

On the Event Structure of Indirect Passive in Japanese

Naoyuki ONO
Tohoku University
Kawauchi, Aoba-ku,
Sendai 980-8576, Japan
nono@intcul.tohoku.ac.jp

Abstract

This paper presents an analysis of indirect passives in Japanese in terms of event structure and qualia structure proposed in the framework of the generative lexicon (Pustejovsky 1995). On the assumption that the event structure of the indirect passive construction is based on the causative structure, the present analysis accounts for the adversative interpretation of indirect passive sentences, the selection restriction on verbs, and the obligatory presence of the adjunct phrase.

1. Introduction

Linguists normally assume that the active sentence in (1a) and the passive sentence in (1b) designate the same situation, rejecting the idea that the active and passive sentences denote distinct events.

- (1) a. The assassin killed the senator.
b. The senator was killed by the assassin.

The situation described by the English active and passive sentences in (1) can be expressed as an active sentence and its passive counterpart in Japanese as shown below:

- (2) a. Ansatusha-ga giin-o korosita.
assassin-Nom senator-Acc kill-past
“The assassin killed the senator.”
b. Giin-ga ansatusha-ni koros-are-ta.
senator-Nom assassin-by kill-pass.-past
“The senator was killed by the assassin.”

Both of the active and passive sentences denote the same single event. Passive sentences of this type are called direct passives.

Japanese has yet another type of passive sentences, called indirect passives. Indirect passives can be formed on the basis of either transitive or intransitive verbs. The sentence in (3b) is an example of the indirect passive based on the intransitive verb in (3a).

- (3) a. Kodomo-ga nai-ta.
child-Nom cry-past
“The child cried.”
b. Taroo-ga kodomo-ni nak-are-ta
Taro-Nom child-by cry-pass.-past
“Taro was adversely affected by the child’s crying.”

The intransitive verb *nak* (cry) can be passivized as shown in (3b). The active and passive pair in (3) denote different situations. In the passive, a new participant (the syntactic subject) is added to the event denoted by the base verb.

The sentence in (4b) is an instance of indirect passive based on a transitive verb.

- (4) a. Tonari-no gakusei-ga piano o asa made hiita.
 neighboring-Gen student-Nom piano-Acc morning-until played
 "The neighboring student played the piano until morning."
 b. Hanako-ga tonari-no gakusei-ni piano-o asa-made hik-are-ta.
 Hanako-Nom neighboring-Gen student-by piano-Acc morning-until play-pass.-past
 "Hanako was adversely affected by the neighboring student's playing the piano until morning."

The indirect passive sentence in (4b) contains the transitive verb *hik* (play). The object of the verb (the piano) remains in the passive. And the event denoted by the passive sentence involves an extra participant, represented as the syntactic subject, which is not originally involved in the event denoted by the transitive verb.

The indirect passive generally has an adversative meaning. As indicated in the English glosses, the indirect passive sentences have an implication that the new subjects (*Taroo* in (3b) or *Hanako* in (4b)) are adversely affected by the event denoted by the active counterparts.

Lexical semantic research in the last several decades has developed the idea that the meaning of a verb can be analyzed in terms of a structured representation of the event that the verb denotes. The representation is often referred to as Event Structure. I would like to show that the indirect passive exhibits the event structure and qualia structure which follow from the causative lexical conceptual paradigm proposed within the model of generative lexicon (Pustejovsky 1995). Focusing on two types of passives in Japanese, I will suggest that a mapping condition between event structure and syntax explains the syntactic realization of arguments, and that an elaboration of the agentive qualia role is needed to account for the selection of verbs in the passive.

2. Event Conflation and Passivization

There is a consensus among researchers working on causation and causative constructions that the causal relation encoded in the meaning of a verb is decomposed into two events e_1 and e_2 , such that e_2 is temporally and causally dependent on e_1 . A typical causative event structure, thus, consists of e_1 , process, and e_2 , state (Pustejovsky 1991). Within the generative lexicon, the causative verb *break* has the event structure in (5).

- (5) *break*
Event Structure $\left[\begin{array}{l} e_1^*: \text{process } (x, y) \\ e_2: \text{state } (y) \end{array} \right]$

Qualia Structure

Qualia = AGENTIVE = *break_act* (e_1, x, y)
 FORMAL = *broken_state* (e_2, y)

The event structure is mapped onto the qualia structure, which provides more detailed information about the components of event structure. The causing event e_1 corresponds to the AGENTIVE quale and the resulting event e_2 , the FORMAL quale.

As suggested by Pustejovsky (1995: 186), the causal relation encoded in a lexical causative verb such as *break* must obey the condition on argument coherence. Argument coherence holds for the relation between the causing event and the resulting event if the two subevents make reference to at least one event participant in common.

(6) **Argument Coherence**

$$\left[\begin{array}{l} e_1: \text{process}(x, y) \\ e_2: \text{state}(y) \end{array} \right]$$

Break in (10) exhibits argument coherence on the affected object, *y* being contained in both subevents.

Within the Generative Lexicon model (Pustejovsky 1995), the passive is assumed to shift the headedness of event structures associated with active verbs. The passive in general gives rise to a right-headed event structure (Pustejovsky 1995: 104). In (7) we represent the left- or right-headedness by marking one of the subevents with a star: the event is left-headed if e_1 is starred, it is right-headed if e_2 is starred. A lexically left-headed verb such as *break* in (7a) is changed into the right headed event structure in (7b), with the effect of shadowing the agent, and allowing expression of this argument only by adjunction.

(7) a.	<i>break</i> (active)	Event Structure	$\left[\begin{array}{l} e_1^*: \text{process} \\ e_2: \text{state} \end{array} \right]$
		Qualia Structure	AGENTIVE: <i>break_act</i> (e_1, x, y) (x : SUBJ, y : OBJ) FORMAL: <i>broken</i> (e_2, y)
b.	<i>break</i> (passive)	Event Structure	$\left[\begin{array}{l} e_1: \text{process} \\ e_2^*: \text{state} \end{array} \right]$
		Qualia Structure	AGENTIVE: <i>break_act</i> (e_1, x, y) (x : Adjunct PP) FORMAL: <i>broken</i> (e_2, y) (y : SUBJ)

Passivization results in the change of the headedness in event structure and it does not introduce any extra events with respect to the active. The agent argument is projected to the adjunct PP in the derived passive.

The description of the passive in terms of event-headedness in (7) applies to the direct passive in Japanese; however, it does not apply to the indirect passive. As noted above, indirect passive sentences have an extra argument that is not involved in the active.

I would like to propose that a Japanese indirect passive sentence describes a complex event consisting of two subevents, the causing event represented by the verb and the resulting event represented constructionally by the passive subject and the passive morpheme. The indirect passive sentence in (8) describes an event of the child's crying and a state of Taro's being annoyed.

- (8) Taroo-ga kodomo-ni nak-are-ta (=3b)
Taro-Nom child-by cry-pass.-past
"Taro was adversely affected by the child's crying."

The event structure of this sentence is represented below. These two subevents map onto the AGENTIVE and FORMAL qualia roles, as illustrated below.

(9) Event Structure: $\left[\begin{array}{l} e_1: \text{process} \\ e_2: \text{state} \end{array} \right]$

QUALIA = AGENTIVE *cry_act*(e_1, x)
FORMAL *adversely_affected_state*(e_2, y)

The event structure and the qualia structure in (9) are an instance of the Default Causative Paradigm in (10) (Pustejovsky 1995: 186), realized as the semantic representation of a particular construction.

(10) $\lambda y \lambda x \lambda e_1 \lambda e_2$ P R [a: AGENTIVE=[R(e₁, x, y)] FORMAL=[P(e₂, y)] e₁ < e₂]

By assuming that the semantic representation of the indirect passive is associated with the DCP, we suggest that the indirect passive construction is a kind of causative construction.

Notice that, unlike the lexically encoded causal relation, the causative event as described in (9) does not exhibit argument coherence. Because of its constructional nature, it differs from lexical causatives. As noted by Pustejovsky (1995: 220), within the interpretation of a syntactic causative, there is no argument coherence. Rather it exhibits event coherence denoted by the event as a whole.

(11) **Event Coherence**

- a. $\left[\begin{array}{l} \text{process } (e_1, x) \\ \text{state } (e_2, y) \end{array} \right]$
- b. $\left[\begin{array}{l} \text{process } (e_1, x, y) \\ \text{state } (e_2, z) \end{array} \right]$

Unlike the event structure of lexical causatives as illustrated in (6), the subevents of the composed event structure do not share any semantic participants in common.

Note that, contrary to what the name represents, the causal relation denoted by the indirect passive construction is that of direct causation, in that there is no intervening event implied in the causal chain between the causing event and the resulting event. For example, (12)(=4b) cannot be used to describe a situation in which the student's playing the piano at night caused Hanako's baby's cry which in turn gave rise to her mental state in the next morning.

- (12) Hanako-ga tonari-no gakusei-ni piano-o asa-made hik-are-ta.
Hanako-Nom neighboring-Gen student-by piano-Acc morning-until play-pass.-past
"Hanako was adversely affected by the neighboring student's playing the piano until morning."

The requirement for direct causation is also pointed out with respect to the resultative construction in English (Goldberg 1995: 94, Rappaport Hovav and Levin 1999).

3. Inclusion and Exclusion

It should be noted that indirect passives do not always impose an adversative interpretation on the affected subject. Under a natural interpretation of the indirect passive sentence in (13), we do not detect any adversative interpretation.

- (13) Taroo-ga Hanako-ni kodomo-o home-rare-ta.
Taro-nom Hanako-By child-acc praise-pass-pst
"Taro was affected by his child's being praised by Hanako."

However, a closer look at this sentence reveals that it is in fact ambiguous. If we understand the direct object of the verb (child) as Taro's child (a natural interpretation of the sentence), we find that the sentence has no adversity implication, in other words it simply says that Hanako praised Taro's child. But if the direct object is understood as Hanako's child (or some other person's than Taro's), the same sentence implies the adversity. Thus, the indirect passives have the sense of adversity when the affected subject is not related with the object of the verb; in other words, when the affected subject is **not** involved in the event denoted by the active verb (Wierzbicka 1979, Kuno 1983).

This point is schematically illustrated as follows:

- (14) Taro_i Event[Hanako_j his_j/her_j child V]

Washio (1993) generalizes the situation in terms of the notion *inclusion* and *exclusion*. Taroo is said to be included in the event if it is coreferential with the argument of the verb. On the other hand, Taroo is excluded if it is not. The adversative reading is imposed on the exclusion situation. We have suggested that the indirect passive has a multiple event structure and the adversity is a compositionally derived meaning of the construction. We must explain why the indirect passive fails to have an adversative interpretation when the subject is included in the event.

3.1. Exclusion and Event Coherence

Recall that the complex event structure of indirect passives is formed under the condition on event coherence. This means that the subevents of composed event structure do not share any arguments. Thus, we do not normally expect any connection between arguments separated in the two subevents. In (15) the event denoted by the intransitive verb *nak* (cry) is conflated with the event denoted by the passive. *Taroo* is not the argument of the verb. In other words, as shown in (16) the argument mapped onto the passive subject is excluded because it is independent of the causing event.

- (15) Taroo-ga kodomo-ni nak-are-ta
 Taro-Nom child-by cry-pass.-past
 “Taro was adversely affected by the child’s crying.”

- (16) **Event Structure** $\begin{bmatrix} e_1: \text{process} \\ e_2: \text{state} \end{bmatrix}$

Qualia = AGENTIVE *nak_act*(e_1 , kodomo)
 FORMAL *adversely_affected_state*(e_2 , taro)

The FORMAL quale of the indirect passive construction provides the adversative interpretation when it is composed with the event structure of the verb. This is also the case in the exclusion passive based on transitive verbs. As shown in (17) Taroo, the affected subject, is excluded because it is not associated with any participants in the verb’s event.

- (17) Taroo-ga Hanako-ni kodomo-o home-rare-ta.. (Adversative)
 Taro-nom Hanako-By child-acc praise-pass-pst
 “Taro was affected by his child’s being praised by Hanako.”

- (18) **Event Structure** $\begin{bmatrix} e_1: \text{process} \\ e_2: \text{state} \end{bmatrix}$

Qualia = AGENTIVE *home_act*(e_1 , h , k)
 FORMAL *adversely_affected_state*(e_2 , t)

Thus, the property of the qualia structure is read off from the lexical representation of the construction.

3.2. Inclusion and Argument Coherence

Consider, then, what happens if the relationship between z and y is made explicit by making reference to the noun associated with them.

- (19) Taroo-ga Hanako-ni kodomo-o home-rare-ta.. (Neutral)
 Taro-nom Hanako-By child-acc praise-pass-pst
 “Taro was affected by his child’s being praised by Hanako.”

- (20) **Event Structure** $\left[\begin{array}{l} e_1: \text{process} \\ e_2: \text{state} \end{array} \right]$

Qualia = AGENTIVE *home_act*(e_1, h, k)
 FORMAL *state*(e_2, t)

The affected subject is included in the event denoted by the verb if it is associated with the argument in the causing event. Reference to an argument in the causing event gives rise to the conceptual integration of the two components. Thus, the adversative interpretation does not arise.

4. The Unaccusative Restriction

Some researchers (e.g. Kageyama 1993) point out that the indirect passive construction is sensitive to the distinction between unaccusative and unergative intransitive verbs. Unergative verbs co-occur with the indirect passive construction while unaccusative verbs do not. The examples of indirect passive in (21) involve *nak* (cry) and *aruk* (walk) respectively, which are typical unergative verbs.

- (21) a. Taroo-ga kodomo-ni nak-are-ta
 Taro-Nom child-by cry-pass.-past
 "Taro was adversely affected by the child's crying."
 b. Kyooju-ga jugyoochuu gakusei-ni aruk-are-ta.
 professor-Nom in-class student-By walk-pass.-past
 "The professor was annoyed by some students' walking during his lecture."

Unaccusative verbs are excluded from the indirect passive. See the causative/inchoative alternation verb, *kowas/koware* (break) in (22).

- (22) a. Kodomo-ga kabin-o kowasita.
 child-Nom vase-Acc break-past
 "The child broke the vase."
 b. Kabin-ga kowareta.
 vase-Nom broke
 "The vase broke."

The transitive causative version of the verb can appear in the indirect passive as shown in (23a), but the unaccusative intransitive version of the same verb cannot, as shown in (23b).

- (23) a. Taroo-ga kodomo-ni kabin-o kowas-are-ta.
 Taro-Nom child-By vase-Acc break-pass.-past.
 "Taro was adversely affected by the child's breaking the vase."
 b. *Taroo-ga kabin-ni koware-are-ta.
 Taro-Nom vase-By break-pass.-past
 "Taro was adversely affected by the vase's breaking."

The same is true for another causative/inchoative alternation verb, *taos/taore* (fall). The unaccusative version does not occur in the indirect passive ((24b)).

- (24) a. Taroo-ga Ziroo-ni isu-o taos-are-ta.
Taro-Nom Ziro-By chair-Acc let-fall-pass.-past
“Taro was adversely affected by Ziro’s letting the chair fall.”
- b. *Taroo-ga isu-ni taore-rare-ta.
Taro-Nom chair-By fall-pass.-past
“Taro was adversely affected by the chair’s falling.”

An explanation is needed for why unaccusative verbs do not co-occur with the indirect passive construction.

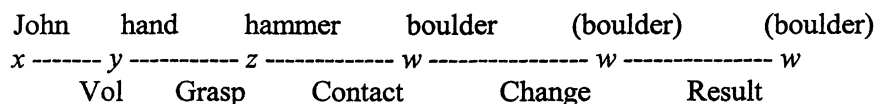
Furthermore, the problem seems more complicated when we see that the same verbs can be used in the indirect passives as in (25). (25a) and (25b) show that *taore* (fall) and *koware* (break) can be used in the indirect passive. In light of the observation presented above (see (23b) and (24b)), they seem to be apparent exceptions.

- (25) a. Taroo-ga tuma-ni taore-rare-ta.
Taro-Nom wife-By fall-pass.-past
“Taro was in trouble because his wife got sick in bed.”
- b. Taroo-ga pasokon-ni koware-rare-ta.
Taro-Nom computer-By break-pass.-past
“Taro was in trouble because his computer broke down.”
- c. Taroo-ga ame-ni hur-are-ta.
Taro-Nom rain-By fall-pass.-past
“Taro was rained on.”

Notice that animacy is not solely responsible for this matter because an artifact like a computer in (25b) or a natural kind like rain in (25c) can cause events denoted by indirect passives.

I would like to propose an elaboration of the AGENTIVE quale embodied in the semantic representation of the indirect passive construction. According to Pustejovsky (1995: 86), the AGENTIVE role represents factors involved in the origin or “bringing about” of an object, or an event. One of the values that the AGENTIVE quale assumes is a causal chain, a notion first proposed by Talmy (1985: 78-85). The causal chain represented in an event structure is essentially a representation of the event as a series of force-dynamic relations with distinct participants as initiator and endpoint (Croft 1991). In the following causative verb, *John* is the initiator and *the boulder*, the endpoint.

- (26) John broke the boulder with a hammer.



A closer look at the data in (14)-(16) reveals that what is crucially relevant to the grammaticality of the indirect passive is the initiator of the causal chain associated with the causing event. The unaccusative verbs in (14b) and (15b) are ungrammatical because the segment of the causal chain associated with the causing event does not include the initiator of the event.

- (27) *Taroo-ga kabin-ni koware-are-ta.
Taro-Nom vase-By break-pass.-past
“Taro was adversely affected by the vase’s breaking.”

- (28) *Taroo-ga isu-ni taore-rare-ta.
 Taro-Nom chair-By fall-pass.-past
 "Taro was adversely affected by the fall of the chair."

There is an indirect participant (i.e. a remote causer) that initiates the event denoted by the verb because the vase does not break or the chair does not fall spontaneously in a normal situation. Thus, the initiator of the event is represented as an external causer as in the following causal chain.

- (29) *koware* (break) $\left[\begin{array}{l} e_1: \text{process } (y) \\ e_2: \text{state } (z) \end{array} \right]$

Qualia = AGENTIVE : Causal chain causer vase Taro Taro
 $x \text{-----} y \text{-----} z \text{-----} z$
 CAUSE CHANGE RESULT

The starting point of the causal chain is not specified by the argument realized in the sentence. This means that the adversity Taro experiences in this situation cannot be attributed to the responsibility of the causer of the event.

In contrast, computers tend to break or people get sick without an external cause. Thus, the subjects in (16) can be the initiator of the causal chain.

- (30) a. Taroo-ga tuma-ni taore-rare-ta.
 Taro-Nom wife-By fall-pass.-past
 "Taro was in trouble because his wife got sick in bed."

- b. Taroo-ga pasokon-ni koware-rare-ta.
 Taro-Nom computer-By break-pass.-past
 "Taro was in trouble because his computer broke down."

This means that the primary causer of the event is mapped onto the ni phrase in the passive.

- (31) *koware* (break) $\left[\begin{array}{l} e_1: \text{process } (y) \\ e_2: \text{state } (z) \end{array} \right]$

Qualia = AGENTIVE : Causal chain computer Taro Taro
 $y \text{-----} z \text{-----} z$
 CHANGE RESULT

- (32) *taore* (fall) $\left[\begin{array}{l} e_1: \text{process } (y) \\ e_2: \text{state } (z) \end{array} \right]$

Qualia = AGENTIVE : Causal chain wife Taro Taro
 $y \text{-----} z \text{-----} z$
 CHANGE RESULT

In the indirect passive, the initiator and the endpoint of the causal chain must be realized as arguments.

The external causer of the event must be realized as the ni phrase. In (20), the external cause is realized as the adjunct (instrumental) phrase.

- (33) *Taroo-ga kaze-de kabin-ni koware-are-ta.
 Taro-Nom wind-Inst. vase-By break-pass.-past
 "Taro was adversely affected by the fact that the vase was broken by the wind."

The indirect passive is the construction which requires the initial point and the endpoint of a causal chain is realized as the *ni* phrase and the subject respectively.

5. Obligatory Adjuncts

What we have discussed in the previous section explains why the agentive phrase is obligatorily present in indirect passives while it may be deleted in direct passives. Another property noted with respect to the indirect passive construction (Miyagawa 1989).

The logical subject of the passive verb in Japanese occurs with the oblique case *ni*. The *ni* phrase is optional in the direct passive, as shown in the following example.

- (34) a. Giin-ga ansatusha-ni koros-are-ta.
 senator-Nom assassin-by kill-pass.-past
 "The senator was killed by the assassin."
 b. Giin-ga koros-are-ta.
 senator-Nom kill-pass.-past
 "The senator was killed."

But the same phrase must be present in indirect passives.

- (35) *Taroo-ga nak-are-ta .
 Taro-Nom cry-pass.-past
 "Taro was adversely affected by someone's crying."
 (36) *Hanako-ga piano-o asa-made hik-are-ta .
 Hanako-Nom piano-Acc morning-until play-pass.-past
 "Hanako was adversely affected by someone's playing the piano until morning."

As the contrast suggests, indirect passives require the presence of *ni*-phrases.

Given the complex event analysis of indirect passives we have proposed above, the obligatoriness of the oblique NP in question follows if we assume that the initiator of the causal chain must be syntactically present, as we have discussed in the previous section.

- (37) a. Taroo-ga kodomo-ni nak-are-ta
 Taro-Nom child-by cry-pass.-past
 "Taro was adversely affected by the child's crying."
 b. Hanako-ga tonari-no gakusei-ni piano-o asa-made hik-are-ta.
 Hanako-Nom neighboring-Gen student-by piano-Acc morning-until play-pass.-past
 "Hanako was adversely affected by the neighboring student's playing the piano until morning."

The *ni*-phrases (underlined parts) must be syntactically present because as shown in (38), they are the initiator of the causal chains.

- (38) a. $cry_act(e_1, x)$
 $mental\ state(e_2, y)$
 b. $play_act(e_1, x, y)$
 $mental\ state(e_2, z)$

Thus, the proposed event structure of indirect passives must give rise to sentences where every participant is syntactically present.

6. Conclusion

This paper has proposed an event structure account of indirect passives in Japanese within the generative lexicon model. I have suggested that a mapping condition between event structure and syntax explains the argument realization in the indirect passive. I have presented a problem of verb selection in indirect passives and proposed a solution that the agentive qualia role must be elaborated in terms of the notion of causal chain.

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