

# On the Role of the Event Argument in Voice Alternation

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Passivization is perhaps the most basic and yet the most problematic phenomenon in grammar. The massive amount of work that has been carried out in various theoretical frameworks centers on the role of the passive morpheme itself (Jaeggli 1986; Baker, Johnson, and Roberts 1989), the case and argument relations (Ura 2000 and numerous references cited there), and the inherent function of passivization (Shibatani 1985). While the function of passives has so far been described exclusively in terms of thematic and grammatical relations, this paper will shed light on a hitherto neglected aspect of passivization, namely the individual-level predication. Specifically, it will be suggested that the “event argument” that is postulated for stage-level predicates (Kratzer 1995) should count as an “external argument” that may be affected by passivization. This suggestion is motivated by the “peculiar passives” in English as well as by the “middle constructions” in English and Japanese.

## 1. Passive Prototype: Backgrounding of Agent

It is commonly assumed that passivization has two effects on the arguments of a sentence: the backgrounding or demotion of the Agent and the foregrounding or promotion of the Patient. Perlmutter and Postal

(1983), in their relational grammar framework, regard the promotion of the Patient as the basic task of passivization whereas Shibatani (1985) identifies the backgrounding of the Agent as its prototypical function, with the Patient receiving a focus as a side effect.

(1) Shibatani's (1985) characterization of the passive prototype

a. Primary pragmatic function: Defocusing of agent

b. Semantic properties:

( i ) Semantic valence: Predicate (agent, patient)

( ii ) Subject is affected.

c. Syntactic encoding: agent 0 (not encoded), patient subject

Shibatani substantiates this passive prototype by drawing evidence from impersonal passives and passive-related constructions like Japanese spontaneous, potential, and honorific expressions with the suffix *-rare*. In generative grammar, the agent-backgrounding function of passives is embodied as the absorption of an external argument by the passive morphology (Jaeggli 1986). While the technical implementation of this idea differs from researcher to researcher (cf. Baker, Johnson, and Roberts 1989), I simply assume that the passive morpheme suppresses the external argument, as formulated in the argument structure representation in (2), where the symbol “ $\wedge$ ” is used to indicate suppression. This notation as well as the term “suppress(ion)” is due to Grimshaw (1990). Suppression simply means that an argument is deprived of its argument status and thereby turned into an adjunct or erased from syntactic structure.

(2) Suppression of External Theta by Passivization

argument structure: (x y )

e.g. *The doctor cured the patient.*

suppression of external argument: (x $\wedge$  y )

e.g. *The patient was cured (by the doctor.)*

Provided that the prototypical function of passives is the suppression of an Agent argument, the subsequent section will suggest that non-canonical passives may have an additional function of suppressing an “event argument,” which is postulated in stage-level predicates (Kratzer 1995).

## 2. Backgrounding of Agent by Suppression of the Event Argument

In this section we concentrate attention on noncanonical passives the so-called peculiar passives and middle constructions in English and suggest that their “individual-level” properties be derived from the suppression of the event argument that the base verb originally has.

We will start with the so-called “peculiar passives” in English, by which are meant prepositional passive sentences like (3).

- (3) a. This spoon has been eaten with. (Ziv and Sheintuch 1981)
- b. This violin has never been played any sonatas on. (Davison 1980)
- c. This cup has been drunk beer out of.

These sentences are peculiar in that the passive subjects correspond to the objects of PPs which are not governed by the main verbs, and that direct objects (*any sonatas* in (3b) and *beer* in (3c)) may stay in situ with the accusative case. These peculiarities strongly indicate that passive sentences of this kind cannot be derived by the regular NP movement that is responsible for prototypical passives. If the Patient promotion is an automatic consequence of the Agent demotion in canonical passives, the fact that direct objects remain in situ suggests that peculiar passives do not directly execute Agent demotion.

Another distinct characteristic of the peculiar passive sentences is that they are qualified as what Krifka et al. (1995: 3) call “characterizing predications.” As opposed to “particular predications,” which depict specific events that occur in particular spatiotemporal domains, characterizing predications express the general property of the subject.

- (4) a. Particular predication: John is smoking a cigarette in the waiting room.
- b. Characterizing predication: John smokes a cigarette after each meal.

Canonical passives like *The patient was cured by the doctor yesterday* clearly belong to particular predications, whereas peculiar passives of the type exemplified by (3) appear to have the property of characterizing predications, as argued by Takami (1992) and other functionalists. Characterizing predications are also referred to as “individual-level predications,” and particular predications as “stage-level predications.”

In Kageyama & Ura (2002), the characterizing property of peculiar passives is equated with the “individual-level” status in the sense of Carlson (1977), Diesing (1992), and Kratzer (1995). In support of this view, they adduce three pieces of evidence based on the parallel behavior between peculiar passives and genuine individual-level adjectives. First, just like individual-level adjectives (5b), peculiar passives in English are incompatible with spatiotemporal adverbials, as shown in (6).

- (5) a. stage-level: Firemen were sick/available at that time.
- b. individual-level: \*Firemen were tall/altruistic at that time.

(Kratzer 1995)

- (6) a. \*This spoon has been eaten with at that moment.
- b. \*This violin has never been played any sonatas on at this time of the year.

- c.\*This cup has been drunk beer out of at that moment.

(Kageyama & Ura 2002)

Second, individual-level predicates do not permit a conditional reading when cast in the absolute participial construction (Stump 1985), as in (7 b).

- (7) a. Smoking a cigarette, John can enjoy the trip. (= because/if he smokes)  
 b. Knowing French, John can enjoy the trip. (= because/ if he knows French)

The impossibility of conditional interpretations is shared by peculiar passives in (8).

- (8) a. Having been eaten with, this spoon may be cleaned. (Does not mean 'If this spoon has been eaten with, it may be cleaned.')
- b. Having never been played any sonatas on, this violin may be difficult to play. (Does not mean 'If this violin has never been played any sonatas on, it may be difficult to play.')

(Kageyama & Ura 2002)

Finally, individual-level predicates cannot be embedded in the complements to perception verbs, because perception verbs depict particular events taking place at the time of reference.

- (9) a. I saw the man sick/available.  
 b.\*I saw the man tall/intelligent. (Milsark 1974)

The ungrammaticality of (9b) is paralleled by that of (10).

- (10) a.\*I saw this spoon eaten with.  
 b.\*I saw this violin played sonatas on.

In Kageyama & Ura (2002), however, the question is left open of exactly how the individual-level status of English peculiar passives is derived. Before suggesting an answer to this question, I will review another set of

similar facts concerning the individual-level status of the middle construction in English.

The characterizing or generic property of the middle construction has been noted by a number of researchers, notably Van Oosten (1977), Fellbaum (1982), and Fagan (1992). Matsumoto & Fujita (1995) specifically identify this construction with the individual-level predication. I reproduce some of the evidence they present.

(11) a. spatiotemporal adverbs

??This evening, bureaucrats bribed easily.

b. the conditional interpretation in the absolute construction

Bribing easily, bureaucrats can build huge mansions. (Does not mean 'If they bribe easily, . . .')

c. existential constructions

\*There are nasturtiums transplanting well.

(Matsumoto & Fujita 1995)

In (11), the middle construction displays exactly the same behavior as individual-level predicates.

Provided that the English middle construction is an individual-level predication, the question still remains as to how this property is brought about and how it is related to the passive-like character of this construction. Fagan (1992) and Matsumoto & Fujita (1995) attribute the generic property of middle sentences to the arbitrary *pro* (*arb*) that is assigned to the implicit Agent of the base verb. However, the *arb* alone is not sufficient to characterize the individual-level stativity of the middle construction. Stativity must be directly associated with the absence of a "Davidsonian" event argument, which is held to be the hallmark of individual-level predicates in general (Kratzer 1995, Diesing 1992).

Matsumoto & Fujita (1995) attempt to develop a syntactic mechanism

that will guarantee that the *arb* in the subject position suspends the projection of the event argument. In other words, they consider the *arb* Agent to be the basic factor that triggers the elimination of the event argument. This reasoning, however, cannot be upheld in the face of the English peculiar passives, which are individual-level even though their Agent may be lexically realized, as in (12).

- (12) This bridge has been walked under by generations of lovers. (Bolinger 1975)

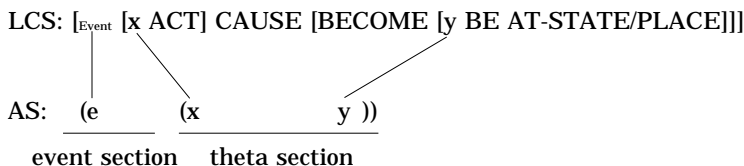
To capture the similarity between the middle and the peculiar passive constructions, it is necessary to regard the absence of an event argument as the essential feature of both constructions.

How can we guarantee that both middle and peculiar passive constructions lack an event argument? My answer to this question is to assume that the event argument counts as an external argument that is the target for suppression in passivization and middle formation.

The notion of “event argument,” originating from Davidson (1966), has been subsequently extended in various directions by Higginbotham (1985), Sproat (1985), Grimshaw (1990), Kratzer (1995), and many others, and it is commonly assumed that the event argument, whose nature as yet remains mysterious, is an “external argument” in the argument structure of a verb. This idea is faithfully embodied in Higginbotham (1985) and Sproat (1985), where the event argument is treated on a par with other theta-roles such as Agent, and in Kratzer (1995), where it is explicitly identified as a spatiotemporal argument, Location. My suggestion departs from these analyses in that the event argument, though included in the argument structure inventory, is differentiated from the purely thematic arguments like Agent. In particular, I propose that argument structure (AS) consists of two parts, theta section and event section, which are

systematically mapped from LCS as shown in (13).

- (13) The argument structure of stage-level predicates and the correspondence with Lexical Conceptual Structure



Although the event argument (*e*) and the Agent argument (*x*) belong to different sections, they are nonetheless “external arguments” in that they are specified outside the angled brackets that indicate “internal arguments.” I further assume that the theta section regulates those arguments which correspond to the terms specified in Lexical Conceptual Structure, whereas the event argument corresponds to the highest Event node in LCS and is projected onto INFL or ASPECT in syntactic structure to signify the actual occurrence of a particular event.

Given the above conception of argument structure, the core function of the prototypical passive is conceived of as the suppression of the external argument (*x*) in the theta section. I call this “*θ*-suppression.” Since *θ*-suppression leaves the event argument unaffected, the prototypical passive represents a stage-level predication.

- (14) Prototypical passive

(*e* (*x* *y* ))      (*e* (*x*<sup>̂</sup> *y* ))

This formulation shows that the prototypical passive applies to verbs which have an event argument. Predictably, it does not apply to individual-level verbs like the stative *have*, *resemble*, and *know* which lack an event argument.

Suppose, then, that the peculiar passive selects the event argument rather than the external theta-argument as its target for suppression.



This operation, which may be termed “*e*-suppression,” is certainly erratic but should be a viable possibility, since the event argument is an external argument in argument structure anyway.

(15) Peculiar passive

$$(e(x\ y)) \quad (e^{\wedge}(x\ y)) \quad (e^{\wedge}(x^{\wedge}\ y))$$

suppression by default

By rendering the event argument inactive, *e*-suppression achieves the effect of changing a stage-level predicate into an individual-level one. An ancillary stipulation, however, will be necessary for our analysis to work: *e*-suppression automatically induces the suppression of the external theta-argument (*x*) as a “billiard ball” effect.

For the English middle construction, I presume that the same *e*-suppression is at work, this time in the lexicon rather than in the syntax. While Matsumoto & Fujita (1995) consider the middle as well as the ergative constructions to be derived in syntax, I maintain that both of them are located in the lexicon, because their derivations are crucially contingent upon the semantic information specified in the base verb’s semantic structure (Kageyama 1996, Fagan 1992). Of special significance is the impossibility of preposition stranding. If peculiar passives, which permit preposition stranding, are derived in the syntax, the middle construction, which resists it, is most reasonably consigned to the lexicon. This view is in line with Wasow’s (1977) distinction between verbal passives in the syntax and adjectival passives in the lexicon.

It will be noticed that my approach to the middle construction takes an opposite route to Matsumoto & Fujita’s. Under my analysis, *e*-suppression constitutes the essential function of the middle formation. Since the suppression of an Agent is merely a subsidiary effect of *e*-suppression, as in (15), it is not powerful enough to absorb the case of the

direct object or motivate its promotion to the subject. Just as peculiar passives are capable of realizing direct objects, as we saw in (3b, c), it is predicted that the middle construction should also allow a direct object in situ. This prediction is remarkably borne out by the neat example in (16), pointed out by Greenspon (1996: 187).

- (16) Reggie takes wonderful pictures too. Did you notice that? He's very photogenic.

The first sentence in (16) does not mean that Reggie takes pictures of other people, but that anyone can take wonderful pictures of Reggie.

To sum up, by utilizing the idea that the event argument in stage-level predicates is an external argument, we can unify three apparently disparate constructions, namely, canonical passive, peculiar passive, and middle, into a single process of suppressing an external argument. The only difference is which of the theta section or the event section is selected for suppression. By analyzing the Agent suppression in middle and peculiar passive constructions as a subsidiary effect of *e*-suppression, we can provide an account for why these constructions are exempted from Burzio's generalization and allow accusative objects in situ.

In the next section, we will observe a more intricate relation between an external theta-argument and an event argument in the derivation of what we may identify as the middle construction in Japanese.

### 3. Suppression of the Event Argument by Addition of a New External Argument

In contrast to the English middle construction, which has been extensively investigated in the literature, its Japanese counterpart has eluded serious attention, because it is not even clear what kind of sentences

should count as the middle construction in Japanese. If English middle sentences, which are based on transitive verbs, are translated into Japanese by means of transitive verbs, ungrammatical sentences will ensue, as in (17a). Grammatical middle sentences must be predicated by intransitive verbs, as shown in (17b).

(17) a. This car drives smoothly.

\*Kono kuruma-wa nameraka-ni unten-suru. (*unten-suru* tr. 'drive')

b. Japanese cars sell well.

Nihon-sya-wa yoku ur-e-ru. (*ureru* intr. 'be sold')

Actually, *ureru* 'be sold' is ambiguous between the middle reading in (17b) and the ergative reading in (18).

(18) Ano nihon-sya-wa tui sakihodo ureta.

'That Japanese car was sold a minute ago.'

If middle and ergative sentences are distinguished in terms of characterizing vs. particular predications, sentences like (17b), which characterize the general properties of subject NPs, are to be identified as the Japanese middle construction, while sentences like (18), which depict particular events, are the Japanese counterparts of the ergative sentences in English. Additional examples of Japanese middle sentences follow. Note that in each example, an intransitive verb is the correct verb form.

(19) a. Kyooka-garasu-wa nakanaka ware-nai.

'Strengthened glass won't break easily.' (*wareru* intr. 'break')

b. Dooban-wa kantan-ni magaru.

'Copper plates bend easily.' (*magaru* intr. 'bend')

c. Momen-no syatu-wa sugu-ni kawaku.

'Cotton shirts dry quickly.' (*kawaku* intr. 'dry')

These examples, given in the present tense, do not express the happening of particular events but instead describe the generic properties of the sub-

ject NPs. Moreover, they make a sharp contrast to the ergative sentences in (20), which describe the actual occurrences of particular events at a certain place and time.

- (20) a. Unsoo-tyuu-ni, kyooka-garasu-ga wareta.  
 'The strengthened glass broke when it was being delivered.'  
 b. Atui dooban-ga yooyaku magatta.  
 'The thick copper plate bent finally.'  
 c. Momen-no syatu-wa iti-zikan-de kawaita.  
 'The cotton shirt dried in an hour.'

Having identified examples like (17b) and (19) as Japanese middle sentences, we move on to show that they involve an implicit agent despite the intransitive morphology of their verbs. In the studies on the English middle construction, the occurrence of instrument phrases like (21a) and the specification of particular agents in adverbial clauses like (21b) have been invoked as evidence that shows the presence of an agent in semantic structure.

- (21) a. Limestone crushes easily with a sledgehammer. (Hale & Keyser 1987)  
 Any wood polishes easily with our product. (Greenspon 1996)  
 b. This flower should transplant easily if I do it carefully. (Greenspon 1996)  
 This car handles smoothly when Sophy drives it. (Rosta 1995)

These arguments can be reduplicated for Japanese middle sentences.

First, the instrument phrase with *de* 'with,' which does not fit in with the ergative readings, is compatible with the middle readings, as shown in (22) and (23).

- (22) a. Ergative: \*Ima tyoodo banana-no kawa-ga katate-de muketa.  
 'The banana has just been peeled with one hand.'

- b. Middle: *Banana-no kawa-wa katate-de kantan-ni mukeru*. ‘Bananas peel easily with one hand.’
- (23) a. Ergative: \**Kinoo niwa-ni sakura-no ki-ga sukoppu-de uwatta*. ‘Yesterday a cherry tree was planted in the garden with a shovel.’
- b. Middle: *Kono sukoppu-de niwa-ki-wa umaku uwar-imasu*. ‘Garden trees will plant easily with this shovel.’

The contrast between the (a)- and (b)-sentences strongly indicates that the middle readings involve an Agent that uses an instrument.

The second criterion is the specification of Agents in adverbial clauses. This is indeed possible with what we identify as the Japanese middle construction.

- (24) a. *Dare-ga yatte mo, kono eda-wa oreru*. ‘This branch will snap off no matter who does it.’ (*yatte mo* ‘does it’ = try to snap it off)
- b. *Senmonka-ga yareba, teppan-demo kantan-ni magaru*. ‘Iron plates will bend easily if a specialist does it.’ (*yareba* ‘does it’ = try to bend them)

What is remarkable is that purely unaccusative verbs, as in (25), totally reject such instrument and agent phrases, because these verbs depict the happening of an event without the mediation of human beings and therefore cannot refer to an agent.

- (25) a. #*Dare-ga yatte mo, ziko-wa okoru*. lit. ‘Accidents will happen whoever may try to.’ (*yattemo* ‘do’ ‘try to make them happen’)
- b. #*Dare-ga yatte mo, hokori-wa tumoru*. lit. ‘Dust accumulates whoever may try to.’ (*yattemo* ‘do’ ‘try to accumulate it’)
- c. \**Tetu-wa kodomo-demo sabiru*. lit. ‘Iron rusts even by children.’

The foregoing observations lead us to conclude that the Japanese middle sentences take intransitive verbs, and that the qualified intransitive verbs

must contain an Agent. Kageyama (1996) derives these intransitive verbs from a causative structure at the level of Lexical Conceptual Structure by the lexical operations termed “anti-causativization” (in the case of *wareru* ‘break’ from *waru*) and “de-causativization” (in the case of *uwaru* ‘be planted’ from *ueru* ‘plant’). The formation of Japanese middle constructions thus proceeds in two steps, as shown in the AS representations in (26).

(26) transitive verb: (e (x y))

intransitivization by “anti-causativization” or “de-causativization”

(e (x<sup>^</sup> y))

middle formation (addition of an extra agent, *arb*)

(*arb* (e<sup>^</sup> (x<sup>^</sup> y)))

The core function of the Japanese middle formation, the second step in (26), is to add a new external argument (*arb*) to the outermost position of the argument structure of an intransitive verb derived by anti-causativization or de-causativization. This *arb* argument is the “implicit” Agent lurking in (22)–(24) above. Now, if we follow Grimshaw (1990), addition of a new external argument automatically induces the suppression of the erstwhile external argument (in this case, the event argument *e*). This in turn has the effect of changing a stage-level predication into an individual-level predication.

Thus, as opposed to the English middle construction, which directly suppresses an event argument, the Japanese middle construction acquires the individual-level status as a side effect of adding an extra *arb* to the outermost position of argument structure. The reason the two languages differ in this diametrically opposite way will be found in the difference in “boundedness” between them, as speculated in Kageyama (1996, to appear).

#### 4. A New Perspective on Voice Alternation

While the previous studies on passive constructions have addressed their diversity mainly from the viewpoint of the changes in argument and case relations, this paper has suggested a new dimension for a broader typology comprising passive and middle constructions. It was shown in section 2 that suppression may affect not just an external theta-argument but also an event argument. In section 3, it was further suggested that the Japanese middle construction has the function of adding an extra Agent, a task which is normally carried out by causativization. However, this property is not peculiar to the Japanese middle construction but is shared by the “indirect passive” in Japanese which superadds an extra experiencer argument to the original argument structure of a base verb, as in (27). Analogous phenomena are reported in Chinese and other East Asian languages as well (Huang 1999).

- (27) Tonari-no heya-de gakusei-ni sawag-are-ta. ‘I was inconvenienced by the students’ making whoopee in the next room.’

As represented by Shibatani’s (1985) passive prototype, it has been commonly held that the basic function of passives is to decrease the valency of the main verb. The Japanese middle and indirect passive indicate that besides this “subtractive” function, noncanonical passives may have an “additive” function of increasing the verb’s valency by supplying an extra external argument, agent or experiencer, to the main predication.

The observations in this paper will be recapitulated in the following table, next page. A number of theoretical implications can be read off from this table. First, the targets for suppression in passive and middle constructions range over an external thematic argument and an external

	syntax	lexicon
$\theta$ -suppression	prototypical verbal passive	English adjectival passive
$e$ -suppression	English peculiar passive	English middle construction
$\theta$ -addition	Japanese indirect passive	Japanese middle

event argument in argument structure. Second, the *arb* argument is limited to lexical rules. Third,  $\theta$ -addition is found in Japanese, but not in English (perhaps except for the *get* passive like *John got mugged*). Fourth, analogous operations are distributed between the syntactic and the lexical components of grammar and give rise to superficially different constructions. This state of affairs is in line with the theory of Modular Morphology (Kageyama 1993).

Recognition of  $e$ -suppression as a viable way of voice alternation will enable us to provide a systematic account for the “intransitivization” found in the individual-level predications about agent and instrument NPs in examples like the following.

- (28) a. Tigers only kill at night.  
 b. These revolutionary new brooms sweep cleaner for years. (Goldberg, to appear)

While Goldberg attempts to make a discourse-based explanation for such sentences, she obviously fails to capture the similarity with passive and middle constructions. On our view, these sentences also involve  $e$ -suppression, but unlike in the English middle and peculiar passive constructions, the  $e$ -suppression here atypically induces the backgrounding of internal arguments by highlighting the external argument as the topic of the characterizing predication. The idea of  $e$ -suppression will also have far-reaching consequences for deverbal nominalization, where the agent argument is suppressed (Grimshaw 1990), and other related phenomena.



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