

Backward Control from Possessors

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Abstract. This article presents an argument that Japanese (and Korean) has a previously unattested type of external possession constructions (EPCs) (Payne and Barshi 1999): EPC with a backward control structure (Polinsky and Potsdam 2002). It has been attested in the literature that there are EPCs that have forward raising structures, backward raising structures, and a forward control structure. Only the backward control type has not been attested. Thus, if the argument in this article is correct, the relevant construction fills in the missing piece of the typology of EPCs. This adds plausibility to the Movement Theory of Control (Hornstein 1999) and Copy Theory of Movement (Chomsky 1995) since this typology is expected under these theories. Furthermore, I argue that Nunes' (1995) mechanism of copy deletion (chain reduction in his terms) can explain why the pronounce-the-original-copy strategy is available in backward control EPCs.

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1. Introduction

Raising and control have been a central issue in generative grammar. In both constructions, there is a dependency between two NPs where the referential properties of the overt NP determine the

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referential properties of the silent NP. (1) illustrates this. In these examples, there is a dependency between the overt NP *John* and the silent NP *ec*.

- (1) a. John₁ seemed [*ec*₁ to win the race].
b. John₁ tried [*ec*₁ to win the race].

A crucial difference between raising and control is that in raising (1a), the higher NP occupies a non-thematic position while in control (1b), the higher NP is in a thematic position. Traditionally, this difference between raising and control has been considered to reflect the difference in the way their dependencies are established: in raising, the dependency is established by movement while in control, it is established by a special anaphoric element PRO, which requires a local binder, as illustrated in (2).

- (2) a. John₁ seemed [*t*₁ to win the race].
b. John₁ tried [PRO₁ to win the race].

In a more recent approach to control, called the Movement Theory of Control (the MTC; O’Neil 1995, Hornstein 1999, 2003, among many others), control is analyzed as movement from one thematic position to another. Thus, under the MTC, the difference between raising and control becomes much less prominent. A crucial difference between them is that the landing site of movement in raising is a non-thematic position while it is a thematic position in control. (3) illustrates this.

- (3) a. John₁($\neg\theta$) seemed [*t*₁ to win the race].
b. John₁ (θ) tried [*t*₁ to win the race].

Assuming the MTC and Copy Theory of Movement, Polinsky and Potsdam (2006) presents the following typology of raising and control:¹

¹ Actually, Polinsky and Potsdam (2006) include copy (resumptive) control/raising in their typology, which I set aside in this article.

- (4) a. *Forward Raising*
 $NP_1(\neg\theta) \dots [S \dots \cancel{NP_T} \dots]$
- b. *Forward Control*
 $NP_1(\theta) \dots [S \dots \cancel{NP_T} \dots]$
- c. *Backward Raising*
 $\cancel{NP_T}(\neg\theta) \dots [S \dots NP_1 \dots]$
- d. *Backward Control*
 $\cancel{NP_T}(\theta) \dots [S \dots NP_1 \dots]$

As illustrated in (4), under Copy Theory of Movement, the forward/backward distinction is reduced to the choice of which copy is pronounced: if the higher copy is pronounced, forward control/raising is the result while if the original copy is pronounced, backward control/raising is the result. Suppose that copy deletion may in principle target any copy in a chain. Then, it is expected under the MTC that all of these possibilities should be attested in natural languages. This is indeed the case. Forward raising and control are run-of-the-mill versions of raising and control and have been attested in many languages. Backward control has also been attested in many languages including Adyghe (Say 2004a, b), Brazilian Portuguese (Farrell 1995), Bezhta (Polinsky 2002a), Jakaltec (Craig 1974, 1977), Japanese (Fujii 2006, Harada 1973, Kuroda 1965), Korean (Monahan 2003, 2004, Kwon and Polinsky 2006), Malagasy (Polinsky and Potsdam 2005), Tsaxur (Kibrik 1999, Polinsky 2002b), and Tsez (Polinsky 1999, Polinsky and Potsdam 2002). Potsdam and Polinsky (2012) also find an instance of backward raising in Adyghe. Therefore, the typology of raising and control that is expected under the MTC and Copy Theory of Movement is supported by empirical discoveries.

Note that what we have seen so far is raising and control in the clausal domain. However, there is a construction corresponding to raising and control in the nominal domain too. This is the so-called external possession constructions (EPCs; see Payne and Barshi 1999 among many others). In EPCs, which are also known as possessor raising constructions, there is a dependency between

an overt NP and a silent NP, as in raising and control in the clausal domain. The only difference between EPCs and the clausal raising and control is that in EPCs, the relevant NP is a possessor NP. Thus, under the MTC, the following typology of raising and control in the nominal domain is expected in the same vein of the clausal domain:

- (5) a. *Forward Raising EPC*
 $\text{Poss}_1(\neg\theta) \dots [\text{NP } \cancel{\text{Poss}}_T \dots]$
- b. *Forward Control EPC*
 $\text{Poss}_1(\theta) \dots [\text{NP } \cancel{\text{Poss}}_T \dots]$
- c. *Backward Raising EPC*
 $\cancel{\text{Poss}}_T(\neg\theta) \dots [\text{NP } \text{Poss}_1 \dots]$
- d. *Backward Control EPC*
 $\cancel{\text{Poss}}_T(\theta) \dots [\text{NP } \text{Poss}_1 \dots]$

Forward raising EPCs and forward control EPCs have been attested, which are exemplified by Hebrew example in (6a) and German example in (7a), respectively.

- (6) a. Gil higdil **le-Rina** [_{NP} et ha-tmuna].
 Gil enlarged to-Rina ACC the-picture
 ‘Gil enlarged Rina’s picture’ (Hebrew; Landau 1999:5)
- b. Gil enlarged to-Rina₁($\neg\theta$) [_{NP} ~~Rina_T~~ ACC the-picture]
- (7) a. Tim hat **der Nachbarin** [_{NP} das Auto] gewaschen.
 Tim has the neighbor(DAT,FEM) the car washed
 ‘Tim washed the neighbor’s car.’ (German; Lee-Schoenfeld 2006:102)
- b. Tim has the neighbor₁(θ) [_{NP} ~~the-neighbor_T~~ the car] washed

In sentence (6a), the possessor *Rina* moves from within the object NP to a non-thematic position in the matrix clause while in sentence (7a), the possessor *der Nachbarin* moves to a thematic position in the matrix clause (the relevant theta-role is Affectee according to Lee-Schoenfeld 2006). In both

In (i), the possessor, which is marked with the objective case, moves to a non-thematic position in the matrix clause and the lower copy within the object NP is deleted. What is crucial is that μ also appears on the verb as in (8a)

If there are higher silent copies of the possessors that c-command the lower arguments, we can easily account for this fact with Condition C.⁴ Therefore, if Deal's (2013) argument is correct, we can conclude that Nez Perce has an instance of backward raising EPCs.

In contrast with the clausal domain, however, backward control in the nominal domain has not been attested yet, as far as I know. Thus, there is an empirical gap in the typology of raising and control in the nominal domain. The main aim of this article is to fill this gap. I will argue that a sentence like (10a) in Japanese is an instance of backward control EPCs, as illustrated by the structure in (10b)

- (10) a. Hanako-ga [NP Taro-no kami]-o kitta.
 Hanako-NOM Taro-GEN hair-ACC cut
 ‘Hanako cut Taro’s hair.’
 b. Hanako-NOM ~~Taro~~_T(θ) [NP Taro-GEN hair]-ACC cut

In (10b), the possessor *Taro* moves from within the object NP to a thematic position in the matrix clause (the relevant theta-role is what I will call Inherent Participant), the higher copy being deleted, resulting in the backward control EPC. If the argument is correct, a possession construction like (10a) fills in the missing piece of the typology of raising and control in the nominal domain, making the parallelism between the clausal domain and the nominal domain complete. Furthermore, this lends empirical support to the MTC and Copy Theory of Movement since the typology in (5) is expected under these theories.

This article is organized as follows. In section 2.1, I will provide evidence that some possessor NPs allow their silent copies to appear in the matrix clause in certain circumstances. In section 2.2, I will make a descriptive generalization that a possessor allows its silent copy to appear in the matrix clause only if the referent of the possessor is an inherent participant in the event described

⁴ It is not the case that genitive-marked possessors generally c-command out of possessive phrases in Nez Perce, as shown in the following:

(i) **’ip-nim** ma-may’ac paa-’yax-taa’nix **Angel-ne** kine.
 3SG-GEN PL-child.NOM 3/3-find-HAB.PRES.PL Angel-OBJ here
 ‘Her_i kids usually find Angel_i here.’

(Nez Perce; Deal 2013:417)

by the predicate that takes the possessee as its argument (the Inherent Participant Condition). In section 3.1, I will illustrate that a backward control analysis of the relevant construction can explain this generalization. In section 3.2, I will show that the backward control analysis makes correct predictions about possessors of subjects. Section 4 will show that the availability of the pronouncing-the-original-copy strategy in the backward control EPC in Japanese can be explained by Nunes' (1995) mechanism of copy deletion, combined with a language-particular constraint, the Double-*o* Constraint. In section 5, I will consider a Korean counterpart to the backward control EPC. Section 6 will examine EPCs in Bantu, especially Chichewa, and argue that the distribution of two types of EPCs in Chichewa can be captured by the notion of inherent participants. Section 7 will deal with apparent counterexamples to the Inherent Participant Condition. Section 8 is a brief conclusion.

2. The Descriptive Generalization

2.1 A Higher Silent Copy

First, I provide evidence that there is a silent copy of a possessor external to the host NP (the possessee NP) in certain circumstances, which will be specified in section 2.2.

In Japanese, elements in the main clause like subjects and objects can license a floating numeral quantifier (FNQ) while subordinate elements like a complement of a postposition cannot, as illustrated by the contrast between (11) and (12).

- (11) a. John-ga **hon-o** **3-satu** yonda.
 John-NOM books-ACC 3-CL read
 'John read three books.'
- b. **Gakusei-ga** **3-nin** repooto-o teisyutusita.
 students-NOM 3-CL report-ACC submitted
 'Three students submitted the report.'
- (12) a. *Hito-ga [PP [**tiisai mura**] kara] **2-tu** kita.
 people-NOM small village from 2-CL came
 'People came from two small villages.'

- b. *Gakuseitai-wa [pp [kuruma] de] 2-dai kita.
 students-TOP cars in 2-CL came
 ‘Students came in two cars.’ (Miyagawa 1989:31)

This distribution of FNQs can be captured by a condition in which an FNQ must be c-commanded by its associate. The same generalization also holds in the distribution of depictive secondary predicates (DSPs). Subjects and objects can license a DSP while a complement of a postposition cannot, as (13) illustrates.

- (13) a. John-ga sakana-o namade tabeta.
 John-NOM fish-ACC raw ate.
 ‘John ate a fish raw.’
 b. John-ga deesuizyootaide uta-o utatta.
 John-NOM dead.drunk song-ACC sung
 ‘John sung a song dead-drunk.’
 c. *John-ga [pp [kuruma] de] tyuukode kita.
 John-NOM car by second.hand came
 ‘John came by a car used.’

The following unacceptable sentences, in which associated NPs are possessor NPs, also fall under this generalization:⁵

- (14) a. *John-ga [[tomodati-no] kuruma]-o 3-nin nori-mawasita.
 John-NOM friends-GEN car-ACC 3-CL drove-around
 ‘John drove his three friends’ car around.’
 b. *John-ga [[gakusei-no] tukue]-o 3-nin katta.
 John-NOM students-GEN desks-ACC 3-CL bought.
 ‘John bought three students’ desks.’
 c. *John-ga [[kodomotati-no] omotya]-o 3-nin kowasita.
 John-NOM children-GEN toys-ACC 3-CL broke
 ‘John broke three children’s toys.’ (Kikuchi 1994: 82)
- (15) a. *Hanako-ga [[katuo-no] hako]-o namade hakonda.
 Hanako-NOM bonito-GEN box-ACC raw carried.
 ‘Hanako carried the box of bonito raw.’

⁵ Notice that the classifier *nin* can be associated only with NPs denoting humans.

- b. *Hanako-ga [[**John**-no] tukue]-o **deesuizyootaide** tataita.
 Hanako-NOM John-GEN desk-ACC dead.drunk hit.
 ‘Hanako hit John’s desk, while he was dead-drunk.’ (Kikuchi 1994: 86)

Possessor NPs do not c-command the FNQs and DSPs since they are contained in their host NPs. Therefore, the former does not license the latter. From these data, we can conclude that the c-command condition is a necessary condition on the licensing of FNQs and DSPs.^{6, 7}

Kikuchi (1994), however, observes that a certain type of possessor NP licenses FNQs and DSPs even though the c-command condition is not satisfied, as shown in the following sentences.⁸

- (16) a. Hanako-wa [[**kodomotati**-no] tume]-o **3-nin** kitta.
 Hanako-TOP children-GEN nails-ACC 3-CL clipped
 ‘Hanako clipped three children’s nails.’
 b. Ano isya-wa [[**zidoo**-no] me]-o **30-nin** sirabeta.
 that doctor-TOP pupils-GEN eyes-ACC 30-CL examined
 ‘That doctor examined 30 pupils’ eyes.’
 c. John-ga [[**kodomotati**-no] yubi]-o **10-nin** otta.
 John-NOM children’s finger-ACC 10-CL broke
 ‘John broke ten children’s fingers.’ (Kikuchi 1994 : 82)
- (17) a. Hanako-ga [[**katuo**-no] uroko]-o **namade** kezuritotta.
 Hanako-NOM bonito-GEN scales-ACC raw stripped.away
 ‘Hanako stripped away the bonito’s scales raw.’
 b. Hanako-ga [[**John**-no] kaminoke]-o **deesuizyootaide** kitta.
 Hanako-NOM John-GEN hair-ACC dead.drunk cut
 ‘Hanako cut John’s hair dead-drunk.’ (Kikuchi 1994: 86)

⁶ The c-command condition originates from Miyagawa’s (1989) mutual c-command condition, according to which an FNQ and the associate NP or its trace must c-command each other. However, given the phrase structure standardly assumed in the current theory, the condition should be revised as in the c-command condition.

⁷ C-command is a necessary but not a sufficient condition. For example, FNQs placed between an object and a predicate cannot be associated with a subject, as can be seen in the following sentence:

- (i) ***Gakusei-ga** repooto-o **3-nin** teisyutusita.
 students-NOM report-ACC 3-CL submitted
 ‘Three students submitted the report.’

In this sentence, the subject c-commands the FNQ. However, the association between them is impossible. See e.g. Miyagawa 1989 and Nakanishi 2008 for discussion about sentences like (i).

⁸ Although the licensing possessors are all possessors of object NPs in the sentences given here, possessors of subject NPs can also license FNQs/DSPs, as we will see in section 3.2.

In (16) and (17), the possessors are contained in the host NPs; they are not outside the host NPs. This is confirmed by the following facts. First, the genitive marker *-no* in Japanese can be assigned only to elements that are internal to an NP in the overt syntax (see section 3.1 for a discussion about Japanese genitive). Thus, genitive-marked elements cannot undergo scrambling and appear outside the host NP, as illustrated in (18).

- (18) a. Hanako-ga [**kodomotati-no** tume]-o kitta.
Hanako-NOM children-GEN nail-ACC clipped
'Hanako clipped children's nails.'
- b. ***Kodomotati-no** Hanako-ga [tume]-o kitta.
children-GEN Hanako-NOM nails-ACC clipped
'Hanako clipped children's nails.'

Furthermore, the fact that a matrix adverb cannot intervene between possessors and host Ns indicates that the possessors in (16) and (17) are inside the host NPs. This is illustrated in the following sentences:

- (19) a. *Hanako-wa **kodomotati-no** kinou tume-o 3-nin kitta.
Hanako-TOP children-GEN yesterday nails-ACC 3-CL clipped
'Hanako clipped three children's nails yesterday.'
- b. *Ano isya-wa **zidoo-no** kinou me-o 30-nin sirabeta.
that doctor-TOP pupils-GEN yesterday eyes-ACC 30-CL examined
'That doctor examined 30 pupils' eyes yesterday.'
- c. *John-ga **kodomotati-no** kinou yubi-o 10-nin otta.
John-NOM children's yesterday finger-ACC 10-CL broke
'John broke ten children's fingers yesterday.'
- (20) a. *Hanako-ga **katuo-no** kinou uroko-o namade kezuritotta.
Hanako-NOM bonito-GEN yesterday scales-ACC raw stripped.away
'Hanako stripped away the bonito's scales raw yesterday.'
- b. *Hanako-ga **John-no** kinou kaminoke-o deesuizyootaide kitta.
Hanako-NOM John-GEN yesterday hair-ACC dead.drunk cut
'Hanako cut John's hair dead-drunk yesterday.'

The unacceptable sentences in (19) and (20) are different from the acceptable sentences in (16) and

(17) only in that the adverb *kinou* ‘yesterday’ is placed between the possessor NPs and the host Ns in the former. If the possessors were outside the host NPs, it is unclear why the matrix adverbs are not allowed to intervene between them. For example, an adverb can intervene between a dative argument and an accusative argument, as (21) shows.

- (21) Hanako-ga kodomotati-ni *kinou* ringo-o ageta.
 Hanako-NOM children-DAT yesterday apple-ACC gave
 ‘Hanako gave apples to children yesterday.’

Therefore, (19) and (20) suggest that the possessors in (16) and (17) are internal to the host NPs.

Given that the c-command condition is a necessary condition on the licensing of FNQs and DSPs, this suggests that in (16) and (17), there are silent copies of the possessors that are outside the host NPs and the silent copies c-command the FNQs and DSPs, satisfying the c-command condition. Suppose that the silent copy of the possessor is somewhere above VP and that FNQs and DSPs are adjoined to VP. Then, the following represents the structures for the sentences in (16) and (17):

- (22) Subj *ec*₁ [_{VP} FNQ/DSP [_{VP} [_{NP} Poss₁ N] V]]

In this structure, the silent copy of the possessor (*ec*) c-commands the FNQ and the DSP. Therefore, the FNQ and the DSP are licensed by the possessor indirectly.

In this section, we have established that there is a case in which we can reasonably posit a higher silent copy of possessors. This means that the possession construction under discussion is a kind of external possession construction where the copy of the possessor external to the host NP is silent. The next question is whether this construction involves backward control or backward raising. In section 2.2, I provide an argument that it is backward control, showing that the availability of the silent copy is constrained by theta-theoretic considerations.

2.2 *Distribution of the Silent Copy: Inherent Participant Condition*

What is the difference between the cases where possessors cannot license FNQs/DSPs ((14) and (15)) and the cases where they can ((16) and (17))? Put differently, under what circumstances do possessors allow their silent copies to appear outside host NPs? Kikuchi (1994) argues that (in)alienability is a crucial factor, proposing the following condition:⁹

(23) *Inalienability Condition*

A possessor can license an FNQ and a DSP only if it enters into inalienable possession relation with its possessee.

According to Croft (1990), inalienable possession is a permanent relationship between two entities. A permanent relationship is relation that is inborn, inherent, or not conferred by purchase such as kinship and body-part (see Croft 1990 and Nichols 1988 for discussion about inalienable possession).

Given this, let us consider the unacceptable cases in (14) and (15) again. In all the sentences, the relationship between the possessors and the possessee is not inalienable in the sense defined above. For example, in (14a), the relationship between friends and their cars is not inborn or inherent. Thus, all the sentences violate the inalienability condition.

In contrast, the acceptable sentences in (16) and (17) satisfy this condition. The inborn and inherent relationship holds between children and their nails, pupils and their eyes, and children

⁹ Actually, he observes that an inalienable possessor licenses not only an FNQ and a DSP but also an anaphor. However, I only adopt data with an FNQ and a DSP since data with an anaphor that he uses are much less clear than he claims that they are.

He also argues that not only inalienable possessors but also genitive-marked arguments of event nominals license an FNQ and a DSP, as shown in the following examples:

- (i) a. Ano daigaku-ga [ryuugakusei-no ukeire]-o 30-nin kotowatta.
that university-NOM foreign.student-GEN acceptance-ACC 30-CL refused
'That university refused the acceptance of 30 foreign students.' (Kikuchi 1994:83)
- b. John-ga [kuruma-no koonyuu]-o tyuukode kimeta.
John-NOM car-GEN purchase-ACC second.hand decided
'John decided purchase of a car used.' (Kikuchi 1994:86)

However, as I will discuss in section 7, there is evidence that it is the event nominals themselves rather than the genitive-marked arguments that license the FNQ and the DSP in examples like these.

and their fingers, and so on. Therefore, these sentences are consistent with the inalienability condition.¹⁰

If the inalienability condition is correct, then, this means that the silent copy of a possessor is allowed to appear outside the host NPs only if the possessor is inalienable. The crucial factor is the relationship between possessors and possesseees. However, I argue that this is not the case. This is based on the novel observation that the inalienability condition is neither a sufficient nor necessary condition: there are examples in which an inalienable possessor fails to license an FNQ and a DSP and an alienable possessor licenses an FNQ and a DSP. For example, in the sentences in (24) and (25), the possessors cannot license the FNQ and the DSP even if they are inalienable possessors.

- (24) a. *John-ga [**kodomotati**-no tume]-o **3-nin** hirotta.
 JohnNOM children-GEN nails-ACC 3-CL picked.up
 ‘John picked up three children’s nails.’
- b. ***[Kodomotati]**-no kami]-ga **3-nin** (yuka-ni) otiteiru.
 children-GEN hair-NOM 3-CL floor-on
 ‘Three children’s hair is on the floor.’
- (25) a. *Mary-ga [**John**-no tume]-o **deesuizyootaide** hirotta.
 Mary-NOM John-GEN nails-ACC dead.drunk picked.up
 ‘Mary picked up John’s nails while he was dead-drunk.’
- b. ***[John]**-no kami]-ga **deesuizyootaide** (yuka-ni) otiteiru.
 John-GEN hair-NOM dead.drunk floor-on
 ‘John’s hair is on the floor while he is dead-drunk.’

An inherent or inborn relationship holds between body parts like nails and hair and their possessors. Thus, the possessors in these sentences are inalienable possessors. In spite of this, these possessors cannot license an FNQ and a DSP. This indicates that the inalienability is not a sufficient condition.

The following examples show that there is a case in which an alienable possessor can license an FNQ and a DSP:

¹⁰ Kikuchi (1994) proposes a backward raising analysis (LF A-movement analysis) to account for the inalienability condition. I will not review his analysis because I will argue that his generalization is not correct in the first place. Ogawa (2001) also provide an analysis of this construction. However, his analysis is based on Kikuchi’s (1994) generalization.

- (26) John-ga [yopparai-no fuku]-o 3-nin nugaseta.
 John-NOM drunks-GEN clothes-ACC 3-CL took.off
 ‘John took off three drunks’ clothes.’
- (27) Mary-ga [John-no fuku]-o deesuizyootaide nugaseta.
 Mary-NOM John-GEN clothes-ACC dead.drunk took.off
 ‘Mary took off John’s clothes while he was dead-drunk.’

The possession relationship between clothes and a person who wears them is neither inherent nor inborn. Thus, *yopparai* ‘drunks’ in (26) and *John* in (27) are not inalienable possessors and the fact that these sentences are acceptable indicates that the inalienability is not a necessary condition.

Therefore, (in)alienability cannot be the crucial factor. What then is the crucial factor? I argue that this is inherent participation, proposing the following condition:

(28) *Inherent Participant Condition (IPC)*

A possessor licenses an FNQ and a DSP only if it refers to an inherent participant in the event described by the predicate that takes the possessee as its argument.

- (29) x is an inherent participant in an event e if and only if the participation of x in e is necessary for the realization of e .

All the arguments such as Agent and Theme are inherent participants. Thus, the inherent participant is the most general argumental theta-role. Besides arguments, some possessors are also inherent participants. For example, consider the events described by the following sentences:

- (30) a. Mary hit John’s face.
 b. Mary destroyed John’s car.

John in (30a) is an inherent participant in the event of hitting his face because the hitting-the-face event cannot be realized if the possessor of the face does not participate in the event. On the other hand, *John* in (30b) is not an inherent participant in the event of destroying his car since the owner of the car does not have to participate in the destroying-the-car event in order to realize the event.

Given this notion of inherent participation, let us see how the IPC in (28) can capture the data that we have seen so far. In the acceptable cases like (16a), repeated here as (31), it is necessary that the possessor *kodomotati* ‘children’ participates in the event of clipping their nails. It is impossible that the children’s nails are clipped if they do not participate in the event.¹¹

- (31) Hanako-wa [[**kodomotati**-no] tume]-o **3-nin** kitta.
 Hanako-TOP children-GEN nails-ACC 3-CL clipped
 ‘Hanako clipped three children’s nails.’

On the other hand, in the unacceptable cases, say, (14a), repeated here as (32), the possessor *tomodati* ‘friends’ does not have to participate in the event of driving their cars in order to realize the event.

- (32) *John-ga [[**tomodati**-no] kuruma]-o **3-nin** nori-mawasita.
 John-NOM friends-GEN car-ACC 3-CL drove-around
 ‘John drove his three friends’ car around.’

Furthermore, the unacceptable sentences in which the possessors enter into the inalienable possession relation with their possessee fall under this condition. In (24a), repeated as (33a), *kodomotati* ‘children’ does not have to participate in the event of picking up their nails. Likewise, in (24b), repeated as (33b), *kodomotati* ‘children’ does not refer to an inherent participant in the event of their hair being on the floor.

- (33) a. *John-ga [**kodomotati**-no tume]-o **3-nin** hirotta.
 JohnNOM children-GEN nails-ACC 3-CL picked.up
 ‘John picked up three children’s nails.’
 b. *[**Kodomotati**-no kami]-ga **3-nin** (yuka-ni) otiteiru.
 children-GEN hair-NOM 3-CL floor-on
 ‘Three children’s hair is on the floor.’

¹¹ Of course, the children do not have to participate in the event if the nails that are clipped have already been detached from them at the time when they are clipped. However, in a situation like this, the sentence in (31) is unacceptable.

Therefore, the crucial factor is not the relationship between a possessor and a possessee but that between a possessor and the main clause predicate. The following sentences, which are minimal pairs of (26) and (27), illustrate this in an obvious way:

- (34) a. *John-ga [yopparai-no fuku]-o 3-nin tatanda.
 John-NOM drunks-GEN clothes-ACC 3-CL folded
 ‘John folded three drunks’ clothes.’
 b. *John-ga [yopparai-no fuku]-o deesuizyootaide tatanda.
 John-NOM drunks-GEN clothes-ACC dead.drunk folded
 ‘John folded drunks’ clothes while they were dead-drunk.’

These sentences are different from (26) and (27) only in the main verbs. It is not necessary that drunks participate in the event of folding their clothes in order to realize the event. Thus, these unacceptable sentences do not satisfy the IPC. In contrast, the sentences in (26) and (27) satisfy the IPC. The participation of a person who wears clothes is necessary to realize the event of taking off their clothes. Thus, the contrast between these minimally different sentences is accommodated under the IPC. On the other hand, the inalienability condition expects that the sentences in (26), (27), (34a), and (34b) are all unacceptable because the possessors in these sentences are all alienable ones. Given these considerations, I conclude that the IPC is a more accurate generalization of the distribution of the silent copy of possessors than the inalienability condition.¹²

¹² A reviewer points out that it is not clear what “necessary for the realization of *e*” means in the definition of an inherent participant in (29) and provide as an unclear case an example like the following:

- (i) *John-wa [tomodati-no kinko]-o 3-nin aketa.
 John-TOP friends-GEN safe.deposit.bboxes-ACC 3-CL opened
 ‘John opened three friends’ safe deposit boxes.’

The reviewer argues that the friends should be an inherent participant in (i) under the context in which only the owners of the safe deposit boxes (the friends) have keys to the safe deposit boxes since John cannot open the safe deposit boxes without the friends’ help. However, the participation of the friends in this event is not necessary for the realization of this event in terms of the usual definition of necessity. I give the definition of necessity for the realization of an event in (ii).

- (ii) The participation of *x* in an event *e* is necessary for the realization of *e* in a world *w*₀ if and only if for all possible worlds *w*_i that is accessible from *w*₀, *p* is a participant in *e* in *w*_i.

Before closing this section, let us consider another plausible alternative to the IPC. It has often been argued in the literature that affectedness is a crucial notion in EPCs (Shibatani 1994, Yoon 1989; See also Payne and Barshi 1999). Thus, one might argue that a generalization like (35) can be an alternative to the IPC.

- (35) A possessor can license an FNQ and a DSP only if it refers to an affectee in the event described by the predicate that takes the possessee as its argument.

Indeed, most of the data that we have seen so far could be accommodated under this generalization. However, I do not adopt this alternative in this article for two reasons. First of all, the notion of affectedness is vague and not explicitly defined. As far as I know, no one has given an explicit, formal definition to this notion. I believe that at the least, inherent participation is much less vague than affectedness.

Second, there are counterexamples to (35), which can be accommodated under the IPC. Verbs like *examine* and *see* can be considered typical instances of non-affecting predicates. In spite of this, the following sentences are acceptable:

- (36) a. Ano isya-wa [zidoo-no me]-o 30-nin/koohunzyootaide sirabeta.
that doctor-TOP pupils-GEN eyes-ACC 30-CL/excited examined
'That doctor examined 30 pupils' eyes.'/'That doctor examined pupils' eyes while they were excited.'
- b. John-ga [kawaii onnanoko-no usirosugata]-o 3-nin/deesuizyootaide mita.
John-NOM cute girl-GEN back-ACC 3-CL/dead.drunk saw
'John saw three cute girls' backs.'/'John saw cute girls' backs while they were dead-drunk.'

It is not clear at all how we can define affectedness in order to accommodate these data under (35).

On the other hand, the possessors in (36) can be clearly considered inherent participants: the pupils

Under this definition, the friends in (i) does not have to participate in the event of opening their safe deposit boxes for the realization of this event since John could open the safe deposit boxes by breaking them without the keys. Therefore, the possessor in (i) is not an inherent participant.

must participate in the examining-their-eyes event in order to realize this event and the girls must participate in the seeing-their-backs event in order to realize this event. Thus, these data fall under the IPC.¹³

3. Explanation

In section 2, we saw that some possessors in Japanese allow their silent copies to appear outside the host NPs and that the availability of the silent copy depends on whether the referent of the possessor can be an inherent participant of the event described by the predicate that takes the possessee as its argument. Suppose that the inherent participant is a theta-role. Then, these observations suggest that the possession construction under discussion is a backward control EPC. In this section, I provide an explicit analysis of this construction.

¹³ As a reviewer points out, another plausible alternative could be based on the notion of metonymy. Metonymy is exemplified by the following example:

- (i) Isha-ga kanja-o kitta.
doctoer-NOM patient-ACC cut
(intended) ‘The doctor cut the patient’s body part.’

In this example, the object is *kanja* ‘patient’. However, its intended meaning is that the doctor cut the patient’s body part. Under such an environment, an FNQ can be licensed by a possessor as shown in the following:

- (ii) Isha-ga kanja-no asi-o 3-nin kitta.
doctor-NOM patient-GEN leg-ACC 3-CL cut
‘The doctor cut three patient’s leg.’

Given this, one might argue that an FNQ/DSP can be licensed by a possessor only if a metonymic interpretation is possible. Although this alternative has broader empirical coverage than the Inalienable Condition and the Affectee Condition, sentences like (16c), repeated below as (iiib), do not fall under this condition.

- (iii) a. #John-ga kodomotati-o otta.
John-NOM children-ACC broke
(intended) ‘John broke children’s body parts.’
b. John-ga kodomotati-no yubi-o 10-nin otta.
John-NOM children-GEN fingers-ACC 10-CL broke
‘John broke ten children’s fingers.’

A sentence like (iiia) does not have a metonymic interpretation while an FNQ is licensed by a possessor, as shown in (iiib). I thank the reviewer for bringing this alternative to my attention and for providing the relevant examples.

3.1 Backward Control Analysis

First, I adopt the Movement Theory of Control (MTC), in which control constructions are derived by movement to a thematic position. This is because backward control constructions are hard to analyze under PRO-based analyses, which are the major alternative to the MTC. In addition to this, a proposal in the next section heavily relies on the MTC. Under the MTC, backward control EPCs are analyzed as involving movement of a possessor out of its host NP to a theta-position in the matrix clause, followed by deletion of the higher copy of the possessor.¹⁴

The second assumption is concerned with the status of the genitive marker in Japanese. One might argue that movement of a possessor NP out of its host NP should be ruled out since a possessor NP is Case-marked within the host NP (it is marked with genitive). This argument presupposes that the genitive marker in Japanese, *-no*, is an abstract Case. However, this is not necessarily the case. I assume, following Bedell 1972, Fukui 1986, Murasugi 1991, and Saito 1982 among many others, that Japanese genitive marker *-no* is not a realization of an abstract Case assigned by a functional category but a morphological case that is inserted by the *no*-Insertion Rule in (37) in the morphological (or phonological) component ((37) is a revised version of the *no*-Insertion Rule proposed by Murasugi 1991).^{15,16}

- (37) In the environment $[\alpha \dots \beta \dots]$, adjoin *-no* to β where
- a. α is a nominal projection, and
 - b. β is an immediate constituent of α , and

¹⁴As a reviewer and Yusuke Imanishi point out, a possible alternative is an LF movement-to-a-theta-position-analysis. Under this analysis, backward control EPCs are derived by moving a possessor to a theta-position in the matrix clause at LF. I do not compare such an alternative with the present analysis because these two are almost notational variants especially under the single cycle model. It is difficult, if not impossible, to tease apart these two analyses on an empirical basis. Furthermore, in some cases, we have to assume that the relevant movement takes place in overt syntax, as we will see in section 4.2.

¹⁵An alternative is the assumption that the genitive marker *-no* is a realization of inherent (or quirky) case. This assumption is also compatible with the present analysis where a possessor NP (A-)moves out of its host NP because it is well-known from the literature on raising of quirky subjects in languages like Icelandic that NPs can A-move from an inherent case position. I do not adopt this assumption since it is conceptually odd to consider *-no* as an inherent case marker. Inherent case is a lexically determined case that is inherently related to the theta-role that the case-bearer gets. However, it is hard to consider that *-no* is a lexically determined case since *-no* is assigned to all the NPs and PPs that are immediately dominated by a nominal projection.

¹⁶I am not arguing here that genitive case is universally not an abstract Case.

- c. β is [-Tense], and
- d. The head of α follows β .

This assumption is supported by the fact that in Japanese, a PP as well as an NP must be accompanied by the genitive marker when it appears within a nominal projection, as (38) shows.

- (38) [NP [NP Taro]*(-no) [N' [PP Mary e]*(-no) tegami]]
 Taro-GEN Mary to-GEN letter
 ‘John’s letter to Mary’

In (38), *-no* is attached to the PP *Mary e* ‘to Mary’ as well as the NP *Taro* because both NPs and PPs are [-Tense].¹⁷ Under the assumption that *-no* is the abstract Case, however, it is a mystery why a PP has to be attached by the genitive marker (see Murasugi 1991 for other arguments for the *no*-Insertion Rule). On the other hand, this is accounted for if *-no* is morphological case that is assigned to any elements that satisfy the condition in (37).

If *-no* is not the abstract Case, there is nothing in principle to rule out movement of a possessor out of its host NP because a possessor is Case-less at the point where movement applies to it. I assume that the genitive marker *-no* that is assigned by the *no*-Insertion rule is a kind of morphological case that is post-syntactic.

An important consequence of this assumption is that the Case filter is a PF constraint, as in its original formulation in Chomsky 1980 (see Lasnik 2008). This is because all NPs marked with *-no* would violate the Case filter if it were a syntactic constraint or an LF constraint. For example, in (38), the possessor *Taro-no* is Case-less in syntax and at the LF interface. On the other hand, if the Case filter is a PF constraint, the Case-less possessor in syntax is saved because it is assigned *-no* by the *no*-Insertion Rule at PF or morphological component. Therefore, it is necessary under this analysis of *-no* to assume that the Case filter is a PF constraint. The Case filter as a PF constraint, however, appears to be incompatible with the most popular approach to Case-marking, that is, a feature checking approach. According to this approach, NPs have uninterpretable Case features,

¹⁷In contrast, neither adjectives nor relative clauses are attached by *-no* since they are [+Tense]. Note that in Japanese, adjectives can be marked with tense when they modify nouns.

which lead the derivation to a crash at the LF and the PF interfaces because they are illegible for these interfaces. A crash at the interfaces can be avoided if Case features are checked (and/or valued) by an appropriate functional head in syntax. Under this approach, however, an LF crash is unavoidable even if *Taro* in (38) is assigned *-no* by the *no*-Insertion Rule at the PF interface. One way of reconciling the Case filter as a PF constraint with the feature checking approach is to assume that Spell-Out strips away from the representation the Case features along with the phonological features. Under this assumption, Case-less NPs (i.e. NPs with unchecked Case features) matter only at the PF interface, and require that the Case filter be a PF constraint.¹⁸

Third, I assume that the possession construction under discussion involves a high applicative projection between *vP* and *VP*. This is a plausible assumption as there are many languages in which an overt applicative morpheme appears in external possession constructions (see Payne and Barshi 1999). I assume that the applicative morpheme is covert in Japanese. This covert high applicative head, $\text{Appl}_{\text{InPart}}$, assigns the inherent participant theta-role to its specifier.¹⁹ In particular, I propose the following semantics for $\text{Appl}_{\text{InPart}}$:

$$(39) \quad \llbracket \text{Appl}_{\text{InPart}} \rrbracket = \lambda x_{\langle e \rangle}. \lambda e_{\langle s \rangle}. \text{InPart}(e) \ni x$$

$\text{Appl}_{\text{InPart}}$, like *v* and other high applicative heads, denotes a relation between an event and an individual and is combined with *VP* via Kratzer's Event Identification.²⁰ The predicate *InPart* in (39) is a partial function that takes an event and turns it into a set of individuals whose members are inherent participants in the event.

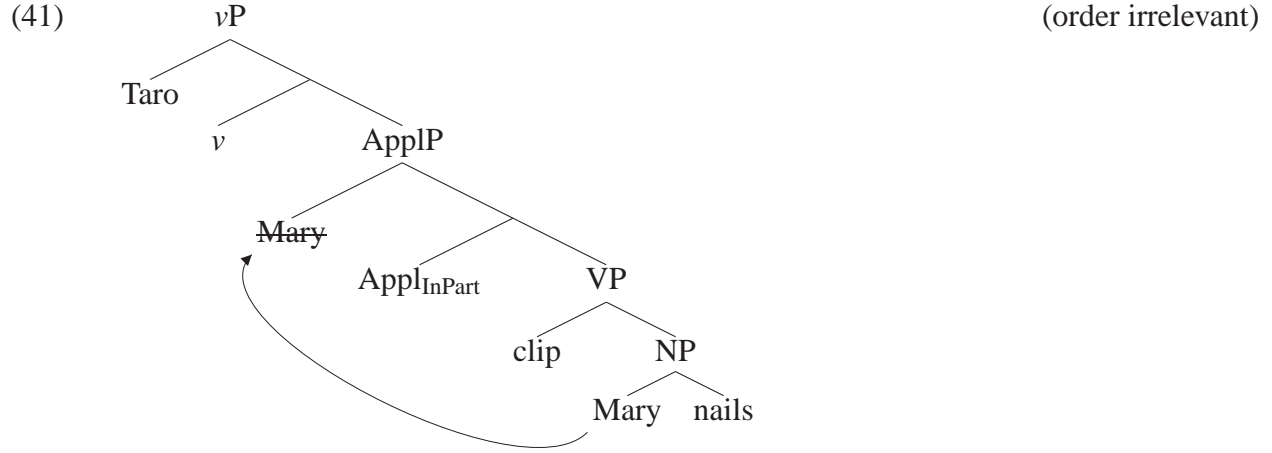
Given a syntax and semantics like this, a sentence like (40) can be derived as in (41).

- (40) Taro-ga Mary-no tume-o kitta.
 Taro-NOM Mary-GEN nails-ACC clipped
 'Taro clipped Mary's nails.'

¹⁸I thank Masahiko Takahashi for suggesting this possibility to me.

¹⁹ Different languages have different high applicative heads that assign different theta-roles such as benefactive, instrumental, or locative. See Pylkkänen 2002.

²⁰ Event Identification (Kratzer 1996:122): $f_{\langle e, \langle s, t \rangle \rangle} g_{\langle s, t \rangle} \rightarrow \lambda x_{\langle e \rangle}. \lambda e_{\langle s \rangle}. f(x)(e) \ \& \ g(e)$



In this derivation, the possessor *Mary* moves to Spec, ApplP.²¹ At PF, the higher copy of *Mary* is deleted. *-no* is inserted to the original (i.e. lower) copy of *Mary* by the *no*-Insertion Rule. In section 4, I will discuss the question of how deletion of the higher copy is possible in this case.²²

The compositional semantics for this sentence based on neo-Devidsonian event semantics is provided in (42).

- (42)
- a. $\llbracket \text{NP} \rrbracket = \text{Mary's nails}$
 - b. $\llbracket \text{VP} \rrbracket = \lambda e_{\langle s \rangle}. \text{Clip}(e) \ \& \ \text{Theme}(e) = \text{Mary's nails. (by Functional Application)}$
 - c. $\llbracket \text{Appl}_{\text{InPart}} \rrbracket = \lambda x_{\langle e \rangle}. \lambda e_{\langle s \rangle}. \text{InPart}(e) \ni x.$
 - d. $\llbracket \text{Appl}_{\text{InPart}} + \text{VP} \rrbracket = \lambda x_{\langle e \rangle}. \lambda e_{\langle s \rangle}. \text{Clip}(e) \ \& \ \text{Theme}(e) = \text{Mary's nails} \ \& \ \text{InPart}(e) \ni x.$
(by Event Identification)
 - e. $\llbracket \text{ApplP} \rrbracket = \lambda e_{\langle s \rangle}. \text{Clip}(e) \ \& \ \text{Theme}(e) = \text{Mary's nails} \ \& \ \text{InPart}(e) \ni \text{Mary (by Functional Application)}$
 - f. $\llbracket v \rrbracket = \lambda x_{\langle e \rangle}. \lambda e_{\langle s \rangle}. \text{Agent}(e) = x.$
 - g. $\llbracket v + \text{ApplP} \rrbracket = \lambda x_{\langle e \rangle}. \lambda e_{\langle s \rangle}. \text{Clip}(e) \ \& \ \text{Agent}(e) = x \ \& \ \text{Theme}(e) = \text{Mary's nails} \ \&$

²¹ One might wonder if this derivation would violate the Merge over Move principle (see Chomsky 2000) since the possessor *Mary* moves to Spec, ApplP even if *Taro* could be merged there. This movement, however, does not violate the Merge over Move principle if we assume, following McGinnis (2003), that the sister of VP ($\text{ApplP}_{\text{InPart}}$ in this case) heads a phase if an argument is generated in its specifier. Suppose, following Chomsky (2000), that a lexical array, from which the computational system selects a lexical item, is constructed phase by phase. Then, at the point of the derivation where the ApplP is completed, the lexical array does not contain the subject *Taro*. Therefore, there is no option to merge *Taro* at Spec, ApplP at this point. As a result, the Merge over Move principle does not prohibit the possessor *Mary* from moving to Spec, ApplP.

²² I postpone discussion of how the object NP can get accusative case in this construction (i.e. whether the accusative case assigner for the object is *v* or $\text{Appl}_{\text{InPart}}$) until section 4.

$\text{InPart}(e) \ni \text{Mary}$. (by Event Identification)

h. $\llbracket \nu P \rrbracket = \lambda e_{\langle s \rangle}. \text{Clip}(e) \ \& \ \text{Agent}(e) = \text{Taro} \ \& \ \text{Theme}(e) = \text{Mary's nails} \ \& \ \text{InPart}(e) \ni \text{Mary}$. (by Functional Application)

i. $\llbracket \text{TP} \rrbracket = 1$ iff $\exists e[\text{Clip}(e) \ \& \ \text{Agent}(e) = \text{Taro} \ \& \ \text{Theme}(e) = \text{Mary's nails} \ \& \ \text{InPart}(e) \ni \text{Mary}]$. (by Existential Closure)

It is natural to interpret the possessor *Mary* in this sentence as the inalienable possessor of the nails. This sentence is felicitous under this natural interpretation of the possessor. This is because possessors of nails are inherent participants in the event of clipping their nails. Thus, the possessor *Mary* can move to Spec, ApplP in this sentence under the natural interpretation of *Mary*.

The same holds for a sentence like (43), where a possessor is not an inalienable possessor but an inherent participant.

(43) Taro-ga Mary-no fuku-o nugaseta.
Taro-NOM Mary-GEN clothes-ACC took.off
'Taro took off Mary's clothes.'

(44) $\exists e[\text{Take.off}(e) \ \& \ \text{Agent}(e) = \text{Taro} \ \& \ \text{Theme}(e) = \text{Mary's clothes} \ \& \ \text{InPart}(e) \ni \text{Mary}]$

A natural interpretation for the possessor *Mary* in this sentence is that of a person who wears the clothes. Under this interpretation, *Mary* is an inherent participant in the event of taking off her clothes, and this sentence is in turn felicitous.

On the other hand, sentences like (45), where the possessor is hard to interpret as an inherent participant, yield an anomalous interpretation of the possessor if the possessor moves to Spec, ApplP.

(45) Taro-ga Mary-no kuruma-o kowasita.
Taro-NOM Mary-GEN car-ACC broke
'Taro broke Mary's car.'

(46) $\exists e[\text{Break}(e) \ \& \ \text{Agent}(e) = \text{Taro} \ \& \ \text{Theme}(e) = \text{Mary's car} \ \& \ \text{InPart}(e) \ni \text{Mary}]$

Under a natural interpretation, the possessor *Mary* is the owner of the car. However, this interpretation is not available in this derivation because an owner of a car cannot be an inherent participant in the event of breaking the car. We have to interpret the possessor *Mary* such that the car is part of her. Only under this hard-to-imagine situation does it hold that *Mary* is an inherent participant in this event. In short, only under an anomalous interpretation of *Mary* is the backward control derivation available for (45).

Suppose that an FNQ and a DSP are VP adjuncts and can be adjoined to VPs (or anywhere below Spec, ApplP).²³ Then, we can explain the IPC (i.e. why only inherent participant possessor NPs can license an FNQ/a DSP). As we saw above, inherent participant possessor NPs can move to Spec, ApplP under a natural interpretation of the possessors. Therefore, the deleted copies in Spec, ApplP can c-command an FNQ/a DSP, satisfying the c-command condition. This is illustrated in the following:

- (47) a. Hanako-ga [[kodomotati-no] tume]-o 3-nin kitta.
 Hanako-NOM children-GEN nails-ACC 3-CL clipped
 ‘Hanako clipped three children’s nails.’
 b. Hanako-NOM [_{ApplP} ~~children~~ [_{VP} 3-CL [_{VP} [_{NP} children-*no* nails] clipped]]]
- (48) a. Hanako-ga kodomotati-no fuku-o 3-nin nugaseta.
 Hanako-NOM children-GEN clothes-ACC 3-CL took.off
 ‘Hanako took off three children’s clothes.’
 b. Hanako-NOM [_{ApplP} ~~children~~ [_{VP} 3-CL [_{VP} [_{NP} children-*no* clothes] took.off]]]

On the other hand, if the possessor that is hard to interpret as an inherent participant moves to Spec, ApplP, an anomalous interpretation of the possessor results, where *kuruma* ‘cars’ is part of *tomodati* ‘friends’.

- (49) a. *Hanako-ga [[tomodati-no] kuruma]-o 3-nin kowasita.
 Hanako-NOM friends-GEN cars-ACC 3-CL broke

²³This is not a crucial assumption, though. The stranding analysis of FNQs and Pytkäinen’s (2002) analysis of DSPs are also compatible with the proposed analysis of the backward control EPC in Japanese. I adopt the VP adjunct analysis of FNQs and DSPs just for simplicity.

‘Hanako broke three friends’ cars.’

- b. #Hanako [_{ApplP} ~~friends~~ [_{VP} 3-CL [_{VP} [_{NP} friends-*no* cars] broke]]]

In fact, it seems that this sentence is acceptable under this hard-to-imagine interpretation. For example, imagine the situation in which Hanako has three friends who are cyborgs whose lower bodies are replaced by wheels and Hanako broke the wheels of these cyborg friends. Under this scenario, sentence (49a) is acceptable. Thus, the unacceptability of this sentence under the backward control derivation is similar to the following sentence:²⁴

- (50) #The book bit John.

This sentence sounds odd because the inanimate entity *the book* gets an Agent theta-role that forces an animate interpretation on the bearer of this theta-role.

Furthermore, in another possible derivation for (49a) in which there is no ApplP as shown in (51), the c-command condition is violated.

- (51) *Hanako [_{VP} 3-CL [_{VP} [_{NP} friends-*no* cars] drove.around]]

This is why possessors cannot license an FNQ or a DSP when they cannot be naturally interpreted as inherent participants in the matrix event: one of the two possible derivations is unacceptable because it leads to an anomalous interpretation of the possessors and the other possible derivation is ruled out by the c-command condition.

In this way, the backward control analysis can explain the IPC. The next question is why the original copy rather than the higher copy can be pronounced unlike usual cases. In section 4, I will attempt to answer this question.

²⁴ Therefore, to be precise, I should put # rather than * to (49a) and other similar sentences.

3.2 *Asymmetry between Internal Arguments and External Arguments*

Before turning to the question of copy pronunciation, I would like to consider a prediction that the present analysis makes:²⁵

- (52) Possessors of unaccusative/passive subjects can license an FNQ and a DSP while possessors of unergative/transitive subjects cannot.

Note that ApplP is above VP but below *v*P. Given that lowering is prohibited in syntax, then, it follows that possessors of unaccusative/passive subjects can move to Spec, ApplP while possessors of unergative/transitive subjects cannot. This is so because derived subjects like unaccusative/passive subjects are base-generated within VPs while transitive/unergative subjects are base-generated at Spec, *v*P (Perlmutter 1978, Burzio 1986, and Hale and Keyser 2003 among many others). As such, movement out of transitive/unergative subjects to Spec, ApplP is inevitably lowering movement while movement out of derived subjects is not, as illustrated in the following.²⁶

- (53) a. [ApplP Poss ApplInPart [VP V [NP POSS N]]]
 ↑
 b. *[_vP [NP POSS N] v [ApplP Poss ApplInPart [VP ...]]] (order irrelevant)
 ↑

Suppose that moving to Spec, ApplP is the only way for possessors to c-command the VP-adjoined position. Then, the prediction in (52) follows. This prediction is indeed borne out. As (54) and (55) show, possessors of unaccusative subjects can license an FNQ and a DSP when they are inherent participants. This means that these possessors can move to Spec, ApplP.

- (54) a. *[[**Tomodati**-no] turizao]-ga **3-nin** oreta.
 friends-GEN fishing.rods-NOM 3-CL broke
 ‘Three friends’ fishing rods broke.’

²⁵I thank Mamoru Saito for bringing my attention to this prediction.

²⁶This is reminiscent of Belletti and Rizzi’s (1981) analysis of *ne*-cliticization in Italian. They explain the fact that *ne*-cliticization out of objects is allowed while *ne*-cliticization out of (preverbal) subjects is not, by saying that in the latter case, unlike in the former case, *ne* has to move to a non-c-commanding position, which they argue is ruled out by the proper binding condition.

- b. [[**Tomodati**-no] ude]-ga **3-nin** oreta.
 friends-GEN arms-NOM 3-CL broke
 ‘Three friends’ arms broke.’ (Kikuchi 1994 : 84)
- (55) a. *[[**John**-no] turizao]-ga **deesuizyootaide** oreta.
 John-GEN fishing.rod-NOM dead.drunk broke
 ‘John’s fishing rod broke while he was dead-drunk.’
- b. [[**John**-no] ude]-ga **deesuizyootaide** oreta.
 John-GEN arm-NOM dead.drunk broke
 ‘John’s arm broke while he was dead-drunk.’

The same holds for possessors of passive subjects, as indicated in (56).²⁷

- (56) a. *[[**Tomodati**-no] turizao]-ga **3-nin/deesuizyootaide** or-are-ta.
 friend-GEN fishing.rods-NOM 3-CL/dead.drunk break-PASS-PAST
 ‘Three friends’ fishing.rods were broken./The friend’s fishing rod was broken while
 he was dead-drunk.’
- b. [[**Tomodati**-no] ude]-ga **3-nin/deesuizyootaide** or-are-ta.
 friend-GEN arm-NOM 3-CL/dead.drunk break-PASS-PAST
 ‘Three friends’s arms were broken./The friend’s arm was broken while he was dead-
 drunk.’

In contrast, possessors of transitive subjects cannot license an FNQ or a DSP even if they can be inherent participants in the matrix event, as (57) shows.

- (57) a. *[[**Heisi**-no] reedaa]-ga **3-nin/deesuizyootaide** tekki-o toraeta.
 soldier-GEN radar-NOM 3-CL/dead.drunk enemy.aircraft-ACC caught
 ‘The three solders’ radars caught an enemy aircraft./The solder’s radar caught an
 enemy aircraft while he was dead-drunk.’
- b. *[[**Heisi**-no] me]-ga **3-nin/deesuizyootaide** tekki-o toraeta.
 soldier-GEN eye-NOM 3-CL/dead.drunk enemy.aircraft-ACC caught
 ‘The three solders’ eyes caught an enemy aircraft./The solder’s eyes caught an enemy
 aircraft while he was dead-drunk.’

²⁷ Actually, (54b), (55b), and (56b) are not perfect. However, the important point is that there is a contrast between these examples and (54a), (55a), and (56a).

As (58) illustrates, possessors of unergative subjects, like those of transitive subjects, cannot license an FNQ or a DSP whether they are inherent participants or not, as the present analysis expects.^{28 29}

²⁸ I thank Masahiko Takahashi for helping me construct these examples.

²⁹ One might be concerned as to whether the verb *kagayaku* ‘shine’ is really unergative. In order to test this, I examine its possible interpretations when combined with the auxiliary verb *teiru* and the excessive marker *sugi*.

Takezawa (1991) observes that in Japanese, unergative verbs and unaccusative verbs yield different interpretations when an auxiliary verb *teiru* is attached to them. This is illustrated by the following pair of sentences:

- (i) a. Taro-ga hasit-**teiru**.
Taro-NOM run-TEIRU.PRES
‘Taro is running.’
b. Koppu-ga koware-**teiru**.
cup-NOM break-TEIRU.PRES
‘The cup has been broken.’

hasiru ‘run’ is a typical unergative verb. As (ia) shows, when *teiru* is attached to *hasiru*, the sentence has the progressive reading. On the other hand, when *teiru* is attached to a typical unaccusative verb like *kowareru* ‘break’, the sentence has the resultative reading, as indicated by (ib).

Given this diagnostic, the verb *kagayaku* ‘shine’ is diagnosed to be an unergative verb since it yields the progressive reading when *teiru* is attached to it, as (ii) shows.

- (ii) Taro-no me-ga kagayai-**teiru**.
Taro-GEN eyes-NOM shine-TEIRU.PRES
‘Taro’s eyes are shining.’

Kikuchi (2001) observes that the excessive marker *sugi* yields different interpretations depending on whether it combines with an unaccusative verb or an unergative verb. When *sugi* combines with an unaccusative verb like *hairu* ‘enter’, the sentence is ambiguous between a repetitive reading and a subject-quantitative reading, as shown in the following:

- (iii) Kodomo-ga heya-ni hairi-**sugi**-ta.
child-NOM room-DAT enter-SUGI-PAST
‘The child entered the room too much/too often.’ or ‘Too many children entered the room.’

On the other hand, when *sugi* combines with an unergative verb like *odoru* ‘dance’, only the repetitive reading is available, as the following sentence illustrates:

- (iv) Kodomo-ga odori-**sugi**-ta.
child-NOM dance-SUGI-PAST
‘The child danced too much/too often.’ but *‘Too many child danced.’

With respect to this diagnostic, *kagayaku* ‘shine’ patterns as an unergative verb. That is, it cannot yield the subject-quantitative reading when combined with *kagayaku* ‘shine’, as shown in the following sentences:

- (v) a. Kodomo-no randoseru-ga kagayaki-**sugi**-teiru.
child-GEN school.bag-NOM shine-SUGI-TEIRU.PRES
‘The child’s school bag is shining too much.’ but *‘Too many school bags of the child’s are shining.’

- (58) a. *[[**Kodomotati**-no] randoseru]-ga kurayami-de **3-nin/koohunzyootaide**
 children-GEN school.bag-NOM dark-in 3-CL/excited
 kagayai-teiru.
 shine-TEIRU.PRES
 ‘Three children’s school bags are shining in the dark./The children’s school bags are
 shining in the dark while they are excited.’
- b. *[[**Kodomotati**-no] me]-ga kurayami-de **3-nin/koohunzyootaide**
 children-GEN eyes-NOM dark-in 3-CL/excited
 kagayai-teiru.
 shine-TEIRU.PRES
 ‘Three children’s eyes are shining in the dark./The children’s eyes are shining in the
 dark while they are excited.’

The unacceptability of the sentences in (58) confirms the prediction that possessors of unergative subjects cannot move to Spec, ApplP even if they are inherent participants.³⁰

4. Copy Deletion

We have seen that the backward control analysis can account for the IPC and makes a correct prediction about possessors of subjects. In this section, I would like to consider a question of why an original copy rather than a higher copy can be pronounced in the backward control EPC in Japanese.³¹ I argue that in the backward control EPC in Japanese, the choice between the higher copy and the original one to pronounce is in fact optional but the possibility of pronouncing the higher copy is masked due to a language-particular constraint (the Double-*o* Constraint). Furthermore, I show, basically following Fujii 2006 and Potsdam 2006, that the optionality in question is

- b. Kodomo-no me-ga kagayaki-**sugi**-teiru.
 child-GEN eyes-NOM shine-SUGI-TEIRU.PRES
 ‘The child’s eyes are shining too much.’ but *‘Too many eyes of the children’s are shining.’

Other verbs that are diagnosed to be unergative verbs according to these tests (e.g. *nabiiku* ‘stream’ and *ugoku* ‘move’) also pattern with *kagayaku* ‘shine’ in terms of licensing of FNQs and DSPs.

³⁰The inability of possessors of transitive/unergative subjects to license an FNQ/a DSP adds plausibility to the proposed analysis, according to which the relevant possession construction is a kind of EPC. For this is in fact a general property of EPCs, as the following quote from Payne and Barshi 1999 mentions. “Crosslinguistically, EP [(external possessors)] is preferentially associated with direct objects and/or subjects of unaccusative verbs, ⟨...⟩. The involvement of unergative subjects is attested but less common; transitive subject possessors appear to be extremely rare ⟨...⟩.” (Payne and Barshi 1999:10)

³¹I owe a debt of gratitude to Masahiko Takahashi for discussing with me the issues contained in this section.

derived from Nunes' (1995) mechanism of copy deletion (or chain reduction in his terms) if we assume that $\text{Appl}_{\text{InPart}}$ as well as v is an accusative-assigning head.

4.1 Nunes' (1995) Mechanism

Nunes (1995) proposes a mechanism to explain (a) why only a single copy in a chain can be pronounced in usual cases and (b) why the pronounced copy is usually the highest one. He derives the first property from the Liner Correspondence Axiom (Kayne 1994) although I do not go into detail about this here. More relevant to our interest here is the second property which he derives from an economy consideration: in usual cases pronouncing the higher copy is more economical than pronouncing the original copy. Crucial assumptions to deduce this are listed in (59).

- (59)
- a. Uninterpretable features of a copy are eliminated when the copy enters into a feature checking relation with a designated functional head.
 - b. Feature checking is performed through specifier-head configuration.
 - c. Unchecked uninterpretable features cause the derivation to crash at the interfaces.
 - d. At PF, unchecked uninterpretable features can be eliminated either by the copy deletion operation applying to the copy with them or by the F(ormal)F(eature)-Elimination operation targeting an individual feature.
 - e. FF-Elimination is subject to economy considerations.

To see how this works, let us consider passive sentences like (60a).

- (60)
- a. John was hit.
 - b. $\text{John}_1[\text{Case}]$ was hit $\text{John}_1[\text{Case}]$

Sentence in (60a) is derived by moving the underlying object *John* to Spec, TP, as illustrated in (60b). *John* has an uninterpretable Case feature. The Case feature of the higher copy of *John* is checked by T while that of the original copy remains unchecked. At PF, copy deletion can in principle apply either to the higher copy of *John* or to the original one. However, the derivation in

which copy deletion applies to the original copy is more economical than the derivation in which it applies to the higher copy. This is so because in the latter case, FF-Elimination must apply to the unchecked Case feature that the original copy of *John* has. In the derivation where the original copy is deleted, on the other hand, FF-Elimination does not have to apply since the unchecked Case feature of the original copy is deleted along with the deletion of the original copy. In this case, the derivation in which the original copy of *John* is deleted by copy deletion is more economical than the other derivation in terms of the number of applications of FF-Elimination. This is why the higher copy rather than the original one is pronounced in usual cases like (60a).

It follows from this mechanism that the copy with the fewest unchecked uninterpretable features must be pronounced. Given that movement is always upwards and must be driven by feature checking, it is most typical that the highest copy is pronounced because it has no unchecked uninterpretable feature in most of the cases.

4.2 Double-o Constraint

Under this system, as Fujii (2006) and Potsdam (2006) argue, if there is a case where both the higher copy and the original copy are in a case-marked position (i.e. if movement from a case position to another case position is possible), we expect that copy deletion can apply either to the higher copy or to the original copy since in that case, both the Case feature of the higher copy and that of original copy are checked. The number of unchecked uninterpretable features of the higher copy is the same as that of the original copy. Therefore, the derivation where the original copy is pronounced is equally economical as the derivation in which the higher copy is pronounced. I argue that the case of the backward control EPC in Japanese corresponds exactly to this situation.

Suppose that $\text{Appl}_{\text{InPart}}$ as well as v is an accusative-case assigning head. Then, sentences like (61) can be derived as in (62) (I ignore the subject *Hanako* and other irrelevant details for simplicity) ([C] stands for a Case feature).

- (61) Hanako-ga [Taro-no tume]-o kitta.
 Hanako-NOM Taro-GEN nails-ACC clipped
 ‘Hanako clipped Taro’s nails.’

- (62) a. [ApplP Taro-ACC_⊥ [VP [NP Taro_[C] nails]_[C] V]]
 ↑
 b. [vP [NP Taro_[C] nails]-ACC_⊥ [ApplP Taro-ACC_⊥ [VP [NP Taro_[C] nails]_[C] V]]]
 ↑
 c. [vP [NP Taro-*no*_⊥ nails]-ACC_⊥ [ApplP Taro-ACC_⊥ [VP [NP Taro-*no*_⊥ nails]_[C] V]]]
 d. [vP [NP Taro-*no*_⊥ nails]-ACC_⊥ [ApplP Taro-ACC_⊥ [VP ~~[NP Taro-*no*_⊥ nails]_[C] V]]]
 e. [vP [NP Taro-*no*_⊥ nails]-ACC_⊥ [ApplP ~~Taro-ACC_⊥~~ [VP ~~[NP Taro-*no*_⊥ nails]_[C] V]]]~~~~

In (62a), the possessor *Taro* moves to Spec, ApplP, getting the inherent participant theta-role and accusative from Appl_{InPart}. Note that *Taro* can move since it does not have its Case feature checked when it moves (Genitive case is a morphological case). In (62b), the object *Taro nails* moves to Spec, vP, getting accusative through feature checking relation with *v*.³² (62c) is the representation at the morphological component. At this point, the copies of *Taro* within the object NP are assigned *-no* by the *no*-Insertion rule, having their Case features checked. (62d) and (62e) are the PF representations. At PF, copy deletion applies to copies. As for the object NP, the higher copy at Spec, vP is pronounced and the original copy is deleted, as (62d) illustrates, since the Case feature of the higher copy is checked while that of original copy is not: the copy with the fewest unchecked uninterpretable features is pronounced. As for the possessor NP, both the copy at Spec, ApplP and the copy within the object NP have had their Case features checked. Therefore, both copies have the same status in terms of the number of unchecked uninterpretable features (i.e. both have no unchecked feature). If copy deletion applies to the accusative-marked copy at Spec, ApplP and the genitive-marked copy within the object NP is pronounced, as (62e) illustrates, a backward control EPC sentence is derived.

The reason why the original copy can be pronounced in the backward control EPC in Japanese is that both the copy at Spec, ApplP and that within the object NP are in a case-marked position. The crucial factor that makes this possible is that the original position of the possessor is not a

³² It appears that the possessor at Spec, ApplP would intervene for this movement. However, I abstract away from relativized minimality issues here because there are numbers of possible ways to circumvent a relativized minimality violation for this movement. For example, if we assume that a phase head can have an EPP-feature to make successive cyclic movement possible, the object *Taro-no nails* can move to the outer Spec, ApplP before moving to Spec, vP since ApplP is a phase, as we assumed in section 3.1. Then, the intervention effect by *Taro* at the inner Spec, ApplP can be nullified. Alternatively, we can adopt Chomsky's (1993) assumptions about equidistance, according to which *Taro* at Spec, ApplP and the object NP are equidistant from Spec, vP after V moves to Appl_{InPart}.

structural Case position where the possessor is assigned structural Case at syntax but the position where the possessor is assigned (morphological) case after syntax. If it were a structural Case position, the possessor could not move from there due to the Activity Condition (Chomsky 2001) or some other principle that prohibits movement from a structural Case position to another structural Case position.

If this analysis is correct, we would expect that copy deletion can also apply to the genitive-marked copy of the possessor within the object NP.³³ However, this prediction is not borne out, as (63) shows. If the accusative-marked copy of *Taro* is pronounced in (62), the sentence is severely degraded.

- (63) *Hanako-ga [~~Taro-no~~ tume]-o Taro-o kitta.
 Hanako-NOM Taro-GEN nails-ACC Taro-ACC clipped
 ‘Hanako clipped Taro’s nails.’

One might argue that (63) is degraded because it violates the proper binding condition (PBC; Fiengo 1977) that states that traces must be bound: *Taro-o* ‘Taro-ACC’ does not bind its “trace” (*Taro-no* ‘Taro-GEN’). However, we cannot entirely attribute the unacceptability of this sentence to the PBC since the sentence is still degraded even if *Taro-o* ‘Taro-ACC’ moves across its “trace” by scrambling, as (64) shows.

- (64) ??Hanako-ga Taro-o [~~Taro-no~~ tume]-o kitta.
 Hanako-NOM Taro-ACC Taro-GEN nails-ACC clipped
 ‘Hanako clipped Taro’s nails.’

In (64), the PBC is not violated for *Taro-o* ‘Taro-ACC’ binds *Taro-no* ‘Taro-GEN’. In spite of this, the sentence is still degraded although it is slightly better than (63). Although the contrast between (63) and (64) might be attributed to the PBC, we still need to explain why (64) is degraded.

The unacceptability of sentences like (64) is standardly accounted for by the Double-*o* Con-

³³ Another logical possibility is that copy deletion does not apply at all and both copies are pronounced. However, this is prohibited by the Linear Correspondence Axiom under Nunes’ system, as I mentioned at the beginning of section 4.1.

straint (DoC; Kuroda 1965 and Harada 1973) that prohibits multiple occurrences of accusative-marked NPs within a single verbal projection in Japanese (see Takahashi 2008 and Hiraiwa 2010).³⁴ In both (63) and (64), a verbal projection contains two accusative-marked NPs (*Taro-o* ‘Taro-ACC’ and *tune-o* ‘nails-ACC’) given that short scrambling in Japanese is movement to a periphery of a verbal projection (vP). Therefore, the unacceptability of (64) can be attributed to the DoC, which is an independently motivated language-particular constraint in Japanese.³⁵

Amelioration of the effects of a DoC violation provide evidence that in the backward control EPC in Japanese, the higher copy of the possessor at Spec, ApplP is assigned accusative Case. It is well-known that DoC effects can be ameliorated if one of the accusative-marked NPs is moved out of the verbal projection. A light-verb construction like (65) exhibits the DoC effect (Saito and Hoshi 2000).

- (65) ??Taro-ga mainiti **eigo-o** **benkyoo-o** siteiru.
 Taro-NOM everyday English-ACC study-ACC doing
 ‘Ken study English everyday.’

In (65), a verbal projection contains the two accusative-marked phrases (*eigo-o* ‘English-ACC’ and *benkyoo-o* ‘study-ACC’), violating the DoC. The following examples show that scrambling and clefting can remedy the DoC violation in a light-verb construction (Hale and Kitagawa 1976-1977):

- (66) **Eigo-o**₁ Taro-ga mainiti *t*₁ **benkyoo-o** siteiru.
 English-ACC Taro-NOM everyday study-ACC doing
 ‘Taro study English everyday.’ (Scrambling)
- (67) [Taro-ga mainiti *t*₁ **benkyoo-o** siteitu no]-wa **eigo-o**₁ da.
 Taro-NOM everyday study-ACC doing C-TOP English-ACC COP
 ‘It is English that Taro study everyday.’ (Clefting)

³⁴The DoC effects are observed in various constructions in Japanese such as a light-verb construction (Saito and Hoshi 2000), a head-internal relative clause (Tsubomoto 1998), a *tokoro* relative clause (Harada 1973), and an accusative Wh-adjunct clause (Kurafuji 1997). See Hiraiwa 2010 for a summary of the empirical scope of the DoC effects.

³⁵(63) also violates the PBC in addition to the DoC while (64) only violates the DoC. This accounts for the contrast between these sentences.

In these examples, one of the accusative-marked NPs is moved out of the verbal projection by scrambling or clefting. As a result, the verbal projections in these sentences no longer contain multiple accusative-marked phrases. A DoC violation is repaired.³⁶

Given this, the proposed analysis of the backward control EPC in Japanese predicts that inherent participant possessor NPs can be marked with accusative when they are moved out of a verbal projection by scrambling or clefting. This prediction is indeed borne out. First, accusative-marked inherent participant possessors yield a degraded sentence when neither scrambling nor cleft applies, as (68) shows.

- (68) a. ??Hanako-ga Taro-o tume-o kitta.
 Hanako-NOM Taro-ACC nails-ACC clipped
 ‘Hanako clipped Taro’s nails.’
 b. ??Hanako-ga Taro-o fuku-o nugaseta.
 Hanako-NOM Taro-ACC clothes-ACC took.off
 ‘Hanako took off Taro’s clothes.’

If the accusative-marked possessors are moved out of a verbal projection by scrambling or clefting, the sentences improve, as (69) and (70) indicate.

- (69) a. [Hanako-ga t_1 tume-o kitta no]-wa **Taro₁-o** da.
 Hanako-NOM nails-ACC clipped C-TOP Taro-ACC COP
 ‘It is Taro whose nails Hanako clipped.’ (Clefting)
 b. **Taro₁-o** Hanako-ga t_1 tume-o kitta.
 Taro-ACC Hanako-NOM nails-1 clipped.
 ‘Taro, Hanako clipped his nails.’ (Scrambling)
 (70) a. [Hanako-ga t_1 fuku-o nugaseta no]-wa **Taro₁-o** da.
 Hanako-NOM clothes-ACC took.off C-TOP Taro-ACC COP
 ‘It is Taro whose clothes Hanako took off.’ (Clefting)
 b. **Taro₁-o** Hanako-ga t_1 fuku-o nugaseta.
 Taro-ACC Hanako-NOM clothes-ACC took.off
 ‘Taro, Hanako took off his clothes.’ (Scrambling)

³⁶ See Hiraiwa 2010 for other repair strategies for a DoC violation available.

The acceptability of these sentences suggests that inherent participant possessors can be marked with accusative although this is obscured in sentences where neither scrambling nor cleft do not apply due to the DoC effect.

The present analysis also predicts that non-inherent participant possessors cannot be marked with accusative even if they undergo scrambling or clefting. This is because non-inherent participant possessors cannot move to Spec, ApplP to get accusative Case. First, consider (71), where the non-inherent participant possessors are marked with accusative.

- (71) a. *Hanako-ga Taro-o kuruma-o norimawasita.
 Hanako-NOM Taro-ACC car-ACC drove.around
 ‘Hanako drove around Taro’s car.’
 b. *Hanako-ga Taro-o fuku-o tatanda.
 Hanako-NOM Taro-ACC clothes-ACC folded.
 ‘Hanako folded Taro’s clothes.’
 c. *Hanako-ga Taro-o tume-o hirotta.
 Hanako-NOM Taro-ACC nails-ACC picked.up
 ‘Hanako picked up Taro’s nails.’

These examples show that if non-inherent participant possessors are marked with accusative, the sentences are unacceptable as in the case of inherent-participant possessors. However, there is a clear contrast between the degradedness of (68) and (71). The former is much better than the latter. The present analysis can attribute this contrast to the difference in the source of the unacceptability of these two cases. The sentences in (68) are unacceptable only due to the DoC while those in (71) are unacceptable since the possessors, which are non-inherent participants, cannot move to Spec, ApplP to get accusative. Thus, their unacceptability is due to the fact that the possessor cannot get accusative Case in the first place.³⁷ This explanation of the unacceptability of (71) is supported

³⁷ The sentences in (71) are unacceptable for the same reason as a sentence where an indirect object is marked with accusative in a ditransitive clause. As (ia) shows, a ditransitive clause is totally unacceptable if both an indirect object and a direct object are marked with accusative. An indirect object must be dative-marked. This is because there is no accusative-Case assigner for the indirect object. Thus, neither scrambling nor clefting can improve the acceptability of the sentence, as (ib) and (ic) show.

- (i) a. Hanako-ga Taro-ni/*-o ringo-o ageta.
 Hanako-NOM Taro-DAT/-ACC apple-ACC gave

by the fact that sentences like (71) are not improved even if one of the accusative-marked NPs is moved out of a verbal projection, unlike in the case where inherent participant possessors are involved, as (72)-(74) show.

- (72) a. *[Hanako-ga t_1 kuruma-o norimawasita no]-wa **Taro₁-o** da.
 Hanako-NOM car-ACC drove.around C-TOP Taro-ACC COP
 ‘It is Taro whose car Hanako drove around.’ (Clefting)
- b. ***Taro₁-o** Hanako-ga t_1 kuruma-o norimawasita.
 Taro-ACC Hanako-NOM car-ACC drove.around
 ‘Taro, Hanako drove around his car.’ (Scrambling)
- (73) a. *[Hanako-ga t_1 fuku-o tatanda no]-wa **Taro₁-o** da.
 Hanako-NOM clothes-ACC folded C-TOP Taro-ACC COP
 ‘It is Taro whose clothes Hanako folded.’ (Clefting)
- b. ***Taro₁-o** Hanako-ga t_1 fuku-o tatanda.
 Taro-ACC Hanako-NOM clothes-ACC folded
 ‘Taro, Hanako folded his clothes.’ (Scrambling)
- (74) a. *[Hanako-ga t_1 tume-o hirotta no]-wa **Taro₁-o** da.
 Hanako-NOM nails-ACC picked.up C-TOP Taro-ACC COP
 ‘It is Taro whose nails Hanako picked up.’ (Clefting)
- b. ***Taro₁-o** Hanako-ga t_1 tume-o hirotta.
 Taro-ACC Hanako-NOM nails-ACC picked.up
 ‘Taro, Hanako picked up his nails.’ (Scrambling)

This shows that in sentences like (71), there is no accusative-Case assigner for the possessors.

Thus, we can conclude that only inherent participant possessors can be marked with accusative. The correlation between the possibility of accusative Case assignment and the notion of inherent participants is predicted under the proposed analysis. This is because under the proposed analysis, it is Appl_{InPart} that is responsible both for accusative Case assignment and an inherent partici-

-
- ‘Hanako gave Taro an apple.’
- b. *Taro₁-o Hanako-ga t_1 ringo-o ageta.
 Taro-ACC Hanako-NOM apple-ACC gave
 ‘Taro, Hanako gave him an apple.’ (Scrambling)
- c. *[Hanako-ga t_1 ringo-o ageta no]-wa Taro₁-o da.
 Hanako-NOM apple-ACC gave C-top Taro-ACC COP
 ‘It is Taro who Hanako gave an apple.’ (Clefting)

pant theta-role: possessors can move to Spec, ApplP to receive accusative Case and the inherent participant theta-role only if they are inherent participants.

To sum up, I argued that the pronounce-the-original-copy (and deleting the other copy) strategy is available in the backward control EPC in Japanese since both the higher copy of the possessor and the original one are case-marked in this construction. Under Nunes' mechanism of copy deletion, in cases like this, copy deletion can apply either to the higher copy or to the original one. When copy deletion applies to the higher copy, the backward control EPC results. The applicability of copy deletion to the original copy is masked by the DoC.

4.3 *Possessors of Unaccusative Subjects*

In the last section, we saw cases where object NPs are hosts of inherent participant possessors. As we saw in section 3.2, however, backward control EPC is available for possessors of unaccusative subject NPs as well as those of object NPs. This is illustrated by (75).

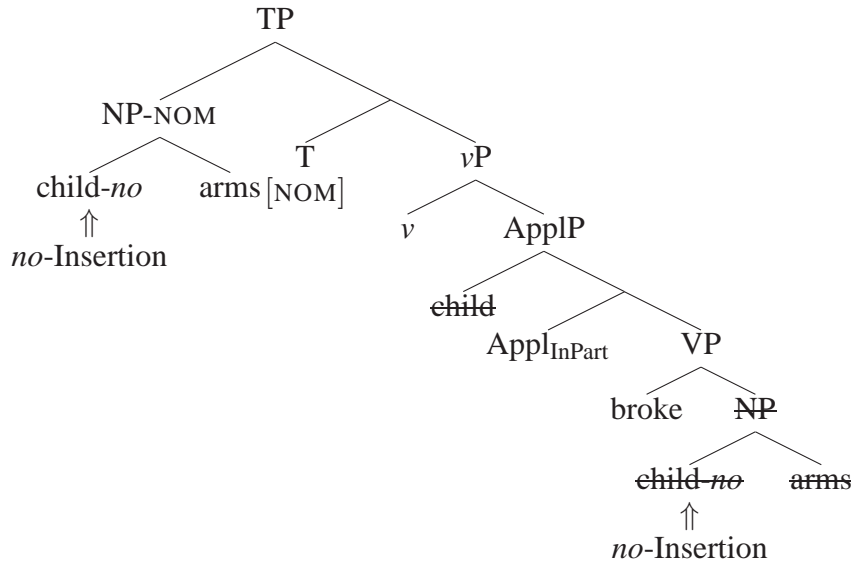
- (75) [[**Kodomo**-no] ude]-ga **3-nin/deesuizyootaide** oreta.
 child-GEN arms-NOM 3-CL/dead.drunk broke
 'Three children's arms broke./The child's arm broke while he was dead-drunk.'

I assume that Appl_{InPart}, like *v*, does not assign accusative Case when it combines with a VP headed by an unaccusative verb. This is based on the observation that possessors of unaccusative subjects cannot be marked with accusative even if they are inherent participants, as shown in the following examples:

- (76) a. *~~[Taro-no]~~ ude]-ga Taro-o oreta.
 Taro-GEN arm-NOM Taro-ACC broke
 'Taro's arm broke.'
- b. *Taro-o ~~[Taro-no]~~ ude]-ga oreta.
 Taro-ACC Taro-GEN arm-NOM broke
 'Taro's arm broke.'

Given this, sentences like (75) are derived as in (77).³⁸

(77) (order irrelevant)



In (77), the possessor *child* moves to Spec, ApplP, getting the inherent participant theta-role. The possessor is not assigned accusative since Appl_{InPart} combines with the unaccusative VP. The object *child arms* moves to Spec, TP, being assigned nominative by T. At PF, the copies of *child* within the object NP are marked with *-no* by *no-Insertion* rule. As for the copies of the object NP, copy deletion applies to the original copy since the original copy has more unchecked uninterpretable features (the Case feature) than the higher one. Regarding the copies of the possessor, the copy at Spec, ApplP has more unchecked uninterpretable features (the Case feature) than the copy within the object NP because Spec, ApplP is not a case-marked position in unaccusative sentences. Therefore, copy deletion applies to the copy at Spec, ApplP and the genitive-marked copy within the object NP is pronounced. In contrast with the case of possessors of object NPs, copy deletion necessarily applies to the copy at Spec, ApplP in the case of possessors of unaccusative subject NPs since the copy at Spec, ApplP is not case-marked in this case.

³⁸ Although I assume that unaccusative sentences involve *v*, this is not a crucial assumption for the present analysis (see Legate 2003 for relevant discussion).

5. External Possession Constructions in Korean

In section 4, I argued that although the choice between pronouncing the higher copy of possessors and pronouncing the original one is optional in the backward control EPC in Japanese, the possibility of pronouncing the higher copy at Spec, ApplP is masked by the DoC. In this section, I show that the choice between the higher copy and the original copy is completely optional in EPCs in Korean since Korean does not have a constraint like the DoC (see Cho 1992, Xu 2005, Yoon 1989, among many others for Korean EPCs)

FNQs in Korean, as in Japanese, must be c-commanded by their associates. Thus, possessors cannot usually license FNQs, as (78) shows.

- (78) *Chelswu-ka [haksayng-tul-uy cha]-lul sey-myeng cha-ss-ta.
 Chelswu-NOM student-PL-GEN car-ACC 3-CL kick-PAST-DECL
 ‘Chelswu kicked three students’ cars.’

However, as in Japanese, there is a contrast between inherent participant possessors and non-inherent participant possessors in this respect. This is illustrated in the following minimal pairs:

- (79) a. ?Chelswu-ka [haksayng-tul-uy meli]-lul sey-myeng calu-ess-ta.
 Chelswu-NOM student-PL-GEN hair-ACC 3-CL cut-PAST-DECL
 ‘Chelswu cut three students’ hair.’
 b. ?Chelswu-ka [haksayng-tul-uy os]-ul sey-myeng peski-ess-ta.
 Chelswu-NOM student-PL-GEN cloth-ACC 3-CL take.off-PAST-DECL
 ‘Chelswu took off three students’ clothes.’
- (80) a. *Chelswu-ka [haksayng-tul-uy meli]-lul sey-myeng cwuw-ess-ta.
 Chelswu-NOM student-PL-GEN hair-ACC 3-CL pick.up-PAST-DECL
 ‘Chelswu picked up three students’ hair.’
 b. *Chelswu-ka [haksayng-tul-uy os]-ul sey-myeng kay-ess-ta.
 Chelswu-NOM student-PL-GEN cloth-ACC 3-CL fold-PAST-DECL
 ‘Chelswu folded three students’ clothes.’

As shown in (79), inherent participant possessors can license FNQs while non-inherent participant possessors cannot, as (80) indicates. This observation suggests that Korean also has Appl_{InPart}

and sentences like (79) are backward EPCs, where inherent participant possessors move to Spec, ApplP and get an inherent participant theta-role and accusative Case from Appl_{InPart}, followed by the deletion of the accusative-marked copy at Spec, ApplP.³⁹ In order to maintain this analysis, we need to assume (a) that the genitive marker *-uy* in Korean is not a realization of abstract Case and (b) that both the higher copy of the possessor at Spec, ApplP and the original copy of the possessor within the object NP are in case-marked positions. In what follows, I present arguments for these assumptions.

I assume that Korean has a morphological rule corresponding to the *no*-Insertion Rule in Japanese: in Korean, the genitive marker *-uy* is inserted in the environment where *-no* is inserted in Japanese (see (37)). This assumption is consistent with the fact that PPs must be marked with genitive in Korean, as (81) indicates.

- (81) a. Haruki-wa*(-uy) intebyu
Haruki-with-GEN interview
'an interview with Haruki'

³⁹ However, there seems to be a difference between Japanese Appl_{InPart} and Korean Appl_{InPart}. As a reviewer points out, a possessor must be animate in order to license an FNQ, as shown in the following:

- (i) a. *Chelswu-ka namwu-uy kaci-lul sey-kuru callu-ess-ta.
Chelswu-NOM tree-GEN branch-ACC 3-CL cut-PAST-DECL
'Chelswu cut the branches of three trees.'
b. *Chelswu-ka chayksang-uy tali-lul sey-kay kochi-ess-ta.
Chelswu-NOM desk-GEN leg-ACC 3-CL fix-PAST-DECL
'Chelswu fixed the legs of three desks.'

The possessors in these sentences cannot license the FNQs even though they are inherent participants. On the other hand, similar examples are acceptable in Japanese, as shown in the following:

- (ii) a. Taro-ga tukue-no asi-o 3-dai naosi-ta.
Taro-NOM desk-GEN leg-ACC 3-CL fix-PAST
'Taro fixed the legs of three desks.'
b. Seibisi-ga kuruma-no taiya-o 3-dai torikae-ta
mechanic-NOM car-GEN tire-ACC 3-CL change-PAST
'The mechanic changed the tires of three cars.'
- (Japanese)

Thus, it seems that there is a semantic difference between Japanese Appl_{InPart} and Korean Appl_{InPart}; the theta-role that Appl_{InPart} in Korean assigns is only compatible with an animate entity while there is no such restriction in Japanese. Although this is an interesting issue, I leave this for future research since what is crucial for my analysis is that backward EPCs in Korean are conditioned by some theta-theoretic considerations, as Japanese backward EPCs. I thank the reviewer for bringing this issue to my attention.

- b. yulep-ulo*(-uy) yehayng
 Europe-to-GEN trip
 ‘a trip to Europe’ (An 2009:3–4)

If *-uy* were abstract Case, it would be a mystery why a PP has to be marked with genitive. Given this, I assume that the Korean genitive marker, like the Japanese one, is morphological case that is assigned at PF (or morphological component).⁴⁰ Therefore, movement of the possessors out of the object NPs in (79) is not problematic.

There is evidence that there are indeed deleted accusative-marked copy of possessors in sentences like (79). Korean has case-marked FNQs that are marked with the same case as their associates as illustrated in (82).

- (82) a. **Haksayng-tul-i** yelsimhi **twu-myeng-i** kong-ul cha-ss-ta.
 student-PL-NOM diligently 2-CL-NOM ball-ACC kick-PAST-DECL
 ‘Two students kicked a ball diligently.’ (Ko 2005:182)
- b. John-i **haksayng-tul-ul** yelsimhi **twu-myeng-ul** kaluchi-ess-ta.
 John-NOM student-PL-ACC diligently 2-CL-ACC teach-PAST-DECL
 ‘John taught two students diligently.’ (Ko 2005:184)

In (82a), the FNQ is associated with the nominative-marked subject and is marked with nominative.

In (82b), the FNQ can be marked with accusative since its associate is the accusative-marked NP.

Given this, data involving case-marked FNQs provide evidence that there is a deleted accusative-marked copy of the possessor when the possessor is an inherent participant. As (83) shows, non-inherent participant possessors cannot license accusative-marked FNQs.

- (83) a. *Chelswu-ka **haksayng-tul-uy** meli-lul **sey-myeng-ul** cwuw-ess-ta.
 Chelswu-NOM student-PL-GEN hair-ACC 3-CL-ACC pick.up-PAST-DECL
 ‘Chelswu picked up hair of three students.’

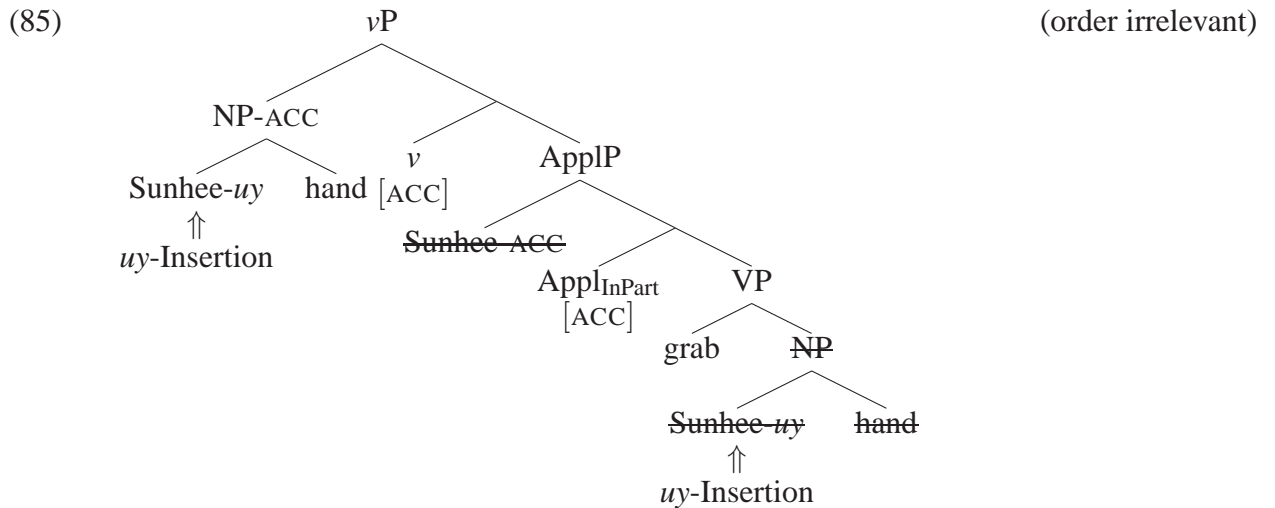
⁴⁰ There are a number of differences between Japanese *-no* and Korean *-uy*, as a reviewer and Yoshiyuki Shibata point out. Although it is an interesting issue how to account for differences between them, what is crucial for my analysis is not that they are the completely same thing, but that they share the property of not being structural Case. See Saito and An 2009 for an explanation of differences between Japanese and Korean in this respect under an analysis in which *-no* and *-uy* are not structural Case.

- b. *Chelswu-ka **haksayng-tul-uy** os-ul **sey-myeng-ul** kay-ess-ta
 Chelswu-NOM student-PL-GEN cloth-ACC 3-CL-ACC fold-PAST-DECL
 ‘Chelswu folded three children’s clothes.’

This is not surprising since non-inherent participate possessors do not license FNQs in the first place (see (80)). What is surprising is that inherent participant possessors license accusative-marked FNQs, as shown in (84), even if the possessors appear not to be marked with accusative.

- (84) a. ?Chelswu-ka **haksayng-tul-uy** meli-lul **sey-myeng-ul** calu-ess-ta.
 Chelswu-NOM student-PL-GEN hair-ACC 3-CL-ACC cut-PAST-DECL
 ‘Chelswu cut hair of three students.’
 b. ?Chelswu-ka **haksayng-tul-uy** os-ul **sey-myeng-ul** peski-ess-ta
 Chelswu-NOM student-PL-GEN cloth-ACC 3-CL-ACC take.off-PAST-DECL
 ‘Chelswu took off three children’s clothes.’

This fact suggests that there is an accusative-marked copy of the possessor in a sentence like (84) that license an accusative-marked FNQ, supporting the proposed analysis.⁴¹ Therefore, I conclude that sentences like (80) and (84) are instances of backward control EPCs, which are illustrated by (85) (I ignore the subject for simplicity).



In (85), the possessor *Sunhee* moves to Spec, ApplP, getting an inherent participant theta-role and

⁴¹ Although it is an interesting issue how exactly case-marking on FNQs is licensed, I put aside this issue because whatever the exact mechanism for case-marking on FNQs is, it is clear that it requires associate NPs with the same case as case on FNQs.

accusative Case. The object containing a copy of the possessor moves to Spec, ν P to get accusative Case. At PF, the genitive markers *-uy* are attached to the copies of *Sunhee* within the object by the *uy*-Insertion rule. The original copy of the object is deleted by copy deletion since the higher copy at Spec, ν P is the copy with the least unchecked features. As for the copies of the possessor, on the other hand, all the copies are in case-marked positions. As a result, copy deletion can apply either to the genitive-marked copy within the object or to the accusative-marked copy at Spec, ApplP. If copy deletion applies to the accusative-marked copy of the possessor, a backward control EPC sentence is derived.

So far, we have seen that Korean also has the backward control EPC, which is derived in the exactly same way as the Japanese counterpart. A backward control derivation is possible in Japanese and Korean EPCs since copy deletion can apply either to the copy at Spec, ApplP or to the copy within NP. In Japanese EPCs, the possibility of pronouncing the copy at Spec, ApplP is masked due to the DoC, which prohibited multiple occurrences of accusative-marked NPs within a single ν P. On the other hand, it is well-known that Korean allows multiple accusative sentences. Therefore, a forward control derivation should be as equally available as a backward control derivation in Korean EPCs. Given this, we predict that inherent participant possessors can be marked with accusative. This prediction is indeed borne out, as illustrated in the following:

- (86) a. Chelswu-ka **haksayng-tul-ul** meli-lul calu-ess-ta.
Chelswu-NOM student-PL-ACC hair-ACC cut-PAST-DECL
'Chelswu cut students' hair.'
- b. Chelswu-ka **haksayng-tul-ul** os-ul peski-ess-ta.
Chelswu-NOM student-PL-ACC cloth-ACC take.off-PAST-DECL
'Chelswu took off children's clothes.'
- (87) a. *Chelswu-ka **haksayng-tul-ul** meli-lul cwuw-ess-ta.
Chelswu-NOM student-PL-ACC hair-ACC pick.up-PAST-DECL
'Chelswu picked up students' hair.'
- b. *Chelswu-ka **haksayng-tul-ul** os-ul kay-ess-ta.
Chelswu-NOM student-PL-ACC cloth-ACC fold-PAST-DECL
'Chelswu folded students' clothes.'

As (86) shows, inherent participant possessors can be marked with accusative while non-inherent participant possessors cannot, as the contrasting examples in (87) indicates.⁴²

To summarize this section, we have seen that the choice between the higher copy of a possessor and the original one to pronounce is completely optional in Korean EPCs. This complete optionality is due to the absence of a constraint like the DoC in Korean. The proposed analysis can provide a straightforward explanation of the following new generalizations: In Korean, (a) a (genitive-marked) possessor can license an (accusative-marked) FNQ only if it refers to an inherent participant in the event described by the predicate that takes the possessee as its argument (see (79), (80), (83) and (84)), (b) a possessor can be marked with accusative only if it refers to an inherent participant in the event described by the predicate that takes the possessee as its argument (see (86) and (87)).⁴³

6. Extension to External Possession Constructions in Bantu

In this section, I show that the notion of inherent participants is useful in capturing the distribution of EPCs in Bantu, especially Chichewa.

Bantu has two types of EPCs. In the first type, an applicative morpheme is attached on a verb

⁴²Scrambling applies to the accusative-marked possessors in (86) and (87), by which the possessors are moved across the object NPs at Spec, vP. This is because if scrambling does not apply and the accusative-marked possessors are pronounced at Spec, ApplP, a PBC violation results, yielding unacceptable sentences, as shown in (i) and (ii).

- (i) a. *Chelswu-ka [~~haksayng-tul-uy~~ meli]-lul **haksayng-tul-ul** calu-ess-ta.
Chelswu-NOM student-PL-GEN hair-ACC student-PL-ACC cut-PAST-DECL
'Chelswu cut students' hair.'
- b. *Chelswu-ka [~~haksayng-tul-uy~~ os]-ul **haksayng-tul-ul** peski-ess-ta.
Chelswu-NOM student-PL-GEN cloth-ACC student-PL-ACC take.off-PAST-DECL
'Chelswu took off children's clothes.'
- (ii) a. *Chelswu-ka [~~haksayng-tul-uy~~ meli]-lul **haksayng-tul-ul** cwuw-ess-ta.
Chelswu-NOM student-PL-GEN hair-ACC student-PL-ACC pick.up-PAST-DECL
'Chelswu picked up students' hair.'
- b. *Chelswu-ka [~~haksayng-tul-uy~~ os]-ul **haksayng-tul-ul** kay-ess-ta.
Chelswu-NOM student-PL-GEN cloth-ACC student-PL-ACC fold-PAST-DECL
'Chelswu folded students' clothes.'

⁴³ A reviewer raises a question of why languages like English, unlike Japanese and Korean, do not have backward control EPCs. If my analysis is correct, this is because (a) English does not have Appl_{InPart}, (b) genitive in English is assigned in syntax, and/or (c) Appl_{InPart} in English, if any, does not assign Case.

stem, as illustrated in the following Chichewa examples:

- (88) a. Tadala a-na-thyol-a [NPndodo ya-mwana].
 Tadala SM-PAST-break-FV stick ASSOC-child
 ‘Tadala broke the child’s stick.’
- b. Tadala a-na-thyol-**er**-a mwana [NPndodo].
 Tadala SM-PAST-break-APPL-FV child stick
 ‘Tadala broke the child’s stick.’ (or ‘Tadala broke a stick for the child.’) (Chichewa: Simango 2007:929)

In (88a), the possessor *mwana* ‘child’ is internal to the object NP while in (88b), it appears in the direct object position and the applicative morpheme *-er* appears in the verbal complex. On the other hand, in the other type, no visible applicative morpheme appears, as shown in (89b).

- (89) a. Mphatso a-na-thyol-a [NPMwendo wa-mwana].
 Mphatso SM-PAST-break-FV leg ASSOC-child
 ‘Mphatso broke the child’s leg.’
- b. Mphatso a-na-thyol-a mwana [NPMwendo].
 Mphatso SM-PAST-break-FV child leg
 ‘Mphatso broke the child’s leg.’ (Chichewa: Simango 2007:929)

The distribution of the two types of EPCs has been assumed to be determined by the alienable-inalienable distinction. If external possessors are alienable, the applicative morpheme appears whereas if external possessors are inalienable, the overt applicative morpheme does not appear. The following examples from Sotho and CiNsenga are compatible with this generalization:

- (90) a. *Ke rob-a Opa [NPthupa].
 I break-FV Opa stick
 ‘I break Opa’s stick.’ (Sotho: Simango 2007:929)
- b. *Mumbi w-a-guz-a Tombi [NPNjinga].
 Mumbi SM-PAST-pull-FV Tombi bicycle
 ‘Mumbi pulled Tombi’s bicycle.’ (CiNsenga: Simango 2007:929)

In these unacceptable sentences, the external possessors are alienable possessors and the applica-

tive morpheme does not appear.

Simango (2007) however argues against the inalienability condition to describe the distribution of EPCs in Bantu. He points out that kinship terms requires the overt applicative morpheme even though kinship relations are typical inalienable possession relations. This is illustrated in the following:

- (91) a. Ulemu a-na-nyamul-ir-a Chikondi [Npmwana].
 Ulemu SM-PAST-carry-APPL-FV Chikondi child
 ‘Ulemu carried Chikondi’s child.’ (or ‘Ulemu carried the child for Chikondi.’)
- b. *Ulemu a-na-nyamul-a Chikondi [Npmwana].
 Ulemu SM-PAST-carry-FV Chikondi child
 ‘Ulemu carried Chikondi’s child.’ (Chichewa: Simango 2007:934)

These examples suggests that the inalienability condition is not a sufficient condition. Furthermore, there is a case where alienable possession does not require the overt applicative morpheme, as shown in the following:⁴⁴

- (92) a. John a-na-masul-a [NPzipi wa-nga].
 John SM-PAST-unfasten-FV zipper ASSOC-1SG.POSSESS
 ‘John unfastened my zipper.’
- b. John a-na-ndi-masul-a [NPzipi].
 John SM-PAST-OM-unfasten-FV zipper
 ‘John unfastened my zipper.’ (Chichewa: Simango 2007:934)

This suggests that the inalienability condition is not a necessary condition.

Given this, I propose the following generalization about the distribution of the two types of EPCs in Chichewa:

- (93) In Chichewa EPCs, the applicative morpheme can be null only if an external possessor refers to an inherent participant in the event described by the predicate that takes the possessee as its argument. Otherwise, the overt applicative morpheme must appear.

⁴⁴ In (92b), the external possessor is a null pronoun. The existence of the null pronoun is evidenced by the object agreement morpheme in the verbal complex.

According to this analysis, (89b), (90), (91b), and (92b) involve the null applicative heads (Appl_{InPart}). In these sentences, the possessors are in Spec, Appl_{InPart}P. (89b) and (92b) are acceptable since the possessors in these sentences can be interpreted as inherent participants while (90) and (91b) are unacceptable because the possessors in these sentences are hard to interpret as inherent participants. On the other hand, in (88b) and (91a), the overt applicative heads (Appl_{Ben}) are involved. The possessors appear at Spec, Appl_{Ben}P, getting benefactive theta-roles. As Simango (2007) observes, in these sentences the external “possessors” do not have to be construed as the possessors. They can be interpreted as benefactees instead.

This analysis is supported by Simango’s (2007) observation about an interpretational difference between the two types of EPCs. The possessor in (92a) can be externalized even if the overt applicative morpheme appears on the verbal complex, as shown in (94).

- This sentence just asserts that John unfastened a zipper without committing to whether the zipper is part of the clothes that the speaker was wearing. On the other hand, (92b) is acceptable only under the interpretation that John unfastened a zipper that is part of clothes that the speaker was

wearing at the time. This interpretational difference can be easily accounted for by the present analysis, which is based on the notion of inherent participants. If the zipper is not part of speaker's clothes, the speaker cannot be interpreted as an inherent participant in the unfastening-the-zipper event.

To sum up, the distribution of the two types of EPCs and their interpretational difference in Chichewa can be accounted for with the notion of inherent participants, which is crucial for the present analysis of Japanese and Korean EPCs.

7. Apparent Counterexamples

Before closing the discussion, let us consider potential counterexamples to the IPC. Kikuchi (1994) observes that genitive-marked arguments of event nominals can license an FNQ and a DSP, as illustrated in the following:^{45,46}

- (95) a. Ano daigaku-ga [ryuugakusei-no ukeire]-o **30-nin** kotowatta.
that university-NOM foreign.student-GEN acceptance-ACC 30-CL refused
'That university refused the acceptance of 30 foreign students.'
- b. Ano daigaku-ga [kyoojyu-no **hon-no** koonyuu]-o **1000-satu**
that university-NOM professors-GEN books-GEN purchase-ACC 1000-CL
kinsisita.
prohibited
'That university prohibited purchase of 1000 books by professors.' (Kikuchi 1994:
83)

⁴⁵ Kikuchi mentions that "[a]n event nominal represents an event (i.e., a process or a state) and has an argument structure, projecting argument positions syntactically" and "[t]his corresponds to what Grimshaw (1990) calls a complex event nominal." (Kikuchi 1994:79)

⁴⁶ Kikuchi (1994) claims that the following sentence is also acceptable.

- (i) a. Ano daigaku-ga [kyoojyu-no hon-no koonyuu]-o **100-nin** kinsisita.
that university-NOM professors-GEN books-GEN purchase-ACC 100-CL prohibited
'That university prohibited purchase of books by 100 professors.'
- b. Byooin-ga [John-no ukeire]-o **deesuizyootaide** kotowatta.
hospital-NOM John-GEN acceptance-ACC dead.drunk refused
'The hospital refused the acceptance of John dead-drunk.'

However, for me and other Japanese speakers that I consulted, (ia) sounds much worse than (95a) and (95b), and (ib) is acceptable only under the interpretation where *deesuizyootaide* 'dead.drunk' is construed as the reason for the rejection by the hospital. Thus, I put aside this example in the following discussion.

- (96) John-ga [**kuruma-no** koonyuu]-o **tyuukode** kimeta.
 John-NOM car-GEN purchase-ACC second.hand decided
 ‘John decided purchase of a car used.’ (Kikuchi 1994: 86)

The genitive-marked arguments in the above sentences, however, cannot be considered as an inherent participants in the events in the matrix clause. Take (95a) for example. For the realization of the refusing-the-acceptance-of-the-foreign-students event, the participation of the foreign students in this event is not necessary. The same holds for the other examples too. Therefore, these sentences are potential counterexamples to the IPC.

However, these are only apparent counterexamples since it is not clear whether the licensors of the FNQs/DSP are really the bold-faced genitive-marked NPs in the above examples. There is a possibility that the host NPs (the event nominals) license the FNQs/DSP. This is evidenced by the fact that the FNQs/DPS in (95) and (96) can be predicated of the event nominals when the FNQs/DSP are turned into predicates by attaching the copula verb to them, as shown in (97):

- (97) a. [Ryuugakusei-no ukeire-]wa 30-nin-dat-ta.
 foreign.student-GEN acceptance-TOP 30-CL(people)-COP-PAST
 ‘The number of the acceptance of foreign students was thirty.’
 b. [Kyoojyu-no hon-no koonyuu]-wa 1000-satu-dat-ta.
 professors-GEN books-GEN purchase-TOP 1000-CL(copy)-COP-PAST
 ‘The number of purchase of books by professors was one thousand.’
 c. [Kuruma-no koonyuu]-wa tyuuko-dat-ta.
 car-GEN purchase-TOP second.hand-COP-PAST
 (Lit.) ‘Purchase of a car was second hand.’

Of course, the FNQs/DSP can also be predicated of the bold-faced genitive-marked NPs in (95) and (96), as shown in (98):

- (98) a. Ryuugakusei-wa 30-nin-dat-ta.
 foreign.student-TOP 30-CL(people)-COP-PAST
 ‘The number of foreign students was thirty.’
 b. Hon-wa 1000-satu-dat-ta.
 book-TOP 1000-CL(copies)-COP-PAST

‘The number of books was one thousand.’

- c. Kuruma-wa tyuuko-dat-ta.
car-TOP second.hand-COP-PAST
‘The car was second hand.’

This fact indicates that in (95) and (96), it is unclear which NP is associated with the FNQs/DSP, the bold-faced genitive-marked NP or the event nominal. Therefore, (95) and (96) do not necessarily show that non-inherent participant possessors can license FNQs/DSPs.⁴⁷

On the other hand, let us consider the genuine cases where possessors actually license FNQs/DSPs like (99) and (100).

- (99) a. John-ga [**kodomotachi-no** tume]-o **3-nin** kitta.
John-NOM children-GEN nails-ACC 3-CL clipped.
‘John clipped three children’s nails.’
b. Ano isya-wa [[**zidoo-no**] me]-o **30-nin** sirabeta.
that doctor-TOP pupils-GEN eyes-ACC 30-CL examined
‘That doctor examined 30 pupils’ eyes.’
c. John-ga [[**kodomotati-no**] yubi]-o **10-nin** otta.
John-NOM children’s finger-ACC 10-CL broke
‘John broke ten children’s fingers.’ (Kikuchi 1994 : 82)
- (100) Hanako-ga [[**John-no**] kaminoke]-o **deesuizyootaide** kitta.
Hanako-NOM John-GEN hair-ACC dead.drunk cut
‘Hanako cut John’s hair dead-drunk.’ (Kikuchi 1994: 86)

In these examples, the host NPs cannot be associated with the FNQs and the DSP since the relevant FNQs and DSP cannot be predicated of the host NPs, as shown in the following:

⁴⁷ In the degraded examples that we discussed in footnote 43, the relevant FNQ and DSP cannot be predicated of the event nominals, as shown in (i).

- (i) a. *[Kyoojyu-no hon-no koonyuu]-wa 100-nin-dat-ta.
professors-GEN books-GEN purchase-TOP 100-CL(people)-COP-PAST
‘Purchase of books by professors was a hundred people.’
b. *[John-no ukeire]-wa deesuizyootai-dat-ta.
John-GEN acceptance-TOP dead.drunk-COP-PAST
(Lit.) ‘The acceptance of John was dead-drunk.’

- (101) a. *[Kodomotachi-no tume]-wa 3-nin-dat-ta.
children-GEN nails-TOP 3-CL(people)-COP-PAST.
(Lit.) ‘Children’s nails were three people.’
- b. *[Zidoo-no me]-wa 30-nin-dat-ta.
pupils-GEN eyes-TOP 30-CL(people)-COP-PAST
(Lit.) ‘Pupils’ eyes were thirty people.’
- c. *[Kodomotati-no yubi]-wa 10-nin-dat-ta.
children’s finger-TOP 10-CL(people)-COP-PAST
(Lit.) ‘Children’s fingers were ten people.’
- d. *[John-no kaminoke]-wa deesuizyootai-dat-ta
John-GEN hair-TOP dead.drunk-TOP-PAST
(Lit.) ‘John’s hair was dead-drunk.’

Therefore in (99) and (100) unlike in the case of event nominals, we definitely know that it is the bold-faced genitive-marked NPs that are associated with the FNQs/DSP.

8. Concluding Remarks

In this article, I proposed a backward control analysis of the EPC in Japanese and Korean. The key notion in the analysis is that of inherent participant. I showed that this notion is useful to describe the distribution of the EPCs in Japanese and Korean: Only inherent participant possessors (a) can license FNQs and/or DSPs in Japanese and Korean, (b) can be accusative-marked in Korean, and (c) can license accusative-marked FNQs in Korean. Building on the explicit syntax and semantics of the inherent participant, I explained these generalizations. I also showed that the notion of inherent participants is useful to describe the distribution of the two types of EPCs in Chichewa.

The relevant construction fills in a gap in the typology of raising and control in the nominal domain. As a result, we now have the full paradigm in the typology of raising and control both in the clausal domain and in the nominal domain. This is expected under the MTC, combined with the Copy Theory of Movement, adding further plausibility to these theories.

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