Chapter 2

Layered Little Verbs:
Possessor of Interest

1 Introduction

Since the split verb hypothesis was introduced (Larson 1988, Hale and Keyser 1993, and Chomsky 1995), the mechanism of θ-role assignment has been extensively investigated. There have been two approaches to dealing with lexical-functional properties of verb heads. Hasegawa (2001) proposes the feature-specification system, which leads to four types of little verb. On the other hand, the derivation involving more than one functional verb heads, including Applicative (Appl), has been discussed by Marantz 1993, Collins 1997, Pylkkänen 2002, and Tonosaki 2003. Building on these pilot studies, we will investigate the properties of Appl heads which introduce Experiencer (Malefactive/Benefactive), in comparison with other non-Agentive constructions such as psychological/sensational predicate constructions, adversity passives, and non-intentional causatives.[1] Through careful scrutiny, a layered little-verb structure including Appl, Cause, and $v*/v$ is proposed, which correctly excludes ungrammatical sentences, because the phrase structure of the sentences does not match the layered little-verb system and cannot be derived.

Let us begin by comparing the sentences in (i), the structure of which we will call the "Possessive Relationship Construction" (PRC), with the apparently similar sentence in (ii).

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[1] This chapter was inspired by Hasegawa (2003). I am grateful for her insightful and exciting lectures.

(i) a. Taroo-ga   ziko-de   yubi-o   kit-ta.

       Taroo-Nom   accident-by   finger-Acc cut-Past

       'Taroo cut his finger in the accident.'

    b. Hanako-ga   biyooin-de   kami-o   some-ta.

       Hanako-Nom beauty shop-at   hair-Acc   dye-Past

       'Hanako had her hair dyed at the beauty shop.'

(ii)   Hanako-ga   nemukezamasi-ni   kao-o   tatai-ta.

       Hanako-Nom avoid sleepiness-for   face-Acc slap-Past

       'Hanako slapped her face to avoid sleepiness.'

In all of these sentences, the possessor appears as the subject, whereas the possessee, in this case a body part, is realized as the object. Although these sentences look similar on the surface, there are important differences between (i) and (ii). First, the subjects in (ia) and (ib) are interpreted as Experiencer: Malefactive in (ia), and Benefactive in (ib). On the other hand, the subject in (ii) is Agent, who intentionally slapped her own face to avoid sleepiness. Second, an interesting fact is that when we focus on the predicates, the verbs *kir-u* 'cut' in (ia) and *some-ru* 'dye' in (ib), are also used in the "regular" transitive, where Agent appears as the subject and Theme as the object, as shown in (iii) below. On the other hand, the predicate *tatak-u* 'slap' functions only as a regular transitive as in (ii): Agent always appears as the subject, and Theme as the object.

(iii) a. Taroo-ga   daidokoro-de yasai-o   kit-ta.

       Taroo-Nom   kitchen-in   vegetables-Acc cut-Past

       'Taroo cut vegetables in the kitchen.'

b. Hanako-ga   koozyoo-de   nuno-o   some-ta.

Hanako-Nom factory-in   cloths-Acc dye-Past

'Hanako dyed cloths in the factory.'

Third, it is important to note that the thematic interpretation of the subject as Experiencer (Malefactive/Benefactive) in (ia) and (ib) crucially depends on the possessive relationship between the subject and the object.   If the possessive relationship is not established, the Experiencer (Malefactive/Benefactive) reading fails, and the subject is interpreted as Agent, the same as in (iii).   This is demonstrated in (iva) and (ivb) below.   In contrast, the Agent reading of the subject in (ii) is irrelevant to the possessive relationship, as shown in (ivc).

(iv) a.   Taroo-ga   Ziroo-no yubi-o   kit-ta.

Taroo-Nom   Ziroo-Gen finger-Acc   cut-Past

'Taroo cut Ziroo's finger.'

b.   Hanako-ga   Mariko-no   kami-o   some-ta.

Hanako-Nom   Mariko-Gen hair-Acc   dye-Past

'Hanako dyed Mariko's hair.'

c.   Hanako-ga   Taroo-no kao-o   tatai-ta.

Hanako-Nom   Taroo-Gen face-Acc slap-Past

'Hanako slapped Taroo's face.'

We term the structure of sentences such as (ia) and (ib) the "Possessive Relationship Construction" (PRC).[2]   This type of sentence in Japanese has been widely discussed

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[2] When we focus on the interpretation of events, examples of the PRC may be divided into two types: one is accidental type, where the event may accidentally happen without any intention, as in sentence (ia); the other is controllable type, where the realization of event may be controlled as in sentence (ib). We will discuss the nature of these two types of PRCs in Section 7.4. In the following discussion, we basically do not distinguish between these two types insofar as the example sentences behave consistently with respect to the syntactic diagnostics conducted.

(Masuoka 1979, Amano 1987, 1991, Takezawa 1991, Sato 1994, Hasegawa 2001, 2004a, Suzuki 2003, and Okura 2004a, b, 2005a).   The Main properties of the PRC are described in (v):

● The main properties of the PRC

(v) a.   The Possessor and the Possessee are realized separately as distinct constituents, namely, the former as the subject, and the latter as the object.[3]

b.   A close possessive relationship is inherently established between the subject and the object.

c.   The subject is interpreted as Experiencer (Benefactive/Malefactive), though the involved verbs are also employed in the regular transitive, where the Agentive subject appears.

Next, let us focus on the predicates forming the PRC.   Vendler's (1967) typology is one of the most widely cited classifications of verbs.   Verbs are divided into four types in terms of aspect: stative verbs, activity verbs, achievement verbs, and accomplishment verbs.   Vendler seems to consider aspectual properties through observing a verb phrase as a whole, including the object; for example, verb phrases such as *build a house, eat an apple* are regarded as "accomplishments" (On the aspectuality of verbs/verb phrases, see Dowty 1991, Smith 1991, Tenny 1994, Levin and Rappaport 1995, Yamada 2006, and Iwamoto 2008, among many others).   We will put more focus on aspectual properties which a verb itself has.

● Aspectual typology

(vi) a.   Stative verbs

e.g. know, believe, love, hate, exist, have

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[3] Throughout this thesis, the first letter is capitalized for θ-roles (so, "Possessor" is a term for a θ-role, whereas "possessor" is just an owner of something in a general sense).

b. Activity verbs

   e.g. run, walk, kick, hit, push, pull, sing, read, eat

c. Achievement verbs

   e.g. die, arrive, reach, collapse, explode, recognize

d. Accomplishment verbs

   e.g. sink, break, freeze, melt, cut, dry, dye

Stative verbs have neither a starting point nor an end point on the time axis, and hence do not take the progressive form: *John is knowing the answer.* Activity verbs denote duration of activity, allowing the progressive form: *John is running*. Achievement verbs and accomplishment verbs are "change of state/location" verbs, which express the change/transition from one state to another, hence the change/transition itself counts as the endpoint. Accomplishment verbs typically describe "causative" change of state/location, hence an event denoted by an achievement verb may constitute a subevent (i.e. change of state/location) of an accomplishment verb, in which Agent who causes the subevent is involved (cf. Dowty 1979). Therefore, many accomplishment verbs have an unaccusative (i.e. achievement) counterpart, which shares the resulting state: *John broke the glass-The glass broke*; *The giant sank the boat-The boat sank*; *Mary melted the ice-The ice melted*. What is relevant to our discussion is the distinction between "activity" verbs and "change of state/location" (achievement/accomplishment) verbs. Activity verbs and change of state/location verbs show disparity in co-occurrence with *for* or *in,* since *for* modifies an atelic/non-bounded event, while *in* modifies a telic/bounded event, which includes change of state/location as the end point (Dowty 1979).

● Activity verbs vs. change of state/location verbs
(vii) a. Stative verb

   John knows the answer {*for one hour / *in one hour}.

b. Activity verb

   John ran {for one hour / *in one hour}.

c. Achievement verb

   John died {*for one hour / in one hour}.

d. Accomplishment verb

   John broke the glass {*for one hour / in one hour}.

Keeping this typology in mind, observe that activity verbs cannot be involved in the formation of the PRC (Amano 1987, 1991).

(viii) a. * Taroo-ga   hitogomi-de   ude-o   osi-ta.

          Taroo-Nom   crowd-in   arm-Acc   push-Past

          (Int.) 'Taroo was pushed in the arm by someone in the crowd.'

   b. * Hanako-ga   esute-de   asi-o   mon-da.

       Hanako-Nom   the esthetic salon-at   feet-Acc   massage-Past

       (Int.) 'Hanako had her feet massaged at the esthetic salon.'

   c. * Tanaka-san-wa   kinoo-no taihuu-de   yane-o   tatai-ta.

       Mr. Tanaka-Top   yesterday-Gen typhoon   roof-Acc   strike-Past

       (Int.) 'Mr. Tanaka had his roof damaged by yesterday's typhoon.'

An issue to be addressed is how this restriction on verb selection is explained.   At the same time, the properties of the PRC in (v) should be accounted for.   Why is the Experiencer reading obtained though the verbs involved also take Agent as the subject in regular transitives?   Why is a close possessor-possessee relationship required?

     In Section 2, we will investigate properties of the PRC in more detail.   After reviewing Hasegawa's Possessor-raising analysis of non-Agentive constructions in

Section 3, Section 4 is devoted to showing that Possessor in the PRC is introduced to the derivation as a relational argument of Possessee, and this is crucial for the following movement.   In Section 5, the movement of Possessor from a DP is verified by syntactic diagnostics such as the Specificity Condition, the intervention effect, and ellipsis.   Section 6 confirms that the PRC is different from the adversity passive, though they have similar interpretations.   In Section 7, decomposition of little verb into complex heads is proposed, which we will call "layered little verbs."   One of the heads is Appl, to which Possessor is raised and assigned Experiencer (Benefactive/ Malefactive) θ-role.   A closer look at morphemes provides further support for the proposed layered structure.   It is also shown that Appl heads are not only preferable in terms of thematic interpretation, but also necessary to restrict legitimate structures.   Section 8 provides a discussion on the nature of Appl from a cross-linguistic perspective.   Section 9 concludes the chapter.

2   The Possessive Relationship Construction (PRC)

2.1   Main properties

In this section, we explore properties of the Possessive Relationship Construction (PRC) in detail.   Observe the examples in (1).

● The PRC

(1) a.   Taroo-ga   ziko-de   yubi-o   kit-ta.
         Taroo-Nom   accident-by   finger-Acc cut-Past
         'Taroo cut his finger in the accident.'

  b.   Tanaka-san-ga   haisya-de   musiba-o   nui-ta.
       Mr. Tanaka-Nom   dentist's-at   bad tooth-Acc   pull-Past
       'Mr. Tanaka had a bad tooth pulled at the dentist's.'

   c. Hanako-wa   biyooin-de   kami-o   some-ta.

      Hanako-Top   beauty shop-at   hair-Acc   dye-Past

      'Hanako had her hair dyed at the beauty shop.'

   d. Watasi-wa   rakurai-de   ie-o   yai-ta.

      I-Top   thunderbolt-by house-Acc   burn-Past

      'I had my house burnt down by a thunderbolt.'

                             ((1d) is cited from Amano 1991: 196)

In the PRC, Possessor and Possessee are realized separately as distinct constituents, namely, Possessor is the subject of the sentence, while the possessee is the object. The subject of the PRC is interpreted as Experiencer, which is construed as either the Benefactive or Malefactive depending on the context.[4] What is interesting in the PRC is that the subject is Experiencer, even though the verbs involved are transitive and may also take an Agentive subject, which we will call "regular" transitive. Compare (1) with (2), below.

   ● The regular transitive

(2) a. Taroo-ga   daidokoro-de   yasai-o   kit-ta.

         Taroo-Nom   kitchen-in   vegetables-Acc cut-Past

         'Taroo cut vegetables in the kitchen.'

   b. Tanaka-san-ga   hatake-de   zassoo-o   nui-ta.

       Mr. Tanaka-Nom   farm-at   weed-Acc   pull-Past

       'Mr. Tanaka pulled weeds in the field.'

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[4] We do not deal with the V-*te-simat-ta* 'have regretfully done' construction, where a non-Agentive reading is forced on the subject and there is no restriction on the verbs that can occur.

c. Hanako-ga   koozyoo-de nuno-o   some-ta.

   Hanako-Nom factory-in   cloths-Acc dye-Past

   'Hanako dyed cloths in the factory.'

d. Watasi-wa   matti-de   tegami-o   yai-ta.

   I-Top   match-by   letter-Acc   burn-Past

   'I burned the letter with a match.'

Next, let us consider the possessive relationship established in the PRC. Observe sentence (3), which is ambiguous between the PRC and the regular transitive.

(3) Taroo-ga   yubi-o   kit-ta.

     Taroo-Nom finger-Acc cut-Past

     'Taroo cut his/someone's finger.'

If the finger is *Taroo*'s finger, then the subject *Taroo* is interpreted as Experiencer (the Malefactive).   On the other hand, if the finger is someone else's, then *Taroo* is interpreted as Agent, who injured someone, so the sentence becomes regular transitive. Of course, *Taroo* may cut his own finger intentionally, and in that case, *Taroo* can be Agent, but what is important here is that if the finger is not *Taroo*'s then the Experiencer (Malefactive) reading is not obtained.   A similar contrast is observed by Takezawa (1991).

(4) a. Yamada-san$_i$-ga   (pro$_i$) kami-o   some *-tei-ru*.

        Mr. Yamada-Nom   hair-Acc   dye   -be -Pres

        'Mr. Yamada is dyeing his hair.'

        'Mr. Yamada has his hair dyed.'

b. Yamada-san$_i$-ga   Tanaka-san$_j$-no-kami-o   some -*tei-ru*.

Mr. Yamada-Nom   Mr. Tanaka-Gen-hair-Acc   dye   -be -Pres

'Mr. Yamada is dyeing Mr. Tanaka's hair (for the good of him).'

(Takezawa 1991: 68 with modification[5])

Japanese *tei-ru* is ambiguous between the progressive and the result state interpretations.   Takezawa points out that when a possessive relationship holds between the subject and the object as in (4a), the two readings given in the gloss are possible, but when the possessive relationship is lost, as in (4b), only the progressive reading is obtained.   In other words, the Experiencer reading of the subject is available only when a possessive relationship is retained.   Turning to other examples of the PRC, there are cases in which the sentence becomes unacceptable without a possessive relationship because an Agentive reading is impossible for some pragmatic reason.

(5) a.   Watasi-wa   rakurai-de   ie-o   yai-ta.

I-Top   thunderbolt-by   house-Acc   burn-Past

'I had my house burnt down by a thunderbolt.'

(Amano 1991: 196)

b. * Watasi-wa   rakurai-de   Tanaka-san-no ie-o   yai-ta.

I-Top   thunderbolt-by   Mr. Tanaka-Gen house-Acc   burn-Past

(Lit.) 'I burned down Mr. Tanaka's house by a thunderbolt.'

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[5] In (4a), *zibun-no* 'his' is included in Takezawa's original sentence, as below:

(i) Yamada-san-ga   zibun-no -kami-o   some-*tei-ru*.
    Mr. Yamada-Nom   self -Gen -hair -Acc   dye -*tei*-Pres
    'Mr. Yamada is dyeing his hair.'   (Progressive)
    'Mr. Yamada has his hair dyed.'   (Result state/PRC)

However, although this sentence is perfect when interpreted as progressive, it sounds less natural when interpreted as the result state, or the PRC in our terms, unless the emphasis is put on 'his own hair.' This phenomenon is accounted for in Section 5.3.

Since the possessive relationship is lost in (5b), the subject should be interpreted as Agent, but a human cannot control a thunderbolt.   Therefore, the sentence becomes unacceptable.   Note that the possessive relationship observed above is not obtained afterward as a result of the event denoted by the sentence, but inherently established. The main properties of the PRC discussed so far are summarized in (6) (cf. Masuoka 1979, Amano 1987, 1991, and Takezawa 1991).

- The main properties of the PRC

(6) a.   The Possessor and the Possessee are realized apart as distinct constituents, namely, the former as the subject, and the latter as the object.

   b.   A close possessive relationship is inherently established between the subject and the object.

   c.   The subject is interpreted as Experiencer (Benefactive/Malefactive), though the involved verbs are also employed in the regular transitive, where the Agentive subject appears.

Amano (1991) deals with the relationship in (6b) in terms of semantics such as "the adjacent relationship"/"the semantic closeness."   The description is correct, however, an analysis of the PRC should also explain (6a) in terms of syntax (cf. Takezawa 1991, Okura 2005a).

Let us turn to the verbs involved in the PRC.   Amano (1987, 1991) observes that an Experiencer reading of the subject is not obtained when the verb involved is a transitive "activity" verb (see Section 1 for the typology).   This point is demonstrated in (7), where the gloss indicates the intended meaning.

(7) a. * Taroo-ga   hitogomi-de   ude-o   osi-ta.

         Taroo-Nom   crowd-in   arm-Acc   push-Past

         (Int.) 'Taroo was pushed in the arm by someone in the crowd.'

b. * Hanako-ga   esute-de   asi-o   mon-da.

   Hanako-Nom   the esthetic salon-at   feet-Acc   massage-Past

   (Int.) 'Hanako had her feet massaged at the esthetic salon.'

c. * Tanaka-san-wa   kinoo-no taihuu-de   yane-o   tatai-ta.

   Mr. Tanaka-Top   yesterday-Gen typhoon   roof-Acc   strike-Past

   (Int.) 'Mr. Tanaka had his roof damaged by yesterday's typhoon.'

Thus, the construction fails if the verb involved is an activity verb, even if a possessive relationship is conceivable between the subject and the object. This restriction on verb selection should be also explained.[6]

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[6] Although we will not discuss "Sino-Japanese nominals" in detail concerning the PRC, we would like to mention a few points. Sino-Japanese nominals are subsumed under the "verbal noun" (VN), for they bear properties of both verbs and nouns: they can occur alone as a noun, as shown in (ia), but they may also be combined with the semantically empty verb *su-ru* 'do' and behave like regular verbs, as shown in (ib), and be considered to have argument structure (Martin 1975, Kageyama 1977, Shibatani and Kageyama 1988, Grimshaw and Mester 1988, and Saito and Hoshi 2000, among many others).

(i) a. benkyoo 'study'

   b. Taroo-ga   eigo-o   benkyoo-si -ta
      Taroo-Nom   English   study   -do -Past
      'Taroo studied English.'

Although Sino-Japanese nominals do not have a morphologically corresponding unaccusative form, they seem to form the PRC, as exemplified by (iia), as well as a native Japanese verb, as in (iib). In both (iia) and (iib), Possessor appears as the subject and Possessee appears as the object, and the Possessor is interpreted as Experiencer.

(ii) a. Taroo-ga   (byooin-de)   i -o   syuzyutu   si -ta.
         Taroo-Nom   hospital-at   stomach-Acc operation   do -Past
         'Taroo had his stomach operated (at the hospital).

    b. Taroo-ga   (byooin-de) i -o   kit -ta.
        Taroo-Nom   hospital-at   stomach-Acc   cut -Past
        'Taroo had his stomach operated (at the hospital).

The Sino-Japanese nominals which form the PRC seem to be accomplishment verbs, which are typical of PRC sentences (but see Section 2.2).

(iii)   Taroo-ga   (byooin-de) i -o   {*3-zikan   / [ok] 3-zikan-de} syuzyutu si-ta.
        Taroo-Nom   hospital-at stomach-Acc 3-hours-for /   3-hours-in   operation do-Past
        (Lit.) 'Taroo had his stomach operated {*for 3 hours / in 3 hours} (at the hospital).'

We will touch upon extraction of NP from Sino-Japanese nominals in Section 8.3.

2.2   The verbs involved: Washio (1997)

Next, let us examine the verbs allowed to appear in the PRC.   If they are not activity verbs, then are they change of state/location verbs?   As reviewed in Section 1, the verbs, grouped into four types following Vendler's (1967) typology, show different behaviors in co-occurrence with a *for*-phrase or an *in*-phrase.

● Activity verbs vs. change of state/location verbs

(8) a.   Stative verbs (e.g. know, love, exist, have)

John knows the answer {*for one hour / *in one hour}.

 b.   Activity verbs (e.g. run, hit, push, eat)

John ran {for one hour / *in one hour}.

 c.   Achievement verbs (e.g. die, arrive, collapse, explode)

John died {*for one hour / in one hour}.

 d.   Accomplishment verbs (e.g. break, melt, cut, dye)

John broke the glass {*for one hour / in one hour}.

When applying Vendler's typology to the data in (1), one might consider that the verbs forming the PRC are classified as accomplishment verbs.   To be precise, however, the purely aspect-based typology is not completely appropriate for the verbs involved in the PRC.   Consider verbs such as *migak-u* 'polish' and *sor-u* 'shave,' which may be involved in the PRC, as in (9):

(9) a.   Taroo-wa   ekimae-de   kutu-o   migai -ta.

Taroo-Top   in front of the station-at   shoes-Acc   polish-Past

'Taroo had his shoes polished at the shop in front of the station.'

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b.　Masao-wa　　tokoya-de　　hige-o　　　 sot　-ta.

　　　　　Masao-Top　　barbershop　beard-Acc　shave-Past

　　　　　'Masao was given a shave at the barbershop.'

Verbs such as *migak-u* 'polish' and *sor-u* 'shave' are conventionally classified as activity verbs, for they do not (necessarily) include an end point.　As shown in (10) below, they are compatible with the aspectual phrase *-kan*, corresponding to English *for*, which may be associated with activity verbs, but not with accomplishment verbs, as previously witnessed in (8b) and (8d).

　　(10) a.　Taroo-ga　　　10-pun　-kan　kutu -o　　migai -ta.

　　　　　　 Taroo-Nom　　10-minute-for　 shoes-Acc polish-Past

　　　　　　 'Taroo polished the shoes for 10 minutes.'

　　　　b.　Masao-wa　　10-pun　-kan　hige -o　　　 sot　-ta.

　　　　　　 Masao-Top　10-minute-for　beard-Acc　shave-Past

　　　　　　 'Masao shaved for 10 minutes.'

However, as Washio (1997a, b) points out, the verbs in (10) are different from pure activity verbs in that the former imply a certain result state.　For instance, sentence (9a) would allow a resultative predicate such as *pika-pika-ni* '(to be) shiny' and (9b) would allow *turu-turu-ni* '(to be) slick.'　In addition, as illustrated in (11) below, these verbs are also compatible with the aspectual phrase *-de*, corresponding to English *in*, which is not supposed to co-occur with activity verbs, as shown in (8b).

　　(11) a.　Taroo-ga　　　10-pun　 -de　kutu -o　　 migai -ta.

　　　　　　 Taroo-Nom　　10-minute -in　 shoes-Acc　 polish-Past

　　　　　　　'Taroo polished the shoes in 10 minutes.'

  b. Masao-wa 10-pun -de hige -o sot -ta.

    Masao-Top 10-minute -in beard-Acc shave-Past

    'Masao shaved in 10 minutes.'

Thus, these verbs should be distinguished from pure activity verbs.

   Washio (1997a, b) observes these peculiarities of "*polish*-verbs," under which *migak-u* 'polish' and *sor-u* 'shave' are subsumed, and argues that these verbs actually constitute part of a natural class. He examines resultatives from a cross-linguistic perspective and draws the conclusion that it is necessary to postulate a natural class, under which *polish*-verbs are subsumed, to describe the set of permissible resultatives in a particular language, such as Japanese.

   Washio divides English resultatives into the following two types, (12) and (13):

 (12) a. The horses dragged the logs smooth.

   b. She kicked the dog black and blue.

 (13) a. John painted the wall blue.

   b. I froze the ice cream hard.

                    (Washio 1997a: 5, 6)

The resultatives in (12) are referred to as "Strong resultatives," where "the meaning of the verb and the meaning of the adjective are completely independent of each other." In this type, the resultant state is not predictable. On the other hand, the resultatives in (13) are termed "Weak resultatives," which are not "Strong" (cf. McNulty 1988, Napoli 1992, and Levin and Rappaport Hovav 1995, which are reviewed in Washio 1997a; for English-Japanese comparative study, see Hasegawa 1998, 2000, among many others). In Japanese, Strong resultatives are not allowed, as shown in (14a) (compare with (12a)); only Weak resultatives may be formed, as indicated in (14b) (compare with (13a)).

(14) a. * uma-ga   maruta-o   subesube-ni   hikizut-ta.

   horse-Nom   log -Acc   smooth   drag-Past

   'The horses dragged the logs smooth.'

b.   John-ga   kabe-o   buruu-ni   nut-ta.

   John-Nom   wall-Acc   blue   paint-Past

   'John painted the wall blue.'

(Washio 1997a: 5, 6)

The *polish*-type verbs, under discussion, also form Weak resultatives:

(15) a.   John-wa   kinzoku-o   pikapika-ni   migai-ta.

   John-Top   metal-Acc   shiny   polish-Past

   'John polished the metal shiny.'

(Washio ibid.: 22)

b.   Masao-wa   turuturu-ni   hige -o   sot   -ta.

   Masao-Top   slick   beard-Acc   shave-Past

   'Masao shaved himself slick.'

Intransitive resultatives such as (16), which are discussed by Randall (1982), Levin and Rappaport Hovav (1995), and Carrier and Randall (1992), are all classified as Strong resultatives.

(16) a.   They ran the soles of their shoes threadbare.
  b.   I danced myself tired.

(Washio ibid.: 20)

Transitive resultatives may be Strong, as in (12), or Weak, as in (13).   A cross-linguistic comparison with possible types of resultatives is presented in (17):

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(17)

		English	Japanese	French
	Weak	√	√	?
Transitive resultatives	Strong	√	*	*
Intransitive resultatives	Strong	√	*	*

(Washio ibid.: 30, for only the relevant cases)

From a cross-linguistic perspective, Washio points out that it is not the distinction "Transitive vs. Intransitive," but "Weak vs. Strong," that is crucially correlated with the dividing line for permissible resultatives. He thus claims that the verbs involved in Weak resultatives constitute a natural class. In particular, he argues that this verb class, which forms Weak resultatives, does not coincide with the class of "change of state/location" verbs in the aspectual typology, since the latter class does not include *polish*-verbs, which successfully form Weak resultatives, as in (15). The *polish*-verbs are considered to form a class, Patient of which is characterized as "they are necessarily affected by the actions denoted by the verbs (without necessarily undergoing any change of state/location), but if they do change their state, then they change in certain fixed directions toward certain states" (Washio ibid.: 39).

Washio's proposal regarding resultatives seems to bring about a new classification of verbs, involving not only change of state/location verbs, but also some of activity verbs that have a predetermined transition toward a particular result state. If this classification is real for resultatives, as Washio argues, it should have wider application or relevance. In fact, it is applicable to describing the verb class which forms the PRC. In accordance with his view, we state that permissible verbs for forming the PRC are accomplishment verbs and *polish*-verbs, which form a natural class in human language.[7]

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[7] I am grateful to Nobuko Hasegawa for suggesting the direction of the discussion to me.

3   Hasegawa's (2001) Little-*v* Analysis

Hasegawa (2001) has made a significant contribution to the analysis of non-Agentive subjects in Japanese by introducing the feature specification system of *v*. She argues that Burzio's Generalization in (18) is not complete enough to capture all the facts.

(18)   *Burzio's generalization* (Burzio 1981, 1986)
        If a verb does not assign an external role, it does not assign Object Case.

According to (18), sentences which lack an external θ-role cannot have an accusative object.   However, as Hasegawa observes, there are many cases in which Object Case is assigned to a sentence lacking an external argument, as exemplified in (19) below. Note that Hasegawa uses the term "external θ-role" to refer to Agent but not Experiencer or Cause, which she argues are generated within a VP and thus not external.

(19) a.   Ziko-ga   densya-o   okur-ase-ta/okur-asi-ta.
          Accident-Nom   train-Acc   delay-Tr-Past
          'The accident delayed the train.'

     b.   Kyoko-ga   sono hitokoto-ni   kimoti-o   nagom-ase-ta.
          Kyoko-Nom   that one-word-Dat   feeling-Acc calm-Caus-Past
          'Kyoko got her feelings calmed by that word.'

                                                                (Hasegawa 2001: 13-14, 24)

Although (19a) and (19b) lack an Agentive subject (the subject of (19a) is Cause and that of (19b) is Experiencer), Object Case is assigned.   Hasegawa argues that the feature specification of *v* in terms of [± External Role (ER)] and [± Object Case (OC)], which is illustrated in (20), comprehensively accounts for the facts found in

examples such as those in (19), which are not covered by Burzio's generalization.

●The feature specification of *v* in Hasegawa (2001, 2004a)

(20)   + ER   - ER

+ OC   (a) agentive transitive   **(c) unaccusative transitive**
- OC   **(b) agentive unaccusative**[8]   (d) unaccusative intransitive

In the feature specification system of *v* in (20), the four cases (20a)-(20d) are possible. (20a) and (20d) are within Burzio's generalization, while (20b) and (20c) are not. The cases in (19a-b), where Object Case is assigned but no external θ-role appears, fall under the classification of (20c). In sum, the fact that an accusative object appears without an Agentive subject is elegantly accounted for by (20c). As for (19b), which is repeated as (21a) and its Causative counterpart presented in (21b) below, Hasegawa proposes the derivation in (22).

(21) a.   Kyoko-ga   sono hitokoto-ni   kimoti-o   nagom-ase-ta.

          Kyoko-Nom   that one word-Dat   feeling-Acc   calm/sooth-Caus-Past

          'Kyoko got her feelings soothed by that one word.'

     b.   Sono hitokoto-ga   Kyoko-no kimoti-o   nagom-ase-ta.

          that one-word-Nom   Kyoko-Gen feeling-Acc   calm-Caus-Past

          'That one word soothed Kyoko's feelings.'

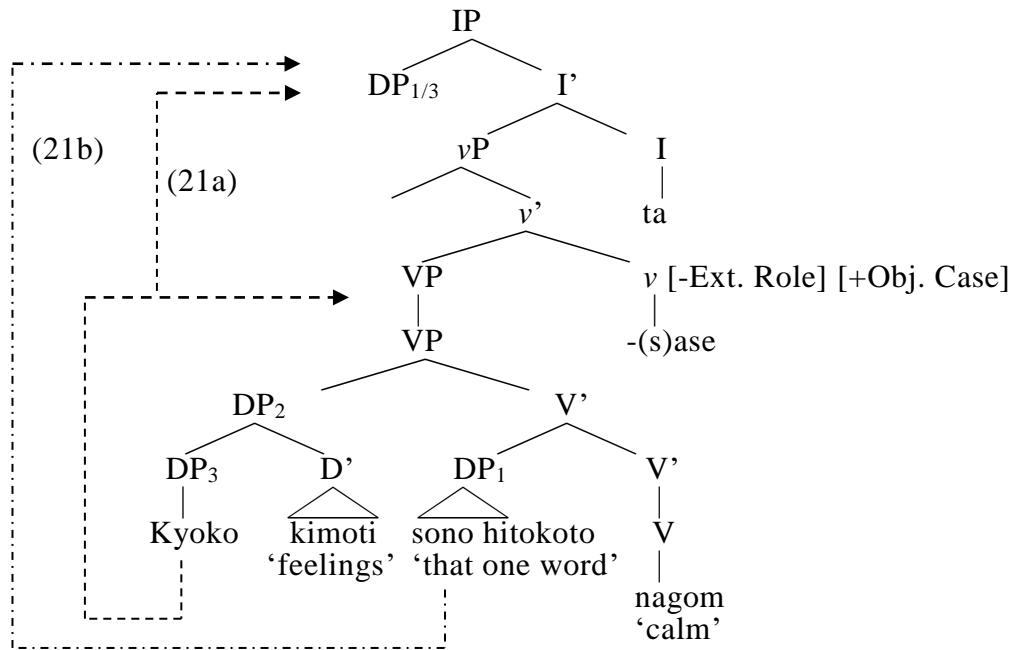   (Hasegawa 2001: 24-25)

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[8] Hasegawa states that a sentence like (i) falls under (20b).

  (i) Hanako-ga   (waza-to)   ugoi-ta.
      Hanako-Nom   intentionally   move-Past
      'Hanako moved (intentionally).'   (Hasegawa 2001: 10)

(22)

```
                              IP
                        DP₁/₃      I'
                              vP         I
                                  v'     |
                          VP            ta
                       VP        v [-Ext. Role] [+Obj. Case]
                                        |
                                     -(s)ase
                 DP₂            V'
           DP₃       D'    DP₁      V'
            |                        |
          Kyoko   kimoti  sono hitokoto   V
                 'feelings' 'that one word'  |
                                          nagom
                                          'calm'
```

(21b)
(21a)

(Hasegawa 2001 24; 2004a: 43, with gloss and notation)

The subject *Kyoko,* DP₃, first originates as Possessor of the object *kimoti* 'feelings' within the same DP₂*,* and then undergoes Possessor raising to a VP-adjoined position. The accusative Case of the object *kimoti* is due to the Case feature of *v*.   The Cause DP₁, *sono hitokoto* 'that one word,' is realized as PP, accompanied by *ni* (or *de*) 'at/by.'   Thus, sentence (21a) is derived.   The Possessor subject *Kyoko* may be alternated with the Cause DP₁, *sono hitokoto* 'that one word.'   In this case, sentence (21b) is generated: the Cause DP₁ originates in a VP, then is raised to the Spec of IP, in the same fashion as the Possessor *Kyoko* is raised in (21a).[9]   Thus, the Cause subject is derived basically in the same way as the Possessor subject.   Based on the subject

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[9] Another point made by Hasegawa is that *v* in (22) may be specified as [-Ext. Role] [-Obj. Case] and generate unaccusative intransitive as indicated in (20d). In that case, the sentence below is generated:

(i) [DP₂ Kyoko-no   kimoti] -ga   sono hitokoto -ni   nagon-da.
       Kyoko-Gen feelings -Nom   that one word -at   calm -Past
       'Kyoko's feelings calmed down by that one word.'

Sentence (i) has almost the same meaning as the sentences in (21). The Agentive subject is not involved in all these sentences; the only difference is whether the object appears or not. This fact is elegantly explained by her feature specification system of *v* in (20): *v* is responsible for these different sentence patterns, where the same lexical verb is involved.

alternation between (21a) and (21b), Hasegawa argues that these non-Agentive sentences share the same structure, as illustrated in (22), and should therefore be given a unified explanation under the properties of *v*.   We would like to follow Hasegawa's insight in that *v* plays an important role in non-Agentive sentences.   We will, however, discuss another of Hasegawa's points; that the Cause subject and the Experiencer subject may be freely alternated.   We will show that they are not always interchangeable.

Following the system proposed by Hasegawa, we assume that Possessor originates inside DP with its Possessee, then moves to the subject position, which has been often discussed (e.g. Szabolcsi 1983-1984, Tsujioka 2002).   However, Hasegawa's feature specification system does not seem to be sufficient for analyzing the PRC exemplified in (1a-d).   Although she gives a unified account for sentences of type (19) and the PRC under the name of "non-Agentive," we will argue that they should be distinguished.   We will come back to this topic later.

Besides this, Hasegawa (2001) seems to have left another issue to be developed. When we focus on thematic interpretation, it is not entirely clear how the Experiencer reading of the subject in the PRC is obtained in Hasegawa's system.   Although Hasegawa (2001) suggests that "Experiencer" may not be an independent role and could be a derived interpretation, her arguments are mainly based on the cases of sensational predicates or mental-state predicates.

> "I am not sure if Experiencer is an independent role as Agent and Theme are.   As observed above and will be further discussed below, the subject of sensational expressions (e.g. (34), (35)) and that of the construction (36)[10] are interpreted as Experiencer, but it is originally a possessor of a body part, which by no means inherently pertains to Experiencer."
>
> (Hasegawa 2001: footnote 10)

Hasegawa (2004a) argues that predicates must be psychology or sensation type

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[10] "The construction (36)" is the "Possessor of feelings or mental state" construction in Hasegawa's terms.   This construction involves psychological predicates such as *nagom-u* 'calm,' which is exemplified in (21), or idioms such as *sesuzi-o kooraser-u* 'chill one's spine' or *kokoro-o ugokas-u* 'move one's mind.'

predicates when the Experiencer reading is obtained.[11]

> "To sum, the experiencer reading is a derived one and it is both structurally and semantically conditioned. Semantically, predicates must be psychology or sensation type and the entity must be of human or higher animal. Structurally, possessor raising from inside a VP (most probably from the theme position) is required for this reading."
>
> (Hasegawa 2004a: 62)

However, the Experiencer reading cannot be said to arise solely from lexical properties for the following two reasons. First, not only psychology or sensation type predicates, but a wide range of verbs, may appear in the PRC.

(23) a. (= (1d))

　　　Watasi-wa　rakurai-de　　ie-o　　　　yai-ta.

　　　I-Top　　　thunderbolt-by　house-Acc　burn-Past

　　　'I had my house burnt down by a thunderbolt.'

　　b. (= (1b))

　　　Tanaka-san-ga　　haisya-de　　musiba-o　　　nui-ta.

　　　Mr. Tanaka-Nom　dentist's-at　bad tooth-Acc　pull-Past

　　　'Mr. Tanaka had a bad tooth pulled at the dentist's.'

Thus, even non-sensation or non-mental state predicates may contribute to the Experiencer reading of the subject. Second, in Hasegawa's example, where psychological or sensational predicates are involved, the thematic interpretation of the subject is identical to the object. In (21a), what is calmed is the subject, *Kyoko*, as well as the object 'feeling.' However, in (23a), what is burned is not the subject 'I,'

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[11] Note that in Hasegawa (2004b), she uses the term PRC to stand for "Possessor Raising Construction," for DP raising from within VP is one of her points, allowing "Cause raising" by the same mechanism. On the other hand, "PRC" in this paper is the abbreviation of "Possessive Relationship Construction," focused on the relationship between Possessor and Possessee, that is, the former is a relational argument of and licensed by the latter, which is the head of the nominal. We will discuss this point in Section 4.2 and 8.3.

but the object 'house.'   Similarly, in (23b), what is pulled is not the subject 'Mr. Tanaka' but the object 'bad tooth.'   Thus, the Experiencer subject is not Theme of the verb in terms of θ-role.   We have consistently claimed since Okura (2004a, b, 2005a), by discussing examples such as in (23), that what is crucial for Experiencer readings in the PRC may be reduced to two conditions: (i) a close possessive relationship must hold between the subject and the object, and (ii) the verb involved must be an accomplishment verb or a verb that can imply a certain result state.   Other factors are quite irrelevant: more general verbs, which are non-sensation or non-mental predicates, can lead to Experiencer readings.   We take this fact to mean that Experiencer readings in PRCs are not merely derived in relation to sensation/mental-state predicates, which is Hasegawa's argument, but rather structurally obtained in the course of the derivation.

4   Where and How is Possessor Introduced into the Derivation?

4.1   Derivation of the PRC and the regular transitive

In the previous section, we have argued that non-sensation or non-mental state predicates may be involved in the PRC.   Additionally, it is possible for the PRC to contain even non-body parts such as *ie* 'house,' for it is indispensable and closely related to an individual.   This fact seems to suggest that a crucial factor for forming a PRC is not physical closeness, but rather depends on how an entity and its possessor are recognized.   This changes the timing of introducing an argument into the derivation, which accounts for semantic ambiguity between the PRC and the regular Agentive transitive.

As we have mentioned, the same predicate may form a PRC and a regular Agentive transitive as demonstrated in (24) and (25):

(24)   Taroo-ga   yubi-o   kit-ta.
        Taroo-Nom   finger-Acc   cut-Past

a. 'Taroo cut his finger.'   *(PRC)*

b. 'Taroo (intentionally) cut his/someone else's finger.'*(Agentive transitive)*

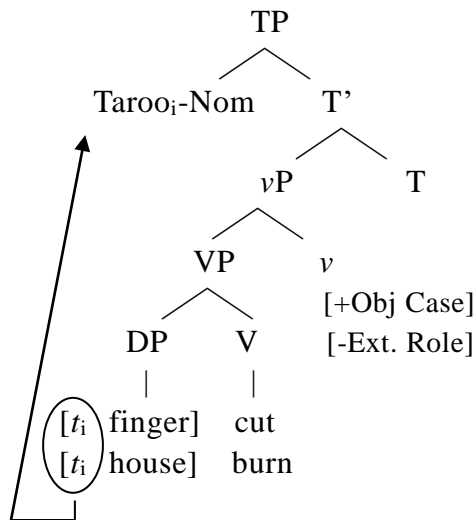(25)   Taroo-ga   ie-o   yai-ta.

Taroo-Nom   house-Acc   burn-Past

a. 'Taroo had his house burnt down (by someone else).' *(PRC)*

b. 'Taroo burnt his/someone else's house down.'   *(Agentive transitive)*
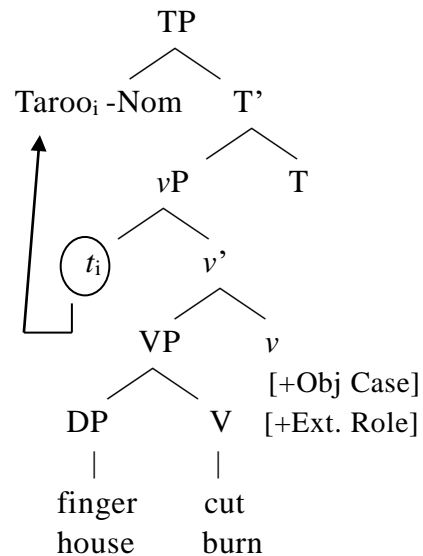

The different interpretations indicated by the (a)-sentences and (b)-sentences arise from differences in derivation, as shown in (26):

● Derivations (a tentative analysis, which will be revised later on)

(26)   a. PRC (for (24a),(25a))   b. Agentive transitive (for (24b), (25b))

As for the derivation of the PRC in (26a), we will argue that Possessor is licensed by the Possessee and these are introduced into the derivation together. On the other hand, an argument may be licensed and introduced by *v*, apart from the possessee, as is shown in (26b). In this case, the possessor 'Taroo' is Agent, while the possessee 'finger'/'house' is Theme.

4.2   The first Merge as selection

If we focus on the relationship between Possessor and Possessee, it is found that not all possessive relationships form PRCs as shown in (27):

(27)   Taroo-ga   kuruma-o   yai-ta.

Taroo-Nom   car-Acc   burn-Past

a. *'Taroo had his car burnt (Taroo had his car set on fire) by someone.'

b. 'Taroo burnt his car (Taroo set his car on fire).'

Even if a possessive relationship is conceivable between *Taroo* and the car, *Taroo* is interpreted as Agent but not as Experiencer.[12]   We speculate, as is often discussed,

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[12] One might wonder about the difference between *ie* 'house' in (25a) and *kuruma* 'car' in (27a): the former is easily available in a PRC while the latter is not.   Tsunoda (1991: chap.7; 1996) argues that the closeness between the possessor and the possessee may be ranked, which he calls "Possession Cline."

(i)
　　　　　　　body part **>** attribute > clothing > kin > pet, animal > product > other possessee
　closeness ←---
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(Based on Tsunoda 1996: 600)

Tsunoda argues that this Possession Cline influences selection. That is, Japanese verbs that express possession have restrictions on selecting a possessee.   He observes that the use of the verb *mot-u* 'have' is mainly restricted to "other possessee" type, which is ranked as the lowest (on the right-hand of the axis) in the Possession Cline in (i). The relevant data are below:

(ii) a. *Tanaka-san-wa   asi-o   mot-te-i-ru.
　　　Mr. Tanaka-Top   leg-Acc   have-Pres
　　　'Mr. Tanaka has a leg.'

　 b. ??Tanaka-san-wa   ie-o   mot-te-i-ru.
　　　Mr. Tanaka -Top   house-Acc   have-Pres
　　　'Mr. Tanaka has a house.'

　 c. Tanaka-san-wa   kuruma-o   mot-te-i-ru.
　　　Mr. Tanaka-Top   car-Acc   have-Pres
　　　'Mr. Tanaka has a car.'

(iii) a.   Tanaka-san-ni-wa   ie-ga   ar-u.
　　　Mr. Tanaka-Gen-Top   house-Nom   be-Pres
　　　'Mr. Tanaka has a house.'

　 b.   Tanaka-san-ni-wa   kuruma-ga   ar-u.
　　　Mr. Tanaka-Gen-Top   car-Nom   be-Pres
　　　'Mr. Tanaka has a car.'

that relational arguments require the licensing by the head noun (cf. Higginbotham 1985, Tellier 1990; cf. "Qualia Structure" by Pustejovsky 1995), and this restricts the productivity of the PRC.   Consider the DPs in (28b-c):

(28) a.   The enemy destroyed the city.

 b.   The enemy's destruction (of the city)

 c.   The city's destruction (by the enemy)

In (28b-c), the deverbal noun *destruction* selects *the enemy* as an external argument and *the city* as an internal argument, and these arguments may be realized within a DP. In a similar fashion, non-deverbal nouns also realize certain arguments within a DP as shown in (29).

(29) a.   The boy's arm

 b.   The cat's tail

Citing the examples in (29), Haegeman and Guéron (1999: 413) discuss that nouns which are not selected by verbs are "inherently relational" to a noun, which might be called "a relational argument."   Although the system requires refinement, we postulate that only a relational argument which is selected by a head noun may be involved in the PRC.   In this sense, the construction that we have explored is the POSSESSIVE RELATIONSHIP Construction, not a mere possessor raising construction.   The relation may be a body-part, a possessor-possessee, or a

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Sentence (iia) is not acceptable; (iib) sounds awkward when 'house' refers to the house in which he lives, so far as there is not any modification such as *ooki-na* 'big' or *2-ken* 'two-Cl.' In contrast, (iic) shows that 'car' is perfect to form the *mot-u* 'have' construction. Also note the contrast between (iib) and (iiia); the *ar-u* 'be' construction in (iiia), which covers wider possessive relationships, sounds more natural with a possessee such as *ie* 'house' ranked high in (i). Two points should be made from the discussion here: first, closeness of possessive relationship influences selection, which leads to restrictions on possible constructions to be formed. Second, although physically alienable, a noun such as *ie* 'house' may behave similarly to inalienable possession nouns, rather than other possessee nouns in (i), maybe because a house is indispensable, not optional, for humans.

whole-part relation.   The establishment of the relationship would be based on the head of nouns, which leads to the cognition of the world.

Selection by a head noun affects syntactic structure, and related phenomena can be syntactically detected.   First, as we have discussed, the productivity of the PRC is restricted, because licensing/selection by a head noun is required.   In this connection, Kitahara (1993), looking at Korean Inalienable Possession Constructions (IAC), argues that the "Empty Category Principle (ECP)" is violated if the Possessor which is not being selected by the Possessee is raised.   In IACs, two NPs, which are in a whole-part or possessor-possessee relationship, appear as two accusative DPs, as shown in (30).   (As for analyses of the IAC in Korean, see Kim 1990, Yoon 1990, and Mailing and Kim 1992; for a different view, see Tomioka and Sim 2004).

(30)   John-i   Mary-lul   ppyam-ul   ttaelyo-ss-ta.
       John-Nom   Mary-Acc   cheek-Acc   hit-Past-Ind
       'John hit Mary's cheek.'

Kitahara (1993: 403)

Interestingly, this construction fails with the noun 'car,' even if it is a possessee of *Mary*:

(31) * John-I   Mary-lul   cha-lul   ttaelyo-ss-ta
       John-Nom   Mary-Acc   car-Acc   hit-Past-Ind
       'John hit Mary's car.'

Kitahara (ibid.: 404)

Assuming that a possessor NP and a possessee NP are base-generated as sisters, Kitahara attributes the contrast between (30) and (31) to the Empty Category Principle (ECP) violation.[13]   That is, the trace of *Mary* in (30) is "θ-governed" by the head

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[13] Although the notions "ECP violation" and "θ-governed" should be restated in the Minimalist framework, what is relevant here is a problem of selection. (The ungrammaticality in (31) could

noun *ppyam* 'cheek' as a relational argument, for the head noun (possessee) has a θ-grid, but the trace of *Mary* in (31) is not "θ-governed," for the noun *cha* 'car' does not have a "θ-grid" including Possessor.   This is similar to what we have observed and argued in regard to the PRC: the PRC also has a selectional restriction on nouns, as seen in (27).   This selectional restriction is reduced to a property of relational arguments.   We will further discuss selection by a noun and extractability of the selected noun in Section 8.3.

Selection by a noun is also observed in relationships other than possessor-possessee.   Consider the examples in (32):

(32) a.   John saw [a girl with a dog].

b.   John saw [a friend of the President].

In the bracketed phrases, two DPs are connected in mediation of a preposition, *with* and *of* respectively.   The structures look alike, however, the *with*-phrase in (32a) has been regarded as an adjunct, whereas the *of*-phrase in (32b) is considered to be a complement: *of* has no semantic contents but is just inserted to avoid two DPs becoming adjacent.   In other words, *a dog* in (32a) is optional and an adjunct for the other noun, *a girl.*   On the other hand, *the President* in (32b) is selected by *a friend* as a relational argument, since a friend must be someone's friend.   This difference in selection is reflected in syntactic behavior of *one* substitution.

(33) a.   John saw <u>a girl</u> with a dog, and Bill saw <u>one</u> with a cat.

b. * John saw <u>a friend</u> of the President, and Bill saw <u>one</u> of the Senator.

This contrast may be accounted for assuming that substitution, a syntactic operation, applies to a constituent: The nouns *friend* and *the President* are base-generated as sisters and form a constituent.   It is also a plausible account that selection of the

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be attributed to an illicit chain, whose tail is in an A'-position. See also Section 8.3.)

relational argument by the head noun *friend* fails if the head noun is replaced by the pronoun *one,* which does not have substantial semantic contents. Thus, we assume a relational argument is selected by the head noun in a certain position within the DP.

5 Movement of Possessor

We have discussed the following two points so far in the previous sections:

(34) a. The subject of the PRC is a derived subject. Possessor originates inside a nominal whose head is Possessee, then moves to the subject position.

b. The "Experiencer" reading of a subject in the PRC is not a θ-role directly assigned by a particular predicate such as sensational or psychological predicates. Rather, the "Experiencer" reading is obtained in the course of the derivation, hence more general verbs than sensational or psychological predicates may be involved.

In this section, we will verify the movement of Possessor assumed in (26a) and (34a) above. At the same time, we will compare two types of "Experiencers": Experiencer which is directly assigned by a predicate, and Experiencer in the PRC, which is assigned in the course of the derivation. In this sense, Experiencer in the PRC is an "applied" argument (cf. Pylkkänen 2002). We will show that these "Experiencers" behave in different ways.

5.1 Comparison with Possessor which stays in a DP

First of all, if Possessor is not raised from a DP, its Benefactive/Malefactive reading disappears and the affectedness is neutralized, which is shown in the (a)-sentences, below. In the (b)-sentences, the Possessors are raised from a DP and the Experiencer (Benefactive/Malefactive) readings are derived.

(35) a. [DP Hanako-*no* kami]-ga   somat-ta.

        Hanako-Gen hair-Nom   dye-Past

    'Hanako's hair was dyed.'

    b. Hanako-ga   (biyooin-de)   kami-o   some-ta.

      Hanako-Nom   beauty shop-at   hair-Acc   dye-Past

      'Hanako had her hair dyed at the beauty shop.'

(36) a. [DP Tanaka-san-no ha]-ga   nuke-ta.

        Mr. Tanaka-Gen tooth-Nom   fall-Past

    'Mr. Tanaka's tooth fell out.'

    b. Tanaka-san-ga   ha-o   nui-ta.

      Mr. Tanaka-Nom   the tooth -Acc   pull-Past

      'Mr. Tanaka had his tooth pulled.'

We take these facts to suggest that Possessor is raised to a certain position, where the Benefactive/Malefactive reading is obtained.

5.2   The difference between the two "Experiencers"

In this subsection, two types of Experiencers are compared.   Observe the sentences in (37) and (38):[14]

(37) Taroo-wa   (ziko-de)   yubi-o   kit-ta.

     Taroo-Top   accident-by   finger-Acc   cut-Past

    'Taroo cut his finger (in the accident.)'

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[14] I thank Yukiko Ueda for bringing my attention to the predicate *usina-u* 'lose.'

(38)   Taroo-wa   (ziko-de)   yubi-o   usinat-ta.

Taroo-Top   accident-by   finger-Acc   lose-Past

'Taroo lost his fingers (in the accident.)'

Sentences (37) and (38) are apparently similar in that (i) the subject of the sentences is a possessor and the object is a possessee; (ii) the subject is interpreted as Experiencer. However, a closer look reveals that the Experiencers in sentences (37) and (38) behave in different ways.   First, observe what happens if the close (inalienable) relationships between the subject *Taroo* and the object *yubi* 'finger' observed in (37) and (38) are lost.

(39)   Taroo-wa   Hanako-no   syorui-o   kit-ta.

Taroo-Top   Hanako-Gen   document-Acc   cut-Past

'Taroo cut up Hanako's document.'

(40)   Taroo-wa   Hanako-no   syorui-o   usinat-ta.

Taroo-Top   Hanako-Gen   document-Acc   lose-Past

'Taroo lost Hanako's document.'

The object *yubi* 'finger' in (37) and (38) is replaced by *syorui* 'document' in sentences (39) and (40); moreover, the possessive relationships between the subject and the object held in (37) and (38) are lost by adding another possessor phrase, *Hanako-no* 'Hanako's.'   The Experiencer reading is lost in (39), while it still holds in (40). Thus, as we have already observed, a close possessive relationship is crucial for the Experiencer reading in the PRC in (37), while it is not in the regular transitive in (38). This fact is taken to show that the Experiencer θ-role in (38) and (40) is lexically assigned by the predicate *usina-u* 'lose,' while the Experiencer reading of the PRC in (37) is not.   Thus, the predicate *usina-u* 'lose' is a regular transitive, which assigns the θ-role 'loser' to the external argument, the subject.

Next, consider the Specificity Condition (Chomsky 1973, Fiengo and Higginbotham 1981), which restricts extraction out of a specific DP.

- The Specificity Condition

(41) a.   Who$_i$ did you see [a picture of t_i]?

   b. * Who$_i$ did you see [that picture of t_i]?

   c. * Who$_i$ did you see [John's picture of t_i]?

As indicated in (41b) and (41c), an element cannot be extracted from within a specified object.   Keeping this in mind, consider Japanese DPs.   It has been observed since Kamio (1977) that Japanese DPs containing a numeral quantifier (NQ) may be interpreted as specific, whereas "floated" NQs force a non-specific interpretation.   That is, DPs may be interpreted as specific in the string [$_{DP}$ NQ-no NP], while the non-specific interpretation is forced in the string [$_{DP}$ NP] NQ   (cf. Tateishi 1989, Ishii 1991, and Watanabe 2006).   This point is clarified in (42):

(42) a.   *3-nin-no*   gakusei-ga   eigo-ga   umai.
       3-Cl-Gen   student-Nom   English-Nom   good
       'Three students are good at English.'

   b.*? Gakusei-ga   *3-nin*   eigo-ga   umai.
        students-Nom   3-Cl   English-Nom   good

                                                    (Watanabe 2006: 298)

(42a) is an example of a [$_{DP}$ NQ-no NP] string, where the specific interpretation is available, so that the individual-level predicate is compatible.   In contrast, (42b) is an example of [$_{DP}$ NP] NQ string, where the non-specific interpretation is forced, so that the individual-level predicate leads to incompatibility.   Watanabe (2006) argues that

Case is closely related to D and that it is responsible for the specificity.[15]   He cites Enç's (1991) observation that the specificity of the accusative object is manifested by a Case particle in Turkish, and points out that this Turkish phenomenon and the Japanese phenomenon seen in (42) may be explained in a unified way in terms of the correlation between specificity and Case particles.   He assumes that the information about specificity is encoded by the Case head inside a DP, and the Agree relation between Case and D provides the specific interpretation.   If Watanabe's argument is on the right track, then specificity is detected in syntax and reducible to the inner structure of DP.[16]

Interestingly, as the contrast in (43) indicates, specificity affects the formation of the PRC.

(43) a. *? Taroo-wa   (ziko-de)   [DP 3-bon-no   yubi] -o   kit-ta.

         Taroo-Top   accident-by   3-Cl-Gen   finger -Acc   cut-Past

         'Taroo cut three of his fingers (in the accident).'

     b.   Taroo-wa   (ziko-de)   [DP yubi] -o   3-bon   kit-ta.

         Taroo-Top   accident-by   finger-Acc   3-Cl-Gen   cut-Past

         'Taroo cut three fingers (in the accident).'

The PRC in (43a) is ungrammatical if the [DP NQ-no NP] is interpreted as specific. On the other hand, when the [DP NP] NQ sequence is involved, in which case the DP must be interpreted as non-specific, as in (43b), the PRC is well-formed.[17]   Note that the specificity effect is not observed in the regular transitive even when the [DP NQ-no

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[15] Chomsky (1995: Ch. 4, 342) assumes the locus of specificity to be D. See De Hoop (1992) for discussion on Case types and differences in interpretation.

[16] Watanabe (2006) postulates the base structure of a DP as follows:
    [DP [QP [CaseP [NumberP [NP N] Number] Case] Q] D]
He assumes that the string [NQ-no NP]-Case is derived by the raising of CaseP to the Spec of DP, where the Case-D Agree relation is established and specificity is provided.   See Watanabe (2006) for full discussion.

[17] We leave out the details of the inner structure of DPs here, as well as the precise analysis of "NQ float." Most important for our analysis is the correlation between the specificity of the DP and the possibility of forming the PRC.

NP] is involved, as in (44a).   This is the same as other regular transitive sentences, subjects of which are Agent: they do not exhibit this kind of specificity effect, as shown in (45a) and (45b):

(44) a.   Taroo-wa   (ziko-de)   [DP 3-bon-no yubi] -o   usinat-ta.

Taroo-Top   accident-by   3-Cl-Gen finger -Acc   lose-Past

'Taroo lost three of his fingers (in the accident).'

   b.   Taroo-wa   (ziko-de)   [DP yubi] -o   3-bon   usinat-ta.

Taroo-Top   accident-by   finger -Acc 3-Cl   lose-Past

'Taroo lost three fingers (in the accident).'

(45) a.   Taroo-wa   [DP 3-satu-no hon] -o   yon-da / kat-ta.

Taroo-Top   3-Cl-Gen book -Acc   read-Past / buy-Past

'Taroo read/bought the three books.'

   b.   Taroo-wa   (zibun-no/Hanako-no) [DP 3-bon-no yubi] -o   tunet-ta.

Taroo-Top (self-Gen/Hanako-Gen)   3-Cl-Gen finger -Acc nip -Past

'Taroo nipped himself/Hanako on his/her three fingers.'

These data suggest that movement of the Possessor subject out of the object DP takes place in the PRC and that the Experiencer subject is a derived one, while this is not the case for the Experiencer subject (an external argument) in the regular transitive, such as *usina-u* 'lose' type predicates.

A similar point is shown by the intervention effect caused by adjectives.   It is reported that certain adjectives intervene on the Possessor-Possessee relationship in French (e.g. Kayne 1975).   In the sentences in (46), where Possessor remains in a DP, an adjective may modify the Possessee, whereas in (47), Possessor (Benefactive) appears outside of the DP, and the the sentence with an intervening adjective runs afoul.

(46) a.   Le coiffeur   a peigné   [DP <u>ses</u> cheveux soyeux].

        the hair dresser   comb-Past   her   hair   silky

        'The hair dresser combed her silky hair.'

    b.   Pierre   a lavé   [DP <u>ses</u> mains sales].

       Pierre   wash-Past   his hands dirty

       'Pierre washed his dirty hands.'

(47) a. * Le coiffeur   <u>lui</u>   a peigné   [DP les cheveux   soyeux].

        the hair dresser   to her   comb-Past   Det hair   silky

        'The hair dresser combed her silky hair.'

    b. * Pierre   <u>lui</u>   a lavé   [DP les mains   sales].

       Pierre   to him   wash-Past   Det hands   dirty

       'Pierre washed his dirty hands.'

               (Vergnaud and Zubizarreta 1992: 603, with slight modification)

Also, in Japanese, a similar intervention effect can be witnessed with the PRC, where the subject is a derived one.   This effect is not detected in the regular transitive, where the subject is generated as an external argument and assigned θ-role directly by a predicate.   Sentence (48a) below is the PRC, while sentences (48b) and (48c) are regular transitive:

(48) a. *? Hanako-wa   (biyooin-de)   tyairo-i   kami-o   kit-ta.

       Hanako-Top   (beauty shop-at)   brown   hair-Acc   cut-Past

       'Hanako had her brown hair cut at the beauty shop.'

    b.   Hanako-wa   (ziko-de)   tyairo-i   kami-o   usinat-ta.

       Hanako-Top   (accident-by)   brown   hair-Acc   lose-Past

       'Hanako lost her brown hair (in the accident).'

   c. Hanako-wa   tyairo-i   nuno-o   kit-ta.

       Hanako-Top   brown   cloth-Acc   cut-Past

       'Hanako cut brown cloth .'

The contrast between (48a) and (48b)-(48c) is relatively clear.[18]   If the Possessor *Hanako* in (48a) remains in the DP, then the sentence *Biyoosi-ga [DP Hanako-no tyairo-i kami]-o kit-ta* 'The hair dresser cut Hanako's brown hair' does not cause any problem, just as in the French case in (46a).   Following Cinque (1994), we assume that the base structure of functional categories is universally the same, even though adjectives precede nominals in Japanese, but follow them in French.   Being not adjuncts but introduced by a certain head within nominal phrases, adjectives cause an intervention effect, or Minimality, in the relationship between Possessor and Possessee as schematized in (49):

(49)   Possessor$_i$ [$_{FP}$ Adjective F^0 [t_i Possessee]]

                                    *
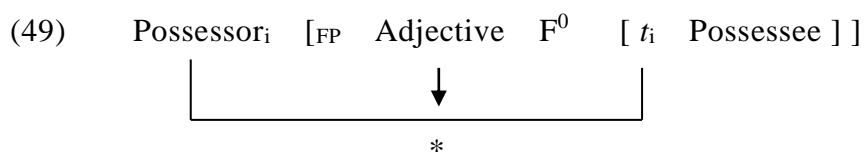
                                                  (cf. Tsujioka 2002: 110)

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[18] The acceptability of the sentences seems to be improved if a rich context is given to help the interpretation. For example, when an adjectival phrase expresses the reason or special purpose that the event should take place, as in (i), or in the case where regretfulness or some other feeling is intensified by a given context, as in (ii):

  (i) ?? Hanako-ga   (biyooin-de)   kitana-i kami-o   kit-ta.
       Hanako-Nom (the beauty shop-at) dirty   hair-Acc   cut-Past
       'Hanako had her dirty hair cut (at the beauty shop).'

  (ii) ? Taroo-wa   doromizu-de   ziman -no   siro-i suutu-o   yogosi-ta.
       Taroo-Top   muddy water-by proud of-Gen white   suit -Acc   dirty -Past
       'Taroo had his white suit stained with muddy water.'

In these cases, the given contexts or pragmatics seem to help the interpretation of the deviant sentences. It seems that controllability involved in some PRCs may also influence acceptability (see footnote 2 and Section 7.4). I am grateful to Enoch Iwamoto for suggesting this point to me.

More examples are shown below:[19]

(50) a. Yamada-san-wa   taihuu-de   yane-o   tobasi-ta.

     Mr. Yamada-Top   typhoon-by   roof-Acc   blow-Past

     'Mr. Yamada had his roof blown off by the typhoon.'

    b. ?* Yamada-san-wa   taihuu-de   aka-i   yane-o   tobasi-ta.

                                  red

     'Mr. Yamada had his red roof blown off by the typhoon.'

(51) a. Yamada-san-wa   zisin-de   kagu-o   kowasi-ta.

     Mr. Yamada-Top   earthquake-by   furniture-Acc   break-Past

     'Mr. Yamada had his furniture broken by the earthquake.'

---

[19] It seems that a certain type of modifier does not always cause this intervention effect. In Japanese, there are two types of inflection to modify a noun: the *i*-form and the *na*-form, which have been traditionally distinguished in Japanese grammar (for a recent analysis, see Nishiyama 1998).

  (i) the *i*-form
    a. ooki -i   mati
       big   city
      'a big city'

  (ii) the *na*-form
    a. ooki -na   mati
       big   city
      'a big city'

    b. [N yutaka] -na   mati
        rich   city
      'a rich city'

For some unknown reason, *na*-form phrases do not always cause the intervention effect, as shown in (iiib).

  (iii) a. ?* Yamada-san-wa   zisin-de   ooki-i   kagu-o   kowasi-ta.
                             big
      'Mr. Yamada had his big furniture broken by the earthquake.'

    b. ? Yamada-san-wa   zisin-de   ooki-na   kagu-o   kowasi-ta.
                            big
      'Mr. Yamada had his big furniture broken by the earthquake.

We leave an exact analysis of modifiers (including adjectives) for future research.

b. ?* Yamada-san-wa zisin-de ooki-i kagu-o kowasi-ta.

                                         big

     'Mr. Yamada had his big furniture broken by the earthquake.'

cf. Yamada-san-wa daiku-ni ooki-i kagu-o kowa-$\underline{sase}$-ta.

    Mr.Yamada-Top carpenter-Dat big furniture-Acc break-$\underline{Cause}$-Past

    'Mr. Yamada had a carpenter scrap his big furniture.'

Tateishi (1989) independently observes that the LF-extraction of Possessor *dare-no* 'whose' over an adjective runs afoul, as in (52b), which is an argument for his DP analysis of Japanese.

(52) a. [$\underline{Dare-no}$ $\underline{akai}$ syatu-o] John-ga nusun-da-no?

    who-Gen red shirt-Acc John-Nom steal-Past-Q

    'Whose red shirt did John steal?'

  b. *[$\underline{Akai}$ $\underline{dare-no}$ syatu-o] John-ga nusun-da-no?

    red who-Gen

                                  (Tateishi 1989: 407)

This intervention effect seems to be a parallel phenomenon with what we have observed in (48a), (50b), and (51b). The data so far support the subject of the PRC being a derived subject which is extracted from within a DP.

    Finally, we present data from ellipsis. Otani and Whitman (1991) report that "VP-ellipsis" is possible even if the verbs involved in the pair sentences are different, as shown in (53):

(53) a. John$_i$-wa zibun$_i$-no roba-o tatai-ta.

    John-Top self-Gen donkey-Acc beat-Past

    'John$_i$ beat his$_i$ donkey.'

b. Bill$_j$-wa ket-ta.

Bill-Top kick-Past

'Bill$_j$ kicked his$_j$ donkey.'

'Bill$_j$ kicked John$_i$'s donkey.'

(Otani and Whitman 1991: 350-351 with slight modification[20])

According to Otani and Whitman, an elided part is reconstructed through copying of the relevant VP at LF. Because of the requirement that the copy-site and the copied-site must be parallel, sentences (53a) and (53b) are considered to have identical structures. Bearing this in mind, compare sentence (54a) with (54b). Note that the relevant reading here is a sloppy reading, which means that the elided part is not referential.

(54) a. Taroo-wa (zibun-no) imooto-o nagut-ta. Ziroo-wa ket-ta.

Taroo-Top self-Gen sister-Acc hit-Past Ziroo-Top kick-Past

'Taroo hit Taroo's sister. Ziroo kicked Ziroo's sister.'

b. *? Taroo-wa yubi-o kit-ta. Ziroo-wa usinat-ta.

Taroo-Top finger-Acc cut-Past Ziroo-Top lose-Past

'Taroo cut Taroo's finger. Ziroo lost Ziroo's finger.'

In (54a), the two Agentive transitive sentences are connected, and the VP-ellipsis in the second conjunct is grammatical. However, in (54b), where a PRC is the first conjunct and is connected to a regular transitive sentence, the VP-ellipsis in the second conjunct is not acceptable. The conjunction of the PRC and the regular transitive is perfect without ellipsis, as shown in (55) below, so the unacceptability of

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[20] Although the topic marker -*wa* is used instead of *mo* 'also' in (53b) in Otani and Whitman's original sentence, we use the topic marker -*wa* here and in the subsequent examples, because of the following reasons: first, it sounds more natural; second, Hoji (1998) argues that *mo* 'also' leads to sloppy readings.

(54b) is not attributed to the conjunction itself.

(55) Taroo-wa   yubi-o   kit-ta.   Ziroo-wa yubi-o   usinat-ta.

Taroo-Top finger-Acc cut-Past Ziroo-Top finger-Acc lose-Past

'Taroo cut his finger.   Ziroo lost his finger.'

If two sentences of the PRC are connected, the VP-ellipsis in the second conjunct is grammatical, as expected:[21]

(56) Hanako-wa   (biyooin-de)   kami-o   some-ta.   Mariko-wa   kit-ta.

Hanako-Top   beauty shop-at hair-Acc dye-Past   Mariko-Top cut-Past

'Hanako had her hair dyed (at the beauty shop). Mariko had her hair cut.'

If we adopt the LF copy analysis presented by Otani and Whitman to VP-ellipsis, we should say that structural differences in the two connected sentences are responsible for the ill-formedness in (54b).   The Agentive transitive sentences which involve the verbs *nagut-ta* 'hit' and *ket-ta* 'kicked' in (54a) are considered to have the same structures.   Fiengo and May (1994) also argue that structural parallelism is required in VP-ellipsis, for their analysis utilizes "indexical dependencies" relying on the same structural descriptions.   If we apply the NP-ellipsis analysis presented by Kim (1999) to the sentences in question, we could maintain that the θ-role mismatch between the subjects of the two sentences, the PRC and the regular transitive, is responsible for the ungrammaticality in (54b), for we assume that the subject θ-roles are assigned in different ways.[22]   Whatever the analysis for the ellipsis resolution may be, the impossibility of the VP-ellipsis in the case where a PRC and a regular transitive sentence are connected indicates that they have different structures and different systems for θ-role assignment.

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[21] I thank Enoch Iwamoto for bringing this example to me. As for the types of the interpretation of the PRC, which are also pointed out by Enoch Iwamoto, see Section 7.4.

[22] Kim (1999) presents Korean data which show that different θ-roles (or c-selection) are allowed in ellipsis constructions, however, their Japanese counterparts do not seem to be well-formed to me.

Before leaving this section, let us briefly review Tsujioka (2002) in relation to the intervention effect by adjectives, which we discussed above. Tsujioka (2002) discusses what she calls "E-possessive," which she defines to be "the possessive that is an Existential sentence with possessor Extraction."[23] The sentences in (57) exemplify the "E-possessive":

(57) a. John-ni   gaaruhurendo-ga   i-ru.
         John-Dat   girlfriend-Nom   be-Pres
         'John has a girlfriend.'

    b.   John-ni   kuruma-ga   ar-u.
         John-Dat   car-Nom   be-Pres
          'John has a car.'

<div align="right">(Tsujioka 2002: 23)</div>

(58)   John$_i$-Dat T^0... [$_{DP}$ t_i girlfriend]

According to Tsujioka, Possessor (subject) is base-generated inside a DP with Possessee and is raised to satisfy the EPP feature of T, which is a similar derivation to the PRC.   However, Tsujioka restricts her interest mainly to "E-possessive," a kind of existential construction, for her analysis is motivated by similarities between Japanese and Hungarian possessives in that the possessor subject realizes with Dative Case. Although Japanese "E-possessive" does not seem to put restrictions on the type of possessor-possessee relationship, once a close relationship such as inalienable possession or whole-part relation is involved, certain adjectives prevent the formation of the "E-possessive" as in (59) below, which is pointed out by Kageyama (1990).

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[23] Japanese existential and locative constructions such as X-*ni* Y-*ga i-ru/ar-u* 'Y is/exists in X' or 'X has Y' constructions, including Tsujioka's "E-possessive," have been widely discussed: see Kuno (1973), Shibatani (1978), and Kishimoto (2002), for example.

(59) a. John-ni   me-ga   ar-u.

         John-Dat   eye-Nom   be-Pres

         'John has eyes.'

   b. * John-ni   aoi   me-ga   ar-u.

        John-Dat   blue   eye-Nom   be-Pres

        'John has blue eyes.'

   c. John-ga   aoi   me-o   si-te   i-ru

       John-Nom   blue eye   do-PRT be-Pres

       'John has blue eyes.'

                                                    (Tsujioka 2002: 107, 109)

Tsujioka states that sentence (59a) may sound unnatural, probably because it is not "informative enough given the fact that all human beings have eyes" and that "there seems to be a sort of pragmatic informativeness condition at work (cf. Ljung 1976)" (Tsujioka ibid.: 108). If (59a) is understood as just stating an obvious fact, the sentence is grammatical. In contrast, sentence (59b) is ungrammatical, though it is informative enough. Instead of (59b), the sentence which involves *su-ru* 'do' in (59c) should be produced, as discussed by Kageyama (1990).

Tsujioka attributes this intervention effect by adjectives attested in (59b) to the semantic incompatibility between the appositive adjective and the existential sentence. However, the intervention effect by adjectives is not restricted to existential sentences ("E-possessive") but is also observed in the PRC in (48) and (50)-(51).   The fact that the PRC and the "E-possessive" share properties related to Possessor raising suggests the possibility of unitary analysis for them.

5.3 *Pro* or trace?

We have argued that (i) Possessor is base-generated with Possessee in DP, and

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that (ii) Possessor then moves out of DP to the subject position.   Statement (i) also has semantic ground on the argument of Higginbotham (1985), who claims that a part-whole and the possessee-possessor should be together in order to have a referent. This view supports the fact that only relational arguments may be involved in PRCs, as we discussed in Section 4.2.   Statement (ii) was syntactically verified by the diagnostics exploiting the Specificity Condition, the intervention effect by adjectives, and VP-ellipsis, in the previous section.   However, one might consider that Possessor does not move, as in (60a), but binds a null pronoun *pro,* as in (60b), in the PRC.

(60) a.   Taroo$_i$-Nom   [t_i finger]   cut

  b.   Taroo$_i$-Nom   [pro$_i$ finger]   cut

In order to solve this problem, consider the following sentences with *zibun* 'self' or *kare* 'his,' which is assumed to be a phonetic realization of *pro* in Japanese.[24]   They are incompatible with the PRC, although perfect with the regular transitive, which is already noted by Hasegawa (2001: 19-21).

(61) a.   Taroo-wa   zibun-no/kare-no   te-o   arat-ta.   *(regular transitive)*

    Taroo-Top   self-Gen/he-Gen   hand-Acc   wash-Past

    'Taroo washed his own hands.'

  b. ?* Taroo-ga   zibun-no/kare-no   te-o   kit-ta.   *(PRC)*

    Taroo-Nom   self-Gen/he-Gen   hand-Acc   cut-Past

    'Taroo cut his hands.'

Note that if sentence (61b) is interpreted as Agentive transitive, then the sentence is perfect.   Observe another example:

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[24] The pronouns *kare/kanozyo* in Japanese sound somewhat artificial (mostly used in literature) and in terms of language acquisition, they do not seem to appear in early child language.   For these reasons, we consider *zibun* to be more a natural candidate for the overt counterpart of *pro.*

(62)   Taroo-ga   tokoya-de   zibun-no/kare-no   kami-o   some-ta.

       Taroo-Nom   barber-at   self-Gen/he-Gen   hair-Acc   dye-Past

       'Taroo dyed his own hair at the barbershop.'

In sentence (62), Taroo is interpreted as an Agent but not as an Experiencer.   It may sometimes be difficult to judge grammaticality, for *zibun* 'self' is also used for contrastive emphasizing.   One might judge sentence (63) to be relatively acceptable:

(63) ?? Tanaka-san-wa   kuusyuu-de   zibun-no   ie-o   yai-ta.   *(PRC)*

        Mr. Tanaka-Top   air raid-by   self-Gen   house-Acc   burn-Past

        'Mr. Tanaka had his own house burnt by the air raid.'

Sentence (63) probably sounds better because everything was burnt by the air raid, and *zibun-no* is used to emphasize that what was burnt was in fact 'HIS OWN house.' Although judgments are not completely clear in some cases for pragmatic reasons, Possessor is not phonetically realized by *zibun-no* 'self's' or *kare/kanozyo-no* 'his/her' in the PRC, as shown in (61b) and (62), which provides an argument for (60a) but not (60b) as the relevant representation.

5.4   The "PBC"

Finally, as has been observed by Tsujioka (2000) and Hasegawa (2001), a Possessor DP may not move across the Possessor subject.

(64) a.   Tomoko$_i$-ga   [$_{DP}$ t_i kosi]-o   itam-e-ta.

          Tomoko-Nom   back-Acc   hurt-Tr-Past

          'Tomoko hurt her back.'

    b. *? [$_{DP}$ t_i kosi]-o   Tomoko$_i$-ga   itam-e-ta.

                                            (Hasegawa 2001: 22 with indices)

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(65) a. Taroo_i-ga   [_{DP} *t*_i ie]-o yai-ta.

   Taroo-Nom house-Acc burn-Past

   'Taroo had his house burnt down.'

   b. * [_{DP} *t*_i ie]-o Taroo_i-ga   yai-ta.

Assuming movement of the Possessor takes place in the PRC, the ungrammaticality of the (b)-sentences can be easily accounted for in terms of the Proper Binding Condition (PBC) (Fiengo 1977, May 1977, among others), or as a case of illicit remnant movement.[25] Note that (65a) is grammatical if it is interpreted as an Agentive transitive, where the movement of Possessor is not involved.[26]

5.5   Apparent extraction from relative clauses

So far, we have presented data which show a blocking effect on extraction of Possessor, supporting our movement analysis of PRCs.   In relation to the discussion, one might think it strange that a relative clause does not form an island when embedded in a PRC, as in (66), as pointed out by Satoshi Tomioka (p.c.)

(66) a. Taroo-wa kyonen   itame-ta   kosi-o   mata   itame-ta.

   Taroo-Top last year hurt-Past back -Acc again   hurt-Past

   (Lit.) 'Taroo hurt his back again which he had hurt last year.'

   b. Taroo_i-wa   kyonen [[*t*_i *t*_j itame-ta] kosi_j]-o   mata   itame-ta.

   Taroo-Top last year   hurt-Past back -Acc again   hurt-Past

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[25] "PBC" should be recaptured in the Minimalist framework, though we do not discuss it here.

[26] The sentence in (64b) is not as bad as (65b) in acceptability, as pointed out by Enoch Iwamoto (p.c.) This is probably because the sensation predicate *itame-ru* 'hurt' is involved in (64b), hence the Experiencer reading of Tomoko may arise from lexical properties of the sensation predicate, though the reading stems from the PRC fails because of the PBC. This supports our discussion in Section 3 that the Experiencer (Malefactive/Benefactive) interpretation of the PRC relies on its structure, but not on lexical properties of mental or sensation predicates. See Section 7.1.2.2.

If sentence (66a) is derived as (66b), it could be a problem for the present analysis. However, we assume that the derivation proceeds as follows, where Possessor is not extracted from the island.

(67) a.   [DP Taroo(-no) kosi]

                                         Taroo('s)   back

b.   [VP [DP Taroo(-no) kosi] itame-]

                                   Taroo('s)   back hurt

c.   [TP Taroo$_i$-ga   [VP [DP t_i kosi] itame-] -ta]

                   Taroo-Nom   back hurt   -Past

                   'Taroo hurt his back'

d.   [DP [TP Taroo$_i$-ga [VP [DP t_i e_j] itame-] -ta] [kosi$_j$]]

              Taroo-Nom   hurt   -Past back

e.   [DP **Taroo(-no)** [DP [TP Taroo$_i$-ga [VP [DP t_i e_j] itame-] -ta] [kosi$_j$]]]

         Taroo('s)

f. **[TP Taroo$_i$-ga** [VP [DP t_i [DP [TP pro$_i$ [VP [DP t_i e_j] itame-] ta] [kosi$_j$]]

                                            itame-] **-ta]**

                                            hurt   -Past

In (67a), Possessee *kosi* 'back,' the head noun, merges to the Possessor *Taroo* and forms DP.   The DP as a whole becomes an internal argument of the verb *itame-* 'hurt' and forms a VP, as shown in (67b).   Then, the Possessor *Taroo* is raised to the subject position, through ApplP, where we will assume a Malefactive interpretation to be assigned, and the PRC *Taroo-ga kosi-o itame-ta* 'Taroo hurt his back' is formed, as in (67c).   Next, the PRC is "relativized," namely, it adjoins to the head noun *kosi* 'back' and becomes a modifier, as in (67d).   Here, we assume that Japanese relative clauses are TP and adjoin to the head noun, following Murasugi (1991), and that the 'relativised' noun in the modifier clause is not pronounced, which is indicated as *e*. Now, in (67e), the head noun *kosi* 'back' again merges to the Possessor *Taroo*, as was

already seen in (67a), in a cyclic fashion. Finally, in (67f), the whole DP again becomes the internal argument of the verb *itame* 'hurt,' as was seen in (67b), and the Possessor *Taroo* is raised, as in (67c), and the PRC in question is derived. Thus, nothing is extracted from a complex NP throughout the derivation and the sentence is well-formed.

Contrary to relative clauses, it is witnessed in Section 5.2 that (a certain type of) adjectives cross-linguistically exhibit intervention effects on extracting an element from a DP. We assume, following Cinque (1994), that adjectives are introduced by a functional head within a DP, so they are not adjuncts, hence causing the intervention effect, or Minimality, in the relationship between Possessor and Possessee. The discussion was schematized earlier as (49), which is repeated as (68) below:

(68)   Possessor$_i$ [$_{FP}$ Adjective   F^0 [t_i Possessee]]

                  *
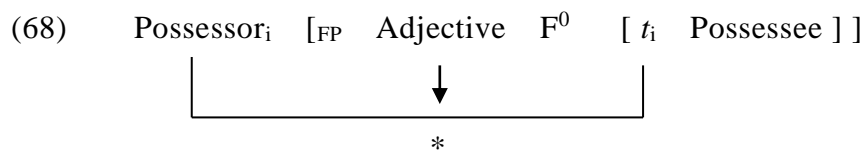
(cf. Tsujioka 2002: 110)

We also observed in Section 5.2 that Tateishi (1989) independently discusses how the LF-extraction of Possessor *dare-no* 'whose' over an adjective leads to ill-formedness, as in (69b):

(69) (= (52))

    a.   [Dare-no   akai   syatu]-o   John-ga   nusun-da-no?

        who-Gen   red   shirt-Acc   John-Nom   steal-Past-Q

        'Whose red shirt did John steal?'

    b. * [Akai   dare-no   syatu]-o   John-ga   nusun-da-no?

        red   who-Gen   shirt-Acc

(Tateishi 1989: 407)

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The inner structure of the relevant DP in (69b) is assumed to be as illustrated in (69c), where the functional head F, which introduces an adjective, is postulated:

(69) c.   [$_{DP}$ [$_{FP}$ Akai   F^0 [$_{NP}$ dare(-no)   [syatu]]   ]   ]
                      red   who-Gen   shirt

In contrast, relative clauses do not trigger the intervention/island effect as shown in (70a).   The inner structure of the relevant nominal phrase in (70a) is postulated as (70b).

(70) a.   [Taroo-ga   arat-ta   Dare(-no) syatu]-o   John-ga   nusun-da-no?
           Taroo-Nom wash-Past   who-Gen shirt -Acc John-Nom steal-Past-Q
           'Whose shirt that Taroo washed did John steal?'

     b.   [$_{DP}$ [Taroo-ga e_i arat-ta]   [$_{DP}$ Dare(-no) [syatu]]$_i$]
           Taroo-Nom   wash-Past   who-Gen   shirt

Lebeaux (1988) proposes that a relative clause may be adjoined to the relative head later than the head moves.   For example, the sentence in (71a) below is derived by (71b) and (71c).

(71) a.   Which book that John bought did he like?
     b.   [Which book]$_i$ did he like t_i ?
     c.   [[Which book]$_i$ [that John bought]] did he like t_i ?

Lebeaux's proposal also seems to be compatible with our argument.   There has been extensive research on relative clauses, and in this subsection, we have just suggested a few possibilities to avoid apparent problems for our Possessor-extraction analysis.

6   Comparison with the Adversity Passive

In this section, we focus on thematic interpretations of non-Agentive sentences. As is well known, Japanese has a construction called the "adversity passive" or "indirect passive," where a non-object becomes the subject and the involved verb is marked with the passive-morpheme -(*r*)*are* (Kuno 1973, Inoue 1976, Howard and Niyekawa-Howard 1976, Kuroda 1979, Hasegawa 1988, Kubo 1989, Washio 1989-1990, Shibatani 1990, Kitagawa and Kuroda 1992, Hoshi 1999, Kageyama 2006, Hasegawa 2009, among many others).

    (72) a.   Taroo-wa   ame-ni   hur-are-ta.

              Taroo-Top   rain-by   fall-Passive-Past

              'Taroo got caught in the rain.'

        b.   Hanako-wa   zitensya-o   nusum-are-ta.[27]

              Hanako-Top   bicycle-Acc   stole-Passive-Past

              'Hanako had her bicycle stolen.'

The Adversity passive is similar to the PRC in that the subject is a non-Agent and affected by an event, as shown in (73) and (74).

    (73) a.   *Adversity passive*

            Taroo-wa   yubi-o   ki -rare -ta.

            Taroo-Top   finger-Acc   cut -Pass -Past

            'Taroo had his finger cut.'

---

[27] Although this type of passive, where the possessive relationship is involved, has been traditionally categorized under the adversity/indirect passive, it shares some properties with the direct passive (cf. Shibatani 1978, 1990, Terada 1989, Kubo 1989, Kageyama 2006, and Hasegawa 2007c, 2009).

b. *PRC*

Taroo-wa   yubi-o   kit -ta.

Taroo-Top   finger-Acc   cut -Past

'Taroo cut his finger.'

(74) a. *Adversity passive*

Hanako-wa   ie-o   yak   -are -ta.

Hanako-Top   house-Acc   burn -Pass -Past

'Hanako had her house burnt down.'

b. *PRC*

Hanako-wa   ie-o   yai -ta.

Hanako-Top   house-Acc   burn -Past

'Hanako had her house burnt down.'

Although the adversity passive is semantically similar to the PRC, Agent may be realized by a *ni*-phrase in the former but not in the latter.

(75) a. *Adversity passive*

Taroo-wa   dareka-ni   yubi-o   kir -are -ta.

Taroo-Top   someone-by   finger-Acc   cut -Pass -Past

'Taroo had his finger cut by someone.'

b. *PRC*

* Taroo-wa   dareka-ni   yubi-o   kit -ta.

Taroo-Top   someone-by   finger-Acc   cut-Past

'Taroo had his finger cut by someone.'

(76) a. *Adversity passive*

        Taroo-wa   hookama-ni   ie-o   yak -are -ta.

        Taroo-Top   pyromaniac-by house-Acc   burn -Pass-Past

        'Taroo had his house burnt down by a pyromaniac.'

    b. *PRC*

     * Taroo-wa   hookama-ni   ie-o   yai-ta.

      Taroo-Top   pyromaniac-by   house-Acc   burn-Past

      'Taroo had his house burnt down by a pyromaniac.'

This fact suggests that Agent is not involved in the PRC. Actually, there seems to be no binder of an anaphor nor controller of an adjunct clause in the syntactic representation, which corresponds to the "implicit" or "understood" Agent, as indicated by (77) and (78) below (On the relevant diagnostics, see Takahashi 2000):

(77) a. *Adversity passive*

        $Taroo_i$-wa ($isya_j$-ni) $zibun_{i/j}$-no byooin-de   ha-o   nuk-are-ta.

        Taroo-Top doctor-by self-Gen hospital-at   tooth-Acc pull-Pass-Past

        'Taroo had a tooth pulled (by a doctor) at Taroo's/the doctor's hospital.'

    b. *PRC*

       $Taroo_i$-wa   *pro_j* $zibun_{i/*j}$-no byooin-de   ha-o   nui-ta.

       Taroo-Top (Agent)   self-Gen   hospital-at   tooth-Acc   pull-Past

       'Taroo had a tooth pulled at Taroo's/*someone's hospital.'

(78) a. *Adversity passive*

        $Taroo_i$-wa   *pro_j*   [$PRO_{i/j}$ hurue-nagara]   ha-o   nuk-are-ta.

        Taroo-Top (Agent)   trembling   tooth-Acc   pull-Pass-Past

        'Taroo, trembling, had a tooth pulled (by someone).'

        'Taroo had a tooth pulled by someone who is trembling.'

b. *PRC*

Taroo$_i$-wa *pro*$_j$ [PRO$_{i/*j}$ hurue-nagara] ha-o nui-ta.

Taroo-Top trembling tooth-Acc pull-Past

'Taroo, trembling, had a tooth pulled.'

Another question is whether the subjects of these constructions, construed as Affectee (the Malefactive), are in a θ-position or not. First, consider passives. The Agent of the adversity passive is necessarily a *ni*-phrase when it is represented, while the Agent of the direct passive may be a *ni-yotte* phrase. Inoue (1976) and Kuroda (1979) argue that when a *ni*-phrase appears, the subject of the passive is in a θ-position.

(79) a. Daitooryoo-ga oroka-nimo CIA-ni koros-are-ta.

President-Nom foolishly CIA-Dat kill -Pass -Past

'The President got foolishly killed by the CIA.'

b. ?* Daitooryoo-ga oroka-nimo CIA-niyotte koros-are-ta.

President-Nom foolishly CIA -by kill -Pass -Past

'The President got foolishly killed by the CIA.'

(Kuroda 1979: 325-326)

Kuroda argues that subject-oriented adverbs such as *oroka-nimo* 'foolishly' require the subject be in a θ-position. If this is true, then this diagnostic seems to suggest that the subject of the adversity passive, where the Agent always appears as a *ni*-phrase, is in a θ-position and bears a θ-role, Affectee.

By exploiting this diagnostic, it is shown that the subject of the PRC behaves similarly to the subject of the adversity passive.

(80) a. *Adversity passive*

Yamada-san-ga   oroka-nimo Taroo-ni   ie-o   yak -are -ta.

Mr. Yamada-Nom   foolishly   Taroo-Dat   house-Acc burn -Pass -Past

'Mr. Yamada foolishly had his house burnt down by Taroo.'

b. *PRC*

Yamada-san-ga   oroka-nimo ie-o   yai -ta.

Mr. Yamada-Nom   foolishly   house-Acc   burn -Past

'Mr. Yamada foolishly had his house burnt down.'

(81) a. *Adversity passive*

Taroo-wa   oroka-nimo Hanako-ni   yubi-o   kir -are -ta.

Taroo-Top   foolishly   Hanako-Dat   finger-Acc   cut -Pass -Past

'Taroo foolishly had his finger cut by Hanako.'

b. *PRC*

Taroo-wa   oroka-nimo yubi-o   kit -ta.

Taroo-Top   foolishly   finger-Acc   cut-Past

'Taroo foolishly cut his finger.'

Having established that the subject of the PRC in fact bears a θ-role, the next section will consider how it is obtained, focusing on inner structures of the PRC.

7   Decomposition of Little *v*

7.1   The PRC and other non-Agentive constructions

So far, we have clarified that the PRC should be differentiated from other similar constructions such as the regular transitive, where the predicate lexically assigns the θ-role to its subject. For example, the verb *usina-u* 'lose' lexically assigns the θ-role 'loser' to its subject, as well as the verb *yom-u* 'read' assigns the

θ-role 'reader.' We have also examined the difference between the PRC and the adversity passive: Agent is syntactically represented in the latter, but not in the former.

Now we are in a position to consider how the PRC is derived. First, we will review the syntactic properties of the PRC which become relevant in the following discussion. Then, we compare the PRC with other non-Agentive constructions discussed by Hasegawa (2001) (See also Section 3). We will refer to the non-Agentive constructions which can be derived by Hasegawa's (2001) feature specification system of *v* as "NACs." Finally, we will elucidate two different properties between PRCs and NACs, in terms of syntax and semantics, and further point out differences in morphology.

7.1.1 Syntactic properties

7.1.1.1 Verb selection

As we observed in Section 2.1, verbs which may be involved in forming PRCs are restricted: they must not be pure activity verbs (Amano 1987, 1991), as shown below.

(82) a. * Taroo-ga   hitogomi-de   ude-o   osi-ta.

      Taroo-Nom   crowd-in   arm-Acc   push-Past

      (Int.) 'Taroo was pushed in the arm by someone in the crowd.'

   b. * Hanako-ga   esute-de   asi-o   mon-da.

      Hanako-Nom   the esthetic salon-at   feet-Acc   massage-Past

      (Int.) 'Hanako had her feet massaged at the esthetic salon.'

   c. * Tanaka-san-wa   kinoo-no taihuu-de   yane-o   tatai-ta.

      Mr. Tanaka-Top   yesterday-Gen typhoon   roof-Acc   strike-Past

      (Int.) 'Mr. Tanaka had his roof damaged by yesterday's typhoon.'

7.1.1.2   The Cause subject is not always possible

Let us go back to Hasegawa (2001), which we reviewed in Section 3.   Relevant examples (83b) (84a) and (84b) below are reproductions of (19a), (21a), and (21b) respectively.   As mentioned, we will refer to these non-Agentive constructions, which can be derived by Hasegawa's (2001) feature specification system of *v*, as NAC. (Note that this acronym is used only in this sense, and not for non-Agentive sentences in general).

(83) a.   <u>Densya</u>-ga   ziko-de   okure-ta.

train-Nom   accident-by   delay-Past

'The train was delayed by the accident.'

    b.   Ziko-ga   <u>densya</u>-o   okur-ase-ta/okur-asi-ta.

Accident-Nom   train-Acc   delay-Tr-Past

'The accident delayed the train.'

(Hasegawa 2001: 13-14)

(84) a.   <u>Kyoko</u>-ga   sono hitokoto-ni   kimoti-o   nagom-ase-ta.

Kyoko-Nom   that one word-Dat   feeling-Acc   calm/sooth-Caus-Past

'Kyoko got her feelings soothed by that one word.'

    b.   Sono hitokoto-ga   <u>Kyoko</u>-no kimoti-o   nagom-ase-ta.

that one-word-Nom   Kyoko-Gen feeling-Acc   calm-Caus-Past

'That one word soothed Kyoko's feelings.'

(Hasegawa 2001: 24-25)

Hasegawa proposes a system where the features of *v* are specified as [± External Role (ER)] [± Object Case (OC)] and argues that *v* in all of the NACs in (83) and

(84) have the features [- External Role] [+ Object Case].[28]　　Notice that in her system, the Cause subject in (83a) and the Experiencer subject in (84a) are base-generated within VP, as (83b) and (84b) show respectively, and are raised to the subject position. (85) below, previously presented as (22), illustrates the derivation of the sentences in (84).

(85)

```
                              IP
                           /      \
        DP₁/₃                      I'
                                /      \
               vP                       I
            /      \                     |
                   v'                   ta
                /      \
          VP              v [-Ext. Role] [+Obj. Case]
          |                     |
          VP                  -(s)ase
        /    \
   DP₂          V'
  /    \      /    \
DP₃    D'   DP₁    V'
 |                  |
Kyoko  kimoti  sono hitokoto   V
      'feelings' 'that one word' |
                              nagom
                              'calm'
```

(84b) (84a)
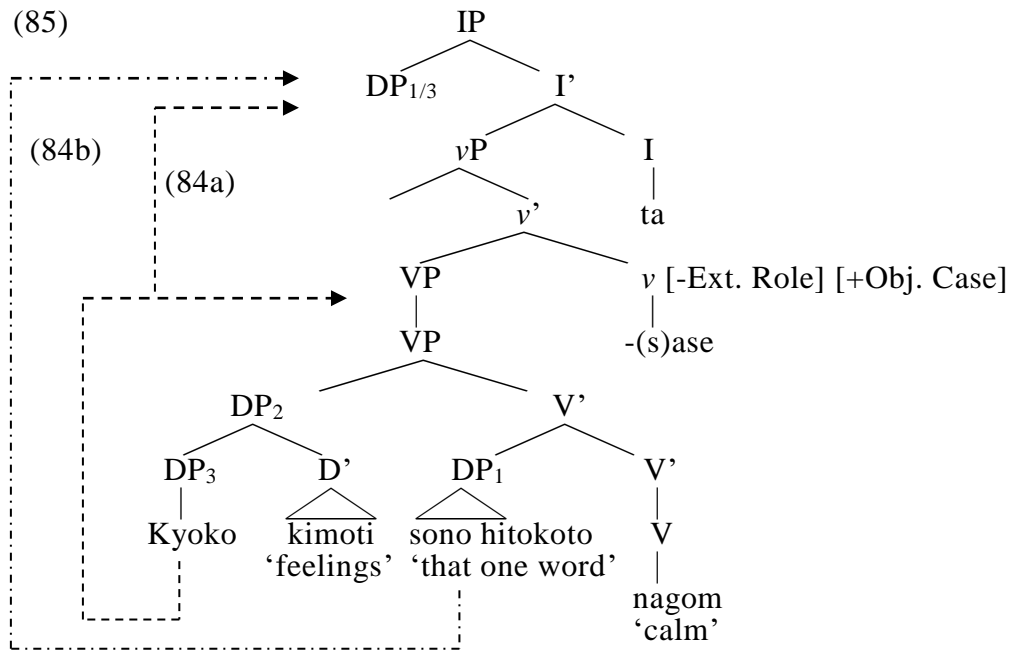
(Hasegawa 2001 24; 2004a: 43, with gloss and notation)

Hasegawa also deals with the PRC and assumes the same derivation in (85), namely, Possessor is raised from within a VP due to the feature specification of *v* [-Ext. Role] [+Obj. Case].　　Here is the issue: is it right to give the same explanation for both the PRC, which is exemplified in (86) below, and the NAC in (83)-(84)?

---

[28] Her system may also generate the unaccusative transitive sentence below, an NAC, which is derived by the same feature specification of *v* [- External Role] [+ Object Case] as the sentences in (83). See also footnote 9.

(i) Syasyoo-ga　　　densya-o　　okur-ase-ta/okur-asi-ta.
　　conductor-Nom　　train -Acc　　delay-Caus-Past
　　'The conductor delayed the train.'

(Hasegawa 2001: 13)

● PRC

(86) a. Taroo-ga   ziko-de   yubi-o   kit-ta.

Taroo-Nom   accident-by   finger-Acc cut-Past

'Taroo cut his finger by the accident.'

b. Tanaka-san-ga   haisya-de   musiba-o   nui-ta.

Mr. Tanaka-Nom   dentist's-at   bad tooth-Acc   pull-Past

'Mr. Tanaka had a bad tooth pulled at the dentist's.'

One of the most significant differences between the NAC and the PRC is that Cause may become the subject in the NAC, while it is often prohibited in the PRC.

● NAC

(87) a. Densya-ga <u>ziko</u>-de   okure-ta.

train-Nom   accident-by   delay-Past

'The train was delayed by the accident.'

b. <u>Ziko</u>-ga   densya-o   okur-ase-ta/okur-asi-ta.

accident-Nom   train-Acc   delay-Tr-Past

'The accident delayed the train.'

● PRC

(88) a. Taroo-ga   <u>ziko</u>-de   yubi-o   kit-ta.

Taroo-Nom   accident-in   finger-Acc cut-Past

'Taroo cut his finger in the accident.'

b. * <u>Ziko</u>-ga   (Taroo-no) yubi-o   kit-ta.

Accident-Nom   Taroo-Gen finger-Acc   cut-Past

Lit. 'The accident cut Taroo's finger.'

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Sentence (87b) is the NAC, the subject of which is Cause. In contrast, (88a) is the PRC, the subject of which cannot be replaced by Cause as shown in (88b). If both the NAC and the PRC are to be explained under the same mechanism, namely, the feature specification [- External Role] [+ Object Case] of *v*, and the derivation in (85), then the subjects should be free to alternate between Cause and Possessor, contrary to the fact in (88b). Why can the predicate *okur-ase-ta* 'delayed' in (87b) accommodate the Cause subject, while *kit-ta* 'cut' in (88b) cannot? Although Hasegawa's feature specification system of *v* covers a wide range of non-Agentive subject sentences and gives them a unified account, something more seems to be required to explain the behavior of the PRC in (88).

7.1.2 Semantic properties: Benefactive/Malefactive readings

In this subsection, we will review our argument so far with respect to how thematic interpretation is obtained in the PRC. The predicate types and the position of Possessor, which play crucial roles in deriving the thematic interpretation, will be discussed.

7.1.2.1 Predicate types

According to Hasegawa (2001), the feature specification [- External Role] [+ Object Case] of *v* may derive various types of non-Agentive subject, as shown in the sentences in (83)-(84), and one of them is the Experiencer subject, as exemplified in (84a), which is repeated below as (89):

(89) Kyoko-ga   sono hitokoto-ni   kimoti-o   nagom-ase-ta.
      Kyoko-Nom   that one word-Dat   feeling-Acc   calm/sooth-Caus-Past
      'Kyoko got her feelings soothed by that one word.'

Another example is presented:

(90) Tomoko-ga   kosi-o   itam-e-ta.

      Tomoko-Nom   back-Acc   hurt-Tr-Past

      'Tomoko hurt her back.'

<div align="right">(Hasegawa 2001: 22)</div>

As discussed in Section 3, Hasegawa claims that the Experiencer reading is obtained by psychological predicates, such as *nagom-u* 'calm' in (89), or sensational predicates, such as *itam-u* 'hurt' in (90).   However, as we pointed out in Section 3, more general predicates, such as *yak-u* 'burn' or *nuk-u* 'pull' may be involved in the PRC, as shown in (91):

(91) a. Watasi-wa   kuusyuu-de   ie-o   yai-ta.

      I-Top   air raid -by   house-Acc   burn-Past

      'I had my house burnt down by the air raid.'

   b. Tanaka-san-ga   haisya-de   musiba-o   nui-ta.

      Mr. Tanaka-Nom   dentist's-at   bad tooth-Acc   pull-Past

      'Mr. Tanaka had a bad tooth pulled at the dentist's.'

These facts lead us to conclude that Experiencer readings in the PRC are not solely derived from lexical properties of predicates such as psychological or sensational predicates.

7.1.2.2   Possessor has to go up

As is touched upon in Section 5.1, if Possessor is not raised from the DP, the Experiencer (Benefactive/Malefactive) reading disappears and the affectedness is neutralized.   Observe unaccusative counterparts of the PRC in the (a)-sentences below, where Possessor stays within the DP and the Experiencer reading of the Possessor is lost.   The Possessor is raised in the (b)-sentences, and the Experiencer

(Benefactive/Malefactive) reading is derived.

● PRC

(92) a.　[DP Hanako-no kami]-ga　　　somat-ta.

　　　　　　Hanako-Gen hair-Nom　　dye-Past

　　　　'Hanako's hair was dyed.'

　　b.　Hanako-ga　　(biyooin-de)　　　kami-o　　some-ta.

　　　　Hanako-Nom　　beauty shop-at　　hair-Acc　　dye-Past

　　　　'Hanako had her hair dyed at the beauty shop.'

(93) a.　[DP Tanaka-san-no ha]-ga　　　　　nuke-ta.

　　　　　　Mr. Tanaka-Gen tooth-Nom　　fall-Past

　　　　'Mr. Tanaka's tooth fell out.'

　　b.　Tanaka-san-ga　　　　ha-o　　　　　　nui-ta.

　　　　Mr. Tanaka-Nom　　the tooth -Acc　　pull-Past

　　　　'Mr. Tanaka had his tooth pulled.'

These facts suggest that Possessor should be raised to a certain position to be interpreted as Experiencer (Benefactive/Malefactive).[29]

On the other hand, when a psychological or sensational predicate is involved, Possessor is interpreted as Experiencer, who has the mental or sensational state denoted by the predicate even if it stays within DP: in (94a), who was calmed down is *Kyoko*; in (95a), who gets hurt is *Tomoko*.　Note that in the PRC in (92a), what was dyed is not *Hanako* but her hair; in (93a), what fell out is not *Tanaka-san* but his tooth.

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[29] In Okura (2004a, b), it is assumed that the position where thematic interpretations of the subject in PRCs are obtained is CP. In this thesis, we will argue that the position should be ApplP.

● NAC

(94) a. [DP <u>Kyoko</u>-no kimoti] -ga   sono hitokoto -ni nagon-da.

          Kyoko-Gen feelings -Nom   that one word -at   calm -Past

       'Kyoko's feeling calmed down by that one word.'

<div align="right">(Hasegawa ibid.: 16)</div>

    b. <u>Kyoko</u>-ga   sono hitokoto-ni   kimoti-o   nagom-ase-ta.

       Kyoko-Nom   that one-word-Dat feeling-Acc calm-Caus-Past

       'Kyoko got her feelings calmed by that word.'

<div align="right">(Hasegawa ibid.: 14)</div>

(95) a. [DP <u>Watasi</u>-no   kosi] -ga   itam-u.[30]

       I-Gen   back -Nom   hurt-Pres

     'My back hurts.'

<div align="right">(Hasegawa ibid.: 16)</div>

    b. <u>Tomoko</u>$_i$-ga   kosi-o   itam-e-ta.

       Tomoko-Nom   back-Acc   hurt-Tr-Past

       'Tomoko hurt her back.'

<div align="right">(Hasegawa ibid.: 14, 22)</div>

Based on these facts, we conclude that the Experiencer (Benefactive/Malefactive) interpretation of Possessor in the PRC is assigned in a higher position outside DP.

We presented another supporting argument in Section 5.4: Possessee DP may not be scrambled across Possessor DP in the PRC.

(96) a. Taroo$_i$-ga   [DP t_i ie]-o yai-ta.

       Taroo-Nom   house-Acc   burn-Past

       'Taroo had his house burnt down.'

---

[30] To be precise, the unaccusative verb *itam-u* in (95a) does not exactly correspond to the transitive counterpart *itame-ru* in (95b) in the meanings. The former means pain as a body sensation, while the latter means 'make something bad,' not necessarily implying the pain. Accordingly, *itam-u* in (95a) takes only the first person subject, who feels the pain.

b. * [$_{DP}$ t_i ie]-o Taroo$_i$-ga   yai-ta.

Assuming movement of the Possessor in the PRC, the ungrammaticality in (96b) straightforwardly follows from the violation of the Proper Binding Condition (Fiengo 1977, May 1977, among others), or as a case of illicit remnant movement.[31]

    However, the degradation becomes milder if a psychological predicate is involved, as in (97), or a sensational predicate is involved, as in (98):

(97) a. Kyoko-ga   kimoti-o   nagom-ase-ta.

         Kyoko-Nom   feeling-Acc   calm-Caus-Past

         'Kyoko got her feelings calmed.'

   b. ?? Kimoti-o   Kyoko-ga   nagom-ase-ta.

(98) a. Tomoko-ga   kosi-o   itam-e-ta.

          Tomoko-Nom   back-Acc   hurt-Tr-Past

          'Tomoko hurt her back.'

      b. *? kosi-o   Tomoko-ga itam-e-ta.

                                              (Hasegawa ibid.: 22 with indices)

We speculate that in (97b) and (98b), the Experiencer reading is still available due to the lexical properties of the psychological or sensational predicate, even if the Benefactive/Malefactive interpretation which arises from the PRC fails because of the PBC. In contrast, the Experiencer (Benefactive/Malefactive) interpretation of the PRC crucially relies on the movement of Possessor to a certain position, not on the lexical properties of psychological or sensational predicates, hence the unacceptability of (96b).

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[31] The "PBC" should be recaptured in the Minimalist framework, though we do not discuss it here.

7.2   The Applicative hypothesis

We have clarified the difference between the NAC and the PRC.   In terms of semantics, in the PRC, Possessor bears another thematic interpretation when it is raised out of DP.   On the other hand, in the NAC, the thematic interpretation of Possessor does not change regardless of whether it is within or outside of DP (actually, in theory, it must not change, because the relevant feature specification on *v* divides in just +/- Objective Case, not contributing to semantics).   The feature-specification system of *v* cannot take care of the thematic interpretation of Possessor in the PRC. Further, Cause subject may appear in the NAC, but it is not always possible in the PRC.   This is not expected in the feature-specification system of *v*.   In order to accommodate these facts in the PRC, something more should be added to the system.
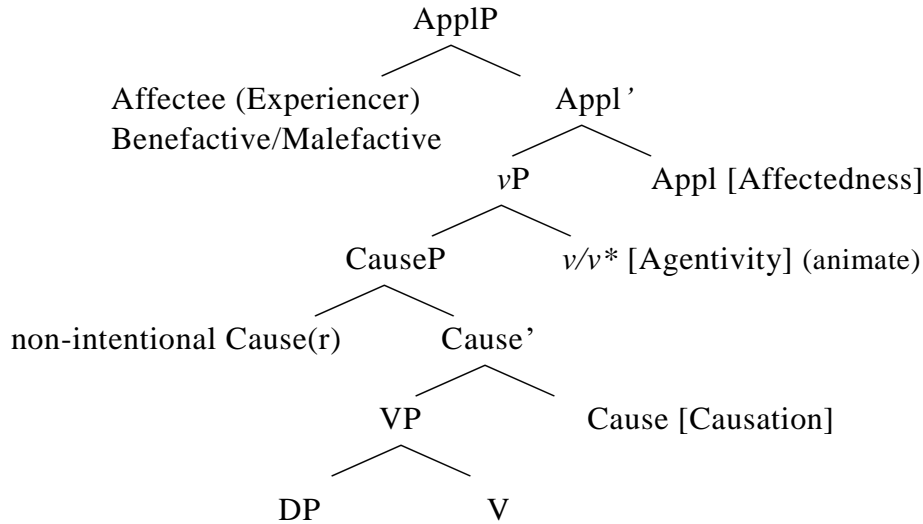
One possible way to solve the problem is to assume another head above *v* and attribute the properties of the PRC which we have observed.   As was reviewed in Chapter 1, Larson (1988) and Hale and Keyser (1993) propose the layered-verb hypothesis, which shows that there are abstract functional verbal heads in a "verb." This leads to the abandonment of D-structure, where all the arguments are introduced into the derivation by one lexical verb.   The θ-criterion, which was imposed on D-structure and required the one-to-one correspondence between an argument and a θ-role, has also become invalid.   This paradigm shift to Minimalist syntax (Chomsky 1995) has opened the way for derivational θ-role assignment.   The Applicative hypothesis is proposed (Marantz 1993, Collins 1997, McGinnis 1998, Pylkkänen 2002, Tonosaki 2003, Miyagawa and Tsujioka 2004, etc.), in which a functional head is "applied" to a verbal structure in the course of the derivation, and the head introduces an "applied" argument and assigns a θ-role.   This theory is also desirable in terms of the Minimalist view point, because one-to-one correspondence between a head and a θ-role is simple.   We will pursue this line in the following discussion, assuming that the properties of Agent, Cause, and Experiencer (Benefactive/Malefactive) are attributed to the each different functional head.

7.3 A proposal

We propose a layered little-verb structure depicted in (99):

● A layered little-verb structure

(99)

```
                              ApplP
                          /          \
        Affectee (Experiencer)       Appl′
        Benefactive/Malefactive    /        \
                               vP          Appl [Affectedness]
                            /      \
                      CauseP        v/v* [Agentivity] (animate)
                    /        \
   non-intentional Cause(r)   Cause′
                            /        \
                          VP          Cause [Causation]
                        /    \
                      DP      V
```
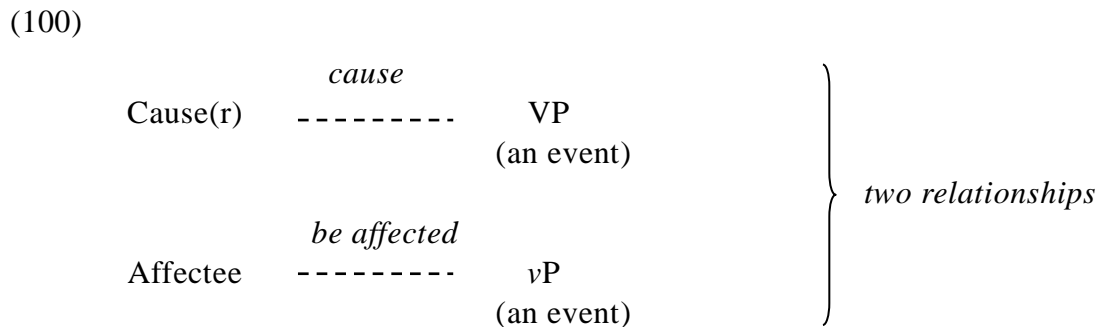
Based on the theoretical argument in the previous section, we assume that there are three verbal functional heads in the traditional vP. One is Cause, which takes a non-intentional Cause phrase, and the Cause phrase helps a sub-event be realized. The Cause head is not necessarily included, for an event may occur completely by itself.[32] The second head is *v/v**, which is responsible for Agentivity. If *v** is selected, Agent is projected; if *v* is selected, Agent is not projected, and results in the intransitive (Chomsky 2001). The composed event, vP, may describe achievement, which includes a state expressed by VP (cf. Dowty 1979; See Section 1). When Agent is projected, the animacy restriction is imposed by the head *v**, in which

---

[32] The Cause head in (99) does not represent the primitive predicate CAUSE in Lexical Semantics. As is discussed here and will be discussed in Section 7.3.1., *v** introduces an Agent phrase, which has intentional external force, while Cause introduces a Cause phrase, which non-intentionally helps an event be realized. We do not go into the question of how aspectual "CHANGE" or "BECOME" should be represented in syntactic structure, but assume that as a result of structure building, *v** or Cause compositionally comes to represent "to cause a change of the state," and *v* comes to mean "to become/be in a state" (cf. Hale and Keyser 1993). The correspondence between syntax and lexical semantics will be discussed in Chapter 4, Section 2.3.2 as well.

Agentivity is encoded.　On the other hand, Cause is neutral with respect to animacy. Cause denotes a relationship between an individual (Cause(r)) and an event VP.　As discussed by Tonosaki (2003), we assume that Accusative Case may be also assigned by the Cause head, which has transitivity.

The third head is Applicative (Appl), in which Affectedness is encoded (Marantz 1993, Pylkkänen 2002; as for Japanese, see Tonosaki 2003, Miyagawa and Tsujioka 2004).　If we assume that the subject of the PRC is raised to Appl head, then its syntactic and semantic characteristics are accounted for.　Syntactically, we have discussed that the subject is extracted from DP.　Semantically, it is observed that the Benefactive/Malefactive interpretation is a derived one, and not solely dependent on the lexical predicate within VP.　The Benefactive/Malefactive argument derived by Appl might be called "Affectee," which is affected by the event denoted by vP. This "Affectee" must be distinguished from Experiencer, which has a certain mental or sensational state lexically denoted by the predicate, as discussed in Section 5.2.
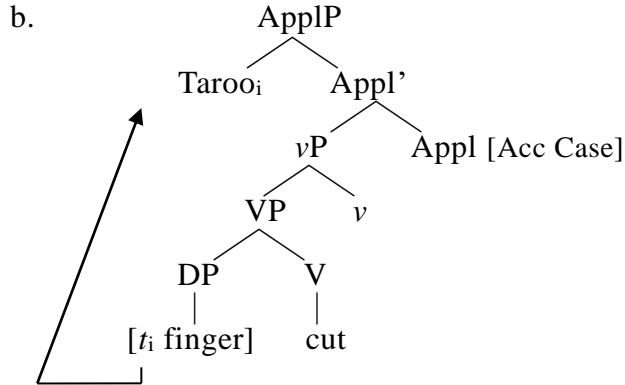
Appl denotes a relationship between an individual and an event, as Cause head does.　Here we find two symmetrical relationships, which is the intuition behind (99).

(100)

$$
\begin{array}{ll}
& \textit{cause} \\
\text{Cause(r)} & ----------\quad\text{VP} \\
& \qquad\qquad\text{(an event)} \\
\\
& \textit{be affected} \\
\text{Affectee} & ----------\quad v\text{P} \\
& \qquad\qquad\text{(an event)}
\end{array}
\quad\Biggr\}\ \textit{two relationships}
$$

Now, let us examine how the functional heads in (99) derive the constructions under discussion and account for their properties.　First, consider the PRC, which is exemplified in (101a), and the derivation for which is illustrated in (101b):

● PRC

(101) a. Taroo-ga   yubi-o   kit-ta.

Taroo-Nom   finger-Acc cut-Past

'Taroo cut his finger (in the accident).'

b.

```
              ApplP
             /    \
        Tarooᵢ    Appl'
                  /    \
                vP      Appl [Acc Case]
               /  \
             VP    v
            /  \
          DP    V
          |     |
     [tᵢ finger]  cut
```

The properties of the PRC to be accounted for:

(102) a. A close relationship is inherently established between Possessor and Possessee.

b. Possessor is interpreted as Experiencer (Benefactive/Malefactive). This thematic interpretation is not solely derived by lexical properties of the predicate, but obtained when the Possessor is raised to a certain position outside of DP.

c. Verbs involved in the PRC are restricted: they must not be activity verbs.

The property in (102a) was discussed in Section 4.2. It was argued that Possessor is a relational argument licensed by Possessee, the head noun, and that they are generated together within DP. The DP originates within VP, since the head noun is the internal argument of the verb.

Second, remember that the property described in (102b), which was discussed in Section 7.1.2.1, is significantly different from NACs, for the relevant features of *v*
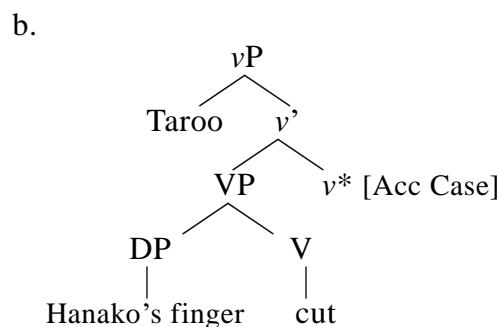
[-External Role][+Object Case] in NACs do not change the thematic interpretation of an argument. If we hypothesize that Appl is responsible for the Experiencer (Benefactive/Malefactive) interpretation, for Affectedness is encoded in Appl as shown in (99), and that Possessor is raised to ApplP as in (101b), then the property in (102b) is straightforwardly accounted for.

Third, consider the property in (102c). This can be reduced to selection, namely, as generally regarded, a head selects a certain head. Suppose that Appl selects *v*, but not *v**. Pure activity verbs, which do not imply any result state but just denote activity, are generally derived with *v**, hence they cannot occur in the PRC. As we discussed in Chapter 1, the head-head relationship thus restricts the legitimate argument/phrase structure.

Next, let us review the relevant properties of the regular transitive.

● Regular transitive (=Agentive)

(103) a. Taroo-ga   Hanako-no   yubi-o   kit-ta.

   Taroo-Nom   Hanako-Gen finger-Acc   cut-Past

   'Taroo cut Hanako's finger.'

   b.

```
                    vP
                   /  \
               Taroo   v'
                      /  \
                    VP    v* [Acc Case]
                   /  \
                 DP    V
                 |     |
        Hanako's finger   cut
```

The properties of the regular transitive which should be explained:

(104)   The same lexical verb which is involved in the PRC also forms the regular (Agentive) transitive (e.g., *kir-u* 'cut' is involved in (101a) and (103a)), but the interpretations of the subject are different: in the PRC, it is Experiencer (Benefactive/Malefactive), while in the regular transitive, it is Agent.

Adopting the layered little-verb hypothesis, one verb in appearance is built up with abstract functional verbal heads, such as *v/v** and Appl. The subject of the PRC is accommodated by Appl, hence interpreted as Experiencer, while the subject of the regular transitive is introduced by *v**, and assigned Agent. Thus, although the phonological form of the predicate is the same, different interpretations are derived. It is also possible to derive the following regular transitive sentence, in which the subject is understood as Agent:

(105) Taroo-ga   (zibun-no) yubi-o   kit -ta.

       Taroo-Nom   self -Gen   finger-Acc cut -Past

       'Taroo cut his own finger.'

The derivation of sentence (105) is the same as (103b), namely, the Agentive subject *Taroo* is base-generated in *v**P, and the Theme 'finger' is generated within VP.

     Let us move on to non-Agentive constructions ("NACs" for our purposes) which can be derived by the feature-specification system of *v* proposed by Hasegawa (2001). The important property of NACs to be explained is that the subject of NACs and Cause may be interchanged, something which is not always possible in PRCs, as discussed in Section 7.1.1.2. The relevant data showing the difference between PRCs and NACs are repeated below.

    ● NAC
(106) a. Densya-ga <u>ziko</u>-de   okure-ta.

          train-Nom   accident-by   delay-Past

          'The train was delayed by the accident.'

      b. <u>Ziko</u>-ga   densya-o   okur-ase-ta/okur-asi-ta.

          accident-Nom   train-Acc   delay-Tr-Past

          'The accident delayed the train.'

87

● PRC

(107) a.   Taroo-ga   <u>ziko</u>-de   yubi-o   kit-ta.

          Taroo-Nom   accident-in   finger-Acc cut-Past

          'Taroo cut his finger in an accident.'

      b. * <u>Ziko</u>-ga   (Taroo-no) yubi-o   kit-ta.

           Accident-Nom   Taroo-Gen finger-Acc   cut-Past

           Lit. 'The accident cut Taroo's finger.'

Sentence (106b) is the NAC, the subject of which is Cause. In contrast, (107a) is the PRC, the subject of which cannot be replaced by Cause, as shown in (107b). If both the NAC and the PRC are to be explained under the same mechanism, namely, the feature specification [- External Role] [+ Object Case] of *v*, then the subjects should be free to alternate between Cause and Possessor, contrary to the fact in (107b). Why can the predicate *okur-ase-ta* in (106b) accommodate the Cause subject, while *kit-ta* in (107b) cannot? The answer is found if we focus on the morphemes involved in NACs and PRCs, which in turn becomes a support for the proposal in (99).

7.3.1   Morphology of the layered little verbs

In traditional research on the Japanese language, sentences with the causative marker *-(s)ase/(s)as* are regarded as "syntactic causatives" and distinguished from "lexical causatives," i.e., transitive verbs.[33] "Syntactic causatives" are considered to have complex (bi-clausal) structures, where VP is embedded, whereas "lexical causatives," namely transitive verbs, are considered to have a mono-clausal structure. Miyagawa (1998) argues that *-(s)ase* is an "elsewhere" transitivizer, which

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[33] Following Inoue (1976) and Miyagawa (1998), we assume that *-(s)as* is an allomorph of *-(s)ase*. When *-(s)as* is followed by a consonant, a vowel is inserted in order to avoid a sequence of consonants for phonological reasons. If *-(s)ase* or *-(s)as* is preceded by a consonant, *s* is dropped for the same reason.

transitivizes unaccusative verbs when they have no designated transitive counterpart. Accordingly, the distinction between "syntactic" and "lexical" causatives based on *-(s)ase* is not valid.   Hasegawa (2001) further argues that the causativizing morpheme *-(s)ase* may be an allomorph of the "lexical" transitivizing morphemes such as *-e, -s,* or *-as,* which is also pointed out by Inoue (1976: 77).[34]   Following this line, we postulate that both "lexical" and "syntactic" causatives may be treated under the layered little-verb hypothesis.   We also assume that the difference in morphemes is related to the little verbs.   Now, compare the morphemes in NACs in (108) with those in the PRCs in (109).

● NAC

(108) a.   Ziko-ga   densya-o   okur -<u>ase</u>/-<u>as</u>-i -ta.

        accident-Nom   train -Acc   delay -Caus   -Past

        'The accident delayed the train.'

                                                                        Hasegawa (2001: 13)

    b.   Kaze-ga   eda-o   yur -<u>as</u>-i   -ta.

        wind-Nom   branches-Acc   sway -Caus -Past

        'The wind swayed the branches.'

                                                                        Hasegawa (ibid.: 13)

    c.   Haha-ga   yasai-o   kusar -<u>ase</u>   -ta.

        mother-Nom   vegetables-Acc   perish -Caus -Past

        'My mother let the vegetables go bad.'

    d.   Simo-ga   bonsai-o   kar   -<u>as</u>-i   -ta.

        frost-Nom   bonsai-Acc   wither -Caus -Past

        'The frost withered the bonsai.'

---

[34] When */(s)ase/* is further attached to a transitive verb, it forms a "syntactic" causative, namely, a bi-clausal structure as follows: *Hanako-ga [Taroo-ni ringo-o tabe]-<u>sase</u>-ta.* 'Hanako <u>made</u> [Taroo eat the apple].'

e. Potto-ga   yu-o   wak -<u>as</u>-i -ta.

pot-Nom   hot water-Acc   boil -Caus -Past

'The electric pot boiled the water.'

●PRC

(109) a. Taroo-ga   (ziko-de)   yubi-o   kit-ta.

Taroo-Nom   accident-by   finger-Acc cut-Past

'Taroo cut his finger (in the accident).'

b. Taroo-ga   (koron-de)   ude-o   ot-ta.

Taroo-Nom   fall-because   arm-Acc   break-Past

'Taroo (fell and) broke his arm.'

c. Tanaka-san-ga   (haisya-de)   musiba-o   nui-ta.

Mr. Tanaka-Nom   dentist's-at   bad tooth-Acc   pull-Past

'Mr. Tanaka had a bad tooth pulled (at the dentist's).'

d. Watasi-wa   (kuusyuu-de)   ie-o   yai-ta.

I-Top   air raid-by   house-Acc   burn-Past

'I had my house burnt down (by the air raid).'

e. (Zisin-de   tana-kara   tubo-ga   otite-kite)

earthquake-by   shelf-from   vase-Nom   fall-come

haha-ga   hitai-o   wat-ta

mother-Nom forehead-Acc break-Past

'My mother was injured on her forehead (when a vase fell off the shelf

because of the earthquake).'

90

f. Hanako-ga   (biyooin-de)   kami-o   som -<u>e</u>   -ta.

Hanako-Nom   beauty shop-at   hair-Acc   dye -Caus -Past

'Hanako had her hair dyed (at the beauty shop).'

As is discussed by Miyagawa, the "elsewhere" causative marker *-(s)ase/(s)as* may be involved in both NACs and PRCs when an unaccusative verb does not have a designated transitive form.   Still, there is a notable tendency for *-(s)ase/(s)as* to be used more often in NACs, while the morpheme *-e* is more frequently involved in PRCs. This observation is illustrated in (110).

● Transitive alternation

(110) a. NAC   b. PRC

	morpheme [A]				morpheme [B]		
unaccusative	↓	transitive		unaccusative	↓	transitive	
okur-e-	*/(s)ase/*	okur-*ase*-	'delay'	kir-*e*	*/e/*	kir-	'cut'
yur-e-	*/(s)as/*	yur-*as*-	'sway'	or-*e*	*/e/*	or-	'break'
kusar-	*/(s)ase/*	kusar-*ase*-	'perish'	nuk-*e*	*/e/*	nuk-	'pull'
kar-e-	*/(s)as/*	kar-*as*-	'wither'	yak-*e*	*/e/*	yak-	'burn'
				war-*e*	*/e/*	war-	'break'
				som-ar-	*/e/*	som-*e*	'dye'

We will focus on two types of transitive alternation.   In the morpheme type [A] in (110a), *-(s)ase/(s)as* is involved in transitive alternation.   On the other hand, in the morpheme type [B] in (110b), *-e* is relevant in transitive alternation in two ways: in the case of *kir-* 'cut' in (110b), *-e* is added to the transitive verb to form the unaccusative verb, while in the case of *som-* 'dye' in (110b), *-e* is added to the unaccusative verb to form the transitive verb.   PRCs which are related to the [B]-type alternation do not allow a Cause subject as we have observed in (107b). There seems to be a tendency that the [B]-type alternation excludes the Cause subject. Based on this observation, we speculate that the [B]-type reflects higher projections than CauseP; namely, ApplP and *v*P.

● Morphology of little verbs

(111)

PRC   *NAC*

[ApplP   [*v*/ v*P   [CauseP   [VP

◄ ·············· ►
[B]

◄ ·································· ►
[A]
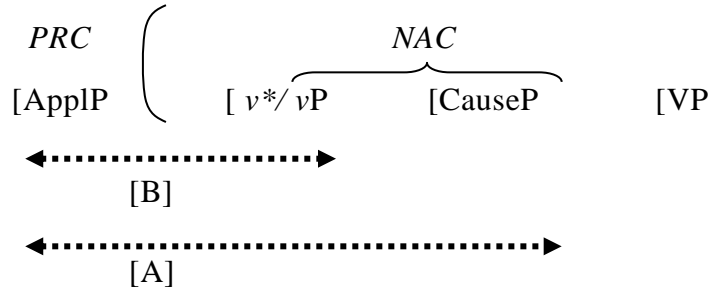
As shown in (111), PRCs and NACs differ in clausal size. Further, within NACs, *v*P and CauseP also differ in clausal size. We conjecture that the [B]-type alternation is a reflection of higher projections than CauseP. That is, the [B]-type includes ApplP or *v*/v*P, but excludes CauseP. In terms of the Distributed Morphology (Halle and Marantz 1993), the [B]-type morpheme is not inserted to the Cause head at PF.

    Inoue (1983) has already observed that the [B]-type alternation is related to the external force. She observes that the unaccusative verb *tok-e* 'melt' has two transitive counterparts, *tok-as* and *tok-φ*, and that only the latter, which shows the [B]-type alternation in our terms, involves an external force. The phenomenon is demonstrated below:

(112) a. tok -<u>e</u>   -ta   *(unaccusative form)*

         melt -[B] -Past

         'melted'

    b. Koori-o   tok   -<u>as</u> -i -ta.   *(transitive form (i))*

        ice -Acc   melt   -[A]   -Past

        'melted the ice.'

    c. Tamago-o   toi   -<u>φ</u>   -ta.   *(transitive form (ii))*

        egg   -Acc   melt -[B]   -Past

        'beat the egg.'

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The unaccusative verb *tok-e* 'melt' takes two transitive forms, in which [A] is involved as in (112b), and [B] is involved as in (112c). This selection of the transitive form is presumably because the event "melt the ice" occurs spontaneously, while the event 'beat the egg' requires external force. Accordingly, the [B]-type alternation, which involves *v**P and denotes Agentivity, appears in the latter case, while the [A]-type morpheme */as/*, which may represent CauseP and accommodate a Cause(r) phrase, appears in the former case. Based on the discussion so far, it is predicted that the Cause(r) subject can appear in (112b), but not in (112c). This prediction is borne out:

(113) a. Hanako-ga   koori -o   tok   -<u>as</u> -i -ta.
          Hanako-Nom   ice-Acc   melt -[A]   -Past
          'Hanako melted the ice.'

      b. Netu   -ga   koori -o   tok   -<u>as</u> -i -ta.
          the heat-Nom   ice -Acc   melt -[A]   -Past
          'The heat melted the ice.'

(114) a. Hanako-ga   tamago-o   toi   -φ   -ta.
          Hanako-Nom   egg   -Acc   melt -[B] -Past
          'Hanako beat the egg.'

      b. * Kikai   -no   kaiten -ga   tamago-o   toi   -φ   -ta.
          machine-Gen   rotation -Nom   egg   -Acc   melt -[B] -Past
          'The machine's rotation beat the egg.'

The [A]-type morpheme */(s)as/*, which is the "elsewhere" causative and may include *v**/*v*P and CauseP as depicted in (111), allows either the Agentive subject *Hanako*, as in (113a), or the non-Agentive subject *netu* 'the heat,' as in (113b). On the other hand, the [B]-type morpheme, which includes *v/v**P but excludes CauseP, as shown in (111), allows the Agentive subject *Hanako*, as in (114a), but prohibits the Cause

subject *kikai-no kaiten* 'the machine's rotation,' as in (114b). This is a supporting argument for the analysis in (111) and the layered little-verb structure in (99). Incidentally, these data suggest semantic differences between Agent and Cause. Agent can make the event happen by external force, without which the event cannot happen. On the other hand, Cause helps the potential event occur through some internal force.

Turning back to PRCs, consider how the little verbs in (99) and (111) account for the data in question and why the Cause subject may appear in NACs but not always in PRCs. The relevant examples are repeated in (115) and (116) below, and their derivations are indicated in (117) and (118):
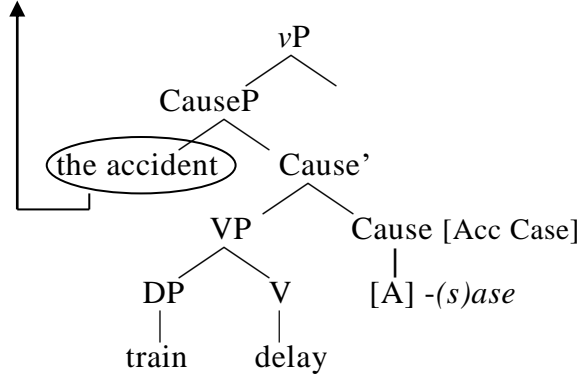
● NAC

(115) a. Densya-ga   <u>ziko</u>-de   okure-ta.
           train-Nom   accident-by   delay-Past
           'The train was delayed by the accident.'

     b. <u>Ziko</u>-ga   densya-o   okur -ase/-as-i -ta.
          accident-Nom   train-Acc   delay -[A]   -Past
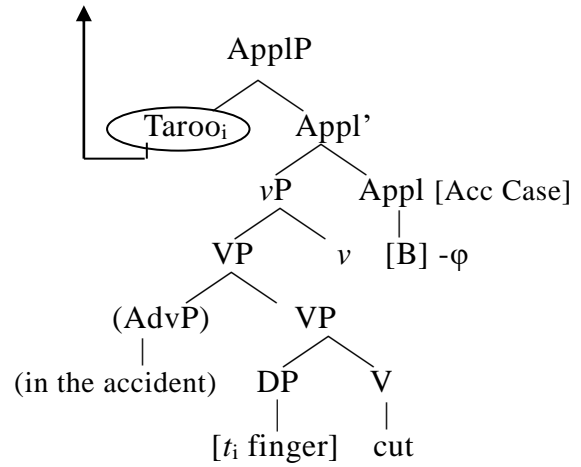   'The accident delayed the train.'

● PRC

(116) a. Taroo-ga   <u>ziko</u>-de   yubi-o   kit -φ -ta.
           Taroo-Nom   accident-in   finger-Acc cut -[B] -Past
           'Taroo cut his finger in an accident.'

     b. * <u>Ziko</u>-ga   (Taroo-no) yubi-o   kit -φ   -ta.
           Accident-Nom   Taroo-Gen finger-Acc   cut -[B] -Past
           (Lit.) 'The accident cut Taroo's finger.'

94

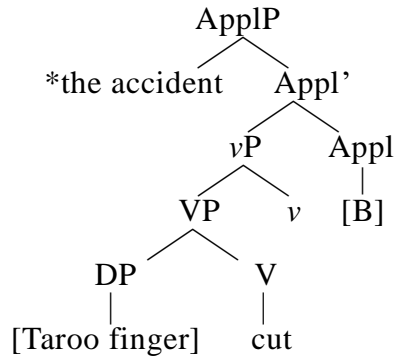(117)   NAC (for (115b))   (118)   PRC (for (116a))

```
                                                          ApplP
                   vP                              ⟨Tarooᵢ⟩    Appl'
            CauseP                                        vP        Appl [Acc Case]
    ⟨the accident⟩   Cause'                        VP       v    [B] -φ
              VP        Cause [Acc Case]      (AdvP)    VP
          DP    V       [A] -(s)ase      (in the accident)  DP      V
          |     |                                      [tᵢ finger]  cut
        train  delay
```

As we have argued, the type-[A] morpheme -(s)ase can be a reflection of the Cause head, hence the Cause phrase *ziko* 'the accident' may be introduced as an argument, and further moves to TP, as shown in (117).   On the other hand, the type-[B] morpheme (the null counterpart of -*e*) is not assigned to the Cause head, hence the Cause head is absent.   Therefore, the Cause phrase cannot be introduced as an argument, which is indicated by (118).   A situational adverb, such as *ziko-de* 'in the accident' or *haisya-de* 'at the dentist's' may appear in the PRC, but it is not an argument introduced by the Cause head; it is just a situational adverb adjoined to VP, and hence cannot be raised as the subject.
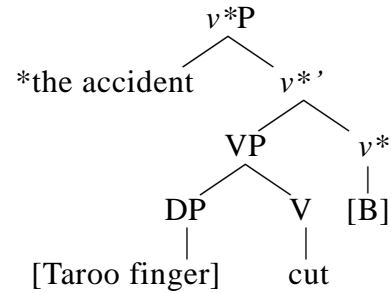
Next, let us examine other possibilities for generation of the Cause subject in (116b):

(116) b. * Ziko-ga   (Taroo-no) yubi-o   kit -φ   -ta.

         Accident-Nom   Taroo-Gen finger-Acc cut -[B] -Past

         'The accident cut Taroo's finger.'

95

(119) a.   b.

```
              ApplP                                        v*P
            ╱       ╲                                    ╱     ╲
    *the accident    Appl'                      *the accident   v*'
                   ╱      ╲                                    ╱     ╲
                 vP        Appl                              VP       v*
               ╱    ╲       │                             ╱    ╲      │
             VP      v     [B]                          DP      V    [B]
           ╱    ╲                                        │       │
         DP      V                                  [Taroo finger]  cut
          │      │
    [Taroo finger] cut
```

Assuming that the [B]-type morpheme is a reflection of *v/v*P or ApplP, but not CauseP, as illustrated in (111), the potential positions for the subject *ziko* 'the accident' in (116b) would be the Spec of ApplP in (119a) or the Spec of *v*P in (119b).   We assume that the head *v* is intransitive and does not introduce an external argument (Chomsky 2001).   First, in (119a), the Appl head introduces Experiencer (the Benefactive/Malefactive), imposing the animacy restriction on the argument, so it is not a proper position for Cause.   Second, the head *v** introduces Agent in (119b), which also must be animate and leads to semantic incompatibility with 'the accident.' Thus, the ungrammaticality or the effect of poetic "personification" of the Cause subject arises when the sentence includes the [B]-type morpheme.

If the [A]-type morpheme */(s)ase/(s)as /* is included, the sentence is ambiguous between the NAC and the PRC, because the morpheme covers both the Cause head and the Appl head, as shown in (111).   In this case, the Cause subject and the Experiencer subject are interchangeable, as shown in (120).

(120) a.   Hanako-ga   (kaze-de)   boosi-o   tob -asi -ta.
           Hanako-Nom   wind-by   hat -Acc   fly -[A] -Past
           'Hanako got her hat carried away by the wind.'

      b.   Kaze-ga   Hanako-no   boosi-o   tob -asi -ta.
           wind-Nom   Hanako-Gen hat-Acc   fly -[A] -Past
           'The wind carried away Hanako's hat.'

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We have observed that the layered little verbs, including *v*/v*, Appl, and Cause, are not only preferable in terms of thematic interpretation, but also necessary to derive phrase structure, namely, argument structure, and to exclude ungrammatical sentences. We propose the "generalized little-verb hypothesis":

● The generalized little-verb hypothesis

Properties of little verbs restrict legitimate derivation in a language by interacting with each other, with a lower head V, or with a higher head T.

We have argued how little verbs function by interacting with each other. We will discuss how little verbs interact with a lower head V, and with a higher head T, in Chapters 3 and 4 respectively.

7.4 Controllability of the event

We will present additional support to postulate a higher projection above *v*P. As we have already observed, when we focus on interpretation of events, examples of the PRC may be divided into two types.[35] One is accident type, where the event may happen accidentally. The other is controllable type, where the realization of the event may be controlled.

● Accident type

(121) a. Taroo-ga   (ziko-de)   yubi-o   kit-ta.

        Taroo-Nom   accident-by   finger-Acc cut-Past

        'Taroo cut his finger (in the accident).'

    b. Hanako-wa   (rakurai-de)   ie-o   yai-ta.

        Hanako-Top thunderbolt-by   house-Acc   burn-Past

        'Hanako had her house burnt down by a thunderbolt.'

---

[35] I am grateful to Enoch Iwamoto for suggesting this point be developed.

● Controllable type

(122) a. Tanaka-san-ga   (haisya-de)   musiba-o   nui-ta.

         Mr. Tanaka-Nom   dentist's-at   bad tooth-Acc   pull-Past

         'Mr. Tanaka had a bad tooth pulled at the dentist's.'

    b. Hanako-wa   (biyooin-de)   kami-o   some-ta.

        Hanako-Top   beauty shop-at   hair-Acc   dye-Past

        'Hanako had her hair dyed at the beauty shop.'

The accident-type PRC tends to be construed as the Malefactive, while the controllable-type tends to be interpreted as Benefactive.   As was shown in (111), the Appl head conveys "affectedness" and assigns Affectee, the Benefactive/Malefactive interpretation of which depends on the context.   In controllable-type, we know as "world knowledge," that mediation of someone else is usually involved in establishment of the event: for example, a dentist to pull a tooth in (122a), or a hair dresser to dye hair in (122b).   However, although we know the existence of a person who mediates the establishment of the event, it is not syntactically represented, as we have argued in Section 6.   First, although an adverbial phrase such as *haisya-de* 'at the dentist's' or *biyooin-de* 'at the beauty shop' may appear in the sentences in (122), Agent itself cannot be realized.

(123) a. * Tanaka-san-ga   <u>haisya</u>-ni   musiba-o   nui-ta.

         Mr. Tanaka-Nom   dentist-by   bad tooth-Acc   pull-Past

         'Mr. Tanaka had a bad tooth pulled by the dentist.'

    b. * Hanako-wa   <u>biyoosi</u>-ni   kami-o   some-ta.

        Hanako-Top   hair dresser-by   hair-Acc   dye-Past

        'Hanako had her hair dyed by a hair dresser.'

In the adversity/indirect passive, a semantically similar construction to the PRC, Agent may be realized, as was also shown in Section 6.

(124) a. Tanaka-san-ga   <u>haisya</u>-ni   musiba-o   nuk-are-ta.
     Mr. Tanaka-Nom   dentist-by   bad tooth-Acc   pull-Pass-Past
     'Mr. Tanaka had a bad tooth pulled by the dentist.'

   b. Hanako-wa   <u>biyoosi</u>-ni   kami-o   some-rare-ta.
     Hanako-Top   hair dresser-by   hair-Acc   dye-Pass-Past
     'Hanako had her hair dyed by a hair dresser.'

Further, there is no binder of an anaphor nor controller of an adjunct clause in the PRC, such as *pro* who would be Agent to 'pull Taroo's tooth' in (125).   The fact is taken to mean that there is no implicit Agent in the syntactic representation.

(125) a. Taroo$_i$-wa   *pro*$_j$ zibun$_{i/*j}$-no byooin-de ha-o   nui-ta.
     Taroo-Top   (Agent)   self-Gen   hospital-at tooth-Acc pull-Past
     'Taroo had a tooth pulled at {Taroo's/*someone's} hospital.'

   b. Taroo$_i$-wa   *pro*$_j$ [PRO$_{i/*j}$ hurue-nagara]   ha-o   nui-ta.
     Taroo-Top   (Agent)   trembling   tooth-Acc   pull-Past
     'Taroo, trembling, had a tooth pulled (by someone).'
     * 'Taroo had a tooth pulled by a person who was trembling.'

In contrast, binding of an anaphor and control of an adjunct clause by the implicit Agent is possible in the adversity/indirect passive, as shown in (126):

(126) a. Taroo$_i$-wa (<u>isya</u>$_j$-ni)   zibun$_{i/j}$-no byooin-de   ha-o   nuk-are-ta.
     Taroo-Top doctor-by   self-Gen   hospital-at   tooth-Acc pull-Pass-Past
     'Taroo had a tooth pulled (by a doctor) at Taroo's/the doctor's hospital.'

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b. Taroo$_i$-wa _pro_$_j$ [PRO$_{i/j}$ hurue-nagara] ha-o nuk-are-ta.

Taroo-Top (Agent) trembling tooth-Acc pull-Pass-Past

'Taroo, trembling, had a tooth pulled (by someone).'

'Taroo had a tooth pulled by a person who was trembling.'

Thus, we conclude that the existence of Agent or a person who is involved in establishing the event is not syntactically represented. This follows from our assumption that Appl head selects v, but not v^*, hence Agent is not introduced. Our proposal in (99) is repeated below as (127):

(127)

```
                        ApplP
                       /     \
            Experiencer        Appl'
        (Benefactive/Malefactive)   /    \
                              vP         Appl [Affectedness]
                             /  \
                       CauseP    v/v* [Agentivity] (animate)
                      /      \
    non-intentional Cause(r)  Cause'
                             /      \
                           VP        Cause [Causation]
                          /  \
                        DP    V
```
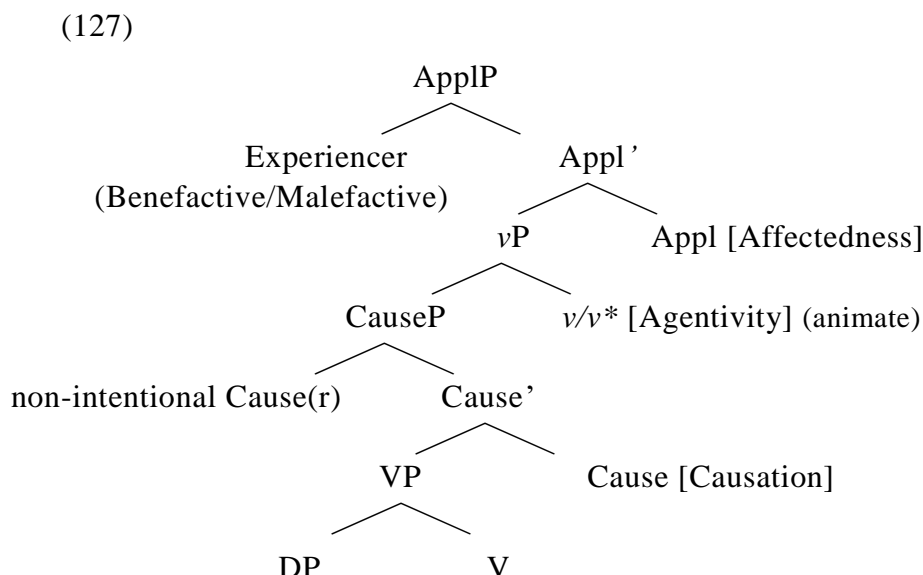
We speculate that the controllability of the event is not designated in vP, but rather, it is world knowledge, although the concept of "controllability" could be inherently possessed in the human cognitive system. Suppose that the relationship between an event (vP) and Experiencer (Benefactive/Malefactive), denoted by Appl, is either controllable or non-controllable, and that whether the interpretation matches the real world or not depends on the pragmatics. As mentioned, the abstract notion "Affectedness" is encoded in Appl, which may be Benefactive or Malefactive. Consequently, both sentences in (128) below are acceptable, but (128a) is typically

construed as the Malefactive because the event is usually accidental, while (128b) is interpreted as Benefactive, because the event is controllable.[36]

(128) a. Taroo-ga   yubi-o   kit-ta.

          Taroo-Nom   finger-Acc cut-Past

          'Taroo cut his finger (in the accident).'

      b. Hanako-wa   kami-o   kit-ta.

          Hanako-Top   hair-Acc   dye-Past

          'Hanako had her hair dyed (at the beauty shop).'

8   Remaining Problems and Cross-Linguistic Perspective

8.1   Verb selection

We argued that Appl in the PRC selects v, but not v^*. The restriction on verbs in the PRC that they should not be activity verbs follows from the selection of v, assuming that activity verbs must include v^*. However, there is another requirement in the PRC; that verbs must imply a result state, as discussed in Section 2.2, which does not necessarily follow from the selection of v. This phenomenon is not specific to Japanese, but observed in English as well, as pointed out by Ritter and Rosen (R&R) (1993) and Washio (1997b). They investigate *have* constructions and observe that there are certain restrictions on verbs when the subject of *have* constructions is interpreted as "Experiencer."[37]

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[36] Washio (1997b) studies *have* constructions in English, and argues that *have* denotes a certain affectedness relationship between an event and an individual, in which the direction of the affectedness is not specified. He shows that the Causer and Experiencer interpretations of the subject is derived depending on whether the relationship between the subject and the event is "Inclusion" or "Exclusion"; that is, whether the subject is semantically included in or excluded from the event.   The notions of "Inclusion" and "Exclusion" are not stipulations for explaining English case only, but they are applied to causatives and passives cross-linguistically, and therefore, considered to be general properties of human language. The notions of "Inclusion" and "Exclusion" may be also relevant here. We leave this topic for future research.

[37] I am grateful to Mikinari Matsuoka for suggesting Ritter and Rosen's argument to me.

(129) a. * Pat had Terry drive his car.

     b.   Pat had Terry drive his car into the wall.

(R&R 1993: 528)

The asterisk in (129a) indicates that the subject *Pat* may not be interpreted as Experiencer (Malefactive) without the resultative phrase *into the wall*.   R&R (ibid.: 528) state as follows: "The experiencer reading should be impossible unless the core event has an endpoint."   It seems that the same condition on the verb type holds in English *have* constructions and Japanese PRCs in order to achieve the Experiencer reading: the verbs involved must imply a result state.   The only difference between English and Japanese is that English verbs may change their original properties by adding a resultative phrase or a phrase which denotes the end point, however, Japanese verbs cannot undergo such change of meaning.   Therefore, Japanese verbs must be accomplishment verbs or verbs which inherently imply a result state.   A similar property is attested in resultatives: in English, not only accomplishment verbs but also activity verbs may be involved by adding a resultative predicate to the verb; in Japanese, only accomplishment verbs or verbs which imply a result state are allowed in the formation of resultatives (Washio 1997a, b, Hasegawa 1998, 2000, Kageyama 2001, and Yamada 2006, among many others).   As was reviewed in Section 2,2, Washio (1997a, b) proposes a new classification of verbs, involving change of state/location verbs and some of activity verbs which have a predetermined transition toward a certain result state.   Verbs which form the PRC are of this class.

    Next, consider the interpretations of non-Agentive subjects.   R&R state that the subject of *have* constructions may be interpreted as Possessor, Location, Causer, or Experiencer depending on the context.   This fact naturally leads us to speculate that English *have* is a realization of Appl heads.   Actually, R&R analyze *have* as a "functor predicate."   We will further argue this issue in Chapter 3, Section 5.7. R&R suggest that Japanese *-(s)ase* causatives correspond to English *have* constructions.   Washio (1997b) comprehensively discusses Japanese *-(s)ase* causatives, *-(r)are* passives, and English *have* constructions.   He argues that *have*

denotes a certain affectedness relationship between an event and an individual, in which the direction of the affectedness is not specified. He discusses that there is only one verb *have*, and that different interpretations are derived from the same head depending on whether the relationship between the subject and the event is "Inclusion" or "Exclusion"; that is, whether the subject is included in or excluded from the event. Washio's argument opens the way to give a unified treatment to different thematic interpretations derived in relevant constructions, through assuming an abstract functional head. The abstract functional head is a little verb in our terms, now decomposed into several heads, including Appl.[38] Hasegawa (2004a) also argues that the *v* specified as [- External Role][+ Object Case] in her system gives a unified explanation for English *have* constructions with the Experiencer reading and Japanese non-Agentive constructions.

One difference between PRCs in Japanese and *have* constructions in English is that the former do not allow an Experiencer subject and a Cause subject to freely alternate with each other, even if the intended situation is semantically appropriate, as has been discussed in the previous sections. This fact is considered to be reducible to the morphology of the languages. In English, the morpheme *have* is used for several Appl heads. On the other hand, in Japanese, the [B]-type morpheme in (110b) is restricted to the verbal heads which are higher than Cause head, such as Appl or *v/v**, as shown in (111). Accordingly, sentences which involve the [B]-type morpheme lack the Cause head, hence the Cause subject cannot be introduced. Thus, the Cause subject fails to alternate with the Experiencer subject, because it is not a possible derivation. The Appl head is not only preferable in terms of semantic interpretation, but it is also necessary to explain syntactic phenomena and exclude ungrammatical sentences.

To summarize the discussion, we have discussed that verbs which are involved in the formation of the PRC are also involved in the formation of resultatives, which are considered to be of the same natural class, following Washio's (1997) argument.

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[38] As was described in footnote 36, Washio's (1997b) notions of "Inclusion" and "Exclusion" are not English-specific, but applicable to causatives and passives cross-linguistically, and therefore, considered to be general properties of human language.

This verb class selection is also found in the English *have* construction which derives the Experiencer subject (Benefactive/Malefactive). Consequently, we are led to assume that the same type of Appl head is involved in both the Japanese PRC and the English *have* construction, where the Experiencer subject is derived. In other words, the selectional restriction on verb types in the PRC and other relevant constructions is cross-linguistically attributed to the properties of the Appl shared in the constructions.

8.2   External or internal Merge to Appl

Another question which might arise is why the subject in the PRC cannot be introduced directly (i.e. by external Merge) to Appl. The Agentive subject is directly introduced by v^*. For example, in a sentence such as *Taroo-ga te-o arat-ta* 'Taroo washed his hands,' the Agent possessor *Taroo* is base-generated in v^*P, and the Theme 'hands' originates as an internal argument of the verb. Actually, there is no choice for v^* but to externally Merge an argument because v^* forms a strong phase and an argument cannot be raised from within VP. On the other hand, in the PRC, Appl selects v and an argument may be raised from VP. Therefore, Possessor, which is selected by Possessee as its relational argument and originates within DP in VP, is raised to Appl and the Benefactive/Malefactive interpretation is achieved. Now, is it possible for DP which is not a Possessor, hence with no need to be selected by Possessee, to be directly introduced by Appl through external Merge? This does not seem to be a possible derivation, for we have observed that the subject of the PRC must be Possessor which holds a close possessive relationship with Possessee, and that movement of the Possessor subject is attested; otherwise, the PRC is not established. This is probably due to the morphemes involved in the PRC. The Appl in the PRC does not have its own morpheme, but depends on the morpheme of *v,* and is morphologically incorporated into *v*. In this case, the head, which does not mark itself, seems to be unable to change the number of arguments, and therefore, cannot introduce a new argument. Consequently, the Appl head in the PRC takes an argument only through internal Merge. The next question will be: is there also a case

where Appl has its own morpheme and appears as an independent head, which introduces an argument through external Merge?   There is, and this is the case that we will investigate in the next chapter: the Appl head which is realized by the morphemes *age-ru/yar-u* 'give' in Japanese.

Incidentally, it may be worth noticing that Chain is always formed because of internal Merge of Possessor to Appl in the PRC.   Takezawa (1991) argues that when a "θ-Chain" between two θ-roles is formed, one within VP and and the other outside of VP (i.e. the subject), a resultative reading is obtained (see Section 2.1.)   Chomsky (1995: Chapter 4) assumes that Chain is a syntactic object, while Epstein and Seely (2006) do not.   If the Chain formation influences semantic interpretation, it may actually be a syntactic object.

8.3   Why is Possessor permitted to move?

Another question which may arise is: why is it Possessor that is involved in the PRC?   We argued in Section 4.2 that Possessor is selected by Possessee and base-generated as a relational argument of the Possessee within DP.   Why is the relational argument relevant in the formation of the PRC?   In addition, why is extraction of DP within DP possible in this case, without violating Minimality?

As reviewed in Section 4.2, Kitahara (1993) observes that an inalienable possessor is allowed to be extracted from DP where a possessor-possessee relationship is established, while an alienable possessor cannot be extracted.   He argues that this is because an inalienable possessor is included in the θ-grid of the possessee as its argument, whereas an alienable possessor is not, hence the latter violates the ECP, for the trace will not be θ-governed.   Although the explanation which relies on the ECP should be reconsidered in the Minimalist framework, what is crucial in extraction of DP seems to be its status as an argument.

On the other hand, Kikuchi (1994) accounts for the possibility of extraction of DP from a nominal phrase in terms of Case properties.   He deals with three types of nominal: simple nominals; inalienable possession (IP) nominals; and event nominals,

which correspond to Grimshaw's (1990) "complex event nominal."   Typical examples for each type are shown in (130):

● Nominal types

(130) a.   Simple nominals: _tukue_ 'desk'   *kuruma* 'car'   *tokei* 'watch'

  b.   IP nominals: _te_ 'hand'   *tume* 'nail'   *(hon-no) hyoosi* '(book) cover'

  c.   Event nominals: _seisan_ 'production'   *ukeire* 'acceptance'

<div align="right">(Kikuchi 1994: 79)</div>

Extractability of an element from a nominal phrase headed by the above nominals is examined by the data as in (131):

(131) a.   [John(-no) <u>tukue</u>]   *(headed by a simple nomial)*

  John-Gen desk

  'John's desk'

  b.   [John(-no) <u>te</u>]   *(headed by an IP nominal)*

  John-Gen hand

  'John's hand'

  c.   [Honda(-no)   (kuruma-no) <u>seisan</u>]   *(headed by an event nominal)*

  Honda -Gen   car-Gen   production

  'Honda's production (of cars)'

The *no*-phrase of IP nominals, such as (131b), is a relational argument in our terms. Event nominals correspond to Sino-Japanese nominals, which seem to form a PRC as mentioned in footnote 6.   Kikuchi examines nominals represented by (131) when they are generated in the object position.   Exploiting several syntactic diagnostics, he concludes that IP nominals, as in (130b), and event nominals, as in (130c), allow extraction of DP (the *no*-phrase here) from a nominal phrase which they head, such as

(131b) and (131c).   On the other hand, simple nominals, as in (130a), do not allow extraction of the *no*-phrase such as in (131a).   Since extractability depends on the nominal phrases, the difference should exists in the nominal heads.   Assuming that Case-features of nominals are checked in [Spec, AGRoP] (Chomsky 1995), Kikuchi supposes that an event nominal or an IP nominal optionally bears a "Zero-Case feature," which does not have any phonological form, and checks a feature of the *no* genitive phrase raised at LF.[39]   A simple nominal does not bear the Zero-Case feature in the lexicon.   Once extracted from DP, the nominal may further undergo movement.

Kikuchi's observation is compatible with ours, in that an argument of the head noun is extractable from a nominal phrase: the argument may be either a relational argument (i.e. an IP nominal) or an argument of a nominal predicate (i.e. an event nominal).   Following Kitahara's insight that extractability is related to the "θ-grid," and Kikuchi's proposal that the initial movement of a nominal out of DP, which is triggered by a feature, may lead to further movement, we speculate as follows.   First, the movement of Possessor from within DP to the outside of it precedes other operations, which avoids a violation of Minimality.   Suppose that this is movement to the edge of a phase, assuming that DP is a phase and assigned an EPP feature or an Edge feature (EF) to attract an argument (cf. Svenonius 2004; for the EPP feature, see Chomsky 2001, 2004, 2005).   As well as *v*P, we speculate that when a proposition is completed, namely, when thematic information is satisfied, DP functions as a phase, in that either Possessee licenses Possessor as its relational argument, or an event nominal takes its argument(s).   In these cases, the Possessor may be raised to the edge of DP, and then move further to Appl.   As for the apparent Genitive Case marker *-no* of Possessor, it does not necessarily reflect structural Case, which deactivates the DP and freezes it in position, but rather, it is inserted by a phonological rule when two nominals are adjacent (Murasugi 1991).

Thus, Possessor can be raised and Merge to Appl in the PRC, for the Possessor is successfully extracted from DP, without violating Minimality.

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[39] Besides the "Zero-Case feature," Kikuchi assumes a "V-feature," by which the nominal head itself raises to V and further to AGRo. The system which Kikuchi proposes is elaborate, though it is simplified here for summary.

9 Conclusion

We have clarified the mechanism of non-Agentive sentences such as PRCs and NACs. First, properties of PRCs were investigated:

(132) (= (102))

      a. A close relationship is inherently established between Possessor and Possessee.

      b. Possessor is interpreted as Experiencer (Benefactive/Malefactive).
This thematic interpretation is not solely derived by lexical properties of the predicate, but obtained when the Possessor is raised to a certain position outside of DP.

      c. Verbs involved in the PRC are restricted: they must not be activity verbs.

As for (132a), the Possessor is considered to be a relational argument of the Possessee, which is a head within DP. It is further discussed that a head and its relational argument constitute a semantically completed unit, such as a proposition, and form a phase. The head may bear the EPP feature and raise an argument to its edge, allowing extraction without violating Minimality.

Concerning (132b), we have proposed that invisible Appl head is responsible for introducing an argument, Experiencer (Benefactive/Malefactive). In other words, Experiencer θ-role is assigned in the course of the derivation. Therefore, this "Experiencer" must be distinguished from the Experiencer which is selected by psychological predicates or sensational predicates within VP.

The Appl head readily gives an account for (132c): the Appl head selects little verb v, not v^*. Thus, assuming Appl is not only preferable in terms of thematic interpretation, but it is also necessary to exclude the illegitimate phrase structure.

We have also pointed out that verbs forming the PRC must imply a certain result state. Interestingly, these verbs seem to be correspond to the verbs forming "Weak resultatives," which are considered to constitute a natural class (Washio 1997a).

This type of constraint on the verb type is not restricted to Japanese but can be observed cross-linguistically. Ritter and Rosen (R&R) (1993) note that there are certain restrictions on verbs when the subject of *have* constructions is interpreted as Experiencer: a result state/the end point must be included or added to the verbs involved. We discussed, developing Washio (1997b) and Hasegawa (2001), that the same type of Appl head seems to be involved in some constructions where the Experiencer subject is derived, such as Japanese PRC and the English *have* construction. In other words, the selectional restriction on verb types observed in the PRC and in other relevant constructions is attributable to the properties of Appl which is cross-linguistically shared.

Theoretically, building on Hasegawa (2001), we have presented a layered little-verb structure, which explains different behaviors between PRCs and NACs. The proposed structure is also supported by the morphology of the layered heads. Observing how layered little verbs function together, we have proposed "the generalized little-verb hypothesis": Properties of little verbs restrict legitimate derivation in a language by interacting with each other, with a lower head V, or with a higher head T. We have argued how little verbs function by interacting with each other in this chapter. Next, we will discuss how little verbs interact with a lower head V, and with a higher head T, in Chapters 3 and 4 respectively.

Appl in the PRC is a zero head, which does not have an independent morpheme. In next chapter, we will investigate another construction, in which an Appl head seems to be phonetically realized. Observe the examples below:

(133) a.　Hanako-ga　　Taroo-ni　hon-o　　　okut-te-<u>age</u>-ta.

　　　　　Hanako-Nom　Taroo-*ni*　book-Acc　send -give-Past

　　　　　'Hanako sent Taroo a book (for the good of him).'

b. Hanako-wa   Taroo-ni   keeki-o   yai-te-<u>age</u>-ta.

      Hanako-Top   Taroo-*ni*   cake-Acc   bake -give-Past

      'Hanako baked Taroo a cake (for the good of him).'

As with many other languages, Japanese uses a morpheme derived from the donative verb *age-ru* 'give' in Benefactive/Malefactive constructions, as shown in (133). The *ni*-phrase, *Taroo*, is construed as the Benefactive/Malefactive.[40] We will argue that *age-ru* 'give' in (133) is a realization of Appl, applied to the verbs *okur-u* 'send' in (133a) and *yak-u* 'bake' in (133b), and introduces the Benefactive argument, *Taroo*. Interestingly, as the translation in (133) indicates, this Appl is realized by zero head in the double object construction in English, as we have argued is the case in the PRC. Through these investigations, we will show that θ-roles and argument structure are not fixed information lexically encoded in a verb, but they are dynamically derived in syntax. We will also verify our generalized little-verb hypothesis, especially, how properties of Appl restrict legitimate derivation by interacting with a lower head V.

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[40] *Taroo* is also understood as a possessor of the Theme object, but note that it is a future possessor as a result of the event, not an inherent possessor. Therefore, the DP *Taroo* does not need to be generated as a relational argument of Possessee, nor raised from within DP, as in the case of the PRC. Actually, no specificity or intervention effects are attested, contrary to the case of the PRC.

   (i) Hanako-wa   Taroo-ni {ookii/siroi/3-ko-no} keeki-o   yai-te-<u>age</u>-ta.
       Hanako-Top   Taroo-*ni*   big/ white/3-Cl-Gen cake-Acc   bake -give-Past
       'Hanako baked Taroo big/white/3 cakes (for the good of him).'