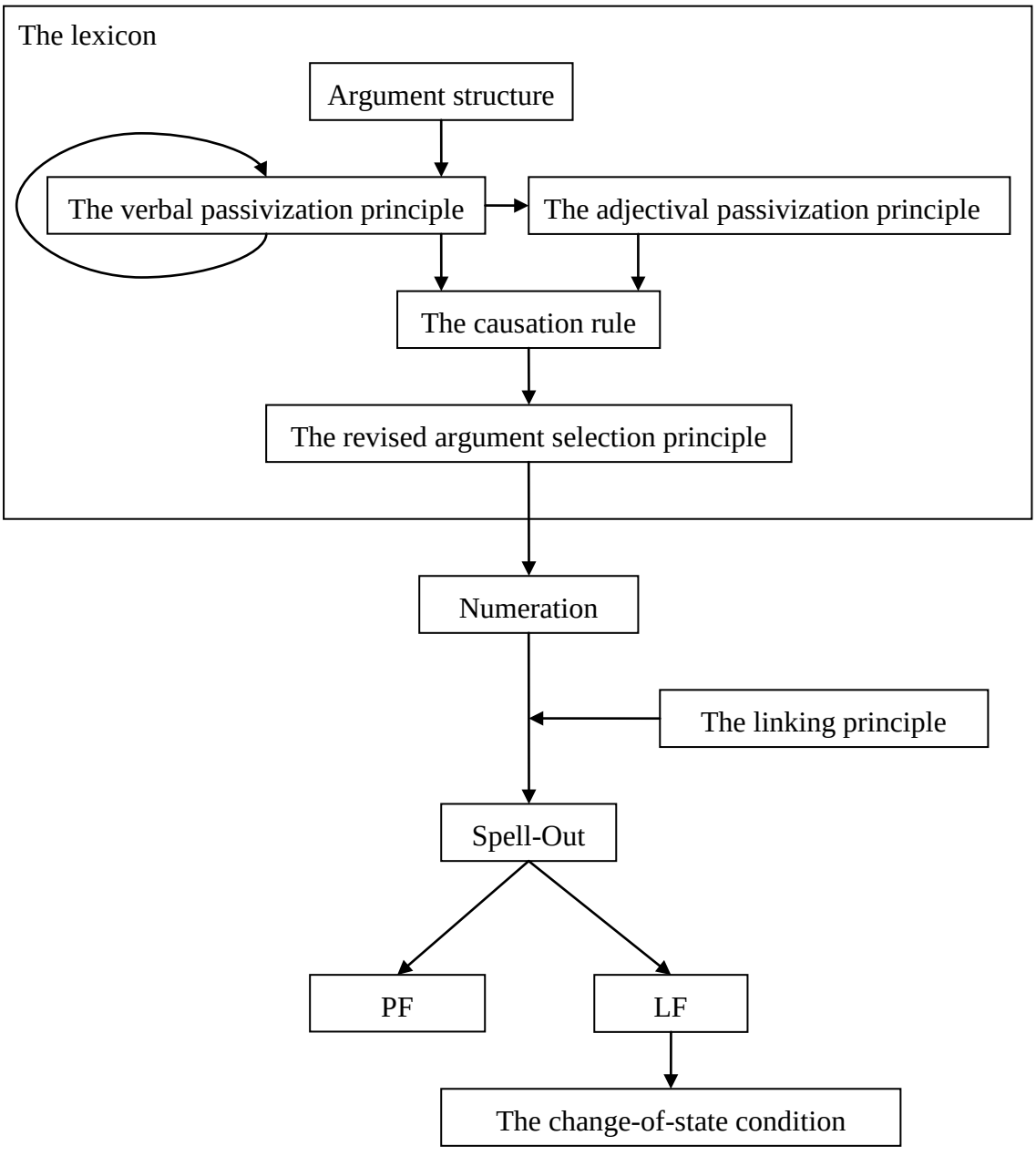
Jaeggli's assumption that they control PRO in purpose clauses is simply wrong; instead, S-control, proposed in Williams (1985), is the right description of control of PRO in purpose clauses.

In discussing passivization in terms of argument structure, I proposed that several principles and a rule are working in the lexicon. Readers might consider that assuming such principles and a rule complicates the computation in human language and passive should be treated in structure as have been assumed. However, we must note that even though we assume that passive is a phenomenon of structure, the principles such as RASP and the passivization principles are still required: without RASP, what would determine that a certain argument will be the subject, or a certain argument will be the direct object, and without the passivization principles, what would determine that the subject of a transitive verb is always not realized in passive. Many generative grammarians have not discussed this point. Given this argument, our theory in fact explains passivization in English only with the necessities that are also required in the Case and structure approach in any event. Hence, our theory is more preferable both on the conceptual and empirical grounds.

Appendix

In this appendix, I show the whole schema of the principles, the rule, and the condition proposed in this thesis, which are incorporated into the model in the Minimalism, and the description of them, as in (1) and (2-7) respectively.

(1) The schema of the computation of human language



(2) The Causation Rule

Before application of the argument selection principle, if there is an argument involving the causation property, determine it to be realized as the subject; if there is no such argument, determine nothing.

(3) The Verbal Passivization Principle

The argument involving the largest number of the P-Agent properties and the smallest number of the P-Patient properties is suppressed.

(4) The Adjectival Passivization Principle

The category of input is changed into adjective and if any, the argument involving the causation property is suppressed.

(5) The change-of-state condition

The subject of passive must involve the change-of-state property.

(6) RASP

Except for the case in which the grammatical subject is otherwise determined,

(I) The argument for which the predicate entails the largest number of the P-Agent properties and the smallest number of the P-Patient properties will be lexicalized as the subject of the predicate.

(II) The argument having the largest number of the P-Patient properties and the smallest number of the P-Agent properties will be lexicalized as the direct object.

(III) The argument that is exception for the above two qualifications will be lexicalized as the indirect object.

(IV) The suppressed argument may optionally be lexicalized as the argument adjunct.

(7) The Linking Principle

(I) If the predicate is a verb, the determined subject is linked to a DP by the strict merger of *v*P (*v*') and the DP, and if any, the determined object is linked to a DP by the strict merger of V and the DP, and if any, the

determined indirect object is linked to a DP by the strict merger of VP (V') and the DP.

(II) If the predicate is an adjective, the determined subject is linked to a DP by the strict merger of AdjP (Adj') and the DP, and if any, the determined object is linked to a DP by the strict merger of Adj and PP taking the DP as the complement.

(III) If any, the argument adjunct is linked to a DP by the strict merger between VP and the *by*-phrase taking the DP as the complement.

Notes

1. Chomsky (1995: 315) notes that, "the agent role being understood as the interpretation assigned to the *v*-VP configuration." Thus, we assume that the external θ-role is assigned by the complex of *v* and V.
2. Chomsky (1995, 299) refers to "neighborhood" as follows; an element that is a neighborhood of H can be ignored when we ask whether a feature F is attracted by HP.
3. Fujita and Matsumoto (2005) succeed in explaining the different behavior of Causative EO verbs and Agentive EO verbs, incorporating the structure proposed by Belletti and Rizzi (1988) into their proposed structure, in the context of the Minimalism. I do not discuss their explanation in the text, because their explanation crucially relies on the use of the functional categories that are not generally assumed in the Minimalism.
4. Kuno and Takami (2006) note that in the case that the marriage is presided over by someone, *marry* can be passivized as in (i):
   (i) We were married by Father Smith in 1960. (Kuno and Takami 2006: 39)
5. The schemata in (14) are the partial representations of argument structure in that within them, only revised proto-role properties are included, but it is likely that more entailment to the arguments by the verbs that are not proto-role properties may be included.
6. In English, intransitive verbs are not passivized verbally, so we must assume that this verbal passivization principle is applied only to predicates with more than one argument. However, this restriction is obviously not a universal one. In section 2.6, we saw that some languages such as German and Finnish have a construction called impersonal passive, which is the passive derived from intransitive verbs. The fact suggests that in these languages, intransitive verbs with only one argument may undergo the verbal passivization, unlike the case of English. Hence, it is supposed

that the restriction on the number of arguments that a verb has to have to be passivized varies across languages, parametrically or as a reflex of other properties of the language: in English, verbs have to have more than one argument to be passivized, and in German and Finnish, verbs may have no more than one argument to be passivized.

7. *John* and *Mary* might undergo some kind of the change-of-state from the state in which they have not met to the one in which they have already met, but it is rather unclear that we can pronounce that that is genuine change-of-state; hence, I assume that no P-Patient property is included, but there is no strong reason.
8. Although not expressible in terms of the P-Patient property, 'characterization' possibly should not be subsumed into change-of-state as a whole, and instead, it should be identified as an independent condition. Grimshaw (1990, 114) notes that the stative verb *fear* is passivized verbally, as shown below.

   (i) The situation is feared by Mary.

   Since the active form of the verb does not have the event interpretation and has only the state interpretation, the subject *the situation* does not undergo change-of-state in the corresponding passive; therefore, we predict that the sentence is unacceptable due to failure of the satisfaction of the change-of-state condition. However, the sentence is unexpectedly acceptable. This fact suggests that not only change-of-state but characterization is functioning as a condition licensing passive, because it is clear, in this example, that the subject is characterized by the predicate. The reason why I do not treat it as a condition is because it is not expressible in terms of the proto-role properties and therefore, it follows that we cannot state passivization purely in terms of them. Conversely, that fact might show that characterization also should be identified as one of the P-Patient properties. Proto-role properties are, in any event, subject to further investigation.
9. This statement might be too strong. Chomsky (1981, 123) observes that when an adverbial intervenes between a verb and a preposition which constitute a

grammatical passive sentence, the sentence becomes ungrammatical, as in (i):

(i) a. They spoke to John.

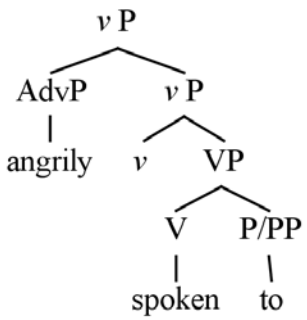
b. They spoke angrily to John.

c. John was spoken to.

d. *John was spoken angrily to.

One approach to describe this phenomenon in our system would be to assume that in the structure of pseudopassives, a verb takes a prepositional phrase as the complement, and adverbials are adjoined to *v*P, as represented in the following informal syntactic structure.

(ii)



Given this structure, no (VP) adverbial would appear overtly between the verb and the preposition under the assumption of the Minimalism, with V raising overtly to *v* and the complex of them raising covertly to T. However, what mechanism forces the strict merger of V and P/PP is rather unclear in terms of the Minimalism. Further investigations are required.

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