

ABSTRACT

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The aim of this thesis is to contribute to the understanding of the nature of finiteness and A-movement by looking at control phenomena in Japanese, where verbal morphology sometimes does not help to identify finiteness of clauses. In so doing, the thesis addresses empirical and theoretical questions that arise from analyses of Japanese control and attempts to resolve them. The first part of the thesis, chapter 2, investigates obligatory control (OC) into tensed clauses, where embedded predicates are morphosyntactically marked for tense. Recent findings about the obligatory control/non-obligatory control dichotomy leads to the observation that tensed subordinate clauses that either cannot support past tense or present tense trigger OC and raising. It is proposed that this effect comes from the defective nature of T° of such clauses and that this *nonfinite* T triggers OC and raising. It is shown then that the movement theory of control facilitates to instantiate this proposal and to give a principled account of a wide range of the data. Chapter 3 concerns issues of controller choice with special reference to embedded mood constructions, where mood markers are overtly realized. It is observed that controller choice is systematically correlated with the mood interpretation of complement clauses. While Japanese allows split control in the exhortative mood construction, the language lacks the mood maker that should exist if subject control over intervening objects were possible. The lack of the

nonexistent mood marker is derived by the Principle of Minimal Distance. Also, a preliminary movement-based analysis is given to the actual distribution of split control. The final chapter aims to provide an empirical argument for selecting a movement theory of control over PRO-based theories by closely examining backward control and related constructions. While establishing that backward obligatory control exists in Japanese, the chapter shows that the data argue for a copy theory of movement, combined with a particular theory of chain linearization. The hypothesis that economy plays a crucial role in determining how to pronounce chains is shown to explain properties of the classic Harada/Kuroda style analysis of Counter Equi.

SOME THEORETICAL ISSUES IN JAPANESE CONTROL

By

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Chapter 1: Introduction

1 The Distribution and the Interpretation of PRO

This thesis discusses some empirical and theoretical issues concerning the distribution and the interpretation of PRO in Japanese. In this introductory chapter, I attempt to outline these issues and illustrate their significance.

1.1 The distribution of PRO

To locate our discussion of Japanese control in a theoretical perspective, let us start with two different ways of looking at things. First, an adequate theory of control must account for the distribution of PRO. In a standard GB theory (Chomsky 1981, Lasnik and Uriagereka 1988), the central issue was how to differentiate positions where PRO is permitted from those where it is not, given a paradigm like the following from English:

- (1) a. * John believes [PRO to be clever]
b. * John expected/tried [PRO to admire PRO]
c. * John expected [PRO would admire Bill]
d. [PRO to admire Bill] is important
e. John expected/tried [PRO to admire Bill]

The empty category cannot appear in the subject position of ECM complements [(1)a], the object position of transitive predicates [(1)b], or the subject position of finite clauses [(1)c]. So we can describe the situation as follows: infinitives (and gerunds) can host PRO in their subject position unless they are raising/ECM complements. The classic account of the paradigm is that PRO must be ungoverned, known as the PRO theorem. All PROs in (1) that cause ungrammaticality (which are underscored) are governed, according to the theory. One characteristic aspect of the theory is that it

assumes all PROs to be syntactically identical. That is, they are all [+anaphoric, +pronominal], subject to Binding Theory in the same way.

This way of looking at data seems to be shared by ‘null Case’ approaches (Chomsky and Lasnik 1993, Martin 1996, 2001, Bošković 1997, Watanabe 1993, 1996a, among others). The null Case theory claims that the Tense of infinitives and gerunds can check null Case, which is necessary for PRO to get licensed. The theory also assumes that the Tense of raising/ECM complements does not check Case and therefore cannot null Case either. This way, raising/ECM complements and control complements are distinguished. There are several theories that appeal to Case in order to account for the paradigm in (1). For example, Bouchard’s 1984 ‘local binding’ theory, and Hornstein’s 1999 movement theory of control both adopt the theorem that PRO (or NP-trace) cannot receive Case-marked, though they differ from each other with regard to how to derive it.

1.2 The interpretation of PRO

Another angle in looking at control phenomena has been recognized since Williams (1980) (cf. Chomsky and Lasnik 1977). The observation is that control is divided into two categories: obligatory control (OC) and non-obligatory control (NOC). The examples in (2) and those in (3) illustrate how these two categories differ (Examples (2)a-g and (3)a-g are from Hornstein 2003):

(2) obligatory control

- a. * It was expected PRO to shave himself
- b. * John thinks that it was expected PRO to shave himself
- c. * John’s campaign expects PRO to shave himself
- d. John expects PRO to win and Bill does too
- e. * John persuaded Mary PRO to wash themselves/each other
- f. The unfortunate expects PRO to get a medal
- g. Only Churchill remembers PRO giving the BST speech

- h. * John remembered [PRO_{arb} not to smoke around the babies]
- (3) non-obligatory control
- a. It was believed that PRO shaving was important
 - b. John_i thinks that it is believed that PRO_i shaving himself is important
 - c. Clinton_i's campaign believes that PRO_i keeping his sex life under control is necessary for electoral success
 - d. John thinks that PRO getting his resume in order is crucial and Bill does too
 - e. John_i persuaded Mary_j that [PRO_{i+j} washing themselves/each other] would amuse Sam
 - f. The unfortunate believes that PRO getting a medal would be boring
 - g. Only Churchill remembers that PRO giving the BST speech was momentous
 - h. It is dangerous for babies [PRO_{arb} to smoke around them]

Each property is briefly commented on.

- OC PRO needs an antecedent while NOC PRO does not [(2)a vs. (3)a] (Williams 1980, Bouchard 1982, Koster 1984, Hornstein 1999).
- OC requires a local controller (which must be in the immediately higher clause than the clause that PRO appears in), while NOC can be long distance [(2)b vs. (3)b] (e.g. Williams 1980, Manzini 1983, Bouchard 1984, Koster 1984, Lebeaux 1984, among others).
- OC PRO must be c-commanded by its controller whereas NOC PRO does not have to be [(2)c vs. (3)c] (Williams 1980, Bouchard 1984, Koster 1984, Hornstein 1999; cf. though Landau 2000: 31).
- Under ellipsis, OC PRO does not allow a strict reading, while NOC PRO does [(2)d vs. (3)d] (Bouchard 1984, Higginbotham 1992).

- OC PRO does not allow two different antecedents to bind or control it, while NOC PRO allows that to happen [(2)e vs. (3)e] (Williams 1980, Lebeaux 1984, Hornstein 2003: 65, n13; cf. Martin 1996, Wurmbrand 2001, Landau 2000: 31, 53ff.). Predicates like *to wash each other* or *to be partners* require plural subjects. The unacceptability of examples like (2)e is taken to indicate that OC PRO cannot have two singular antecedents as its split antecedents. The acceptability of examples like (3)e, by contrast, is taken to show that this restriction does not hold for NOC PRO.
- OC PRO must be interpreted *de se*, while NOC PRO can be interpreted non-*de se* [(2)f vs. (3)f] (Hornstein 1999, Landau 2000; cf. Chierchia 1989, Higginbotham 1992, Anand and Nevins 2004). Statement (2)f (OC) means the unfortunate expects that he *himself* will win a medal. The subject of *expects* cannot be misinformed about his own identity. This is called a *de se* interpretation. By contrast, statement (3)f (NOC) can describe such a situation. Suffering from amnesia, for example, he may not realize that the person he has in mind is actually him.¹
- With *only*-NP antecedents, OC PRO must receive a “covariant interpretation,” while NOC PRO can receive an “invariant interpretation” (the terms come from Higginbotham 1992; see Higginbotham 1992, Hornstein 1999 and references cited). In (2)g, the value of PRO covaries depending on the individual to which the relevant function, [$\lambda x. x$ remember \underline{x} giving the BT], applies. In other words, PRO is always bound by the λ -operator. In (3)g, on the other hand, the value of PRO can be invariant, as in [$\lambda x. x$ remembers Churchill’s giving the BST speech was momentous]. On the latter interpretation, statement (3)g can be falsified by the fact that someone other than Churchill remembers Churchill’s giving the BST speech was momentous.
- (2)h and (3)h (from Landau 2000:34, who cited the latter sentence from Kawasaki 1993) are intended to illustrate that OC PRO does not allow the so-called “arbitrary” reading while NOC PRO does. (We will come back to this diagnostic at the end of this chapter.)

¹ As Higginbotham (1992: 87) correctly observes, *de se* interpretation cannot be assimilated to bound variable interpretation. Non-*de se* bound variable pronouns are possible. I do not have a good explanation of why OC PRO (or A-trace in movement theoretic terms) must be interpreted *de se*. See Anand and Nevins 2004 for discussion of obligatoriness of *de se* interpretation of subject-controlled PRO.

Although some of these diagnostics have been put to debate, it seems fair to say that some OC/NOC dichotomy exists and that, no matter which diagnostic properties turn to be dropped or which turn to be added, an adequate theory of control must capture the distinction. Note that the government-based theory discussed above has little to say about it, as it stands. This is so because the theory derives the PRO theorem from Binding Theory by specifying the empty category [+anaphoric] and [+pronominal]. Since PRO satisfies Binding Theory in such a way that it does not have a governor and therefore does not have its local domain, any binding possibility should be allowed as far as Binding Theory is concerned. That is why Control Theory was called for (see Chomsky 1981 for discussion).

Interestingly, previous theories are not uniform regarding what the distinction between OC and NOC is. They do not agree on what generalization should be explained.² All the existing theories agree that PRO in examples like (4) is NOC PRO, as briefly reviewed above:

(4) John_i thinks that [[PRO_i shaving himself] is important]

Controversial environments include the case of infinitival interrogative complements, which are often taken to be an NOC environment. For instance, PRO in examples like (5) supports an arbitrary reading (Bouchard 1984, Manzini 1983, Martin 1996, among others; cf. Chomsky and Lasnik 1977, Williams 1980:

(5) They do not know [how PRO to behave themselves/oneself]

Recent studies, however, argue that interrogative infinitives yield an OC environment (Landau 2000, Hornstein 1999, Barrie 2005). Landau (2000: 39f.) observes that cases like (5) display some properties of typical OC. He examines, for example, examples suggesting that PRO in the wh-complement requires a local

² As correctly observed by Culicover and Jackendoff (2001). See Boeckx and Hornstein (2003) for relevant discussion.

controller. Interrogative complements like the one in example (6)a are on a par with non-interrogative complements like the one in example (6)b:

- (6) a. * Mary₁ knew that John hoped [PRO₁ to perjure herself].
b. * Mary₁ knew that it wasn't clear to John [how PRO₁ to perjure herself].

As for the availability of arbitrary reading, Laudau (p.40) concludes that “[the *oneself*-test] has been misused in the past as a diagnostic for arbitrary control, where in fact it merely indicates that the reference of the antecedent is not fully specified.” Throughout the thesis, I assume that the generalization entertained by Landau and Hornstein is right. Namely, NOC does not obtain when PRO appears inside complement clauses of higher predicates.

Now let us quickly review what explanations prior theories have offered for an OC/NOC distinction. It is true that these two different generalizations require different theories of the distribution of OC and NOC PROs, but they all seem to share the intuition that OC PRO gets licensed by some local syntactic relation. A movement theory of control of the Hornstein style argues that OC obtains only when null complement subject positions can be linked up to their antecedent in the next higher clause via A-movement. For Landau's Agree-based theory, OC obtains only when the embedded Infl or PRO is linked up to a matrix functional head that agrees with the controller (via embedded C for some cases). A local binding approach to OC PRO (Bouchard 1984, Manzini 1983, among others) puts forth the hypothesis that OC PRO is an anaphor, which requires an antecedent in its local domain.³ Finally, it is interesting to note that the null Case theory, which is designed to account for the paradigm in (1), incorporates some version of the local binding view, as proposed in Martin 1996 and Watanabe 1996b. It opens a way to account for the OC/NOC distinction under the null Case theory; that is, PRO has null Case and needs a local antecedent. This is something that the government-based approach to the distribution of PRO cannot do.

³ See, though, Lasnik (1992) for criticism of the idea of treating OC PRO on par with reflexive anaphors.

How about NOC? How do these theories explain that the null subject of OC environments do not show properties of NOC PRO? Quite a few theories appeal to the ‘elsewhere’ condition for NOC. In the local binding approach, pronouns are possible when anaphors fail to get licensed. Taking NOC PRO as pronominal, Bouchard (1984) explains the fact that NOC is impossible when PRO is a complement subject, proposing that the null subject successfully satisfies its local binding requirement. On the other hand, the null subject of sentential subjects does not provide such an environment. So local binding fails, and therefore pronominal PRO, namely NOC PRO, becomes available (see also Manzini 1983, Lebeaux 1984). This way of handling the OC/NOC dichotomy is incorporated (almost as is) to the movement theory of control. That is, NOC obtains if A-movement fails to create a legitimate control chain due to a locality constraint. Landau’s Agree-based theory could be conceived as a variant of this approach because the theory hypothesizes that NOC obtains when the relevant functional in the higher clause fails to probe the T-Agr complex (for his ‘partial control’) or PRO (for his ‘exhaustive control’) in the embedded clause.

2 Finiteness

Chapter 2 of this thesis discusses finiteness in Japanese. It seems useful to summarize what role finiteness plays in major syntactic analyses of control before the central claim of that chapter is introduced.

It is widely assumed that we have three different complements: (a) finite complements, (b) control complements, and (c) raising and ECM complements.⁴ This basic three-way distinction with respect to complementation, unsurprisingly, underlies the issue concerning the distribution of PRO. In the standard GB theory (Chomsky 1981), the distinction was achieved by combination of feature [\pm finite] on T (Infl) and the categorial status of complements.⁵ The T of finite complements is specified [+finite] while the T of raising/ECM and control complements [–finite]. The

⁴ The so-called *for-to* infinitives are ignored here.

⁵ This is a rudimentary way of summarizing the theory, though. See Chomsky 1981, George and Kornfilt 1981, Raposo 1987, among others, for the role of tense and agreement.

distinction between control and raising/ECM complements was made in terms of their categorical difference: control complements are CPs, while raising/ECM complements are TPs. On the assumption that nonfinite T lacks the ability to govern, the Spec,TP of nonfinite CPs (i.e. of control complements) remains ungoverned, so that PRO may appear (under the PRO theorem).

The early minimalist framework had to propose a different take on the issue of how control and raising/ECM complements differ, since the notion of government was dispensed with. The null Case theory was proposed, then (Chomsky and Lasnik 1993). Take Martin's (1996, 2001) and Bošković's (1997) implementation of the theory, where it is proposed, on the basis of properties having to do with temporal interpretation of complement clauses, that the T of control complements, being tensed, assigns null Case while the T of raising complements, being tenseless, does not.⁶ What underlies this distinction is, they propose, the generalization that control T is specified [+tense] while raising/ECM T is specified [-tense]. If a given T is [-finite] and [+tense], it assigns null Case (giving rise to control), whereas if it is [-finite] and [-tense], it lacks the Case assigning ability (giving rise to raising or ECM). As correctly pointed out by Watanabe (1993, 1996a) and by Bošković (1997), once we say that PRO is licensed by checking of its null Case, we do not necessarily need the CP/TP distinction to distinguish between control and raising/ECM complements. In fact, Bošković (1997) proposes that control complements can be TPs, in which T has the feature [+tense]. At any rate, the feature [finite] is necessary to differentiate finite and control clauses (both being [+tense]) in the framework where null Case is utilized.

One other influential theory of control has been proposed: the 'local binding' approach to control. This theory utilizes the notion of Case in a crucial manner. In Bouchard's (1984) theory, NP-trace and PRO do not have phonetic content because they are not Case-marked (assuming a version of PF Case Filter). The fact that PRO does not appear in finite clauses is explained by assuming that the subject of finite clauses is a Case position. Thus, the feature [finite] must be tied to the nominative

⁶ Watanabe's (1993, 1996a,b) null Case theory of control, unlike Martin's and Bošković's, revives the GB-style CP/TP dichotomy mentioned above, dispensing with the reference to [\pm tense]. See also Uriagereka (forthcoming: chap. 4) for a different view on null Case.

Case assigning ability of Infl in this type of theory as well. Raising/ECM and OC complements are essentially the same grammatical objects in this theory. They are nonfinite clauses whose subject position can be locally bound from the matrix clause.

Finally, consider the movement theory of control (Bowers 1973, O’Neil 1997, Hornstein 1999, 2001, 2003, Polinsky and Potsdam 2002, 2006; cf. Manzini and Roussou 2000). This theory claims that the distribution of OC PRO is assimilated to the distribution of NP-trace. If A-movement from Case position is barred in languages like English, then the theory predicts that OC PRO only appears in a Case-less specifier of T. Assuming that [+finite] T assigns Case, the theory excludes control into finite clauses. It would involve A-movement from Case position. In virtually the same way, OC PRO is excluded from the subject of ECM complements. The ECM subject gets Case from the higher verb before it can move to the matrix external argument position.⁷

Notice now that these major approaches to complementation agree that the feature [\pm finite] plays a crucial role in distinguishing clauses of which T assigns nominative Case from other clauses. To put it another way, if these theories did not incorporate the feature [finite], finite and control complements would not be properly distinguished. Importantly, the theories empirically work (at least when the data from languages like English are considered) precisely because *when PRO is found in the subject position of a clause, that clause is always infinitival or gerundive*.

This fact, i.e. that no PRO appears in finite clauses, might look trivial. It is not unimaginable that syntacticians have taken (a subset of) null subjects of nonfinite clauses and identified them with PRO when they look at nonfinite clauses like English infinitives. However, it is not trivial at all if one wishes to propose a *theory* of the distribution of PRO. As discussed in the previous paragraphs, we need [\pm finite] in order to prevent PRO from being present in finite clauses. A tough situation arises when PRO looks as if it were present in finite clauses. In that case, the question arises

⁷ Landau’s (2004) Agree-based theory attempts to dispense with the feature [finite]. Rather, the theory utilizes the features [Tense] and [Agr] (which are located in C and/or Infl) to derive it. His system is designed to require that a lexical subject appear when the local Infl is specified [+Tense, +Agr]. The type of Infl that occurs in the complement clause of a sentence like **John expected would win* is such an Infl, he proposes. See Landau (2004: 860) for the issue of how to rule out sentences like **John believes PRO to be clever*.

as to which clauses a theory of the distribution of PRO should “be meant to deal with the properties of the subjects of” (Bouchard 1984: 165). The nature of the theories reviewed above may lead us to say that in cases where PRO does appear in tensed or inflected clauses, these clauses are in fact [–finite]. The issue is how we can tell whether a given clause is [+finite] or [–finite], independently from the mere fact that PRO appears in its subject position.⁸ If there is no clear indication that helps to detect the finiteness of a given clause, it becomes a challenge for one to propose a theory of control. To illustrate it, consider a hypothetical example like (7), where an auxiliary element “!” appearing between PRO and *win* remains syntactically unidentified:

(7) John expects [PRO ! win]

Can a theory of control make any prediction about the grammaticality of this sentence? No theory we reviewed above seems to until we know whether ! is *to* or *will*. If ! is a nonfinite marker like *to*, these theories predict that (7) is grammatical. If ! is a finite auxiliary like *will*, the sentence is predicted to be ungrammatical. It seems that this kind of state of affairs is what has been taking place in the study of control in Japanese.

3 Control and Raising

The Japanese examples in (8) illustrate some subordinate clauses that do not contain an overt tense morpheme (i.e. present *-ru* or past *-ta*):

(8) a. John-ga [Δ hon-o yomi]-{wasure/hazime}-ta
John-Nom [book-Acc read]-forget/begin-Past
 ‘John forgot/began to read a book.’

⁸ In studies of Balkan languages, it has been observed that control is found with tensed/inflected complement clauses. “[O]ne characteristic of the [...] subjunctive clauses in [certain Balkan raising or control constructions] is that they display verbs that in a pretheoretical sense are “finite”: they are overtly inflected for person, number, and tense and mood. (Rivero and Ralli 2001: 7).” See Landau 2004 for recent discussion.

- b. John-ga [Δ hon-o kai-ni] it-ta
John-Nom [*book-Acc buy-Nonfin*] *go-Past*
 ‘John went to buy a book.’
- c. Taro-ga Hiroshi-o [Δ naki-nagara] tataita
Taro-Nom Hiroshi-Acc [*cry-while*] *hit*
 ‘Taro hit Hiroshi while crying.’

These constructions were often treated as Equi or OC since pre-GB frameworks (see for example Shibatani 1973, Nakau 1973). It is plausible to assume that subordinate clauses found in examples like these are nonfinite clauses.⁹ However, the language displays control with tensed clauses as well. (Japanese, like other East Asian languages, does not exhibit an overt agreement system.) As will be shown in chapter 2 in more detail, pairs of examples like (9)a and (9)b suggest that the embedded *koto*-clause is tensed and involves OC (below is an example of the ban on long distance control):

- (9) a. * sono kyoodai_i-wa [Hiroshi-ga [Δ _i otagai_i-o
the brothers-Top [*Hiroshi-Nom* [*e.o.-Acc*
tasuke-a-u-koto]-o kessinsita-to] omotteiru
help-Recip-Prs-C_{koto}]-Acc *decided-C_{to}*] *think*
 ‘The brothers think that Hiroshi decided to help each other.’

⁹ The thesis does not examine well-studied control or predication phenomena involving such ‘tenseless’ subordinate clauses. Thus popular topics in complementation including restructuring and complex predicates will not be discussed here. The reader is referred to numerous prior studies on these phenomena including: Bobaljik and Wurmbrand 2005, to appear, Dubinsky and Hamano 2003, Fukumitsu 2001, Hoshi 1994, Inoue 1976, Koizumi 1995, 1998, Kageyama 1993, Kuroda 1965: chapter 4, 1986, 2003; Matsumoto 1996, Miyagawa 1987, 1989, Nishigauchi 1993, Nomura 2003, Saito and Hoshi 1998, 2000, Shibatani 1978, Takahashi 2000, Takezawa 1987, 1993, Tada 1992, Ura 1996, 1999, 2000, Wurmbrand 2001: chapter 2, among many others.

- b. Hiroshi-wa [sono kyoodai_i-ga [Δ_i otagai_i-o
Hiroshi-Top [*the brothers-Nom* [*e.o.-Acc*
 tasuke-a-u-koto]-o kessinsita-to] omotteiru
help-Recip-Prs-C_{koto}]-Acc decided-C_{to}] think
 ‘Hiroshi thinks that the brothers decided to help each other.’

It should be noted that clauses of apparently the same form appearing in complement position do not always have to involve OC. A sharp contrast holds between (9)a and (10) with respect to long distance antecedence:

- (10) sono kyoodai_i-wa [Hiroshi-ga [Δ_i otagai_i-o
the brothers-Top [*Hiroshi-Nom* [*e.o.-Acc*
 tasuke-a-u-koto]-o yorokob-u-to] omotteiru
help-Recip-Prs-C_{koto}]-Acc be.delighted-Prs-C_{to} think
 ‘The brothers think that Hiroshi would be delighted that they would help each other.’

Given contrasts like this, we can see that surface verbal morphology does not always help to identify PRO in Japanese. Therefore, one looks for a signal of ‘abstract’ finiteness in the language. The indication must be something detectable in a clause, independently from the mere fact that the clause in question is a control clause or non-control clause. However, as far as I am aware, no such indicator of abstract finiteness has been proposed at least in an explicit way in the Japanese syntax literature in connection with the theory of control.¹⁰ As mentioned above, therefore, it is not straightforward which clause should be marked [+finite] or [-finite] once examples like (9) and (10) face us. It seems that this is one of the obstacles to the attempt to understand the distribution of PRO in Japanese. This is the first problem I

¹⁰ Watanabe’s (1996b) attempt is an exception. He proposes that a *koto*-complementizer such as the one found in (9) is a subjunctive complementizer, and that the T of the clause assigns null Case to the subject. As he briefly notes and as (10) shows, however, *koto*-complementizers appear in various kinds of non-control structures, as well.

tackle in this thesis.

3.1 Tense alternation generalization

Chapter 2 aims to solve the problem by proposing that finiteness in Japanese is closely tied to the phenomenon I call ‘tense alternation’ (see chapter 2 for a more formal version of the generalization):

(11) Tense alternation generalization:

Tensed subordinate clauses in Japanese are [–finite] if and only if their predicate does not alternate between the present tense form and past tense form.

The observation is that OC complements allow either present tense or past tense but not both, as in (12)a. On the other hand, the type of construction exemplified by the non-control sentence (10) allows its complement to be either in the present or in the past, as in (12)b:

- (12) a. Taro_i-wa [Δ_i natto-o tabe- $\{ru/*ta\}$ -koto]-o
Taro-Top [*natto-Accept-Prs/Past-C_{koto}*]-*Acc*
kessinsita
decided
‘Taro decided to eat natto.’
- b. Taro_i-wa [Δ_i natto-o tabe- $\{ru/ta\}$ -koto]-o yorokonda
Taro-Top [*natto-Accept-Prs/Past-C_{koto}*]-*Acc* *was.delighted*
‘Taro was delighted that he $\{would\}$ eat, had eaten} natto.’

The complement of ‘decide’ displays the ‘anti-tense alternation’ effect, while the complement of ‘be delighted’ does not.

This generalization gives a basis to our approach to ‘finite control’ phenomena in the language. I will show that where this generalization holds, embedded tensed clauses act like infinitives; namely, they may arise as obligatory control complements.

These ‘transparent’ tensed clauses are dubbed ‘pseudo-finite’ clauses, of which T is, I propose, specified [-finite]. When the embedded predicate freely alternates between present tense and past tense, on the other hand, the clause is regarded as carrying a [+finite] feature.

In the same chapter, I will also propose that pseudo-finite T ([-finite] T) does not assign structural Case while genuine finite T does, so that genuine finite clauses and pseudo-finite clauses can be distinguished. The reason for taking this position (as opposed to proposing that pseudo-finite T, unlike finite T, does not govern any position of the tree or assigns null Case) is that, as we will see in chapter 2, some Japanese pseudo-finite complements allow their subject to undergo raising. Examples like (13) will be studied (Uchibori 2000):

- (13) Taro-ga saikin yoku benkyoosu-ru-yooni natta
 Taro-Nom recently often study-Prs-C_{yooni} became
 ‘Taro has started to study hard.’

All the pseudo-finite clauses that will be examined in this thesis are headed by what has been considered as a complementizer, such as the quotative complementizer *-to*, the nominalizing complementizers *-koto* and *-no*, and morphologically somewhat complex complementizers such as *-yooni*. Throughout the thesis, I safely assume that they are of the category C because no clear evidence against it has been found. Given this, the situation concerning finite raising is most straightforwardly dealt with by proposing that pseudo-finite T, being specified [-finite], does not assign structural Case, on the standard assumption that A-movement from Case position is barred.

That both OC and raising clauses can be CPs has a consequence for the theory of control (For an overview of the research project of unifying the two phenomena, see Polinsky and Potsdam 2006, Boeckx and Hornstein 2006a, and references cited in them). The government-based approach to control is hard to adopt here because on that classical view, raising and control are mutually exclusive. More specifically, the

Japanese data resist the CP/TP dichotomy that the theory relies on.¹¹

The core idea of the Martin-Bošković style null Case theory seems to be compatible with the Japanese facts. Maintaining that [-tense] T does not assign Case, one could say that raising CPs in Japanese are specified [-tense] and control CPs [+tense]. Although it is somewhat counterintuitive that tense alternation has to do with finiteness and not the feature [tense], the theory is still consistent with parallelism between raising and control. It is worth recalling how the null Case theory accounts for the fact that OC is not NOC. An approach of this sort handles an OC/NOC distinction by saying that PRO is anaphoric (Martin 1996, Watanabe 1996b). Anaphoric binding must be allowed to take place into a complement CP. It is worth noting that exactly the same line of modification is required for the GB style ‘local binding’ approach to OC PRO as well. Bouchard’s analysis otherwise would predict that control into tensed nonfinite CPs in Japanese always displays NOC properties, contrary to fact. Local binding into a nonfinite CP must be allowed.

Now let us consider what these theories would have to say about finite raising. If the analysis of (13) that I will offer in chapter 2 is right, the embedded subject must move across the nonfinite CP. Note that this does not hurt Bouchard’s approach at all. This is because in his theory, NP-trace and anaphors obey the same condition of local binding. So, in fact, once OC into nonfinite CPs is allowed, raising out of nonfinite CPs is expected. The same situation is, on the other hand, harder for the null Case theory, because NP-trace is not an anaphor in the theory. Raising being possible out of nonfinite CPs does not directly follow at all.

The movement-based approach to control is one a par with Bouchard’s binding-based approach in this respect. Since OC is derived by A-movement into a *thematic position* of the matrix clause, the theory certainly needs to ensure that nonfinite CPs

¹¹ Landau’s (2004) theory of finite control, which attempts to account for a typology of OC in subjunctives and inflected infinitives, maintains that [+Tense, +Agr] Infl forces a lexical subject to occur. The system seems to need the CP/TP dichotomy to differentiate ECM/raising from control (p.861). Also, in light of the lack of overt morphological agreement in Japanese, it seems hard to detect on independent grounds what value is assigned to the feature [Agr] or even whether the feature is present or not in a structure. For these reasons, I will not use this theory to investigate Japanese control.

do not block A-movement.¹² Once this is done, it automatically follows that an NP moves out of nonfinite CPs into a *non-thematic position* of the matrix clause as well.

In this thesis, I use the movement theory of control to explore the nature of the control phenomenon in Japanese. Thus, the available data concerning Japanese finite raising and control and their analysis do not seem to force one to choose the movement theory of control over the local binding theory of it. However, there are at least two reasons in favor of this move. For one thing, the definition of the local domain for local anaphors would have to be worked out if the binding approach is chosen. It is certainly possible to do so, but unless we revive government, it requires some work in order for the notion of local domain to be explicated. For another, even if the notion is explicated, there seems to be no compelling reason to go back to an approach to raising of the sort that the early GB-theory maintains; namely, that NP-trace is subject to the condition on local binding. Especially, going back to the trace theory does not fit well with my analysis of backward control (presented in chapter 4), which employs a copy theory of movement. For these reasons, I use the movement theory of control and a standard approach to raising to investigate various control (and raising) phenomena in Japanese.

3.2 NOC complements

Chapter 2 discusses another type of puzzle concerning control into tensed clauses in Japanese. Take one example from chapter 2 to illustrate the issue. The examples in (14) differ from each other only in the choice of the matrix verb. The a-example has *kime(ru)* while the b-example *kessinsu(ru)*. Both mean ‘decide’.

- (14) a. Taro_i-ga [Δ_i taisyoku- $\{suru/*sita\}$ -koto]-o kimeta
Taro-Nom [*leaving.company-do.Prs/do.Past-C_{koto}*]-Acc *decided*
 ‘Taro decided that he would leave the company.’ (non-*de se* possible)

¹² For studies of movement out of and agreement into finite clauses, see Massam (1985), Ura (1994, 1998), Moore (1998), Polinsky and Potsdam (2001), Bejar and Massam 1999, Branigan and MacKenzie (2001), Bruening (2001), Potsdam and Runner (2001), Hiraiwa (2001), Tanaka (2002), Rezac (2004), Ferreira (2004), Rodrigues (2004), Fujii (2003, 2004), Nevins (2004), Uriagereka (forthcoming: chap. 4), to name a few.

- b. Taro_i-ga [Δ_i taisyoku- {suru/*sita}-koto]-o kessinsita
Taro-Nom [*leaving.company-do.Prs/do.Past-C_{koto}*]-*Acc* *decided*
 ‘Taro decided to leave the company.’ (non-*de se* not possible)

What happens in this pair is that ‘decide’ in (14)a allows a non-*de se* interpretation while ‘decide’ in (14)b does not. (This data point is examined in more detail in chapter 2.6.) A problem comes from the fact that the two types of *decide* require a pseudo-finite complement; i.e. in this particular case, a past tense complement is prohibited. Note that PRO in nonfinite complements in English never supports a non-*de se* interpretation (even in cases that Williams 1980 classifies under NOC environments, as Landau 2000: 42-43 shows). So the behavior of null subjects in examples like (14)a may lead one to think that Japanese control phenomena should not be treated in the same way as the phenomena found in infinitives/gerunds in languages like English. Chapter 2.6 will observe that various cases of pseudo-finite complements display properties of NOC.

I will propose an account of the unexpected behavior of these nonfinite complements, which relies on the movement theory of control and the assumption that Japanese nominalizing particles like *-koto* are syntactically ambiguous between N and C. The claim is that when pseudo-finite complements fail to pass OC diagnostics, they have a complex NP structure, [_{NP} [_{CP} ... \emptyset_C] *koto*_N], where the CP is headed by null C. Then it follows that the Complex NP island blocks movement and therefore OC does not obtain. But why do these complements behave like NOC clauses, in stead of yielding ungrammaticality? Proposing a movement theory of control, Hornstein (1999) borrows the idea of Bouchard (1984), which is that NOC PRO is an ‘elsewhere’ case. Hornstein’s specific claim is that the derivation with NOC PRO, which is a pronoun, is available only when the derivation cannot create a legitimate OC chain (Hornstein 1999 and subsequent work). If this assumption is made, it follows that the null subject of the complex-NP structure exhibits properties it does.

4 Split Control and the Principle of Minimal Distance

In chapter 3, I will discuss two diagnostic properties of obligatory control that will not be discussed in chapter 2. The Japanese data concerning split control and the ‘Principle of Minimal Distance (PMD)’ effect will be examined in some detail. The analytical focus is placed on embedded mood constructions, where a mood marker attaches to a verbal stem without tense morphology. Examples of mood constructions are given in (15)a-c (suppose that these sentences are uttered by Taro):

- (15) a. Yoko-wa Hiroshi-ni boku-no beeguru-o tabe-ro-to
Yoko-Top Hiroshi-Dat my bagel-Acc eat-Imp-C
meireisita (yooda)
ordered seems
‘(It seems that) Yoko ordered Hiroshi to eat my bagel.’
≈ Yoko said to Hiroshi, “Eat Taro’s bagel!”
- b. Yoko-wa boku-no beeguru-o tabe-yoo-to keikakusita (yooda)
Yoko-Top my bagel-Acc eat-YOO-C_{io} planned seems
‘(It seems that) Taro planned to eat my bagel.’
≈ Yoko thought: “I’m gonna eat Taro’s bagel!”
- c. Yoko-wa Hiroshi-ni boku-no beeguru-o tabe-yoo-to
Yoko-Top Hiroshi-Dat my bagel-Acc eat-YOO-C_{io}
teiansita (yooda)
proposed seems
‘(It seems that) Taro proposed to Hiroshi to eat my bagel.’
≈ Yoko said to Hiroshi: “Let’s eat Taro’s bagel!”

(15)a illustrates the embedded imperative construction, which is object control. (15)b is an example of the construction I call the ‘intensive’ mood construction, which is subject control. (15)c is an illustration of the embedded exhortative mood construction. The latter two constructions share the same mood morpheme *-(y)oo*. (Since this mood morpheme is ambiguous, it is glossed YOO.) While establishing

that these constructions are obligatory control constructions, I will put forth the descriptive generalization given in (16) (a more formal version is offered in chapter 2):

- (16) In embedded mood constructions, the complement subject can be controlled by the matrix subject across the indirect object only when it is controlled by the indirect object as well.

The first data point is that, as in (17)b, split control is allowed in embedded exhortative clauses. (I will present arguments that this is an instance of split control, rather than an instance of partial control in the sense of Landau 2000.) While the imperative construction does not allow a reciprocalized predicate, which requires plural antecedent(s), to occur in its embedded clause, the exhortative construction does:

- (17) a. * Taro-wa Hiroshi-ni [Δ otagai-o sonkeesi-a-e-to]
Taro-Top Hiroshi-Dat [*e.o.-Acc respect-Recip-Imp-C*]
 itta/ meireisita
said/ ordered
 lit. ‘Taro said to/ordered Hiroshi [Δ to respect each other].’
- b. Taro-wa Hiroshi-ni [Δ otagai-o sonkeesi-a-oo-to]
Taro-Top Hiroshi-Dat [*e.o.-Acc respect-Recip-YOO-C*]
 itta/ teiansita
said/ proposed
 lit. ‘Taro said/proposed to Hiroshi [Δ to respect each other].’

The observation supports Landau’s 2000 conclusion (contra Hornstein’s 2003) that split control is in principle allowed in OC. Given that subject and object controls are also possible, embedded mood constructions seem to allow various patterns of controller choice.

However, there is one pattern of control choice that is not attested, which is subject

control across the indirect object. One of the arguments that this is so has to do with a Condition B-like effect:

- (18) a. * Taro-wa Yoko-ni [Δ kanozyo-o sonkeisi-yoo-to]
Taro-Top Yoko-Dat [*her-Acc respect-YOO-C*]
 itta/ yakusokusita
said/ promised
 lit. ‘Taro said to/promised Yoko [Δ to respect her].’
- b. Taro-wa [Δ kanozyo-o sonkeisi-yoo-to] omotta/ kessinsita
Taro-Top [*her-Acc respect-YOO-C*] *thought/ decided*
 lit. ‘Taro thought/decided to [Δ to respect her].’

It looks like (18)a is degraded because a pronoun is too close to its antecedent. If this is correct, it means that, as stated in (16), it is not possible for the embedded subject to be controlled by the embedded subject without being controlled by the indirect object (cf. the status of (18)b). I propose that the unacceptability of (18)a is an effect of the PMD. In short, it is not clear how (18)a can be excluded for semantic or pragmatic reasons. It is perfectly conceivable for the sentence to describe the fact that Taro promised Yoko to respect her, probably saying, “I will respect you”. However, this conceivable “promissive mood” is not attested in the paradigm of mood constructions. The PMD provides a straightforward account for this negative fact. As long as the gap in the paradigm is not accidental, this constitutes an empirical argument in favor of the PMD or minimality in OC (Hornstein 1999, 2001, 2003, Boeckx and Hornstein 2003, 2004). The chapter then proposes a somewhat speculative answer to the question of how the derivation for split control avoids violating this principle.

5 Backward Control

Chapter 4 offers an extensive discussion of the phenomenon called ‘backward control’. Here is one example from what we call the *assist*-construction in Japanese:

- (19) isya-ga [kanzya-ga aruk-u-no]-o {tetudatta/zyamasita}
doctor-Nom [patient-Nom walk-Prs-C_{no}]-Acc assisted/disrupted
 ‘The doctor assisted a patient to walk.’
 ‘The doctor disrupted a patient from walking.’

In the last chapter, one question about the distribution of backward control will be addressed: Given that most OC constructions do not allow backward control (as opposed to standard forward control), why is it that the principle that prevents the backward process there does not prevent it entirely? If it did, no backward control would be attested.

For instance, no backward subject control exists in Japanese:

- (20) a. * Δ_i ni-byoo-de [san-pun kanzya_i-ga aruk-u-koto]-o
 2-second-in [3-minute patient-Nom walk-Prs-C_{koto}]-Acc
 kessinsita
 decided
- b. kanzya_i-ga ni-byoo-de [san-pun Δ_i aruk-u-koto]-o
 patient-Nom 2-second-in [3-minute walk-Prs-C_{koto}]-Acc
 kessinsita
 decided
 ‘The patient decided in two seconds to walk for three minutes.’

The type of phenomenon the chapter is interested in was first studied by Harada (1973) and Kuroda (1978) in generative grammar. (They did not discuss *assist*-constructions but what is called the *tokoro*-clause construction. I will briefly touch on the latter construction as well and conclude that it does not involve control.) Their theory would correctly rule out examples like (20) by stating the rule ‘Counter Equi NP deletion’ in such a way that it only applies when the structure would otherwise violate the Double-O Constraint. The constraint is responsible for the unacceptability of examples like (21)a, where two instances of accusative NPs are located in the same

VP domain. Note that clefting saves the sentence from a double-*o* violation by extracting one of the accusative phrases out of the VP as in (21)b:

- (21) a. ?? isya-ga kanzya-o [Δ aruk-u-no]-o {tetudatta/zyamasita}
doctor-Nom patient-Acc [walk-Prs-C_{no}]-Acc assisted/disrupted
 ‘The doctor assisted a patient to walk.’
 ‘The doctor disrupted a patient from walking.’
- b. [isya-ga kanzya-o {tetudatta/zyamasita}-no]-wa
[doctor-Nom patient-Acc assisted/disrupted-C]-Top
 [Δ aruk-u-no]-o da
[walk-Prs-C_{no}]-Acc Cop
 lit. ‘It is [to walk] that the doctor assisted a patient.’
 lit. ‘It is [from walking] that the doctor disrupted a patient.’

Assuming that Equi NP deletion applies when an matrix NP is identical with the complement subject, the Harada-Kuroda style theory states the rule of Equi so that it only applies backward (to yield (19)) in environments in which a double-*o* violation would obtain otherwise [cf. (21)a]. But the theory does not seem to provide a real answer to the question of what grammatical principle is violated in the case of (20)a. In short, the sentence is rendered ungrammatical because the rule is stated in the way it is stated.

I will attempt in chapter 4 to offer a more principled answer by combining the type of analysis of Japanese complements motivated in the previous chapters together with a copy theory of movement and a theory of chain pronunciation proposed by Nunes (2004), which is first applied to a backward control phenomenon by Potsdam (2006). Assuming that (21) violates the Double-O Constraint as a PF constraint, the proposed theory argues that (20)a, unlike (20)b, violates an economy condition governing the choice of the copy of a chain to delete. Namely, all other things being equal, deletion of the lower copy is chosen over deletion of the higher copy. In our case, (20)a and that of (20)b share the same derivation up to the point where a control chain is reduced in the PF component. Conditions for convergence are satisfied in both

derivations; that is, all the offending features are checked and no double-*o* violation occurs. The derivation in which the higher copy undergoes deletion is barred by the availability of the more economical derivation, in which the lower copy is deleted. The upshot is that (19) survives because no economy considerations arise here. The derivation of (21), which would block its backward counterpart if it were convergent, violates the Double-O Constraint.

The proposed theory has a descriptive advantage as well. Harada's (1973) generalization that a derivation yields backward control only if the forward counterpart to it would violate the Double-O Constraint makes a correct prediction in most cases. It has been noted in Kuroda 1978 that there is one exception:

- (22) a. [Taro-ga John₁-o e_i tetudat-ta-no]-wa
 [Taro-Nom John-Acc assist-Past-C_{no}]-Top
 [Δ₁ oyog-u-no]-o_i da
 [swim-Prs-C_{no}]-Acc Cop
 'Taro assisted John [to swim].'
- b. [Taro-ga Δ₁ e_i tetudat-ta-no]-wa
 [Taro-Nom assist-Past-C_{no}]-Top
 [John₁-ga oyog-u-no]-o_i da
 [John-Nom swim-Prs-C_{no}]-Acc Cop
 'Taro assisted John [to swim].'

As in (22)b, backward control is possible even though this is not an environment in which a double-*o* violation occurs. Notice that there are two chains involved in these sentences. One is the control chain and the other is the cleft chain, a chain created by A-bar movement. Assuming with Nunes (2004) that chains are reduced one by one and that the order in which these chains are reduced is free, I can account for the apparent optionality of backward control in this particular environment. The idea is that if chain reduction applies to the control chain first, the structure still has a double-*o* environment. In other words, in the PF derivation of (22)b, the lower copy of the clefted complement can be present when the control chain undergoes chain

reduction. So the otherwise unexpected optionality follows without any additional assumptions in the proposed analysis.

If the backward *assist*-construction is an obligatory control construction, no other theory of control than the movement theory can be maintained. This is because none of the theories assuming PRO for OC can posit the empty category outside the control clause. In order to make the analysis of the backward *assist*-construction work, I need make two assumptions explicit. First, I assume that non-structural nominative Case is available in the subject position of pseudo-finite clauses in Japanese, as has been repeatedly proposed in the literature (Saito 1982, 1985, Ura 1992, among others). The second assumption is also familiar from the literature on raising of quirky subjects in languages like Icelandic: A-movement from inherent (or possibly default) Case position is possible. Since it seems that the validity of the analysis and of its implications largely depends on whether the backward construction in question involves OC or not, I will spend much space defending my ‘OC’ analysis of the constructions in the first half of the chapter.

6 A Note on Sentential Subjects

Finally, before closing this introductory chapter, I would like to mention one of the many topics that will not be discussed in this thesis, i.e. a case that looks similar to English Super Equi. Consider (23):

- (23) *karera_i-wa* [*Mary-ga* [Δ *otagai-o* *hiansi*-{*a-u*}-*koto*]-*ga*
 they-Top [*Mary-Nom* [*e.o-Acc* *criticize-Recip-Prs-C_{koto}*]-*Nom*
 nyuusu-ni nar-u-to] *omotteiru-to*] *sinziteiru*
 news-Cop *become-C_{to}*] *thinks-C* *believe*
 ‘They_i believe Mary thinks that {criticizing/ having criticized} each
 other_i will become news.’

When the distribution of PRO in tensed clauses is discussed in the literature on Japanese, it looks like tensed sentential subjects containing “PRO” have been

examined much more often than tensed OC (Saito 1982, Kuroda 1983, Hasegawa 1984-85; see also Aoshima 2001). That is probably because it is believed that an interpretive property of NOC PRO helps to distinguish PRO from null subjects of finite indicative clauses, without worrying about their verbal morphology. In the movement-based approach to control, null subjects of the kind found in (24) (cited from Landau 2000: 92) are considered pronominal, rather than NP-trace:

(24) Mary knew that [PRO perjuring himself/herself] disturbed John

The fact that both *himself* and *herself*, bound by *John* and *Mary* respectively, are possible suggests that, as is familiar, the interpretation of the null subject is much less restricted than that of OC PRO.

One immediate question is whether we can show that (23) is an instance of NOC, rather than Case-marked *pro*. (23) shows that the null subject of the sentential subject can be bound long distance. The theory under consideration adopts the ‘elsewhere’ approach to those cases (Bouchard 1984, Hornstein 1999, 2001, 2003). As mentioned earlier, NOC PRO appears where NP-trace fails to survive. If this is so, long distance antecedence found in (23) is compatible with analyzing Δ as NOC PRO and with analyzing it as Case-marked little *pro*. Because they are both pronouns, they won’t be distinguishable.

Can we, though, determine the finiteness of sentential subjects in Japanese by manipulating the tense marking of the predicate of sentential subjects? There seems to be one possible way of forcing sentential subjects like the one in (23) to be nonfinite within the present set of assumptions. Suppose that the so-called ‘arbitrary PRO’ reading signals that the null subject in question is not Case-marked (Authier 1992). If this is the case, we should be able to test whether the ‘arbitrary PRO’ reading is available in cases where tense alternation is possible. The prediction is that the relevant reading should not be available. Example (25) is adapted from Kuroda (1983: 242), where the version with past tense is judged acceptable:

- (25) [Δ taima-o {ka-u/kat-ta}-koto]-ga kokugai-tuihoo-no
 [marijuana-o buy-Prs/buy-Past-C_{koto}]-Nom deportation-Gen
 gen'in-ni nari-uru
 cause-Cop.Nonfin become-can
 ‘{Buying/Having bought} marijuana can be a cause of deportation.’

Our prediction apparently fails. However, this interpretation of the data is not necessarily warranted. First, it is not clear whether Japanese does *not* have a phonetically null equivalent of English *one*, which would give rise to a similar reading to what is called the ‘arbitrary PRO’ reading. If the language has it, then the interpretation obtained with (25) does not tell us much about the status of the T of the sentential subject in question. Second, the actual distribution of “arbitrary reference” is not as clear as one might think, given what has been reported in the literature. It is true that null objects inside sentential subjects hardly receive an “arbitrary reading” (Saito 1982, Kuroda 1983, Hasegawa 1984-85). But a similar reading is sometimes possible with null objects in other environments. Washio (1999) observes cases where objects of transitive verbs receive an “arbitrary reading”. (26) is from Washio’s (7c):

- (26) yoi ongaku-wa [Δ rirakkusus]-ase-te kure-ru
 good music-Top [relax]-Caus-Nonfin give-Prs
 ‘Good music makes one relax.’

- Cf. yoi ongaku-wa [John-o rirakkusus]-ase-te kure-ru
 good music-Top [John-Acc relax]-Caus-Nonfin give-Prs
 ‘Good music makes John relax.’

Finally, it is not uncontroversial that “arbitrary reference” of null subjects always indicates NOC. As pointed out by Epstein 1984 and Lebeaux 1984, covert controllers could be involved. Given these situations, there seem to be numerous possibilities of how to interpret the fact in (25). Investigations of the nature of sentential subject constructions with respect to control have to be left for the issues for future research.

Chapter 2: Control/Raising and Finiteness in Japanese

1 The Issue

Let us start by illustrating two puzzles that seem to have been major obstacles to proposing a theory of control that can handle Japanese data. Both of the puzzles have to do with what we call ‘finite control’ constructions such as (1):

- (1) Hiroshi_i-wa [Δ_i nattoo-o tabe-ru-koto]-o
Hiroshi-Top nattoo eat-Prs-C_{koto}-Acc
kessinsita
decided
‘John decided to eat natto.’

As in (2) below, the null complement subject in a construction of the type exemplified by (1) does not allow for a long distance antecedent (i.e. an antecedent that is not a clause-mate to the control clause), just as the null subject in the English obligatory control sentence *John decided Δ to eat natto*:

- (2) * karera_i-wa [kantoku-ga [Δ_i otagai-o
they-Top [director-Nom [each other-Acc
naguri-a-u-koto]-o kessinsita-to] omotta
hit-Recip-Prs-C_{koto}]-Acc decided-C_{to}] thought
‘They thought that the director had decided to hit each other.’

OC with *kessinsu(ru)* ‘decide’

What is curious about this construction is that the predicate of the complement clause appears to be marked for tense, unlike its English counterpart. The so-called present tense marker *-ru* attaches to the embedded verb. It looks like the *koto*-CP in (2) is a finite clause, while many theories of control do not allow this possibility (see though

Watanabe 1993: chap. 2.1, Landau 2004, Potsdam 2006, among others). Further, note that, unsurprisingly, Japanese has finite complement clauses that do not involve OC. (2) and (3) are a minimal pair:

- (3) *karera_i-wa* [*kantoku-ga* [Δ_i *otagai-o*
 they-Top [*director-Nom* [*each other-Acc*
 naguri-a-u-koto]-*o* *soozoosita-to*] *omotta*
 hit-Recip-Prs-C_{no}]-Acc *imagined-C_{to}* *thought*
 ‘They thought that the director had imagined that they would hit each
 other.’

non-control with *soozoosu(ru)* ‘imagine’¹

Long distance antecedence is perfectly fine here. Hence, Δ in (3) is not OC PRO. Rather it looks like *pro*. If we take Δ in (2) to be PRO of the sort found in English, the issue arises as to why OC PRO occurs in (2) but not in (3) (The issue is noted by Saito (1982: 21f.).

- (4) Japanese allows OC into *tensed* clauses. How is this possible, given that it is not possible in languages like English?

The answer that we will provide is that the complement of *decide* in (2), unlike that of *imagine* in (3), is a [-finite] clause, just like English infinitival clauses. This answer to the first puzzle leads one to ask whether there is any indication of this way of looking at the two types of complement clauses.

Notice that predicates of the so-called present tense form found in the CP complement of *kessinsu(ru)* ‘decide’ cannot alternate with the so-called past tense form. (Such cases have been noted in one way or another by many authors including Nakau 1973: 225, Ohso 1976: 90ff., Saito 1985: 267, n34, Sakaguchi 1990, Ueda 1990: 76, Watanabe 1996b):

¹ “Non-control” refers to cases that can be analyzed to involve no PRO. If the analysis that will be presented below is correct, the subject of the complement of *imagine* is little *pro*, which is assigned structural Case.

- (5) * Hiroshi_i-wa [Δ_i nattoo-o tabe-ta-koto]-o kessinsita
Hiroshi-Top natto-Acc eat-Past-C_{koto}-Acc decided
 ‘Hiroshi decided to eat natto.’

In contrast, both the present and past tense forms can occur in the CP-complement of *imagine*, which does not involve OC:

- (6) Hiroshi_i-wa [Δ_i nattoo-o tabe-**ta**-koto]-o soozoosita
Hiroshi-Top [natto-Acc eat-Past-C_{koto}]-Acc imagined
 ‘Hiroshi imagined that he had eaten natto.’

This difference between the two tensed complements leads one to the following generalization that helps to detect the finiteness of Japanese tensed clauses:

- (7) Tense alternation generalization (informal):

Tensed subordinate clauses in Japanese act like infinitives if and only if their predicate does not alternate between the present tense form and the past tense form.

The intuition that predicates of the present tense form are not always finite can be traced back to Kuroda (1965: 167ff.) and Ohso (1976: 90ff) in the early generative literature. They noted that clauses with predicates of the present tense form, meaning-wise, look like English infinitives; see also Saito 1985: 267, n34, Nemoto 1993: 207, Aoshima 2001, Kuroda 1990, 2003.² If (7) or something along these lines is correct, the above data entail that the complement of *decide* is nonfinite while that of *imagine* is finite. We call tensed subordinate clauses that obey the generalization about tense

² In fact, the simple present tense form of verbs is the citation form in Japanese. The tense alternation generalization, however, should not be taken to mean that when the past tense form is barred, the clause is pseudo-finite. Uchibori (2000: 144) makes the observation that factive predicates such as *kookaisu(ru)* ‘regret’ takes a clausal complement in which the predicate is always in the past tense. (The observation is attributed to Koichi Takezawa.) These verbs generally involve OC.

effects are observed. What we see in (8) and (9) is quite puzzling. Long distance antecedents are prohibited across the board in languages like English when null subjects appear in complement subject position (see Landau 2000 for extensive discussion of the classification of control in English):

(10) *John_i thought Mary was planning [Δ_i to eat natto]

Given this state of affairs, one could advance a Japanese-particular claim like the following: The null complement subjects appearing under *plan* and appearing under *decide* are both PRO. The interpretation of PRO in the language should follow directly from, say, some lexical semantic difference between *keikakusu(ru)* ‘plan’ and *kessinsu(ru)* ‘decide’. In such a view, the lexical semantics of ‘decide’ prohibits PRO from being bound long distance, and the theory of the distribution of the empty category (that allows it to occur in the subject position of infinitives) can be maintained.

Although such a way to go is perfectly coherent, its consequence does not seem to be acceptable. This approach makes it almost impossible to tease apart the claim that those null subjects are big PRO from the entirely different claim that those are little *pro*. If one argues that the interpretation of those null subjects has nothing to do with the syntax of complement clauses, a reason to distinguish PRO from *pro* based on the contrast between (2) and (3) would disappear. The null subjects of the complement of *imagine* and the complement of *decide* could be both PRO or both *pro*. Indeed, two prior studies of null subjects in East Asian languages in the eighties proposed to make no distinction between what one might call PRO and what one might call *pro*. Huang (1989) claims, on data somewhat different from ours, that in those languages, null subjects of tensed clauses are “controlled” *pro* (when they are not syntactic variables) (see Huang 1984, 1989, 1991 for details). Hasegawa (1984-85), contra Huang, argues that those null subjects are PRO (when they are not syntactic variables), assuming

that subject positions of tensed clauses in Japanese are optionally governed.³ Note incidentally that the data that motivate the finite vs. pseudo-finite distinction (i.e. OC PRO vs. *pro*) argue against Huang's idea that *pro* is "controlled" (see also Huang 1989 for criticism of Hasegawa's approach.)

The bottom line is that we should not discard the present analysis of the difference between the *imagine* case and *decide* case unless we find a case in which a case in which the tense of subordinate clauses does alternate but their subject acts like OC PRO. Thus, the question pertaining to the non-control behavior found in (8) can be addressed in the following form:

- (11) How is it possible for the null subject of nonfinite clauses not to show the properties of OC PRO?

I attempt to provide a configurational answer to (11) in section 6.

This chapter is organized as follows: In section 2, I attempt to explicate the tense alternation generalization in slightly more formal terms. In section 3, some core data about finite OC are presented. The major aim there is to demonstrate that the actual distribution of OC PRO is largely correlated with a property of tense morphology of embedded clauses. Importance of distinguishing null subjects of pseudo-finite clauses from those of finite clauses is shown. It is also pointed out in that section that there are cases where null subjects of nonfinite complements do not behave as either OC PRO or NP-t (the second puzzle). Section 4 concerns raising. It is observed that pseudo-finite clauses appear in a subject-to-subject raising construction. This observation supports the idea that tense alternation is a central factor in determining finiteness in Japanese. Section 5 analyzes the three different null subjects, i.e. null subjects of regular finite complements, OC PRO and NP-t under the movement theory of control. Some implications for the theory of control are briefly discussed, too. The second puzzle about the distribution of PRO is discussed in section 6, where

³ Hasegawa (1984-85) examined cases in which null subjects appear in sentential subjects, as well as complements and adjuncts. I do not discuss these cases here. See chapter 1 for some comments.

it is argued that the problematic nonfinite complements are Non-obligatory Control (NOC) clauses. Section 7 concludes.

2 The Tense Alternation Generalization

Before looking at data concerning OC in greater detail, I would like to mention a few notes on the tense alternation generalization. First, the notion of “alternation” found in (7) can be made clearer by using features such as [\pm past] and [\pm finite]. As noted earlier, *kessinsu(ru)* ‘decide’ (yielding OC) and *keikakusu(ru)* ‘plan’ (yielding no OC) do not allow its complement to be marked with past tense marker *-ta*. (Note that Japanese does not exhibit the ‘sequence of tense’ effect; see Ogihara 1996 for extensive discussion.) Assuming that a T bearing [$-$ past] is realized as *-ru* and a T bearing [$+$ past] as *-ta*, the way that *decide* restricts the tense marking of its complement can be described as in (12):

- (12) *kessinsu(ru)* ‘decide’, *keikakusu(ru)* ‘plan’
 T of complement clause: * [$+$ fin, $+$ past] (spelled out as *-ta*)
 * [$+$ fin, $-$ past] (spelled out as *-ru*)
 * [$-$ fine, $+$ past] (spelled out as *-ta*)
 ✓ [$-$ fin, $-$ past] (spelled out as *-ru*)

On the other hand, verbs like *soozoosu(ru)* ‘imagine’ allows its complement to be marked with present tense or past tense. (We do not know whether the verb cannot take a [$-$ finite] complement, as indicated by %, because the set of the properties of nonfinite complements is subsumed by the set of the properties of finite complements with respect to the interpretation of their null subject):

- (13) *soozoosu(ru)* ‘imagine’:
 T of complement clause: ✓[+fin, +past] (spelled out as *-ta*)
 ✓ [+fin, -past] (spelled out as *-ru*)
 %[-fin, +past] (spelled out as *-ta*)
 %[-fin, -past] (spelled out as *-ru*)

Secondly, note that, as briefly mentioned in footnote 2, it is not the case that pseudo-finite clauses are always in the present tense. Factive verbs such as *kookaisu(ru)* ‘regret’ require a past tense complement and yield OC:

- (14) Taro-wa [Δ ootoo-o {**nagu-ru/nagut-ta*}-koto]-o
Taro-Top younger brother-Acc hit-Prs/hit-Past-C_{koto}-Acc
kookaisi-tei-ru
regret-Asp-Prs
 ‘Taro has regretted hitting his younger brother.’

The present tense form of the embedded predicate is barred, and the complement subject acts like OC PRO:

- (15) * karera_i-wa [kantoku-ga [Δ_i otagai-o
they-Top [director-Nom [each other-Acc
naguri-at-ta-koto]-o kookaisi-tei-ru-to] omotta
hit-Recip-Past-C_{koto}]-Acc regret-Asp-Prs-C_{to}] thought
 ‘They thought that the director had regretted hitting each other.’
 OC with *kookaisu(ru)* ‘regret’

The null complement subject cannot be bound long distance. The two observations lead to characterizing the T of the factive complement clause as in (16):

(16) *kookaisu(ru)* ‘regret’

- T of complement clause: * [+fin, +past] (spelled out as *-ta*)
* [+fin, -past] (spelled out as *-ru*)
✓ [-fin, +past] (spelled out as *-ta*)
* [-fin, -past] (spelled out as *-ru*)

Viewed in terms of features [\pm finite] and [\pm past], the tense alternation generalization then can be restated in the following way:

(17) Tense alternation generalization:

If the T of a subordinate tensed clause cannot bear [+past] or cannot bear [-past] in environment E, it must bear [-finite] in E.

Thirdly, the question of where the tense alternation generalization comes from needs to be asked. Why and how is it the case that clauses whose T can carry [-past] but cannot carry [+past] (or vice versa) must be [-finite]? Although I have no answer to this question, it should be noted that the list of predicates taking pseudo-finite complements is highly similar to the list of predicates that have been called irrealis and realis predicates in the literature on English infinitives. Landau (2000, 2004) proposes a three-way distinction with respect to the tense of complement clauses: (i) independent tense, (ii) dependent tense and (iii) anaphoric tense.⁴ The category of Japanese subordinate clauses that we are dealing with seems to be “dependent tense” in Landau’s term. That is, *kessinsu(ru)* ‘decide’ and *keikakusu(ru)* ‘plan’ are both irrealis predicates, whereas *kookaisu(ru)* ‘regret’ is a realis. Landau argues that irrealis and realis infinitives have tense features. While it is a coherent position to claim that our [\pm past] feature is the same thing as Landau’s tense feature, I do not commit myself to the issue of whether nonfinite clauses are “tensed” or not. Unlike the popular view that at least certain infinitives are “tensed”, Wurmbrand (to appear) claims that they are tenseless. Observing that infinitives lack the properties found

⁴ For the interaction between control and the temporal interpretation of embedded clauses, see also Bresnan 1982, Stowell 1982, Pesetsky 1991, Martin 1996, 2001, Bošković 1997, Pesetsky and Torrego 2001, Wurmbrand 2001, to appear, to list a few.

with the tense of finite embedded clauses, she proposes that irrealis interpretation of the sort found in certain infinitive constructions come from the abstract future modal *woll* (which is spelled out as *will* when it is combined with present tense), but not tense. It is perfectly possible to associate [-finite] *-ru* in Japanese with *woll* (and [-finite] *-ta* with some other modal that yields the effect it has). I, though, stick to the terminology “tense” to refer to an element such as *-ru* and *-ta* since these morphemes have been called so in the literature.

3 ‘Finite’ Obligatory Control and Non-Control

This section examines standard diagnostics to distinguish OC PRO from NOC attested in studies of control in other languages to see that we have at least two categories: (a) Pseudo-finite clauses in complement position that involve OC and (b) genuine finite clauses in complement position, which never involve OC. The aim of the section is to show that complements of *decide*-type verbs, unlike complements of *imagine*-type verbs, are control clauses by running some OC diagnostics: (i) long distance antecedence is not possible with OC while it is possible with Case-marked *pro*; (ii) strict interpretation under ellipsis is not possible with OC PRO while it is possible with Case-marked *pro*; (iii) bound variable interpretation with ‘only NP’ antecedents is obligatory with OC PRO while it is not with Case-marked *pro*; and (iv) *de-se* interpretation is obligatory with OC PRO while it is not with Case-marked *pro*.

3.1 Ban on long distance antecedents

We have already seen that null subjects of pseudo-finite clauses resist taking their antecedent across two clause boundaries (except for problematic cases such as the case of *plan*). What these data show is that those null subjects behave like OC PRO. Let us examine (18)a (with *decide*) and (18)b (with *promise*):

- (18) a. * karera_i-wa [kantoku-ni [Δ_i otagai-o
they-Top [director-Dat[each other-Acc
 hihansi-aw-u-koto]-o kessinsi-te] hosikatta
criticize-Recip-Prs-C_{koto}]-Acc decide-TE wanted
 ‘They wanted the director to decide to criticize each other (in the next
 movie).’
- b. # Mary_i-wa [otto-ga kangohu-to [Δ_i sono heya-de
Mary-Top [husband-Nom nurse-with [that room-in
 syussansu-ru-koto]-o yakusokusita-to] omotta
give birth-Prs-C_{koto}]-Acc promised-C_{to}] thought
 ‘Mary thought her husband had promised the nurse to give birth in that
 room.’

We have already seen a sentence of the type exemplified by (18)a. *Otagai-o V-aw* in the first example is the predicate associated with the null subject. As indicated in the gloss, *otagai-o* is a reciprocal pronoun, and *-aw* is a reciprocalizer, which attaches to a verb stem to yield reciprocal verbs.⁵ Singular subjects are impossible to obtain when the VP has this form. The point is that *otagai-o V-aw* helps to force Δ to be

⁵ Hoji (1997) correctly observes that reciprocal anaphor *otagai* can take split antecedents, citing examples like (i) (=Hoji’s 9b with the slightly modified glosses):

- (i) Ieyasu₁-wa Nobunaga₂-ni [Singen-ga otagai₁₊₂-o home-tei-ta-to]
Ieyasu-Top Nobunaga-Dat [Shingen-Nom otagai-Acc praise-Asp-Past-C]
 tuge-ta
tell-Past
 ‘Ieyasu₁ told Nobunaga₂ that Nobunaka had been praising them₁₊₂.’

Curiously enough, when the embedded verb is reciprocalized, i.e. supplied with the verbal suffix *aw*, split antecedence goes away:

- (ii) * Ieyasu₁-wa Nobunaga₂-ni [Singen-ga otagai₁₊₂-o
Ieyasu-Top Nobunaga-Dat [Shingen-Nom e.o-Acc
 home-at-teita-to] tuge-ta
praise-Recip-Asp-Past-C] told
 ‘Ieyasu₁ told Nobunaga₂ that Nobunaka had been praising them₁₊₂.’

The generalization seems to be that when *otagai* appears inside a VP whose head is morphologically reciprocalized with *aw*, the reciprocal anaphor requires a local non-split binder. Thanks to Chizuru Nakao for helpful discussion.

interpreted as bound by a long distance plural antecedent, rather than by a short distance singular antecedent. (18)a is unacceptable because the locality requirement for OC conflicts with the property of VPs of the reciprocal form.

(18)b is pragmatically anomalous, because the referent of the short distance antecedent, *the husband*, is a male, and OC forces the predicate *give birth* to apply to the male individual, which conflicts with our world knowledge. If long distance antecedence were allowed, this example would be acceptable with the embedded VP predicated of *Mary*.

The ban on long distance antecedence holds for the object control construction. We find examples like (19), whose predicate *susume(ru)* ‘persuade/recommend’ takes a control clause:⁶

- (19) * karera_i-wa [butyoo-ni Taro-ni [Δ_i otagai-o asu
they-Top [manager-Dat T-Dat [e.o-Acc tomorrow
hihansi-a-u-koto]-o susume-te] hosikatta
criticize-Recip-Prs-C_{koto}-Acc persuade-TE] wanted
 ‘They_i wanted [their boss to persuade Taro [that they_i should criticize
 each other tomorrow]].’

Here the null subject of the control clause cannot be bound by the subject of the highest clause, *they*, which is the only one NP that can satisfy the property of *criticize each other*.

The tense alternation generalization seems to be empirically correct. It is expected that the tense of these embedded clauses is fixed to the present tense because the constructions involve embedding of nonfinite clauses. The most deeply embedded predicate is not allowed to be in the past tense form:

⁶ The so-called nominalizing complementizer *koto* (which is cased-marked) can replace with a non-nominalizing complementizer *yooni*; see Nakau 1973, Nemoto 1993, Uchibori 2000, Aoshima 2001 for discussion of the latter complementizer. The difference between nominalizing and non-nominalizing complementizers will be syntactically relevant in the discussion in section 6.3.

- (20) a. kantoku-wa [Δ karera-o {hihansu-ru/*hihansi-ta}-koto]-o
director-Top [*them-Acc* *criticized-Past/Past-C_{koto}*]-*Acc*
 kessinsi-ta
decide-Past
 ‘They decided to criticize them.’
- b. Mary-wa kangohu-to [Δ sono heya-de
Mary-Top *nurse-with* *that room-in*
 {syussansu-ru/*syussansi-ta}-koto]-o yakusokusita
give birth-Prs/Past-C_{koto}-Acc *promised*
 ‘Mary promised the nurse to give birth in that room.’
- c. butyoo-ga Taro-ni [Δ karera-o
manager-Nom *Taro-Dat* [*they-Acc*
 {hihansu-ru/*hihansi-ta}-koto]-o susume-ta
criticize-Prs/Past-C_{koto}]-Acc *persuade-Past*
 ‘The boss persuaded Taro to criticize them.’

These complement clauses are therefore taken as pseudo-finite clauses, or specified [-finite].

Let us turn to null subjects of genuine finite clauses. They behave just like *pro*; that is, there is no restriction on long distance antecedence:

- (21) karera_i-wa [kantoku-ni [Δ _i otagai-o
they-Top [*director-Dat* [*e.o.-Acc*
 hihansi-a-u-no]-o mi-te] hosikatta
criticize-Recip-Prs-C_{no}]-Acc *see-TE* *wanted*
 ‘They wanted the director to see them criticize each other.’
 non-control with *see*

- (22) karera_i-wa [butyoo-ni Taro-ni [Δ_i otagai-o asu
they-Top [manager-Dat Taro-Dat [e.o-Acc tomorrow
 hihansi-a-u-koto]-o tutae-te] hosikatta
criticize-Recip-Prs-C_{tokoro}-Acc inform-TE] wanted
 ‘They wanted their boss to inform Taro that they would criticize each
 other tomorrow.’ non-control with *inform*

Conforming to the tense alternation generalization, the tense of those finite clauses can be either present or past:

- (23) a. kantoku-wa karera-ga otagai-o hihansi- $\{a-u/at-ta\}$ -no-o
director-Top they-Nom e.o.-Acc criticize-Recip-Prs/Past-C_{NO}-Acc
 mita
saw
 ‘The director saw them criticize each other.’
- b. butyoo-ga Taro-ni [karera-ga otagai-o
manager-Nom Taro-Dat [they-Nom e.o-Acc
 hihansi- $\{a-u/at-ta\}$ -koto]-o tutaeta
criticize-Recip-Prs/Past-C_{koto}]-Acc told
 ‘The manager told Taro that they $\{$ would criticize, had criticized $\}$ each
 other.’

The data concerning the ban on long distance antecedents show that the distinction between OC and non-control correlates with tense marking of complement predicates.

3.2 Necessity of c-command

It is generally agreed upon that OC PRO needs c-commanding antecedents (see, though, Landau 2000: 31 and chapter 3 of his work for some constructions where the condition is apparently violated). This requirement holds for null subjects of Japanese pseudo-finite clauses. Clauses occurring in complement position do not allow their null subject to be (semantically) bound by the genitive NPs inside a potential

controller (24):

- (24) a. # [Mary_i-no titioya]-wa yorokonde [Δ_i sono byooin-de
Mary-Gen father-Top happily that hospital-in
syussansu-ru-koto]-o kessinsita
give birth-Prs-C_{koto}]-Acc decided
‘Mary’s father happily decided to give birth in that hospital.’
OC with *decide + koto*
- b. * sensei-wa sono kyoodai_i-no hahaoya-ni [Δ_i otagai-o (yoku)
teacher-Top that brother-Gen mother-Dat e.o-Acc often
home-aw-u-yooni] tanonda
praise-Recip-Prs-C_{yooni}]-Acc asked
‘The teacher asked these brothers’ mother to praise each other more
often.’ OC with *ask + yooni*

If *koto*-clauses appear with verbs like *hear* or *inform* as in (25), the null subject starts to take these antecedents without degradation:

- (25) a. [Mary_i-no titioya]-wa yorokonde [Δ_i sono byooin-de
Mary-Gen father-Top happily that hospital-in
{syussansu-ru/syussansi-ta}-koto]-o kiita
give birth-Prs/give birth-Past-C_{koto}]-Acc heard
‘Mary’s father happily heard that she {would give, had given} birth in
that hospital.’ non-control with *hear + koto*
- b. sensei-wa sono kyoodai_i-no hahaoya-ni [Δ_i otagai-o yoku
teacher-Top that brother-Gen mother-Dat e.o-Acc often
home-{a-u/at-ta}-koto]-o kossori osieta
praise-{Recip-Prs/Recip-Past}-C_{koto}]-Acc secretly informed
‘The teacher secretly told these brothers’ mother that they {(often)
praise, had praised} each other.’ non-control with *inform + koto*

Again, the complements of examples like these can be present tense and past tense. The tense alternation generalization correlates with the c-command condition.

3.3 Ban on strict interpretation of Δ

One other interpretive characteristic of OC PRO is that it is always a bound variable. To put it differently, the empty category, unlike pronouns, cannot be interpreted as a free variable (Foder 1975, Chomsky 1981, Reinhart 1983, Lebeaux 1984, Higginbotham 1992); see Heim and Kratzer 1998 for semantic binding. A diagnostic to distinguish OC from others in this respect has to do with ellipsis. OC PRO cannot support strict identity but it requires sloppy identity, just like standard local anaphors (Bouchard 1984, Higginbotham 1992):

- (26) a. A: Mary-wa [Δ zibun-no peesu-de sigoto-o
Mary-Top [*at self's pace* *work-Acc*
 tuzuke-ru-koto]-o kessinsita
continue-Prs-C_{koto}-Acc *decided*
 ‘Mary decided to continue to work at her own pace.’
- B: butyoo-mo da
manager-even Cop
 ‘The manager decided to continue to work at her own pace.’
 *’The manager decided that she should continue to work at her own
 pace.’

OC with *decide* + *koto*

- b. A: Taro-wa Mary_i-ni [Δ_i Osaka-ni ik-u-koto]-o
Taro-Top Mary-Dat [Osaka-to go-Prs-C_{koto}]-Acc
 meizita
ordered
 ‘Taro ordered Mary to go to the store.’
- B: Dave-ni-mo da
Dave-Dat-even Cop
 ‘Dave, too.’
 ‘Taro ordered Dave that Dave should go to Osaka.’
 *‘Taro ordered Dave that Mary should go to Osaka.’
- OC with *order* + *koto*

Both subject and object control, like those in English, do not permit a strict reading.

When we run this ellipsis test with a finite complement, which allows its predicate to appear in either the present or past tense form, we find that a strict reading is available:

- (27) A: Mary-wa [Δ zibun-no peesu-de sigoto-o
Mary-Top [at self's pace work-Acc
 tuzuke- {ru/ta}-koto]-o tegami-ni kaita
continue-Prs/Past-C_{koto}-Acc letter-in wrote
 ‘Mary wrote in her letter that she {would continue, had continued} to work at her own pace.’
- B: butyoo-mo da
manager-even Cop
 ‘The manager wrote in his letter that he {would continue, had continued} to work at his own pace.’
 ‘The manager wrote in his letter that she {would continue, had continued} to work at her own pace.’
- non-control with *write* + *koto*

Therefore, the availability of strict readings of null subjects correlates with the tense alternation generalization: pseudo-finite clauses are [-finite], whose subject is OC PRO.

3.4 Bound variable interpretation with ‘*only*-NP’ antecedents

Virtually the same point can be shown with another test, which utilizes the focus particle *only*. Consider:

- (28) a. Only John expected [PRO to win a prize]
b. Only John expected [he would win a prize].

There are two interpretations that are potentially associated with (28)a and (28)b: (29)a and (29)b. Following Higginbotham (1992), we call a reading of the former kind the “covariant” reading and one of the latter kind the “invariant” reading:

- (29) a. Covariant interpretation:
Only John satisfies the property: x expected x would win a prize
b. Invariant interpretation:
Only John satisfies the property: x expected John would win a prize

An interpretive difference between pronouns and OC PRO emerges in such a way that (28)a does not allow the invariant interpretation while (28)b allows both readings. To see if this is the case, let us consider two scenarios, both of which make one interpretation true and the other false.

(30) Scenario 1

John: “I’m sure I will win some prize.”

Mary: “I’m sure I will win some prize, but I doubt John will win any.”

- a. Covariant interpretation (29)a -> false
b. Invariant interpretation (29)b -> true

Obligatory control sentences lack this ambiguity. Observe:

- (34) Yoko_i-dake-ga syatyoo-to [Δ_i Osaka-ni
Yoko-only-Nom owner-with Osaka-to
 {ik-u/*it-ta}-koto]-o yakusokusita
go-Prs/go-Past-C_{koto}-Acc promised
 ‘Only Yoko promised the owner to go to Osaka.’
 OC with *promise+koto*

It is not the case that (34) is ambiguous between (35)a and (35)b:

- (35) a. Invariant interpretation: Yoko is the only x such that x promised the owner that Yoko would go to Osaka.
 b. Covariant interpretation: Yoko is the only x such that x promised the owner that x would go to Osaka.

The utterance can only be continued with “No, Hiroshi also promised the owner that he would go to Osaka.” Also, notice that *it-ta* ‘go-Past’ is disallowed in the complement clause in (34). On the other hand, the string *ik-u-koto* (go-Prs-C) in (33) can be replaced with *it-ta-koto* (go-Past-C) without degradation of acceptability. The version of the sentence with the past tense complement:

- (36) Yoko_i-dake-ga syatyoo-to [Δ_i Osaka-ni it-ta-koto]-o
Yoko-only-Nom owner-with Osaka-to go-Past-C_{koto}-Acc
 hanasita
talked
 ‘Only Yoko talked with the owner (about the fact) that she had gone to Osaka.’
 non-control with *talk + koto*

This sentence is ambiguous with respect to the interpretation of Δ , just like its present-tense variant.

3.5 *De se* interpretation

Since Chierchia (1989), it has been a well-known fact that (subject-controlled) OC PRO does not allow a non-*de se* interpretation; see also Higginbotham 1992, Hornstein 1999, Landau 2000, Anand and Nevins 2004. Elements including NOC PRO and overt pronouns allow both *de se* and non-*de se* interpretations. As will be shown below, the null subject of the complement of *kessinsu(ru)* ‘decide’ requires a *de se* interpretation, whereas the null subject of the complement of verbs like *soozoosu(ru)* ‘imagine’ allows a non-*de se* interpretation as well as a *de se* interpretation.

Consider the following scenario:

- (37) Taro has been working for a small company. One day, the owner of the company gave him a file that contained info about each employee’s business achievements. She said that she would have to ask at least one employee to leave the company because downsizing was inevitable. She wanted him to go through the file and pick one person in some objective way. The owner left out employees’ names and used different numbers to refer to them, so that Taro’s evaluation wouldn’t be biased. Reviewing the records, Taro reluctantly chose one person because his or her achievements were very poor. Imagining that the employee was asked to leave, he felt sorry. He gave the owner the number that was assigned to the employee in question. The owner found the employee to be Taro. She asked him to leave on the following day.

This scenario helps to set up a situation in which Taro was not informed of the identity of the person who he chose, even though that person was in fact him. Now compare (38), where *soozoosu(ru)* ‘imagine’ is the main verb, and (39), where *kessinsu(ru)* ‘decide’ is.

- (38) Taro_i-ga [Δ_i taisyoku-ru-koto]-o soozoosita
 Taro-Nom [leave.company-Prs-C_{koto}]-Acc *imagined*
 ‘Taro imagined that he would leave the company.’ (non-*de se*)
imagine + *koto*-complement
- (39) Taro_i-ga [Δ_i taisyoku-ru-koto]-o kessinsita
 Taro-Nom [leave.company-Prs-C_{koto}]-Acc *decided*
 ‘Taro decided to leave the company.’ (*non-*de se*)
kessinsu(ru) ‘decide’ + *koto*-complement

The result is that the example with *decide* is not felicitous to utter whereas the one with *imagine* is fine. (Both sentences are compatible with *de se* scenarios in which he decided or imagined that he himself would leave the company.) Thus, the null subject of the complement of *kessinsu(ru)* ‘decide’ cannot receive a non-*de se* interpretation just as OC PRO, whereas the null subject of the complement of *imagine* can receive that interpretation, just as overt pronouns like *he* in English.

3.6 Intermediate summary

This section showed that there is some correlation between tense marking on subordinate clauses and the interpretation of null subjects. The data suggest that we need to distinguish between two null subjects. One is OC PRO, and the other is *pro*. I claim that, invoking the generalization in (17), repeated below, that there are two kinds of tensed clauses: genuine finite clauses and pseudo-finite clauses. Once the latter are taken to be a species of infinitives, the distributional properties of OC PRO and *pro* in Japanese become normal; hence this is a welcome result.

(40) Tense alternation generalization:

If the T of a subordinate tensed clause cannot bear [+past] or cannot bear [-past] in environment E, it must bear [-finite] in E

In the next section, the tense alternation generalization gains further support. It holds not only for obligatory control but also for raising.

4 ‘Finite’ Raising

If pseudo-finite complements exist, there should be a chance of raising out of tensed clauses.⁷ I argue that what we call the *become*-construction is an instance of subject-to-subject raising (in agreement with Nakau 1973: 197 and Uchibori 2000), and that the complement *yooni*-clause found in the construction is [-finite]. Here is one example of the *become*-construction:

- (41) Taro-ga benkyoosu-ru-yooni natta
 Taro-Nom study-Prs-C_{yooni} became
 ‘Taro has started to study hard (habitually).’

The following needs to be shown to hold for this construction: When the subject is non-thematic, it is assigned Case by the matrix Case assigner, say, T. First, let us make sure that the predicate *na(ru)* ‘become’ can be non-thematic. There are at least four possible analyses of the string in (41):

- (42) a. NP_i-Nom [PRO_i ... T-C] become
 θ
 b. NP_{θi}-Nom [*pro*_i ... T-C] become
 θ
 c. NP_i-Nom [*t*_i ... T-C] become
 θ-bar

⁷ I say “chance,” because on the classic GB view, raising and control were mutually exclusive. A-trace must be governed (and properly governed), while PRO must not be governed (see Chomsky 1981, Lasnik and Uriagereka 1988). The same mutual exclusiveness holds for the null Case theory. Martin 1992, 1996, 2001 and Bošković 1997 propose that the T of control infinitives is specified [+tense] and checks null Case, while the T of raising infinitives is specified [-tense] and does not check Case. Therefore, in these theories, the existence of control infinitives in a language does not necessarily lead one to expect that raising infinitives also exist in the language.

- d. (Expl) [NP_i-Nom ... T-C] become
 θ-bar

(42)a and (42)b illustrate possibilities under which *become* has the external argument, which binds the null subject of the *yooni*-CP. The possibility given in (42)c is that *become* lacks an external argument and the embedded subject undergoes A-movement to subject position (raising). The structure in (42)d represents the variant involving non-thematic *become* in which no movement takes place. Instead, an expletive can be inserted.

There is evidence that *na(ru)* ‘become’ can be non-thematic. Consider the following example:

- (43) hubuk-u-yooni natta
 snow-Prs-C_{yooni} became
 ‘A snowstorm has started to blow up.’

(43) shows that a predicate taking what we may call *weather-pro* (quasi-argument in the sense of Chomsky 1981: 325) can cooccur with *become*. As Takahashi (2000) shows, *weather-pro* is necessarily the argument of ‘meteorological’ predicates like *hubuk(u)* ‘snow hard’ or *sigure(ru)* ‘drizzle’. Unless *nar(u)* ‘become’ can take *weather-pro* as its quasi-argument, (43)a must have a structure (42)c or (42)d. There is no evidence that *become* is a meteorological predicate.

Stronger evidence for *become* being non-thematic comes from idiom chunks. As Uchibori (2000:62) observes, the idiom chunk *siraha-no ya* occurs with nominative Case in this construction. Example (44) is modeled on Uchibori’s.

- (44) siraha-no ya-ga saikin John-ni tat-u-yooni
white fur arrow-Nom recently John-Dat stand-Prs-C_{yooni}
natta
became
lit. ‘It recently became that white-furred arrows stand on John.’
‘John has recently started to get chosen (for a job or a role).’

If *become* always assigns an independent θ -role to its subject, (44) should be excluded because idiom chunks cannot be true arguments. We thus conclude that *become* should have a non-thematic use, (42)c or (42)d. The next issue to be considered is whether the nominative subject has Case relationship with any element in the matrix. I present one argument that the embedded subject can be assigned Case by the matrix Case assigner.

The argument for the raising analysis of the construction is built on the process called nominative-genitive conversion (for studies of this construction in the P&P framework, see Miyagawa 1993, Watanabe 1996c, Ochi 1999, Hiraiwa 2001, Saito 2004, among others).

- (45) a. [gakkoo-ni Taro-ga/no kita-koto]-o sitteiru
[school-to T-Gen/Nom came.Adnom-C_{koto}]-Acc know
‘I know that Taro came to school.’
- b. [gakkoo-ni Taro-ga/*no kita-to] sitteiru
school-to T-Gen/Nom came.Conc-C_{to} know
‘I know that Taro came to school.’
- c. gakkoo-ni Taro-ga/*no kita-yo
school-to Taro-Gen/Nom came.Conc-SFP
‘Taro came to school.’

Hiraiwa showed that this case conversion process is licensed by *rentaikei* (adnominal) morphology of predicates, as opposed to *syuusikei* (conclusive) morphology of them. Roughly put, when a tensed predicate precedes relative heads, nominalizing

ungrammaticality of (47)b. It might be the case that (i) *John* is already in a Case position, so that it cannot get another Case, that (ii) a finite CP imposes a locality constraint on long distance A-movement or long distance Case assignment (just like the CP in **Mary_i seems [t_i is happy]*), or that (iii) the expletive gets genitive Case from the adnominal T, so that the embedded subject has no chance to get it. No matter which analysis applies, the ungrammaticality of (47)b seems to suggest that genitive Case assignment displays normal properties of Case assignment.

Let us now move onto the *become*-construction. The following contrast is obtained:

- (48) a. * sirahanoya-no saikin John-ni tat-u-yooni
 white fur allow-Gen recently John-Dat stand-Prs-C_{yooni}
 natta(-to hizyooni yorokobareteiru-yo)
 became.Conc-C_{to} very is.appreciated-SFP
 ‘(It is celebrated that) John has recently started to get chosen.’
- b. [sirahanoya-no saikin John-ni tat-u-yooni
 white fur allow-Gen recently John-Dat stand-Prs-C_{yooni}
 natta-koto]-wa hizyooni yorokobasi-i-yo
 become-Past.Adnom-C_{koto}]-Top very delightful-Prs-SFP
 ‘It is very delightful that John has recently started to get chosen.’

There is a clear contrast between (48)a and (48)b. The latter is considerably better than the former. It seems to be true that predicates preceding the *yooni*-complementizer are in the adnominal form. So let us consider the contrast in (48) under two possibilities. First, suppose that the complementizer *yooni* licenses genitive-assigning T. Under this assumption, the unacceptability of (48)a can be explained if the following holds: raising of the subject out of the *yooni*-CP is required. Since no genitive-Case assigner is present in the matrix, the subject fails to obtain genitive *no* here. The status of (48)b automatically follows then. The *koto* complementizer licenses the genitive subject (through the T of that clause). The T successfully enters into a Case relation with the moved subject. (It should be noted

that this explanation leads us to drop the standard assumption that A-movement from Case position is prohibited. We are assuming that the T of the *yooni*-CP assigns Case.) The second possibility is that the embedded T does not assign genitive.⁸ (48)a is straightforwardly excluded, since no adnominal T is present anywhere in the structure. (48)b, on the other hand, is expected to be grammatical if raising/long Case assignment is assumed. The adnominal T of the *koto*-clause should be able to affect the downstairs subject. If this reasoning is correct, the contrast shown in (48) strongly suggests that raising or long distance Case assignment is involved in this construction, regardless of whether or not *-yooni* by itself makes the adjacent T license genitive subjects.

Having shown that the *become* construction has properties of raising complements, let us see whether these complements show the property of infinitives, namely, whether the embedded predicate alternates with the past tense form in this construction. As in (49), the embedded clause must be in the present tense:

- (49) * sirahanoya-ga saikin John-ni tat-ta-yooni
white fur allow-Nom recently John-Dat stand-Past-C_{Yooni}
 natta
became
 lit. ‘It has recently become that white-furred arrows stood on John.’

If the discussion in previous sections is correct, this suggests that a *yooni*-complement is nonfinite. However, this cannot be the whole story. We find acceptable examples in which a past tense complement is headed by *-yooni*. Examine for example (50):

- (50) John-ga tabako-o sut-ta-yooni natta
John-Nom cigarette-Accsmoke-Past-C_{yooni} became
 ‘John became as if he had smoked.’

⁸ In fact, adnominal morphology seems to be a necessary condition for nominative-genitive conversion, not a sufficient condition; see Hiraiwa and Ishihara 2002 for a relevant observation.

(50) is an acceptable sentence. With closer scrutiny, however, it turns out that the sentence is not a raising construction. Below I attempt to show that sentences like (50) have a structure of the following form, which involves predication:⁹

- (51) a. [TP John_i [CP [TP t_i V-Prs]-C_{yooni}]] become T] raising
 b. [TP John [CP [TP pro_i V-Past]-C_{yooni}]] become T] predication

Consider the paradigms given in (52) and (53):

- (52) A. John-no musuko-ga niwa-o aruku-ru-yoo-ni natta
John's son-Nom backyard-Acc walk-Prs-C_{yooni} became
 'John has recently started to walk in the backyard.' (e.g. He couldn't do it before because he was too young.)
 B: *? Mary-no musume-mo sono-yooni natta
Mary's daughter-even so-C_{yooni} became
 lit. 'Mary's daughter became so, too.'
 B': Mary-no musume-mo soo su-ru-yoo-ni natta
Mary's daughter-even so do-Prs-C_{yooni} became
 'Mary's daughter has started to do so, too.'
- (53) A. John-no musuko-ga niwa-o arui-ta-yoo-ni natta
John's son-Nom backyard-Acc walk-Past-C_{yooni} became
 'John' son became as if he had walked in the backyard.' (e.g. His son's shoes got covered with mud, though he didn't walk in the backyard)
 B: Mary-no musume-mo sono-yooni natta
Mary's daughter-even so-C_{yooni} became
 lit. 'Mary's daughter became so, too.'

⁹ Alternatively, the non-raising construction may involve a small clause structure, in which the CP containing *pro* is the predicate of the small clause. It is also worth noting that *become*-constructions in Japanese somewhat similar to English copy raising constructions (e.g. *John seems like he is intelligent*.) Heycock (1994) argues that the latter involve predication. See also Potsdam and Runner 2000; Fujii 2003, 2004; Asdeh 2004, Asdeh and Toivonen 2006, and reference therein. Note that in the Japanese construction, *become* apparently can be replaced with perception predicates such as *mieru* 'look' or *kikoeru* 'hear', which also indicates some connection between the English and Japanese constructions.

B': ? Mary-no musume-mo soo si-ta-yoo-ni natta
 Mary's daughter-even so do-Past-C_{yooni} became
 'Mary's daughter became as if she did so, too.'

Let us assume that in (52)B and (53)B, the lower TP undergoes some sort of proform replacement (called "TP-replacement"), and assume also that in (52)B' and (53)B', some verbal constituent of the embed clause undergoes "VP-replacement". Only (52)B, where the lower TP is replaced, is unacceptable. Also the following assumptions are made: (i) A constituent containing a trace cannot undergo replacement, as suggested by Tada 2003, Takezawa 2006 (presumably because *so(o)* is a deep anaphor; Hankamer and Sag 1976). (ii) The focus particle *mo* 'even' imposes a parallelism requirement between two clauses; that is, the first clause and the second clause obeys 'parallelism'. Under these assumptions, the paradigms are accounted for if (52)A and (53)A are analyzed as in (54)a and (54)b, respectively.

- (54) a. [TP John's son_i [CP [TP t_i V-Prs]-C_{yooni}]] become T]
 ↓
 proform
- b. [TP John's son [CP [TP pro_i V-Past]-C_{yooni}]] become T]
 ↓
 proform

To obtain (53)B and (52)B, the embedded TP must undergo replacement. If (52)A/B have a structure like (54)a, the oddness of (52)B follows. The TP proform *sono* would replace a constituent containing a trace. If (53)A and (53)B have a structure like (54)b, the acceptability of (53)B is captured. Therefore, this proform replacement fact argues for the analysis that distinguishes two kinds of *become*-construction in the way suggested in (51).

Retuning to (49), repeated as (55), the unacceptability of this sentence now suggests that the idiomatic interpretation is somehow incompatible with the 'predication' analysis.

- (55) * sirahanoya-ga saikin John-ni tat-ta-yooni
white fur allow-Nom recently John-Dat stand-Past-C_{Yooni}
 natta
became
 lit. ‘It has recently become that white-furred arrows stood on John.’

This makes sense because the subject, which is an idiom chunk, should not get a θ -role via predication in a configuration of the sort presented in (54)b, where the V' or the T' is a predicate (see Heycock 1994).

Another question that arises is, why is it that (55) cannot have the derivation of raising? The answer I adopt here is that their complement clause is a genuine finite clause, from which NPs cannot raise. Take the predication construction in (53)B and add the (progressive) aspect marker *-tei* to the predicate. The present and past tense form are possible here:

- (56) John-no musuko-ga niwa-o arui-tei- $\{ru/ta\}$ -yoo-ni
John's son-Nom backyard-Acc walk-Prog- $\{Prs/Past\}$ -C_{yooni}
 natta
became
 ‘John’ son became as if he $\{were\}$ walking, had been walking in the
 backyard.’
 (e.g. He became, in appearance, as if he $\{were, had been\}$ walking in the
 backyard, though he was not walking.)

Importantly, the sentence can be an antecedent for (53)B, *regardless of the tense marking of the embedded predicate*. This means that both the present and past variants of (56) are predication constructions.¹⁰ On the other hand, (57), with an idiom, is hopelessly bad under the idiom interpretation:

¹⁰ The simple present tense variant does not have the ‘predication’ interpretation, as in (52)B. I do not have an explanation for this fact.

- (57) * sirahanoya-ga saikin John-ni tat-tei-ru-yooni
white fur arrow-Nom recently John-Dat stand-Asp-Prs-C_{Yooni}
 natta
became
 lit. ‘It has recently become that white-furred arrows have stood on
 John.’

What is happening here seems to be that when the aspect marker *tei* is added to embedded eventive predicates, (i) the raising interpretation goes away, (ii) the predication construction stays acceptable; and (iii) the latter construction apparently allows tense alternation. Suppose now that (56) is taken to be an instance of tense alternation relevant to our generalization, and that NPs cannot raise out of genuine finite clauses. This said, the ungrammaticality of (55) may follow: the CP in the predicational *become*-construction is finite, which blocks raising of the embedded subject.

One final thing important to add is about the question of how we interpret the notion “alternation” in our generalization. Pairs of sentences like the one in (59) (= (52)A and (53)B) should not count as tense alternation in the relevant sense.

(58) Tense alternation generalization:

If the T of a subordinate tensed clause cannot bear [+past] or cannot bear [-past] in environment E, it must bear [-finite] in E

If it did, (59)b would have to involve raising from a finite clause, which would be at odds with the proposed account of the differences between the two kinds of *become*-constructions:

- (59) a. *raising*
 John-no musuko-ga niwa-o aruku-ru-yoo-ni natta
John's son-Nom backyard-Acc walk-Prs-C_{yooni} became
 'John has recently started to walk in the backyard.' (e.g. He couldn't do
 it before because he was too young.)
- b. *predication*
 John-no musuko-ga niwa-o arui-ta-yoo-ni natta
John's son-Nom backyard-Acc walk-Past-C_{yooni} became
 'John' son became as if he had walked in the backyard.' (e.g. His son's
 shoes got covered with mud, though he didn't walk in the backyard)

So I assume that “environment E” in (61) ranges over syntactic environments. In the current case, the T occurring in the raising construction and the one occurring in the predication construction are not two instances of T that occurs in the same environment.

In sum, we conclude that the raising *become*-construction does not allow tense alternation. This entails that the complement clause of examples like (59)a is a [-finite] clause. The possibility of subject-to-subject raising out of tensed clauses is then less surprising because these clauses are [-finite]. Theories that do not distinguish between finite and pseudo-finite clauses would have to come up with some other explanation of why control and raising go hand in hand in this way.

5 An Analysis

We are ready to propose the distribution of OC PRO in Japanese tensed clauses. The observations made in sections 3 and 4 suggest a unified analysis of raising and obligatory control. They both occur only in pseudo-finite clauses (specified [-finite]) and exhibit a severe constraint on their embedded predicate's tense marking. To account for the data, the subject positions of pseudo-finite clauses must be one in which A-trace and OC PRO (in standard GB terms) both can show up. In other words, the theory of the distribution of PRO must be able to predict that OC PRO and A-

trace (or elements assigned Case in-situ if overt raising is not involved) have something in common in terms of their distribution. In addition, the data strongly suggest that these subject positions exclude *pro*. (Recall that null subjects of pseudo-finite control complements contrast with those of genuine finite complements, which exhibit the properties of *pro*.)

The empirical validity of the tense alternation generalization leads us to think that the adequate account of the data should refer to Tense. There seem to be two theories in the P&P framework that enable us to do so. One is a group of theories entertained in the early 80's by Bouchard 1984, Lebeaux 1984, Koster 1984, among others. Some of these theories (Bouchard 1984, Koster 1984) essentially assume that OC PRO and A-trace are both anaphoric and therefore are subject to the condition for anaphors. The other theory that is useful for handling the Japanese data is a theory that assimilates OC PRO to A-trace, a movement theory of control (Bowers 1973, O'Neil 1997, Hornstein 1999, 2001, 2003, Polinsky and Potsdam 2002, 2006, among others). The theory assumes that θ -role assignment can give rise to movement and that A-movement from Case position is barred. The latter assumption enables the movement theory to capture similarities between OC PRO and A-trace. In either theory, at least the following must be assumed to explain the distribution of OC PRO (and A-trace):

(60) T assigns structural Case if and only if it is [+finite].

It should be noted that these two theories exclude pronouns from the subject position of nonfinite clauses in virtually the same way. It is easy to exclude Case-marked *pro* from the subject position. Case-marked *pro* cannot occur in the subject of nonfinite clauses, which is a non-Case position. What can be more problematic is a Case-less pronoun if such a thing exists at all. Under the Bouchard style approach, Non-obligatory Control (NOC) PRO is the Case-less pronoun precisely because the empty category exhibits properties of pronouns. NOC PRO does not need a c-commanding local antecedent, does not have to be interpreted as a bound variable, does not have to be interpreted *de se*, and so on (see chapter 1). Thus, an adequate theory needs to ensure that NOC PRO not occur in positions where OC PRO occurs.

Bouchard (1983, 1984) proposed a version of avoid pronoun principle, according to which overt pronouns are “elsewhere” cases for overt anaphors and NOC PRO is such a case for OC PRO. This “elsewhere” approach to pronouns enables us to capture one fundamental aspect of the Japanese data seen above. That is, the subject of nonfinite clauses does not show pronominal properties. Given that the subject position is not structurally Case-marked, the subject position cannot be filled with Case-marked *pro*, whereas it can be filled with OC PRO. The availability of OC PRO in turn prevents a Case-less pronoun (NOC PRO) from occurring in that position. In what follows, I use a movement theory of control to analyze the Japanese data. This is mainly because it is not clear how to define the binding domain of anaphors in current terms (The binding domain for OC PRO must be the clause one higher up.)¹¹ Our core assumptions are laid out here:

- (61) a. θ -roles are features in the sense that their checking may derive movement;
 b. Movement from structural Case position is barred;
 c. Movement obeys minimality (Minimal Link Condition); and
 d. NOC PRO, which is pronominal and lacks Case, can appear only where A-trace cannot appear.

Below I show how the differences between OC/raising constructions (with [-finite] complements) and non-control constructions (with [+finite] complements) are derived.

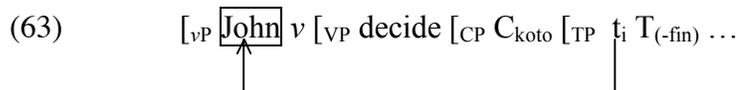
5.1 OC, non-control and raising

First, the derivation for OC constructions such as (62) is considered:

- (62) John-ga [Δ senkyo-ni rikkoohosu-ru-koto]-o kessinsita
John-Nom [*election-Dat run for-Prs-C_{koto}*]-Acc *decided*
 ‘John decided to run for the election.’

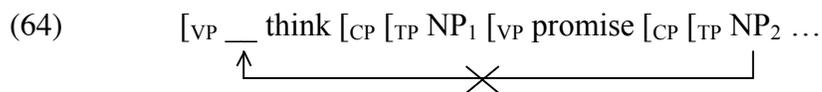
¹¹ See Dobrovie-Sorin (2001) for such an attempt. See also Hornstein 2001, who analyzes anaphors in terms of movement.

Suppose V and the complement pseudo-finite CP are merged. V checks the θ -role feature of the CP. After v is introduced into the derivation, it checks the Case feature of the CP (possibly at LF if the classic T-model is assumed). The embedded subject moves to the Spec, v P, so that v can discharge its θ -role feature (for expository purposes, English words and head initial order are used):



This movement is possible precisely because the embedded T, being a [-finite] T, does not assign structural Case [(61)b]. The raised subject further moves to the matrix Spec,TP. The derivation converges.¹²

Given that movement of *John* to Spec, v P is possible, major properties of OC constructions can be made to follow automatically. The ban on long distance antecedents (cf. (18)) follows from the fact that the A-moved subject cannot move that far. To obtain a sentence with long distance control in (64) below, NP₂ would have to move from the embedded subject position across the subject position of the clause one higher up:



Among other things, this movement clearly violates minimality. Next, necessity of c-command (cf. (24)) may follow if the subject cannot move into a position embedded inside another NP.

¹² A couple of technical issues must be addressed here. Why does the complement CP not block movement of *John* into Spec, v P? If the CP or the C⁰ has its own Case/ ϕ -features and θ -role feature, then the those features, being closer to the target Spec, v P, might block movement of *John* in the derivation shown in (63). Another issue that may arise has to do with the Phase Impenetrability Condition, proposed by Chomsky (200, 2001 and subsequent work) I will return to this issue in the next section.

(65) $[_{TP} [_{NP_1} ____ N] [_{VP} \text{promise} [_{CP} [_{TP} NP_2 \dots$

If a chain created by movement is subject to the chain condition, this type of movement should be barred. The condition excludes a chain in which the head does not c-command the tail at LF. The ban on strict interpretation under ellipsis (cf. (26)) and the ban on the absence of invariant interpretation with *only*-NP antecedents (cf. (32)) are both a consequence of an interpretive property of traces. Unless reconstruction takes place, they are interpreted as bound variables (see Heim and Kratzer 1998).

Having seen the explanation of why pseudo-finite clauses can host OC PRO, turn to a ‘negative’ property of these clauses. Why is it that a pronominal element does not show up in the embedded subject position? The derivation that needs to be blocked is as in (66):

(66) $[_{VP} \text{John } v [_{VP} \text{decide} [_{CP} C_{\text{koto}} [_{TP} \text{pronoun } T_{(-\text{fin})} \dots$

As noted earlier, the embedded Spec,TP cannot host *pro* because it must be Case marked. Only NOC PRO, which we assumed is Case-less, is the type of pronoun that could appear in this position. Hornstein’s movement theory of control (1999 and subsequent work), which incorporates Bouchard’s 1984 ‘elsewhere’ approach to NOC PRO, proposes that a derivation with OC PRO (or A-trace) compete with otherwise exactly the same derivation with NOC PRO. The derivation with NOC-PRO survives in a last resort fashion, i.e. only when the movement derivation fails to converge. According to this minimalist version of ‘elsewhere’ approach to NOC PRO, the derivation with NOC PRO (66) is excluded because the derivation involving movement (63) is possible. Hence, null subjects of pseudo-finite clauses do not show interpretive properties of pronouns.

Having presented the way the theory handles most properties of null subjects of [-finite] OC complements, let us consider null subjects of [+finite] clauses. In section 3, it was observed that the null subject of the complement of *imagine* exhibits properties

of pronouns, not those of OC PRO. Example (3) is repeated:

- (67) *karera_i-wa* [*kantoku-ga* [Δ_i *otagai-o*
 they-Top [*director-Nom* [*each other-Acc* -
 naguri- {a-u/at-ta}-koto]-o *soozoosita-to*] *omotta*
 hit- {Recip-Prs/Recip-Past}-C_{no}]-Acc *imagined-C_{to}]* *thought*
 ‘They thought the director had imagined that they {would hit, had hit}
 each other.’

Recall that *koto*-CPs of this kind accept both present-tense and past-tense complements. Suppose the sentence type involving *imagine* has reached a stage of the derivation as in (68):

- (68) [_{vP} ___ *v* [_{VP} *imagine* [_{CP} *C_{koto}* [_{TP} NP *T_(+fin)* ...

As mentioned in (61)b, we assume that A-movement from structural Case position is prohibited. The NP then cannot move to Spec,_{vP}, which makes OC impossible. On the standard assumption that languages like Japanese have Case-marked null pronouns, they should be allowed to appear in the embedded clause. It should be noted that the null subject cannot be NOC PRO under the theory under consideration. The underlying assumption is that the derivation of an infinitival construction with NOC PRO is not comparable with that of a finite complement construction like (67). Also, it should be noted that nothing prevents a contra-indexed lexical NP from being merged with the embedded Spec,_{vP} in (68). Acceptable examples like (69) are obtained:

- (69) [kantoku-ga [John-to Mary-ga otagai-o
 [director-Nom [John and Mary-Nom e.o.-Acc
 naguri- {a-u/at-ta}-koto]-o soozoosita
 hit- {Recip-Prs/Recip-Past}-C_{koto}]-Acc imagined
 ‘The director imagined that John and Mary {would hit, had hit} each
 other.’

Finally, turn to finite raising. The sentence in (70) (=41)) is analyzed as in (71):

- (70) Taro-ga benkyoosu-ru-yooni natta
 Taro-Nom study-Prs-C_{yooni} became
 ‘Taro has started to study hard.’
- (71) [TP T [VP become [CP C_{yooni} [TP John T_(-fin) ...
-

One crucial assumption we make here is that the *yooni*-CP does not have Case and ϕ -features. Otherwise the CP would block movement of the embedded subject say in A-over-A fashion. (I will discuss this assumption in section 5.2.)

I hope to have shown that the tense alternation generalization allows the movement theory of control to successfully derive the fundamental differences among finite obligatory control, non-control and finite raising constructions. I conclude this subsection by mentioning an important implication of the current analysis of finite control and finite raising for the theory of control. Recall that the derivations for finite control and finite raising share one property: The complements of these constructions are pseudo-finite clauses.¹³ The theory we adopt captures the generalization that control into and raising out of tensed clauses are possible when the clauses are pseudo-finite. The Ts of tensed control and raising CP-complements are both [-finite]

¹³ Indeed, the fact that raising complements and control clauses are morphosyntactically similar to each other seems to be cross-linguistically common. In Romanian, control into and raising out of subjunctives are both allowed (Watanabe 1996a and references cited therein). A similar parallelism is reported to obtain in Brazilian Portuguese, where finite raising and finite control are permitted (Ferreira 2004, Rodrigues 2004). See Polinsky and Potsdam 2006 and Boeckx and Hornstein 2006b for relevant discussion.

and therefore their specifiers cannot be structurally Case-marked, allowing A-movement. The classic government-based approach fails to capture the generalization without further assumptions. That GB analysis would have to claim that the Spec,TP of the pseudo-finite CP of the raising construction is governed whereas that of the pseudo-finite CP of the control construction is not. It is not immediately clear how it is possible to defend such a claim. Another influential theory of control is a null Case theory of the type advocated by Martin (1996, 2001) and Bošković (1997) (see also Chomsky and Lasnik 1991). Such a theory would assume that the pseudo-finite T for raising does not assign null Case while the pseudo-finite T for control does. Since the T of raising complements is assumed to be [-tense] in this theory, one has to say that the pseudo-finite complement of the raising construction is [-tense]. First, it is somewhat counterintuitive to say that the T or Infl of the finite raising construction, which carries [-past] in our description, is tenselss. Apart from that, a more substantive problem for the theory has to do with its account of the fact that OC is not NOC. An approach of this sort handles an OC/NOC distinction by saying that PRO is anaphoric (Martin 1996, Watanabe 1996b). OC PRO must be bound by its antecedent in its local domain. Given the Japanese fact, i.e. that OC into nonfinite CPs is allowed, the null Case theory incorporating local binding of PRO needs to say that the local domain of local anaphors is or extends to the matrix clause, just as the movement theory needs to say that A-movement out of nonfinite CPs is possible. The issue is whether this modification also makes it possible to handle raising out of nonfinite CPs within the same theory. While the fact that raising out of nonfinite CPs is possible directly follows in the movement theory, it does not follow in the null Case theory on the assumption that the locality condition on local anaphors does not regulate A-movement. Martin (1996) specifically proposes that PRO is a clitic anaphor, just as SE in Romance (see Uriagereka 1988, 1995, and reference cited therein). So clitic climbing must be allowed to take place from inside of a nonfinite CP. The claim that PRO is clitic seems to suffer from empirical problems. First, in Martin's system, head movement needs to take place across a CP. Although it is not clear at all whether any head movement can be that long distance, let us say that it is allowed to for the sake of discussion. Then, is it possible to derive the fact concerning

finite raising in Martin’s theory without adding other assumptions? As it stands, the answer is not clear. It seems to me that, to drive finite raising, locality of A-movement and locality of clitic climbing must be (at least partly) governed by the same grammatical device or the same locality constraint.¹⁴ Since such a constraint is not proposed in Martin (1996), I take this to suggest that the theory does not succeed to derive parallelism between raising and control.

5.2 A note on the absence of intervention effects with CP

One thing remains unexplained in the analysis advanced above. Why is it the case that the CP complement neither blocks θ -driven movement for the OC construction on the one hand, nor Case/ ϕ -related movement for the raising construction on the other?

Let us examine first the absence of intervention effects in the *become*-raising construction. The schema in (71) is repeated:

(72) [TP ___ T [VP become [CP C_{yooni} [TP John T_(-fin) ...

It is worth noting first that the *yooni*-complementizer, unlike the *koto*- and *no*-complementizers, cannot bear an overt case marker:

(73) * *hasi-ru-yooni*-{ga/o}
run-Prs-C_{yooni}-Nom/Acc

To distinguish complementizers like *-yooni* from nominalizing ones like *koto*, it seems useful to call the former “postpositional C” (essentially adopting the idea of Fukui 1986 and Motomura 2003).¹⁵ Suppose that pre- or postpositional heads, as

¹⁴ See Lasnik and Uriagereka 2004: chapter 7 for an attempt to derive the locality of SE from timing of Spell-out.

¹⁵ The string *yooni* seems to be massively ambiguous. Although I do not attempt to examine the full range of data, I would like to note a couple of things. I assume that the instance of *-yooni* occurring in the raising construction does not have an internal structure of any sort. (One could say that particle *ni* attaches to formal noun *yoo*, for instance: see Uchibori 2000 for related discussion). I assume that the same thing applies to *-yooni* occurring in object

opposed to nominal heads, do not carry ϕ -features. (This assumption seems to be plausible given the fact that English *to* does not block A-movement as in *John seems to me [t to be honest]*). If intervention effects with non- θ -driven A-movement come from ϕ -features of an intervening element, then the absence of the effect with the *yooni*-construction follows.¹⁶

control. I take *-yooni* in (i) to be C^0 . Note that in this construction, *-yooni* can be followed by quotative complementizer *to* (Nemoto 1993, Uchibori 2000):

- (i) John-ga Mary-ni [Δ boku-no uchi-ni ik-u-yooni(-to)] meireisita
John-Nom Mary-Dat [*my house-to go-Prs-YOONI-TO*] *ordered*
 ‘John ordered Mary to go to my house.’

Sometimes the optionality of *to* in this circumstance is analyzed as some sort of complementizer omission (see Nemoto 1993). However, as noted in Nemoto (1993), this analysis raises apparent difficulty, given that standard Japanese does not allow complementizer omission. My intuition is that *-yooni* in the version with *to* is not a complementizer. It is a (weak) imperative mood marker (Uchibori 2000):

- (ii) kimi-wa boku-no uchi-ni ik-u-yooni
you-Top my house-to go-Prs-Imp
 ‘You should go to my house’

Since there is no reason to think that (ii) cannot be embedded under complementizer *to*, the version of (i) with *to* can be analyzed in the way suggested here. A justification for this analysis comes from the fact that *ik-u-yooni* in (i) can be replaced with the (regular) imperative form of ‘go’ *ik-e* (*go-Imp*) only when quotative *to* is present.

- (iii) John-ga Mary-ni [Δ boku-no uchi-ni ik-e*(-to)] meireisita
John-Nom Mary-Dat [*my house-to go-Imp-C*] *ordered*
 ‘John ordered Mary to go to my house.’

¹⁶ It seems to be too haste to conclude that postpositional CPs cannot bear Case. There is circumstantial evidence that they can. Note first that *koto*-control complements can be case-marked and may undergo case conversion of a familiar sort:

- (i) John-ni-wa Mary-ni [Δ DC-ni ik-u-koto]-ga meirei-deki-ru
John-Dat-Top Mary-Dat [*DC-to go-Prs-C_{koto}]-Nom order-Pot-Pres*
 ‘John can order Mary to go to DC.’

Nominative *ga* here arises on the object because the matrix verb is stativized. Note that the *koto*-complementizer in object control constructions can be replaced with *-yooni* as seen in the previous footnote (see Nakau 1973: 124-25 for discussion). Stativization yields the following acceptable sentence:

- (ii) John-ni-wa Mary-ni [Δ DC-ni ik-u-yooni] meirei-deki-ru
John-Dat-Top Mary-Dat [*DC-to go-Prs-C_{yooni}]* *order-Pot-Pres*

One might think that nominalized CPs should block movement of the subject out of a control complement into the matrix clause because they, being not postpositional, carry ϕ -features. Notice that the A-movement at issue is θ -driven. So even if *koto*-clauses have ϕ -features, it is plausible to think that ϕ /Case considerations do not matter in control cases.¹⁷ What is more puzzling here is, instead, that the θ -feature of the *koto*-complement does not break down the control chain. The CP is apparently closer to the θ -position in which the controller gets its second θ -role. A possibility is that θ -role features assigned to clausal complements are somewhat defective with respect to θ -role features assigned to regular noun phrase complements. Presumably clauses do not need referential θ -roles. Theoretically, this is not surprising. It has been already observed that clauses behave differently from regular DPs with respect to Case. Clauses at least do not need to get Case (see Stowell 1981, Bošković 1995, and references therein). If so, we need depart anyhow from the null hypothesis that clauses and noun phrases should be treated in the same way.

6 When [-finite] Complements Do Not Show OC Properties

This section discusses one seemingly serious problem for the proposal made above. As observed with a construction involving the verb *keikakusu(ru)* ‘plan’ in section 1, it is not always the case that the null subject of pseudo-finite clauses shows the properties of OC PRO. The following examples illustrate the same point:

‘John can order Mary to go to DC.’

If the Case assigner for nominative objects obeys inverse Case Filter, then the acceptability of (ii) suggests that the *yooni*-CP receives silent nominative Case.

¹⁷ This predicts that the complementizer *-koto* does not introduce a finite raising complement. I haven’t found a testing ground for determining whether this predication is correct or not.

- (74) a. Hiroshi-wa kaigi-de tyuugokugo-o
Hiroshi-Top meeting-in Chinese-Acc
 {tukau/*tukatta}-koto-o teiansita
use-Prs/used-C_{koto}-Acc proposed
 ‘Hiroshi proposed that {Hiroshi, they} would use Chinese during meetings.’
- b. hutari_i-wa [Hiroshi_i-ga [Δ otagai-o
two.people-Top [Hiroshi-Nom e.o-Acc
 {home-a-u/*home-at-ta}-koto]-o teiansita-to]
praise-Recip-Prs/preise-Recip-Past-C_{koto}]-Acc proposed-C_{to}
 omotteiru
thinks
 ‘The two people think Hiroshi proposed that they should praise each other during the meeting.’

According to the tense alternation generalization, the complement clauses in (74) contain [-finite] T, because the tense marker is fixed here.

All other things being equal, the theory predicts that obligatory control should be observed with these examples. This prediction is incorrect: long distance antecedence is not blocked, as in (74)b. English apparently differs from Japanese in this respect. As Landau (2000) extensively argues, in English, *to*-infinitives with null subjects occurring in complement position always involve OC (see footnote 19 for relevant discussion). In the traditional classification of control, some nonfinite complements are considered NOC (Chomsky and Lasnik 1977, Williams 1980, Bouchard 1984, Manzini 1983, Martin 1996, among others). For instance, when PRO allows an “arbitrary” reading as in *They do not know how PRO to behave themselves/oneself*), it counts as NOC PRO. Also, when PRO can alternate with a lexical subject (cf. *John preferred for Mary/PRO to leave*), it is grouped under NOC PRO. Landau (2000; 4-5, 32-33, 38-43) however shows (capitalizing on observations made by Manzini 1983 in part), that PRO in these complements is not that different from the one occurring in typical OC with respect to other diagnostic tests. These alleged NOC PROs require a

local antecedent, cannot support a referential reading, require a *de re* interpretation, and so on. As we will see, the phenomenon in Japanese is more radical: they fail those core diagnostic tests. In this section, examining some instances of NOC complements, I propose one solution to the problem posed by them, and present some empirical arguments for that solution.

The movement theory of control leads us to the hypothesis that in cases like (74), movement to a matrix θ -position out of the subordinate clause fails; namely, there is more structure involved between the verb and the pseudo-finite CP. More specifically, I would like to suggest that these problematic pseudo-finite complements involve an extra NP-layer between V and CP, as in (75)b, as opposed to (75)a:

- (75) a. V [CP C_{koto} [TP OC-PRO T_(-fin) ...
 b. V [NP N_{koto} [CP C_∅ [TP NOC-PRO T_(-fin) ...

If this is the case, the embedded subject of the CP in (75)b is arguably precluded from moving to a matrix θ -position. Either (i) the NP, unlike the pure CP headed by *koto*, blocks θ -driven movement by minimality, or (ii) a complex NP island is at stake. Under the first alternative, the NP is a potential mover and closer to V than the embedded subject. By minimality, the subject is prevented from moving to the θ -position. Hence, obligatory control is not obtained. The second alternative simply proposes that the complex NP, as an island, prevents the subject from moving out of it. In either of these alternatives, the subject position of the nonfinite CP is filled with NOC PRO as an “elsewhere” case. The choice between the two alternatives does not concern us. In what follows, four arguments that the extra NP-layer blocks OC are made.

6.1 NP/CP distinction

Here I discuss the data concerning passivization of *yakusokusu(ru)* ‘promise’ and verbs of deciding. Let me first introduce the relevant descriptive properties of Japanese *promise*, which, taking a clausal complement, displays properties of OC *when the comitative-marked “promisee” is present* (see Watanabe 1996b for virtually

the same observation):

- (76) Hiroshi-wa Yoko-to [Δ daigaku-ni
Hiroshi-Top Yoko-with [college-Dat
 {gookakusu-ru/*gookakusi-ta}-koto]-o yakusokusi-ta
pass-Prs/pass-Past-C_{koto}]-Acc promise-Past
 ‘Hiroshi promised Yoko to pass a college entrance exam.’

When no comitative phrase is present as in (77), the diagnostic properties of OC seem to go away:

- (77) a. Hiroshi_i-no sensei-wa [Δ _i daigaku-ni gookakusu-ru-koto]-o
Hiroshi-Gen teacher-Top [college-Dat *pass-Prs-C_{koto}]-Acc*
 yakusokusi-ta
promise-Past
 ‘Hiroshi’s teacher promised that he would pass a college entrance exam.’
- b. Hiroshi-wa [sensei-ga [Δ _i daigaku-ni gookakusu-ru-koto]-o
Hiroshi-Top [*teacher-Nom* [college-Dat *pass-Prs-C_{koto}-Acc*
 yakusokusi-ta-to] hahaoya-ni tutaeta
promise-Past-C_{to}] *mother-Dat told*
 ‘Hiroshi told his mother that his teacher had promised that he would pass a college entrance exam.’
- (78) a. * Hiroshi_i-no sensei-wa Yoko-to [Δ _i daigaku-ni
Hiroshi-Gen teacher-Top Yoko-with [college-Dat
 gookakusu-ru-koto]-o yakusokusi-ta
pass-Prs-C_{koto}]-Acc promise-Past
 ‘Hiroshi’s teacher promised that he would pass a college entrance exam.’

- b. * Hiroshi-wa [sensei-ga Yoko-to [Δ_i daigaku-ni
Hiroshi-Top [teacher-Nom Yoko-with [college-Dat
gookakusu-ru-koto]-o yakusokusi-ta-to] hahaoya-ni tutaeta
pass-Prs-C_{koto}]-Acc *promise-Past-C_{to}]* *mother-Dat* told
‘Hiroshi told his mother that his teacher had promised that he would
pass a college entrance exam.’

Minimal pairs given in (77) and (78) show the contrasts between the two kinds of *promise* constructions regarding long distance antecedence and c-command. The sentences with a comitative argument [(78)] exhibit the properties of OC, but the ones without it [(77)] do not. Let us, for expository purposes, refer to instance of *yakusokusu(ru)* appearing in OC as “PROMISE₁” and refer to the other instance as “PROMISE₂”.

To clarify the problem that faces us, observe that uncontrolled complements of PROMISE₂ do not allow their predicate to alternate between the past and present tense forms:

- (79) a. Hiroshi_i-no sensei-wa [Δ_i daigaku-ni
Hiroshi-Gen teacher-Top [college-Dat
{gookakusu-ru/*gookakusi-ta}-koto]-o yakusokusi-ta
pass-Prs/pass-Past-C_{koto}]-Acc *promise-Past*
‘Hiroshi’s teacher promised that he {would pass, *had passed} a college
entrance exam.’
- b. Hiroshi-wa sensei-ga [Δ_i daigaku-ni
Hiroshi-Top teacher-Top [college-Dat
{gookakusu-ru/*gookakusi-ta}-koto]-o yakusokusi-ta-to]
pass-Prs/pass-Past-C_{koto}]-Acc *promise-Past-C_{to}*
hahaoya-ni tutaeta
mother-Dat told
‘Hiroshi told his mother that his teacher had promised that he {would
pass, *had passed} a college entrance exam.’

property of *promise* in this way.) To the extent that Huang is right, the data suggest that the NP vs. CP distinction is responsible for the differences between PROMISE₁ and PROMISE₂.

- (82) a. NP-with [CP [TP Δ ... T_(-fin)] C_{koto}] PROMISE₁
 b. ... [NP [CP [TP Δ ... T_(-fin)] C] N_{koto}] PROMISE₂

This fact is not an isolated one. There is a similar (but slightly different type of) fact, which has to do with verbs of deciding. One group of verbs (e.g. *kessinsu(ru)* and *ketuisu(ru)*) behave as if they are “obligatory control verbs”. The other group of verbs (e.g. *ketteisu(ru)* and *kime(ru)*) behave as if they are not. Let us call the former DECIDE₁ and the latter DECIDE₂. To see how these two groups differ, take the *de-se* interpretation diagnostic. As seen in section 3.5, sentence in (83)(=(39)) lacks a non-*de se* interpretation:

- (83) Taro_i-ga [Δ_i taisyoku-ru-koto]-o kessinsita
Taro-Nom [*leave.company-Prs-C_{koto}*]-*Acc* *decided*
 ‘Taro decided to leave the company.’ (*non-*de se*)
 DECIDE₁ + *koto*-complement

The sentence is not felicitous to utter under the non-*de se* scenario (37), repeated here:

- (84) Taro has been working for a small company. One day, the owner of the company gave him a file that contained info about each employee's business achievements. She said that she would have to ask at least one employee to leave the company because downsizing was inevitable. She wanted him to go through the file and pick one person in some objective way. The owner left out employees' names and used different numbers to refer to them, so that Taro's evaluation wouldn't be biased. Reviewing the records, Taro reluctantly chose one person because his or her achievements were very poor. Imagining that the employee was asked to leave, he felt sorry. He gave the owner the number that was assigned to the employee in question. The owner found the employee to be Taro. She asked him to leave on the following day.

In contrast with (83), the statement in (85), which contains *kime(ru)* 'decide' rather than *kessinsu(ru)*, is a perfectly fine description of the situation under consideration:

- (85) Taro_i-ga [Δ_i taisyokusu-ru-koto]-o kimeta
Taro-Nom [*leave.company-Prs-C_{koto}*]-*Acc* *decided*
 'Taro decided that he would leave the company.' (non-*de se* possible)
 DECIDE₂ + *koto*-complement

The hypothesis we are entertaining predicts that the complement of DESIDE₂ ((85), which accepts a non-*de se* interpretation of Δ) can be passivized, whereas the complement of DECIDE₁ ((83), which resists the same interpretation) cannot be. The prediction is correct:

- (86) a. * [Δ_i taisyokusu-ru-koto]-ga Taro_i-niyotte kessins-are-ta
 [*leave.company-Prs-C_{koto}*]-*Nom Taro-by* *decide-Pass-Past*
 b. [Δ_i taisyokusu-ru-koto]-ga Taro_i-niyotte kimer-are-ta
 [*leave.company-Prs-C_{koto}*]-*Nom Taro-by* *decide-Pass-Past*
 lit. 'To leave the company was decided by Taro.'

(86)b is considerably better than (86)a, which again shows that properties of OC correlate with passivizability of *koto*-clauses. As for the question as to the nature of the difference between DECIDE₁ and DECIDE₂, I have to speculate that the former cannot c-select NP at this point.

This ‘N vs. C’ ambiguity of the nominal particle *koto* is somewhat reminiscent of work by Simpson and Wu 2001 and Simpson 2003 on the diachronic development of formal nouns in East Asian languages including Japanese *no*. *No* is ambiguous among its complementizer use, its genitive use, and its ‘pronominal’ use, as illustrated in (87)a, (87)b, and (87)c, respectively (see Murasugi 1990):

- (87) a. boku-wa John-ga hasit-tei-ru-no-o mita
 I-Top *John-Nom* *criticize-Prs-Acc* saw
 ‘I saw John running.’
- b. John-no hon
 John-Gen *book*
 ‘John’s book’
- c. akai-no
 red-one
 ‘read one’

Simpson argues that *no* undergoes grammaticalization from N to C through D. Now note that *koto* allows the equivalent of (87)c:

- (88) tanosii koto
 enjoyable *thing*
 ‘something enjoyable’

I do not have any concrete claim about grammaticalization of *koto* here, but the dual status of *koto* is not radical at all, given the multiple ambiguity of *no*.

The question of where the difference between English and Japanese comes from

should be addressed; that is, why English infinitives do not allow the NP-layer under discussion when they are in complement position.^{19 20} I would like to suggest one speculation. Suppose that this NP-layer is phonetically realized whenever it is in the

¹⁹ Culicover and Jackendoff (2001, 2005) observe examples like (i) (from Culicover and Jackendoff 2005:423) that may be taken to illustrate that nonfinite clauses occurring in complement positions of non-raising predicates do not always yield OC, contrary to what is said in the text:

- (i) John_i talked to Sarah_j about $\Delta_{i/j/i+j/gen}$ taking care of himself_i/herself_j/
themselves_{i+j}/oneself_{gen}.

In light of the discussion in the text, it could be the case that English gerundive clauses, unlike infinitival ones, can be NPs/DPs (see Pires 2001 for extensive discussion of control in gerundive complements). One thing that might be related to this contrast between *to*-infinitives and gerunds is Koster's (1978) classic observation that sentential subjects do not stay in canonical subject position (see also Stowell 1981). Notice that gerunds can occur as embedded sentential subjects more freely than *to*-infinitives. The example in (iia) (adapted from Koster 1978: 53) is worse than the one in (iib):

- (ii) a.* That to smoke bothers the teacher is quite possible
b. That smoking bothers the teacher is quite possible

This contrast follows if English gerundive clauses may be NPs/DPs. Interestingly, Japanese *koto*-clauses behave like English gerunds in the relevant respect:

- (iii) [[Bill-ga tabako-o su-u-koto]-ga kare-no titioya-o
[[*Bill-Nom smoke-Prs-C_{koto}*]-Nom his father-Acc
nayamaseteiru-toyuu-no]-wahontoo-da
bothers-C-NO-Top true-Cop
lit. 'That that Bill smokes bothers his father is true.'

If gerunds have the ability to be NPs/DPs, Culicover and Jackendoff's example cited above does not undermine the generalization that when nonfinite CP/TP complements (with a null subject) always result in OC.

²⁰ Cross-linguistically, it does not seem exotic that nominalized infinitival complements block OC. San Martin and Uriagereka (2002) and San Martin (2004) observe that in Basque, the nominalizing suffix *tze* attaches to certain infinitival complements to yield NOC. Also, languages like Spanish allow the determiner *el* to occur on infinitival clauses. OC constructions generally do not accept the determiner, however:

- (i) Quiero (*el)comer en restaurantes caros
I-want the eat in restaurants expensive

The effect of the determiner may be indicating the presence of the extra layer. Curiously enough, factive predicates like *forget* seem to be insensitive to presence of the nominalizer in Basque (see the references above) or the determiner in Spanish (Picallo 2002) on their infinitival complement. Thanks go to Ivan Ortega-Santos for helpful discussion.

structure. Then, the additional NP layer in English, if it existed, should be realized as *to*. Suppose that the syntactic category of *to* cannot be N, which is plausible given the fact that the English infinitive marker *to* is diachronically developed out of its prepositional use (see Lightfoot 1979). Then it follows that English infinitival complements cannot be ambiguous between of the category NP and of the category CP.

6.2 Phonetic realization of C in the N-CP structure

Let me add one morphosyntactic fact that supports the NP/CP distinction. It has to do with the distribution of the quotative complementizer when it shows up in noun-complement constructions (the complementizer appears in the adnominal form in this environment):

- (89) [boodoo-ga okor-u-toyuu] uwasa
 [riot-Nom happen-Prs-C_{toyuu}] rumor
 ‘the rumor that a riot happens.’

Also, this complementizer *toyuu* can occur with *koto*:

- (90) [boodoo-ga okor-u-toyuu] koto
 [riot-Nom happen-Prs-C_{toyuu}] koto
 ‘the fact that a riot happens’

Although subtle judgments are required, the distribution of the quotative complementizer seems to correlate with the distinction between OC and NOC complements. That is, OC complements do not allow *toyuu*-C to occur inside them, whereas NOC complements do. Observe examples like (91) (with PROMISE₂) and (92) (with DECIDE₂):

- (91) (?) Hiroshi-wa [Δ daigaku-ni gookakusu-ru-toyuu-koto]-o
Hiroshi-Top [*college-Dat pass-Prs-C_{toyuu}-N_{koto}]-Acc*
 yakusokusi-ta
promise-Past
 ‘Hiroshi promised to pass a college entrance exam.’ (PROMISE₂)
- (92) (?) Taro_i-wa [Δ_i taisyoku-ru-toyuu-koto]-o kimeta
Taro-Top [*leave.company-Prs-C_{toyuu}-N_{koto}]-Acc* *decided*
 ‘Taro decided that he would leave the company.’ (DECIDE₂)

These sentences might sound better when *toyuu* is not present, but they are not unacceptable. If we are right that OC complements do not allow for the extra NP-layer, it is expected that the quotative complementizer *toyuu* cannot occur with PROMISE₁ and DECIDE₁. Some speakers find a sharp contrast between (91) and (92) on the one hand, and (93) and (94), on the other, respectively:

- (93) *? Hiroshi-wa Yoko-to [Δ daigaku-ni
Hiroshi-Top Yoko-with college-Dat
 gookakusu-ru-toyuu-koto]-o yakusokusi-ta
pass-Prs-C_{koto}]-Acc *promise-Past* (PROMISE₁)
 ‘Hiroshi promised Yoko that he would pass a college entrance exam.’
- (94) *? Taro_i-wa [Δ_i taisyoku-ru-toyuu-koto]-o ketsuisita
Taro-Top [*leave.company-Prs-C_{toyuu}-N_{koto}]-Acc* *decided*
 ‘Taro decided that he would leave the company.’ (DECIDE₁)

In addition, when passivization applies to sentences (91) and (92), the status seems to become even better:

marker (the term is borrowed from Palmer 2001).

- (98) Taro_i-wa [Δ_i taisyokusi-yoo-to] kimeta
Taro-Top [*leave.company-YOO-C_{to}*] *decided*
'Taro decided to leave the company.'

When the clause in question is embedded, it is always headed by *to*, which is the quotative complementizer or a subordinator (see Bhatt and Yoon 1991), and no tense element shows up. See Nakau (1973:39), Hasegawa (1984-85), Watanabe (1996b) for relevant facts and observations. See also chapter 3. That embedded intentives are OC clauses is illustrated by (99), which shows that long distance control is prohibited:

- (99) * karera_i-wa [Taro-ga [Δ_i otagai-o suisensi-a-oo-to]
they-Top [*Taro-Nom* *e.o.-Acc recommend-Recip-YOO-C_{to}*
keikakusita-to] *omotta*
planned-C_{to}] *thought*
'They thought that Taro planned to recommend each other.'
cf. Taro-wa [karera_i-ga [Δ_i otagai-o suisensi-a-oo-to]
T-Top [*they-Nom* [*e.o.-Acc recommend-Recip-YOO-C_{to}*
keikakusita-to] *omotta*
planned-C_{to}] *thought*
'Taro thought that they planned to recommend each other.'

Now note that *-to* and *-yooni* are postpositional. We already saw this for *-yooni* in section 5.2. The *-yooni* complementizer cannot be followed by a case particle; see (73). Likewise, quotative *to* is not allowed to occur with a case particle:

- (100) * tabe-yoo-to-{ga/o}
eat-Int-C_{to}-Nom/Acc

This indicates that these complementizers are morphosyntactically anti-nominal. If so,

there is no way for these heads to be generated under an N-node.

Recall now from the discussion in section 6.1 that two types of *decide* and two types of *promise* exist in Japanese. With *koto*-complements, DECIDE₁ (e.g. *kessinsu(ru)* ‘decide’) acts like an “obligatory control verb” while DECIDE₂ (e.g. *kime(ru)* ‘decide’) does not. The former resists passivization of the *koto*-complement, whereas the latter allows it (see (86)). It was proposed that non-OC complements are of the category NP, while OC-complements are of the category CP. Now what would happen if a postpositional CP occurs in the complement of DECIDE₂ or PROMISE₂? If those verbs can co-occur with such a CP at all, our theory predicts that the sentence should display the properties of OC, because there is no chance for the complement to be an NP.

The data turns out to be in favor of our prediction. First, passives are unacceptable with intentive mood complements, *regardless of the choice between the two types of decide*:

- (101) * (Taro_i-niyotte) [Δ_i taisyokusi-yoo-to] (Taro_i-niyotte)
Taro-by [*leave.company-Int-C_{io}*] *Taro-by*
 {kessins/kimer}-are-ta
 DECIDE₁/DECIDE₂-Pass-Past
 lit. ‘To leave the company was decided by Taro.’

Second, *regardless of the choice between the two types of decide*, the non-*de se* reading is clearly impossible when the complementizer is postpositional:

- (102) Taro_i-wa [Δ_i taisyokusi-yoo-to]
Taro-Top [*leave.company-Int-C_{io}*]-Acc
 {kessinsi/kime}-ta
 DECIDE₁/DECIDE₂-Past
 ‘Taro decided to leave the company.’

These results argue for our structural approach to the fact that [-finite] complement

clauses sometimes do not trigger OC. It is not true that DECIDE₁ is an “obligatory control verb” while DECIDE₂ is not. They behave differently, depending on what structure they have in their complement position.

6.4 Independent support: Verbal noun constructions

The previous three sections discussed the distinction between “more noun-like” complements and “less noun-like” complements with respect to OC-hood of pseudo-finite constructions. The idea is that the extra NP-layer blocks the null complement subject from being OC PRO. This section shows that this structural account of the unexpected non-OC behavior (e.g. one found with verbs like PROMISE₂ and DECIDE₂) has a positive empirical consequence for nonfinite complementation as well. Hence the general idea advanced above gains further support.

The additional argument in favor of the current proposal comes from the behavior of a type of clauses that reside on the borderlines between noun-like and non-noun-like complements, i.e. the behavior of verbal noun (VN) constructions (see Grimshaw and Mester 1988, Kageyama 1993, Matsumoto 1996, Hoshi 1994, Saito and Hoshi 1998, 2000, to list a few). As will be seen below, a property of the construction helps to reveal that an extra layer above a clause prevents the sentence from involving OC.

Let us begin by looking at a construction of the type that Grimshaw and Mester (1988) discussed. When a VN is placed under the light verb *suru* ‘do’, the well-studied, light verb construction, is obtained:

- (103) Taro-*{ga/*no}* giin-e(*?-no) toti-no zyooto-o sita
 Taro-Nom/Gen *law maker-to-Gen* *land-Gen* *giving-Acc* *did*
 ‘Taro gave land to a lawmaker.’

Given that all the satellites of a noun must have their adnominal form (such as genitive) in Japanese, the prohibition of genitive marking on the agent and goal arguments found in (103) suggests, as Grimshaw and Mester observed, the following generalization:

- (104) The highest internal argument of a VN, as well as its external argument, must undergo “argument transfer”.

Argument transfer refers, pretheoretically, to the process by which a satellite of the VN is realized outside the maximal projection of it, which is determined by the absence of the genitive case marker. If the goal NP in (103) were inside the projection of the VN, it would be marked with genitive. The NP acts as if it were an augment of the light verb *do*. This is a hallmark of light verb constructions.

Argument transfer is found not just with the *do*-construction. Matsumoto (1996: chap. 4) extensively discusses sentences like (105) (=Matsumoto’s ex. 25b, p.77) and (106) (=Matsumoto’s ex. 34b, p.80):

- (105) Jon wa sono supai to sessyoku o kokoromita
Jon Top the spy with contact Acc attempted
‘Jon attempted to make contact with the spy.’
- (106) Jon wa ie-ni renraku o wasureta
Jon Top house Goal sending.message Acc forgot
‘Jon forgot to send a message to his house.’

The absence of a genitive marker on *sono supai-to* ‘with the spy’ and *ie-ni* ‘to the house’ shows that both (105) and (106) are light verb constructions. What is interesting in these cases is that VNs appear in the complement position of “heavy” verbs rather than light verb *do* (see Saito and Hoshi 1998 and Kuroda 2003, among others).

As noted by Matsumoto 1996 and studied by Saito and Hoshi 1998, the “heavy” construction is an OC construction. This is correct:

- (107) Mary-wa sono byooin-de (daiissi-no) syussan-o
Mary-Top that hospital-in first child-Gen giving.birth-Acc
kokoromita
attempted
‘Mary attempted to give birth to her first child in that hospital.’
- (108) a. # Mary-wa [otto-ga sono byooin-de (daiissi-no)
Mary-Top [husband-Nom that hospital-in first child-Gen
syussan-o kokoromi-ru-to] omotta
giving.birth-Acc attempt-Prs-C₁₀] thought
‘Mary thought that her husband would attempt to give birth to her first child.’
- b.# Mary-no titioya-ga sono byooin-de [daiissi-no
Mary-Gen husband-Nom that hospital-in first child-Gen
syussan]-o kokoromita
giving.birth-Acc attempted
‘Mary’s husband attempted to give birth to her first child.’
- c. A: Mary-wa sono byooin-de [(daiissi-no) syussan-o]
Mary-Top that hospital-in [first child-Gen giving.birth]-Acc
kokoromita
attempted
B: #ottomo-mo da
husband-even Cop
‘Her husband, too.’

We are interested in the readings of examples (108)a-c in which the locative is unambiguously “transferred” from the VN’s domain; that is, it needs to be made thematically associated with the VN and dissociated from *attempt*. Thus, all the examples in (108) should be read under a particular context. Let us suppose: Mary and her husband were doing shopping. Suddenly, Mary went into labor. The couple tried to find a taxi to get to the hospital they normally went to. In this situation, where neither Mary nor her husband was physically in the hospital, the statement in (107)

can be truthfully uttered. (108)a-c, where transfer is applied, are all anomalous because the properties of OC make the sentences to mean that a male person gives birth.

While pointing out similarities of the “heavy” construction to the “light” construction, Matsumoto (1996: 85) also observes one difference between the two constructions: that argument transfer of the higher internal argument, apparently, does not have to apply in the “heavy” construction, unlike in the “light” construction ((109)a is adapted from Matsumoto’s (ia) in his footnote 11):

- (109) a. Jon-wa Tokyo-e-no ryokoo-o keikakusi-tei-ru
 Jon-Top Tokyo-to-Gen trip-Acc plan-Prs
 ‘Jon is planning on a trip to Tokyo.’
- b. Jon-wa Tokyo-e(?*-no) ryokoo-o sita
 Jon-Top Tokyo-to-Gen trip-Acc do-Prs
 ‘Jon went on a trip to Tokyo.’

Further, he makes an extremely interesting observation about the apparent optionality of argument transfer: when argument transfer does not take place, the construction ceases to display OC properties. He cites examples like the following (adapted from his (ii)), observing that split antecedents are possible. Namely, the sentence can be uttered truthfully when Jon plans that Marii and him will go on a trip together:

- (110) Marii-wa [Jon-ga Tokyo-e-no ryokoo-o
 Marii-Top [Jon-Nom Tokyo-to-Gen trip-Acc
 keikakusi-tei-ru-to] omotta
 plan-Asp-Prs-C_{to}] thought
 ‘Marii thought that Jon planned on a trip to Tokyo.’

I agree with Matsumoto’s conclusion that this sentence type is not an OC construction. But his particular example is not as indicative as we hope. The following example, which minimally differs from (110) in that the genitive case on *to Tokyo* is left out,

has the interpretation that Matsumoto seems to refer to by ‘split antecedence’:

- (111) *Marii-wa* [*Jon-ga* *Tokyo-e* *ryokoo-o*
 Marii-Top [*Jon-Nom* *Tokyo-to-Gen* *trip-Acc*
 keikakusi-tei-ru-to] *omotta*
 plan-Asp-Prs-C_{to}] *thought*
 ‘*Marii* thought that *Jon* planned on a trip to *Tokyo*.’

This shows that Matsumoto’s “split antecedence” interpretation of (110) does not have anything to do with argument transfer.²¹ Nevertheless, other OC diagnostics enable us to show that Matsumoto’s conclusion is fundamentally correct. The construction in which internal argument transfer does not take place fails to pass the tests we have been using. (112)a-c contrast with (108)a-c, respectively:

- (112) a. *Mary-wa* [*otto-ga* [*sono byooin-de-no* (*daiissi-no*)
 Mary-Top [*husband-Nom* [*that hospital-in-Gen* *first child-Gen*
 syussan]-*o* *kokoromi-ru-to*] *omotta*
 giving.birth]-*Acc* *attempt-Prs-C_{to}*] *thought*
 ‘*Mary* thought that her husband would attempt her giving birth to her
 first child.’
- b. *Mary-no* *otto-wa* [*sono byooin-de-no* (*daiissi-no*)
 Mary-Gen *husband-Top* [*that hospital-in-Gen* *first child-Gen*
 syussan]-*o* *kokoromita*
 give birth-Acc *attempted*
 ‘*Mary*’s husband attempted her giving birth to her first child.’

²¹ The reason why (111) is true in the situation that Matsumoto discusses seems to be an uninteresting one. The situation that he has in mind makes the sentence true even if *Jon* is the sole antecedent for PRO. For instance, *Jon planned to go to Tokyo* is true when he planned to go there together with *Mary*.

- c. A: Mary-wa [sono byooin-de-no (daiissi-no)
Mary-Top [that hospital-in-Gen first child-Gen
 syussan]-o kokoromita
giving birth]-Acc attempted
- B: otto-mo da
husband-even Cop
 ‘Her husband, too.’

When argument transfer does not take place, long distance control becomes possible [(112)a]; a non-c-commanding NP becomes able to bind the null subject of the VN [(112)b]; and strict identity under ellipsis becomes possible [(112)c]. Matsumoto’s generalization can be summarized as in:

(113) Argument transfer of the highest internal argument \Leftrightarrow OC

I do not have a full explanation of this curious generalization. We can learn three things from the above discussion, though. First, one might attempt to classify higher predicates of “heavy” light verb construction into obligatory control and non-obligatory control predicates (see Matsumoto 1996, Saito and Hoshi 1998). However, Matsumoto’s generalization suggests itself that structural/configurational considerations are necessary. One way of looking at Matsumoto’s generalization is to assume that the projection of the complement of *attempt* is a DP when transfer is not applied. Saito and Hoshi (2000) argue that in the “light” construction, the effect of argument transfer is a consequence of covert incorporation of a VN into the light verb, which enables the VN to assign a θ -role to the transferred argument. If so, the presence of D might be prohibiting VN’s incorporation at LF. This conjecture might be right. There is a correlation between the availability of demonstratives and the (non-)application of argument transfer:

- (114) a. * Hiroshi-wa DC-e sono ryokoo-o keikakusi-tei-ru
Hiroshi-Top DC-to that trip-Acc plan-Prs
 ‘Hiroshi is planning on that trip to DC.’
- b. (?) Hiroshi-wa sono DC-e-no ryokoo-o keikakusi-tei-ru
Hiroshi-Top that Tokyo-to-Gen trip-Acc plan-Prs
 ‘Hiroshi is planning on that trip to DC.’

The data are not always clear, but it seems true that argument transfer is blocked whenever a demonstrative is present. (This is highly reminiscent of Grimshaw and Mester’s dichotomy between transparent and opaque VNs (Grimshaw and Mester 1988: 208). If demonstratives are indicative of the existence of D in the structure, the contrast in (114) can be taken to mean that VNs lacking argument transfer is a DP.

The remaining task is to explain why OC does not obtain with the presence of D. Suppose the “heavy” OC construction involves movement of the external argument of a VN to the matrix subject θ -position in overt syntax. If the presence of D blocks this movement, it follows that OC is excluded if the complement has a D-layer. Presenting this as a preliminary suggestion, I conclude this discussion of light verb constructions.

7 Notes on Lexical Subjects

Take one more look at our generalization about T’s Case assignment property and finiteness. (60) is repeated here:

- (115) T assigns structural Case if and only if it is [+finite]

Notice that this generalization does not prevent us from saying that non-structural Case can be assigned to the Spec,TP of pseudo-finite clauses. In fact, pseudo-finite clauses are allowed to have a lexical subject (cf. Yang 1985, Borer 1989, Hasegawa 1984-85, Sakaguchi 1990, Watanabe 1996b):

- (116) a. butyoo-wa [Mary-ga Osaka-ni ik-u-koto]-o
manager-Top [Mary-Nom Osaka-to go-Prs-C_{koto}-Acc
 kimeta
decided
 ‘The manager decided that Mary would go to Osaka.’
- b. butyoo-wa Taro_i-ni [kare_i-ga Osaka-ni ik-u-yooni]
manager-Top Taro-Dat [he-Nom Osaka-to go-Prs-C_{Yooni}]
 meireisita
decided
 ‘The manager ordered that Taro that he should go to Osaka.’

I assume that these instances of *-ga* found in the embedded pseudo-finite clauses are inherent or default case markers; see Saito (1982, 20ff.; 1985: 196ff.) and Ura (1992) for proposals along these lines. See chapter 4, where this assumption about nominative *-ga* plays a crucial role in the proposed account of backward control.

8 Conclusions

This chapter argued that the actual distribution and interpretation of PRO in Japanese can be explained straightforwardly under a theory of control that is compatible with the following statements:

- A necessary condition for occurrence of PRO in a given syntactic position P is that P is not structurally Case-marked.
- OC PRO and NOC PRO are different creatures. The latter is pronominal. The former is licensed by an antecedent that is roughly A-chain away from the empty category. The latter is an elsewhere case for the former.
- Some grammatical process (e.g. A-movement or Condition A) underlines both obligatory control and raising.

As conditions on A-dependencies clearly play a significant role in such a theory of

the distribution of PRO, the theory can be considered a syntax-oriented approach to control. Nevertheless, it should be stressed that I am not claiming that semantics is not involved in the control phenomena. Indeed, the anti-tense alternation effect is highly likely a semantic effect. It seems plausible to assume, for instance, that *yakusokusu(ru)* ‘promise’ and verbs of deciding semantically require their complement to have a ‘future’ interpretation. Note that the results of the present study show that this semantic property is not a sufficient condition for OC to be obtained. The actual distribution of OC PRO in Japanese shows that when the complement of those verbs has a form in which the OC chain cannot be created, OC does not ensue even if the embedded tense satisfies the verbs’ requirement.

I have been careful not to use the term “selection” to refer to the requirement in question (see Landau 2000, 2004 for a related proposal). If selection is taken to mean that a local head-to-complement or head-to-head relation, then we might predict that an extra layer destroys the relation in question and therefore the sentence becomes ungrammatical, the verb requirement being unsatisfied. But this is not what happens. Another key observation is that the anti-tense alternation effect can be found with adjunct OC.²² If the assumption that adjuncts are never selected by predicates is correct, the restriction on subordinate tense should not be analyzed as something that selection does. Consider a concrete example. *Tameni* ‘in order’ may introduce a subject-controlled rational *tensed* adjunct clause (Nakayama and Tajima 1993). The examples in (117) show that rational *tamani*-clauses yield OC. A non-c-commanding NP cannot be an antecedent for the null subject of the adjunct clause:

²² This thesis does not discuss OC into adjuncts in detail, but a movement-based analysis seems to work for adjunct control as well as complement control. Roughly put, the subject of a ‘high’ adjunct cannot sideward-move to Spec,vP due to extension/cyclicity and the adjunct island condition (see Hornstein 1999, 2001 for details). So the prediction is that high nonfinite adjuncts do not yield OC. See Arita 1997, where it is observed that control into *te*-gerundive adjuncts like *hasit-te* (run-Ger) ‘running’ ceases to be OC when they function as conditional adjuncts, which seem to attach high. The question of whether the prediction holds for high pseudo-finite adjuncts is left for future research.

- (117) a. sono kyoodai_i-wa [Δ_i otagai-o nonosiri-a-u-tameni]
the brothers-Top e.o.-Acc curse-Recip-Prs-in.order
 hey_a-ni hitta
room-to entered
 ‘The brothers entered the room in order to curse at each other.’
- b. * sono kyoodai_i-no titioya-wa [Δ_i otagai-o nonosiri-a-u-tameni]
the brothers-Gen father-Top e.o.-Acc curse-Recip-Prs-in.order
 hey_a-ni haitta
room-to entered
 ‘The brothers’ father entered the room in order to curse at each other.’

At first sight, it appears that *tameni*-clauses accept both the present and past tense forms of a verb. The past tense form of ‘curse (each other)’ is fine inside a *tameni*-adjunct, as in (118):

- (118) sono kyoodai-no titioya-wa [Δ tabitabi otagai-o
the brothers-Gen father-Top often e.o.-Acc
 nonosiri- $\{a-u/ at-ta\}$ -tameni] byooki-ni natta
curse- $\{Recip-Prs/Recip-Past\}$ -in.order became sick
 ‘The brothers’ father became sick because they often cursed at each other.’

It is obvious, however, that the *tameni* clause in (118) is not a rational clause. The use of *tameni* introduces a causal adjunct, as is indicated by the translation. Note also that (118), unlike (117)a, is not an OC construction (in (118), the non-c-commanding NP antecedes the null subject of the *tameni*-adjunct). When a causal interpretation of a *tameni* adjunct is hard, the tense of the adjunct is restricted to present:

- (119) Yoko-wa [Δ Jiro-o {damasu/*damasita}-tameni]
Yoko-Top [Jiro-Acc cheat/cheat-in.order]
denwasu-ru huri-o sita
call-Prs pretended
'Taro pretended to make a phone call to cheat on Jiro.'

So it looks like causal adjuncts are finite whereas rational adjuncts are nonfinite. If adjuncts are never selected by their local predicate, therefore, the restriction on the tense of complement clauses should not be treated as a matter of selection.

Chapter 3: Split Control and the Principle of Minimal Distance

1 Introduction

This chapter studies two diagnostic properties of obligatory control (OC) that were not discussed in chapter 2: (i) the ban on split control (discussed by Williams 1980, Lebeaux 1984, Martin 1996, Wurmbrand 2001, Landau 2000, among others) and (ii) the effect of the Principle of Minimal Distance (PMD) (proposed by Rosenbaum 1970 and discussed by Larson 1991, Martin 1996, Mazini and Roussou 2000, Hornstein 1999, 2001, 2003, Boeckx and Hornstein 2003, 2004, Landau 2000, 2003, Culicover and Jackendoff 2001, Davies and Dubinsky 2004, to list a few). Here are some illustrations of the two properties:¹

- (1) a. * John ordered Bill [Δ to wash each other]
b. John ordered Bill that they should wash each other
c. John told Bill that [Δ to wash each other] would be fun
- (2) a. * John told Mary [Δ to wash himself]
b. John told Mary that he would wash himself
c. John told Mary that [Δ to wash himself] would be fun

In (1)a, the null subject of the embedded infinitival clause cannot be bound by the matrix subject and the matrix indirect object at the same time, which is signaled by the exclusion of *each other* (which needs a plural antecedent). This restriction is not observed with the subject of finite clauses as in (1)b or with the null subject of

¹ It looks as though sentences like (1)a violate the PMD, because PRO is controlled by the matrix subject, which is not a closer potential controller. As shown in section 3.1, its equivalent of this kind of example in Japanese is also unacceptable. I will suggest in section 4 that the effect in Japanese at least is not a PMD violation. Thanks are due to Howard Lasnik (personal communication) for bringing this point to my attention.

The sentence roughly means that John wanted it to be the case for him and some other person(s) (notated with “1+” in Landau 2000) to meet at 6. Monadic collective predicates like *meet* require that their subject denote a group. Crucial is that *meet* does not need a syntactically plural subject. Semantically group-denoting NPs sufficiently meet the requirement (cf. *The committee met at 6*).

It seems to be the case that split control differs from partial control, as argued in Landau (2000) and accepted in Hornstein (2003), Culicover and Jackendoff (2005: 460) among others. Given the above characterization of partial control, split control can be taken to refer to the process in which syntactically plural PRO is bound by two different antecedents. The example from Landau (2000: 54) shows that partial control and split control are different phenomena:

- (5) Mary needed an appointment with John₁, but didn't know his schedule.
The secretary proposed to her₂ [PRO₁₊₂ to meet (*each other) at 6].

The second sentence in (5) involves object control. *Her* controls PRO. *John* in the first sentence is not able to participate in control of the PRO since it is outside the control sentence. Thus, the sole controller for PRO is singular and therefore PRO is so, too. When *each other* is not present, the VP is a collective predicate. Here PRO, just like *the committee*, supports semantic plurality, Landau argues. By contrast, when the reciprocal anaphor is added, the VP must have a syntactically plural subject. Since the singular antecedent *her* controls PRO, this requirement cannot be satisfied. This is how the sentence with *each other* is excluded. In a nutshell, if partial control were the same thing as split control, the effect of *each other* should not arise. Hence, they are different processes.

Notice that this conclusion does not say anything about whether OC PRO is allowed to have split antecedents. There are two views. It is often claimed that split control is prohibited in English (Williams 1980, Bouchard 1984, Koster 1984, Lebeaux 1984, Hornstein and Lightfoot 1987, Franks and Hornstein 1992, Hornstein 2003, to list a few). This classical view is challenged by Landau (2000), who

observes that some examples of split antecedence, such as (6)b ((6)=Landau's (79), p.53), are possible.²

- (6) a. * John told Mary that he preferred to meet each other at 6
b. John proposed to Mary to meet each other at 6

As noted above, the reciprocal anaphor makes the predicate require a plural subject. Landau's pair of sentences shows that the requirement on the plural predicate *meet each other* is satisfied when two singular NPs can control OC PRO, as in (6)a. When one of the antecedents cannot control PRO due to locality as in (6)b (where *Mary* would be a long distance controller), the requirement cannot be met. Hence, (6)b is an instance of split control.

While claiming that OC PRO can support split antecedents, Landau observes that examples like (7) are unacceptable. Since there are two potential controllers in the matrix clause, OC PRO could be split-controlled. He notes that “[u]nlike *propose* and *ask*, *recommend* and *order* do not allow split control -- for obvious reasons, given that in order to engage in some action, one does not recommend to/order other people to do it.” (p. 55):

- (7) * Mary_i recommended to/ordered John_j [PRO_{i+j} to cooperate with each other]

Thus Landau seems to have concluded that the source of unacceptability found in cases like (7) is independent from the grammatical nature of OC PRO.

Hornstein (2003: 65, footnote 13) maintains that split control does not exist. Examining the example in (8), he makes the following points: (i) many native speakers do not accept (8); (ii) even for those who accept the sentence, replacing *themselves* with *each other* makes the sentence degraded; (iii) for some of those

² See Matrin (1996: 192) for discussion of a different pattern of the judgments. I assume with Landau and Hornstein that split control and partial control differ in the way presented in the text.

speakers, the reflexive appearing in this context does not behave as a run-of-the-mill anaphor. They (marginally) allow plural pronouns like *them* as well as *themselves*; (iv) there are myriad other examples uniformly rejected; (v) those who accept (8) accept the ECM example similar to the sentence: *John expected Mary to get themselves a new car.*

(8) John_i persuaded/suggested to Mary_j [PRO_{i+j} to get themselves a new car]

With these observations, Hornstein seems to argue that there is no clear evidence that *get themselves a new car* requires a plural subject in this context.

The limited goal of this chapter is the following: First, I show that split control is possible in a certain environment, that is, when clauses headed by the mood particle *-(y)oo* are interpreted or typed as the exhortative. Second, I point out that a certain sentence mood that appears to be semantically and pragmatically coherent does not exist. The PMD proves to be useful to explain the absence of the unattested mood particle. Third, an analysis of split control will be given that is compatible with the claim that the PMD or minimality is respected in the grammar. I won't attempt to add anything new to the debate about the descriptive generalization about English data on split control or the issue of how the English data concerning the PMD effect should be analyzed. This is so because the proposal that we will make concerns mood clauses and it is not clear to me whether English infinitives are mood clauses in the same way that the relevant Japanese constructions are.

The chapter is organized as follows: section 2 attempts to document the relevant data to the main issues. Basic properties of embedded imperative constructions and those of what we call tentative constructions are laid out. In section 3, the data pertaining to split control is introduced. It is shown that sentences whose null subject is analyzed as split-controlled are obligatory control constructions. Section 4 attempts to provide a possible analysis of split control constructions and explore its consequences.

2 Mood Particles and Obligatory Control

2.1 Imperatives and intentives

This section introduces preliminary data concerning two mood particles triggering OC. The discussion of these mood particles will become useful when we identify under what condition split control is allowed. The particles are the imperative mood particle *-e/-ro* and the mood particle *-(y)oo*. (9)a and (9)b illustrate examples:

- (9) a. (boku-wa) beeguru-o tabe-yoo
I-Top bagel-Acc eat-YOO
'I'll eat bagels.'
- b. (kimi-wa) beeguru-o tabe-ro
You-Top bagel-Acc eat-Imp
'You eat bagels!'

The particle *-(y)oo* attaches to vowel-final stems to surface as *-yoo*, while it attaches to consonant-final stems to surface as *-oo*. The imperative mood particle is realized as *-e* when it follows consonant-final stems and as *-ro* (or *-yo*, used in formal speech) when it follows vowel-final stems.

Throughout the chapter, I assume that these particles are heads of Mood Phrases and the Case for the subject of these clauses is unavailable inside the domain of MoodP. Whether TP is projected below Mood does not really matter.³

A rough semantic or pragmatic characterization of the *-(y)oo* particle is in order. *(Y)oo* is sometimes translated as 'be willing to' or 'be ready to' in cases found in (9)a.

³ As Nakau (1973) observes, negative imperatives contain the present tense morpheme (which cannot be altered with the past tense):

- (i) John-wa Mary-ni [Δ kare-no beeguru-o tabe-ru-na-to] itta
John-Top Mary-Dat [he-Gen bagel-Acc eat-Prs-Neg.Imp-C] said
'John told Mary not to eat his bagel.'

It is possible to take this to indicate that nonfinite TP is the complement of the Mood head and generalize to all the mood clauses.

(Nakau 1973 calls the use of *-(y)oo* found in examples like (9)a ‘volitional’.) We will see in section 3 that the behavior of this particle is more complex. Cases where the particle cannot be translated as ‘be willing to’ are examined there. For this reason, I gloss *-(y)oo* just “YOO”. In talking about semantic and pragmatic functions of these mood particles, it is useful to appeal to the notions TO-DO LIST and discourse participants such as speaker and addressee, along the lines of Portner (2004). Portner proposes that imperative sentences represent a TO-DO LIST, which is defined as a set of properties and that “[t]he conventional force of imperatives, what we can call Requesting, is to add the property denoted by the imperative to the addressee’s To-Do LIST (Portner 2004; see also Portner and Zanuttini 2005).” In this view, *Leave!* denotes the property of leaving and this property is placed on the addressee’s TO-DO LIST. In this light, the force of the intensitive is to add the relevant property to the speaker’s TO-DO LIST.⁴ This is why (9)a and (9)b have the translations they have.

These mood constructions can be embedded in the complement position of a verb, the CP being headed by the complementizer *to*:

- (10) a. Taro-wa boku-no beeguru-o tabe-yoo-to keikakusita
Taro-Top my bagel-Acc eat-YOO-C_{to} planned
 ‘Taro planned to eat my bagel.’
- b. Yoko-wa Hiroshi-ni boku-no beeguru-o tabe-ro-to
Yoko-Top Hiroshi-Dat my bagel-Acc eat-Imp-C
meireisita
ordered
 ‘Yoko ordered Hiroshi to eat my bagel.’

It has been always an issue whether embedded clauses found in examples like these involve real embedding, i.e. whether they involve indirect speech or not. For intentives As Han (1998/2000: 159) noted, Japanese seems to allow imperatives to be

⁴ Intentives might be the same as Portner and Zanuttini’s ‘promissives’. I use the intensive here in order to save ‘promissive’ to refer to a slightly different case that will be discussed later.

embedded. At this point, it suffices to recognize that when a mood clause is embedded, TO-DO LISTs are relative to the speaker and the addressee of the indirect speech. In section 2.3, I will argue that these sentences involve indirect quotation, rather than direct quotation.

2.2 Diagnostic Properties of OC

This section applies some OC diagnostics to embedded mood clauses to show that they are obligatory control ones.

Unique antecedents

The antecedent for the null subject of the embedded mood construction under consideration requires an antecedent and the antecedent is uniquely determined:

- (11) a. Hiroshi_i-wa [Δ {??kare_i/zibun_i}-o hihansi-yoo-to]
Hiroshi-Top him/self-Acc criticize-YOO-C
 {omotta/kessinsita}
thought/decided
 ‘Hiroshi {thought of criticizing/ decided to criticize} {??him, himself}.’
- b. Hiroshi-wa Yoko-ni [Δ {kare/??kanozyo}-o hihansi-ro-to]
Hiroshi-Top Yoko-Dat he/she-Acc criticize-Imp-C
 {itta/meireisita}
said/ordered
 ‘Hiroshi {said to/ordered} Yoko to criticize {him, *her}.’

The Δ in (11)a necessarily corefers to the matrix subject, *Hiroshi*. A Condition B effect is observed with *kare* ‘he’, which suggests that the null subject must be bound by *Hiroshi*. Likewise, Δ in (11)b necessarily corefers to the matrix indirect object, *Yoko*. Hence, it is likely for the former to involve subject control and for the latter to involve object control.

Ban on non-c-commanding antecedents

The difference between (12)a and (12)b below demonstrates that the subject of the embedded intensitive clause must be c-commanded by its antecedent [(12)a] while the null subject of *praise each other* in a finite clause does not have to be [(12)b]:

- (12) a. kyoodai_i-no titioya_j-wa [$\Delta_{*i/j}$ otagai-o home-a-oo-to]
brothers-Gen father-Top [*e.o-Acc praise-Recip-YOO-C*]
omot-tei-ta
think-Asp-Past
'The brothers' father thought to praise each other.'
- b. kyoodai_i-no titioya_j-wa [$\Delta_{i/j}$ otagai-o home-a-u-to]
brothers-Gen father-Top [*e.o-Acc praise-Recip-Prs-C*]
omot-tei-ta
think-Asp-Past
'The brothers' father thought that they would praise each other.'

The same restriction holds for embedded imperative clauses: their subject needs a c-commanding antecedent. As in (13) below, the subject of *should respect each other* does not have to be anteceded by a c-commanding NP, in contrast with that of an imperative clause:

- (13) a. * Taro-wa sono hutago-no hahaoya_j-ni [Δ otagai-o
Taro-Top the twins-Gen mother-Dat [*e.o-Acc*
sonkeisi-a-e-to] itta
respect-Recip-Imp-C] *said*
'Taro told the twins' mother to respect each other.'
- b. Taro-wa sono hutago-no hahaoya_j-ni [Δ otagai-o
Taro-Top the twins-Gen company-Dat [*e.o.-Acc*
sonkeisi-a-u-bekida-to] itta
respect-Recip-Prs-should-C] *said*
'Taro told the twins' mother they should respect each other.'

Thus intentive and imperative subjects (i.e. subjects of clauses marked with intentive *(y)oo* and imperative *ro/e*, respectively), when embedded, need a c-commanding antecedent.

Ban on long-distance antecedents

OC PRO does not allow long-distance antecedents. Japanese embedded-mood constructions do not allow long distance antecedents:

- (14) a. * *karera-wa* [*Hiroshi-ni* [Δ *otagai-o naguri-a-oo-to*]
they-Top [*Hiroshi-Dat* [*e.o-Acc hit-Recip-YOO-C*]
omw]-*ase-ta*
think]-*Caus-Past*
 ‘They made Hiroshi think to hit each other.’
- b. *karera-wa* [*Hiroshi-ni* [Δ *otagai-o naguri-a-u-to*]
they-Top [*Hiroshi-Dat* [*e.o-Acc hit-Recip-Pres-C*]
omw]-*ase-ta*
think]-*Caus-Past*
 ‘They made Hiroshi think that they might hit each other.’

In these examples, the causative morpheme *-(s)ase* takes a sentential untensed complement in which the verb *think* takes as its complement a *to*-clause.⁵ Δ is one clause away from the subject of the causative *-sase* but two clauses away from the highest subject. The pair of examples above shows that the lowest, null subject cannot take the highest subject as its antecedent when the most deeply embedded verb is marked with intentive. Thus, the subject of intentives must be local to its antecedent at least in clausemate fashion.

Null imperative subjects also must be one clause away from its antecedent:

⁵ It might be the case that the dative NP is the ‘deep’ object of *sase* and that the deep subject of *think* is PRO. But this does not affect the observation made here. The reader could read “dative NP” in the text as “the PRO controlled by that dative NP”.

- (15) a. * karera_i-wa [Yoko-ni otto-ni
they-Top [Yoko-Dat husband-Dat
 [Δ_i otagai-o itawari-a-e-to] it-te] hosikatta
 [*e.o.-Acc be nice-Recip-Imp-C to.say*] wanted
 lit. ‘They_i wanted Yoko to tell her husband Δ_i to be nice to each other.’
- b. karera_i-wa [Yoko-ni otto-ni
they-Top [Yoko-Dat husband-Dat
 [Δ_i otagai-o itawari-a-u-bekida-to] it-te] hosikatta
 [*e.o.-Acc be nice-Recip-Prs-should-C*] to.say] wanted
 ‘They wanted Yoko to tell Taro that they should be nice to each other.’

The structure for (15)a can be illustrated as in (16) with English words:

- (16) They wanted [Yoko tell her husband [_{CP} Δ be-nice_{Imp} to each other]]
-

This clausemate restriction imposed on embedded imperatives and the antecedent for its subject is totally expected if the null subject in (14)a and (15)a is OC PRO.

Only-NP antecedents

OC PRO, unlike pronouns, cannot function as a free variable (see chapter 2 for the details about the diagnostic property). Let us start with ambiguity of the sort observed with (17):

- (17) Hiroshi_i-dake-ga [*pro*_i *siai-ni* *kat-u-to*]
Hiroshi-only-Nom [*game-Datwin-Prs-C*]
 kangaeteiru
 think-Stat-Prs
- i. Covariant interpretation: ‘Hiroshi is the only x such that x thinks that x will win the game.’
- ii. Invariant interpretation: ‘Hiroshi is the only x such that x thinks that Hiroshi will win the game.’

As we saw in chapter 2, *pro* can be interpreted as a bound variable (as in (17)i) or free variable (as in (17)ii). The following scenario is intended to make the invariant interpretation true and the covariant interpretation false:

- (18) Hiroshi: “I’m sure I will win my game.”
 Atsuko: “I’m sure I will win my game. I don’t think Hiroshi will win his game.”
 Yoko: “I doubt that Hiroshi will win his game.”

(17) can be uttered truly under this scenario. Hence the null subject embedded in a finite clause in (17) is *pro*.

The null subjects of embedded intentives and imperatives behaves as OC PRO. Neither of them allow for an invariant reading:

- (19) Hiroshi_i-dake-ga [Δ_i *siai-ni* *kat-oo-to*] *kangaeteiru*
Hiroshi-only-Nom [*game-Datwin-YOO-C*] *think.Asp.Pr*s
 ‘Hiroshi thinks to win the game.’
- Covariant interpretation: ‘Hiroshi is the only x such that x thinks that x will win the game.’
- Invariant interpretation: *Hiroshi is the only x such that x thinks that Hiroshi will win the game’

Like the first scenario, the following one, in which Hiroshi, Atsuko and Yoko are the relevant individuals, makes the invariant one true and the covariant interpretation false:

- (20) Hiroshi: “I’m gonna win my game.”
 Atsuko: “I will win my game. I don’t think Hiroshi will even try to.
 Yoko: “I wanna win my game, of course. Hiroshi? I’m not sure he is interested in winning his game.”

Statement (19) is rejected under this scenario. This shows that the statement does not have the invariant interpretation. Hence, we conclude that Δ cannot act like a pronoun. If it is OC PRO, the judgment obtained here is not surprising.

The invariant reading with an *only*-NP antecedent is not possible with embedded imperatives either. The same reading is possible, by contrast, with a sentence with finite auxiliary *bekida* ‘should’:

- (21) a. John-wa Taro-dake-ni [Δ Izu-ni ik-e-to] itta
John-Top Taro-only-Dat [Izu-to go-Imp-C] said
 ‘John told only Taro that he should go to Izu.’
 (John told only Taro, “You go to Izu!”)
- b. John-wa Taro_i-dake-ni [*pro*_i Izu-ni
John-Top Taro-only-Dat [Izu-to
ik-u-bekida-to] itta
go-Prs-should-C] said
 ‘John told only Taro_i that he_i should go to Izu.’

(22) Covariant interpretation: Only Taro is an x such that John told x that x should go to Izu.

[Ok with both (21)a and (21)b]

Invariant interpretation: Only Taro is an x such that John told x that Taro should go to Izu.

[Impossible with (21)a and ok with (21)b]

The subject of embedded imperatives must be interpreted covariantly, while the subject of *should* can be interpreted either invariantly or covariantly.

Absence of strict reading

The asymmetry between bound variable and free variable interpretations for intensitive and imperative subjects can be illustrated on the basis of their behavior in ellipsis contexts as well. The subject of an embedded intensitive does not allow the strict reading in stripping. (See Hoji 1990 for extensive discussion about this construction in Japanese.)

(23) A: Atsuko-wa [Δ kono biiru-onom-oo-to] omotteimasita
Atsuko-Top [*this beer-Acc drink-YOO-C*] *thought.Pol*
'Atsuko_i thought that she_i would drink this beer.'

B: Hiroshi-mo desu
Hiroshi-even Cop.Pol
'Hiroshi_j also <thought {Hiroshi_i, *Atsuko_j} would.>'

The imperative construction works in the same way except that it is object control:

(24) a. A: John-wa Taro-ni [Δ Izu-ni ik-e-to] itta
John-Top Taro-Dat [*Izu-to go-Imp-C*] said
'John ordered Taro to go to Izu.'

B: Hiroshi-ni-mo desu
Hiroshi-Dat-even Cop
'~~John~~ said to Hiroshi also {Hiroshi, Taro*} to go to Izu.'

- b. A: John-wa Taro-ni [Δ Izu-ni ik-u-bekida-to]
John-Top Taro-Dat [*Izu-to go-Prs-should-C*]
 itta
 said
 ‘John said to Taro_i that he_i should go to Izu’
- B: Hiroshi-ni-mo desu
Hiroshi-Dat-even Cop
 ‘~~John~~ said to Hiroshi also that {Hiroshi, Taro} should go to
~~Izu.~~’

When the embedded predicate contains an imperative head, the strict reading is extremely difficult. The finite auxiliary *should* does not impose this restriction, as can be seen with the availability of the strict reading in (24)b.

Absence of non-*de se* interpretation

As has been seen in chapter 2, OC PRO can only support a *de se* interpretation while pronouns allow a non-*de se* interpretation. Now consider examples of embedded intentives like the one given in (25):

- (25) Hiroshi-wa [Δ gaikoku-ni ik-oo-to] omotteiru
Hiroshi-Top [*foreign country-to go-YOO-C*] *thinks*
 ‘Hiroshi thinks of going abroad.’

Suppose that Hiroshi planned to go abroad. He had already got his passport and made a visa available recently. One day, he went to drinking and came home badly drunk. He found the passport on the table, without remembering that this was what he himself got from the embassy. Looking at the picture on the passport and the visa, he thinks, “I don’t know who this guy is, but he seems to be planning to go abroad soon. I wish I could!” In this non-*de se* context, (25) cannot be uttered felicitously. In contrast, (26), whose embedded predicate has the simple present tense form, allows for a reading compatible with this situation.

- (26) Hiroshi-wa [Δ gaikoku-ni ik-u-to] omotteiru
Hiroshi-Top foreign country-to go-Prs-C thinks
 ‘Hiroshi thinks he will go abroad.’

The subject of embedded *yoo*-clause, like standard OC PRO, cannot receive a non-*de se* interpretation.

2.3 $\Delta \neq$ null equivalent of overt indexicals

Before we go on, one empirical issue needs to be considered. How do we make sure that embedded intentive and imperative clauses do not involve direct quotation (see Kuno 1988)?^{6 7} If the subject of direct quotes behaved exactly in the way that Δ behaves, our claim that Δ is OC PRO would be weakened. Notice also that root intentives and imperatives require first and second person subjects, respectively:

- (27) a. Δ Izu-ni ik-oo-tto
Izu-to go-YOO-SFP
 ‘{I’m, *You’re, *He’s, ..} gonna go to Izu.’
- b. Δ Izu-ni ik-e
Izu-to go-Imp
 ‘{You, *me, *John}, go to Izu!’

⁶ This possibility becomes an issue here precisely because the Japanese quotative complementizer *to* occurs in direct quote complements as well as in indirect quote complements, unlike English *that*. See Shibatani (1978) for an overview of basic properties of the quotative complementizer, and also Motomura 2003 for relevant discussion. Note incidentally that we ignore instances of quotes called “quotational intrusion” such as (i) (from Schlenker 2003).

(i) My three-year old son believes that I am a ‘phitosopher’.

See Kuno 1988 for Japanese data of this kind.

⁷ Speas (2000) makes an interesting proposal for the syntax of direct and indirect quote complementation of the relevant sort, based on Navajo data.

In fact, true direct quotes seem to pass at least some diagnostics that we use to argue that Δ is OC PRO. Remember for instance the context that was seen when the impossibility of a non-*de se* interpretation with Δ was examined. (28), which is a direct quote, cannot be uttered to describe the situation. The first person expression *ore* ‘I’ requires that the quote be Hiroshi’s direct thought. This is the same as the way OC PRO differs from pronouns with respect to this diagnostic test:

- (28) Hiroshi-wa [[ore-wa gaikoku-ni iku] to]
Hiroshi-Top [[*I-Top* foreign country-to go.Prs C]
 omotteiru
thinks
 ‘Hiroshi thinks: “I will go abroad”.’

Moreover, whether they are embedded or not, indexicals in Japanese are often null. For these reasons, it needs to be shown that embedded intentives and imperatives can be indirect quotation. There are several ways of controlling for this factor. First, long distance wh-movement cannot originate inside and take scope outside a direct speech. When a quote contains first person that refers to the author of the speech, a wh-phrase cannot appear inside:

- (29) * Hiroshi_i-ga [ore_i-wa doko-ni ik-u(-zo) to] itta-no
Hiroshi-Nom [*I-Top* where-to go-Prs-SFP C] said-Q
 ‘What place is x such that Hiroshi said, “I will go to x”?’

Embedded intensitive clauses with a null subject can contain a (long distance) wh-element:

- (30) Hiroshi_i-ga [Δ_i doko-ni ik-oo-to] itta/kimeta-no
Hiroshi-Nom [where-to go-YOO-C] said/decided-Q
 ‘What place is x such that Hiroshi said to go to x?’

Hence, the embedded clause with *-(y)oo* at least can be an indirect quote. Another way to show that we are dealing with indirect quotation is to put a third person pronoun referring back to the addressee of the report. It forces the embedded clause to be an indirect quote. *He* inside a direct quote cannot be coreferential with the speaker or the hearer of the main utterance:

- (31) Hiroshi_i-ga [boku_i-wa kare_i-no ie-o
Hiroshi-Nom [I-Top his house-Acc
 u-ru-zo] to kangaeteiru
sell-Prs-SFP C think-Stat-Prs
 ‘Hiroshi_i thinks: “I_i will buy {*his_i, my_i} house.”’

As in (32), the embedded mood particle can co-occur with such *kare* ‘he’:

- (32) Hiroshi_i-ga [Δ kare_i-no ie-o
Hiroshi-Nom [his house-Acc
 ur-oo-to] kangaeteiru
sell-YOO-Prs-C think-Stat-Prs
 ‘Hiroshi thinks of selling his_i house.’

Likewise, when the author or addressee of the quoted speech differs from the actual speaker or hearer (of the main utterance), using first or second person expressions in the quote forces it to be indirect speech:

- (33) * John said, “I_(actual speaker) am a hero.”

The embedded intentive and imperative constructions in (34), which contain indexicals that refer to the speaker or hearer of the actual context, are perfectly acceptable:

- (34) a. Hiroshi_i-ga [Δ_i boku-no ie-o
Hiroshi-Nom [*my house-Acc*
ka-oo-to] kangaeteiru
buy-YOO-Prs-C] *thinks*
‘Hiroshi thinks of buying my(=the actual speaker) house.’”
- b. Hiroshi-ga Yoko_i-ni [Δ_i kimi-no ie-o
Hiroshi-Nom Yoko-Dat [*your house-Acc*
ka-e-to] meizita
buy-Imp-Prs-C] *ordered*
‘Hiroshi ordered Yoko to buy your(=the actual hearer) house.’

Therefore, we are not necessarily dealing with root phenomena by looking at these mood constructions. These subordinate sentences can be indirect speech.

The patterns of judgments about the diagnostics that have been used so far remain the same even when the possibility of direct quotation is eliminated. Some of the data are presented below:

necessity of c-command

- (35) a. * sono kyoodai_i-no titioya_j-wa [$\Delta_{*i/j}$ otagai-o
that brother-Gen father-Top [*e.o-Acc*
dokode home-a-oo-to] omot-tei-ta-no
where praise-Recip-YOO-C] *think-Asp-Past-Q*
‘Where did the brothers’ father think to praise each other t?’
- b. * keikan-wa sono kyoodai_i-no titioya_j-ni [$\Delta_{*i/j}$ otagai-o
policeman-Top *that brother-Gen father-Top* [*e.o-Acc*
dokode home-a-e-to] meireisi-ta-no
where praise-Recip-Imp-C] *order-Past-Q*

ban on long distance antecedents

- (36) a. * karera-wa [Yoko-ni otto-ni [Δ
they-Top [Yoko-Dat husband-Dat [
otagai-o doregurai itawari-a-e-to] it-te] hosikatta-no
e.o.-Acc how much be nice-Recip-Imp-C] to.say] wanted-Q
‘How nice did they want Yoko to tell her husband Δ to be to each other?’
- b. karera-wa [Yoko-ni [Δ otagai-o doregurai
they-Top [Yoko-Dat [e.o.-Acc how much
itawari-a-oo-to] omotte-te] hosikatta-no
be nice-Recip-YOO-C] to.think] wanted-Q
‘How nice did they want Yoko to think of Δ being to each other?’

absence of strict reading under ellipsis

- (37) a. A: John_i-wa Taro-ni [Δ kare_i-no ie-ni ik-e-to] itta
John-Top Taro-Dat [his house-to go-Imp-C] said
‘John_i told Taro_j to go to his_i house.’
- B: Hiroshi-ni-mo desu
Hiroshi-Dat-also Cop.Pol
‘~~John~~ said to Hiroshi also {Hiroshi, *Taro} to go to John’s house.’
- b. A: Yoko-wa John_i-ni [Δ kare_i-no ie-ni ik-oo-to]
Yoko-Top John-Top [his house-to go-YOO-C]
omow-ase-ta
think-Caus-Past
‘Yoko made John_i think of going to his_i house.’
- B: Hiroshi-ni-mo desu
Hiroshi-Dat-also Cop.Pol
‘~~She~~ made Hiroshi also think of {Hiroshi’s, *John’s} going to John’s house.’

3 Split Control and the Exhortative Use of -(Y)oo

3.1 Where split control is licensed

Having established that intentive mood and imperative mood particles trigger OC, I would like to consider split control in Japanese, which, to my knowledge, has not been discussed in the literature. As we will see, the following seems to be the case: that null subjects of embedded clauses containing the imperative particle *-ro/-e* never allow split control, whereas null subjects of embedded clauses containing the particle *-(y)oo* allow it under a certain interpretation. First, observe a minimal pair of examples in which the imperative and *(y)oo*-constructions are contrasted:

- (38) a. * Taro-wa Hiroshi-ni [Δ otagai-o sonkeesi-a-e-to]
Taro-Top Hiroshi-Dat [*e.o.-Acc respect-Recip-Imp-C*]
itta/ meireisita
said/ ordered
lit. ‘Taro said to/ordered Hiroshi that Δ respect-IMP each other.’
- b. Taro-wa Hiroshi-ni [Δ otagai-o sonkeesi-a-oo-to]
Taro-Top Hiroshi-Dat [*e.o.-Acc respect-Recip-YOO-C*]
itta/ teiansita
said/ proposed
lit. ‘Taro said/proposed to Hiroshi that Δ respect-YOO each other.’

(38)a and (38)b only differ with respect to the kind of the mood particle attached to the embedded verb. The difference in meaning between these sentences can be made clearer by translating them into the versions with a direct quote. See (39)a and (39)b. The former is unacceptable:

- (39) a. * Taro-wa Hiroshi-ni [kimi-wa otagai-o
Taro-Top Hiroshi-Dat [you-Top e.o.-Acc
 sonkeesi-a-e-yo!] to itta
respect-Recip-Imp-SFP] C said
 ‘Taro said to Hiroshi: “Respect each other!”’
- b. Taro-wa Hiroshi-ni [watasi-tati-wa otagai-o
Taro-Top Hiroshi-Dat [we-Top e.o.-Acc
 sonkeesi-a-imas-yoo] to itta/teiansita
respect-Recip-Pol-YOO] C said/proposed
 ‘Taro said to Hiroshi: “Let’s respect each other.”’

Notice that the use of *-(y)oo* in (38)b and (39)b is, meaning-wise, different from the use of the same particle in the intensive construction. *-(y)oo* found in (38)b and (39)b is associated with exhortation of a similar sort to the one found with English *let’s*-construction. Recall that in section 2, we essentially follow Portner (2004) in characterizing the discourse function of intentives as follows: It is to add the property denoted by the VP to the TO-DO LIST of the speaker (of the reported speech). In the same vein, the discourse effect of exhortatives is to place the relevant property on the TO-DO LIST of the addressee (of the reported speech) as well as that of the speaker of the reported speech (Portner and Zanuttini 2005 and references cited therein). Take *kaer-oo* ‘let’s leave’ for example. The property of leaving is added to the addressee’s TO-DO LIST as well as the speaker’s own TO-DO LIST.

In the next subsection, I will show that (38)b is an instance of split control; that is, that the embedded predicates need a plural subject.

3.2 Reciprocal and reflexive predicates

Whether the examples involve split control depends on whether the predicate in (38)a and (38)b is a grammatically plural predicate. Hoji (1997) observes that the reciprocal *otagai* can take split antecedents, citing examples like (i) (=Hoji’s 9b with the glosses slightly modified):

- (40) Ieyasu_i-wa Nobunaga_j-ni [Singen-ga otagai_{i+j}-o
 Ieyasu-Top Nobunaga-Dat [Shingen-Nom e.o.-Acc
 home-tei-ta-to] tuge-ta
 praise-Asp-Past-C] tell-Past
 ‘Ieyasu_i told Nobunaga_j that Shingen had been praising them_{i+j}.’

If Hoji is right, one might think that examples like those in (38) show very little because ‘praise each other’ does not require a plural subject. Curiously enough, when the embedded verb is reciprocalized, i.e. supplied with the verbal suffix *-aw*, the acceptability of the sentence becomes impossible:⁸

- (41) * Ieyasu_i-wa Nobunaga_j-ni [Singen-ga otagai_{i+j}-o
 Ieyasu-Top Nobunaga-Dat [Shingen-Nom e.o.-Acc
 home-at-teita-to] tuge-ta
 praise-Recip-Asp-Past-C] told
 ‘Ieyasu_i told Nobunaga_j that Shingen had been praising each other_{i+j}.’

The generalization seems to be that when *otagai* appears inside a VP whose head is morphologically reciprocalized with *-aw*, the reciprocal anaphor requires a local plural binder. If this is the case, the acceptability of examples like (38)b suggests that the null embedded subject appearing in these examples is a plural noun phrase, taking the matrix subject and indirect object as its split antecedents.

Next, when two local controllers are not available, the null subject of the *(y)oo* construction cannot support split antecedents (as Landau observes for English control constructions):

⁸ See Nakau (1973: 75-76), Ishii (1989), Tonoike (1991), Nakao (2003) for data concerning the reciprocalizer *-aw* and analyses of its syntax and semantics.

- (42) a. * Taro_i-wa Hiroshi_j-ni [[kare_i-ga [Δ_{i+j} otagai-o
Taro-Top Hiroshi-Dat [[*he-Nom* [*e.o.-Acc*
sonkeisi-a-oo-to] {omotteiru/kessinsita}-koto]-o tugeta
respect-Recip-YOO-C] *thinks/decided-C_{koto}*]-Acc *told*
‘Taro_i told Hiroshi_j that he_i {thought of PRO_{i+j} respecting/ had decided
PRO_{i+j} to respect} each other.’
- b. Taro_i-wa ootoo-ni [[kare_i-ga Hiroshi_j-ni [Δ_{i+j} otagai-o
Taro-Top brother-Dat [[*he-Nom Hiroshi-Dat* [*e.o.-Acc*
sonkeesi-a-oo-to] itta/ teiansita-koto]-o tugeta
respect-Recip-YOO-C] *said/proposed-C_{koto}*]-Acc *told*
‘Taro_i told his brother that he_i had said/proposed to Hiroshi_j PRO_{i+j} to
respect each other.’

Though the relevant examples are inevitably complicated, there is a clear contrast between these two sentences. Given that Δ requires split antecedents here, the contrast follows if the null subject does not allow long distance antecedents. In (42)b, there are two local controllers present in the intermediate clause while in (42)a, *he* is the only one controller. The indirect object of the highest clause cannot control Δ , because it would have to control it long distance.

We have been using reciprocalized verbs to force the embedded predicate to be syntactically plural. Another thing one can use to keep the embedded predicate a plural predicate is reflexive predicates of a certain type. Consider the following pair of sentences that contain the expression *X-no kao-o sikameru* (screw up X’s face):

- (43) a. Ieyasu-wa Nobunaga-ni [Shingen-ga
Ieyasu-Top Nobunaga-Dat [*Shingen-Nom*
{*otagai/*zibun-tati/✓zibun}-no ka-o sikameta-to] tugeta
e.o./self-Pl/self-Gen face-Acc *screwed.up-C*] *told*
lit. ‘Ieyasu told Nobunaga that Shingen had screwed up {*each other’s,
*selves’, self’s} face

- b. Ieyasu-wa Nobunaga-ni [Shingen-to Yoshimoto-ga
Ieyasu-Top Nobunaga-Dat [Shingen-and Yoshimoto-Nom
 {otagai/zibun-tati/zibun}-no ka-o sikameta-to] tugeta
e.o./self-PI/self-Gen face-Acc screwed.up-C] told

The reflexive verb phrase in question seems to require the possessive to be non-distinct from the subject with respect to person, number and gender, just like *crane one's neck* in English. The reason for the unacceptability of the versions of (43)a with *otagai* 'each other' and *zibun-tati* 'self-PI' is then that the embedded subject does not match the possessive in number at least.⁹

As an aside, this effect of matching can be observed for cases where overt pronouns occupy the possessive position, too. The possessive position does not easily support overt pronouns like *kare* 'he' or *karera* 'they'. But when we compare a case in which the subject of a reflexive predicate and the possessive match in gender and/or number and one in which they do not, a very clear contrast is obtained:

- (44) a. * John-wa kanozyo-no kao-o sikameta
John-Top her face-Acc screwed up
 'John screwed up her face.'
- b. ?? John-wa kare-no kao-o sikameta
John-Top his face-Acc screwed up
 'John screwed up his face.'
- c. * John-to Bill-wa kare-no kao-o sikameta
John-and Bill-Top his face-Acc screwed up
 'John and Bill screwed up his face.'

⁹ Reflexive predicates of this kind include *X-no hana-o kamu* 'blow X's nose', *X-no te-o ageru* 'conduct violence', *X-no me-o hikaraseru* 'keep X's eye (on something)', and so on. The reason why *zibun* is ok in both examples may be that the reflexive is underspecified in number. Also note that *otagai* here roughly behaves like *their own*.

- d. ?? John-to Bill-wa karara-no kao-o sikameta
John-and Bill-Top their face-Acc screwed up
 ‘John and Bill screwed up their face.’

As indicated, (44)b and (44)d are far from perfect. This is probably because, as is common cross-linguistically, the possessive of inalienable possession nouns does not host overt pronouns easily (Kayne 1975 for French, Cheng and Ritter 1988 for Chinese, Yoon 1989 for Korean, Fujii 2000 for Japanese).¹⁰ It should be noted that when the possessive does not match the subject in gender and/or number, the sentences becomes hopeless, as in (44)a and (44)b.

Bearing these in mind, consider the following pair, which shows that controlled exhortative subjects allow a plural possessive but controlled imperative ones do not:

- (45) a. * John_i-wa Bill_j-ni [Δ {otagai/zibun-tati}_{i+j}-no kao-o
John-Top Bill-Dat [e.o./self-Pl-Gen face-Acc
sikame-ro-to] itta/meireisita
screw up-Imp-C] said/ordered
 lit. ‘John said to/ordered Bill to screw up their face.’
 ≈ ‘John said to Mary: “Screw up our own face!”
- b. John_i-wa Bill_j-ni [Δ {otagai/zibun-tati}_{i+j}-no kao-o
John-Top Bill-Dat [e.o./self-PL-Gen face-Acc
sikame-yoo-to] itta/teiansita
screw up-YOO-C] said/proposed
 lit. ‘John said to/proposed to Bill to screw up their face.’
 ≈ ‘John said to Mary: “Let’s screw up our own face!”

¹⁰ This obviation effect (cf. Bouchard 1984, Lebeaux 1984) may indicate that inalienable possession constructions involve OC. See Pesetsky (1995), who suggests an idea along these lines.

- (46) a. * John_i-wa Bill_j-ni [Δ karera_{i+j}-no kao-o sikame-ro-to]
John-Top Bill-Dat [*their-Gen face-Acc screw up-Imp-C*]
 itta/meireisita
said.ordered
 lit. ‘John said to/ordered Bill that Δ screw up-Imp their face.’
 \approx ‘John said to Mary: “Screw up our own face!”
- b. ?? John_i-wa Bill_j-ni [Δ karera_{i+j}-no kao-o sikame-yoo-to]
John-Top Bill-Dat [*their-Gen face-Acc screw up-YOO-C*]
 itta/teiansita
said/proposed
 lit. ‘John said to/proposed to Bill to screw up-YOO their face.’
 \approx ‘John said to Mary: “Let’s screw up our own face!”

The contrast between (46)a and (46)b suggests the following: the null subject of the imperative resists indexing such as “i+j” [(46)a], whereas that of the (y)oo-clause can [(46)b]. Hence, split control is permitted in the latter sentence, not in the former.

The reflexive construction, just like the reciprocal construction (cf. (42)), helps us show that when OC PRO would have to be controlled long distance the requirement on ‘screw up each other’s/selves’ face’ couldn’t be met.

- (47) a. * John_i-wa Bill_j-ni [[kare_i-ga [Δ _{i+j} {otagai/zibun-tati}-no kao-o
John-Top Bill-Dat [[*he-Nom* [*e.o./self-Pl-Gen face-Acc*
 sikame-yoo-to] {omotteiru/kessinsita}-koto]-o tugeta
screw.up-YOO-C] *thinks/decided-C_{koto}*]-Acc *told*
 lit. ‘John_i told Bill_j that he_i {thought of respecting/ had decided to
 respect} each other_{i+j}.’

- b. John_i-wa ototoo-ni [[kare_i-ga Bill_j-ni [Δ_{i+j}
John-Top brother-Dat [[*he-Nom Bill-Dat* [
 {otagai/zibun-tati}-no kao-o sikame-yoo-to]
e.o./self-Pl-Gen face-Acc screw.up-YOO-C]
 itta/ teiansita-koto]-o tugeta
said/ proposed-C_{koto}]-Acc told
 ‘John told his brother that he had said/proposed to Bill to screw up their
 own face.’

The unacceptability of (47)a can be accounted for if the indirect of the highest clause *Bill* cannot control Δ across the intermediate clause. Only *he* is a legitimate controller. By contrast, example (47)b is expected to be grammatical since the intermediate clause has two controllers that license, via control, the requirement that the reflexive VP have a plural subject.

Before proceeding to the next section, let us see if diagnostic properties of OC other than the ban on long distance control (cf. (42) and (47)) hold for that embedded exhortative clauses. The null subject of the (*y*)oo-clause that has split antecedents does not support strict interpretation under ellipsis. Observe the pair of examples in (48) and (49), where the (*y*)oo-construction and a finite complement construction are contrasted:

- (48) A. Taro_i-wa Hiroshi_j-ni [Δ_{i+j} otagai-o
Taro-Top Hiroshi-Dat [*e.o.-Acc*
 tasuke-a-oo-to] teiansita
help-Recip-YOO-C] *proposed*
 ‘Taro proposed to Hiroshi to help each other.’
- B. Yoko-ni-mo da
Yoko-Dat-even Cop
 ‘~~Taro proposed to Yoko also that {Taro and Yoko, *Taro and Hiroshi}-~~
~~should help each other.~~’

B'. Hanako-mo da
Hanako-even Cop
 'Hanako also ~~proposed to Hiroshi that {Hanako and Hiroshi, *Taro and Hiroshi}~~ should help each other.'

(49) A. Taro_i-wa Hiroshi_j-ni [Δ_{i+j} otagai-o
Taro-Top Hiroshi-Dat[e.o.-Acc
 tasuke-a-u-bekida-to] teiansita
help-Recip-Pres-should-C] proposed
 'Taro proposed to Hiroshi that they should help each other.'

B. Yoko-ni-mo da
Yoko-Dat-even Cop
 'Taro ~~proposed to Yoko also that {Taro and Yoko, ✓Taro and Hiroshi}~~ should help each other.'

B'. Hanako-mo da
Hanako-even Cop
 'Hanako also ~~proposed to Yoko also that {Hanako and Hiroshi, ✓Taro and Hiroshi}~~ should help each other.'

(48)B and (49)B both have the indirect object as the remnant of ellipsis. While the former does not allow the embedded subject (in the ellipsis site) to refer to *Taro and Hiroshi*, this type of interpretation of the null subject is fine in the latter. (48)B' and (49)B' are cases where the subject of *propose* is the ellipsis remnant. Again, the strict interpretation of the null subject is not allowed in the *-(y)oo* construction, whereas it is allowed in the *should* construction. Thus split-controlled null subjects behave in the same way as uniquely controlled OC PRO.

The following example shows that a non-commanding antecedent cannot be coindexed with the null subject that has split antecedents without yielding unacceptability:

- (50) # Yamada-kyoozyu-no hisyo_j-ga [Δ otagai-o
Prof. Yamada-Gen secretary-Nom [*e.o.-Acc*
 osie-a-oo-to] Tanaka-kyoozyu_j-ni itta
teach-Recip-YOO-C] *Prof.Tanaka-Dat* *said*
 ‘Professor Yamada’s secretary told Professor Tanaka to teach each
 other].’
 ≈ ‘Professor Yamada’s secretary said to Professor Tanaka: “Why don’t
 we teach each other?”’

This example is pragmatically biased towards an interpretation in which a professor and the other professor teach each other. Suppose Yamada, a professor of linguistics, thinks that she needs to learn psychology for writing a grant proposal and also believes that Tanaka, a professor of psychology, wants to learn linguistics from her. She asked her secretary to tell him about her idea. The sentence, however, only yields the interpretation in which the persons who teach each other are the secretary and Prof. Tanaka, as indicated. This means that the indexation given in (51)a is prohibited, while (51)b is allowed:

- (51) a. * Prof. Yamada_i’s secretary_j told Prof. Tanaka_k [Δ_{i+k} to teach each other]
 b. Prof. Yamada_i’s secretary_j told Prof. Tanaka_k [Δ_{j+k} to teach each other]

If (51)a were allowed by grammar, no pragmatic anomaly should occur in (50). The data suggest that the representation in (51)a must be excluded. This is readily expected if Δ is OC PRO, whose antecedent(s) must c-command the null subject. The pragmatic anomaly disappears when the complement (*y*)oo-clause is replaced with a finite complement:

- (52) Yamada-kyoozyu_i-no hisyo_j-ga [Δ_{i+k} otagai-o
Prof. Yamada-Gen secretary-Nom [*e.o.-Acc*
 osie-a-u-bekida-to] Tanaka-kyoozyu_k-ni itta
teach-Recip-Prs-should-C] *Prof.Tanaka-Dat* *said*
 ‘Professor Yamada_i’s secretary told Professor Tanaka that they should
 teach each other].’
 ≈ ‘Professor Yamada’s secretary said to Professor Tanaka: “You and
 she should teach each other?”’

3.3 Exhortatives

We have studied reciprocalized predicates and reflexive predicates, for which the controlled subject is forced to be plural. In both circumstances, the sentence is grammatical only if two local controllers are available and if the particle *-(y)oo*, though not the imperative particle, is used. It is evident that split control is allowed when the control clause is associated with the exhortative meaning and prohibited when it is associated with the directive meaning:

- (53) Split control -> embedded *-(y)oo* = exhortative mood marker

Recall that the mood marker *-(y)oo* appearing in split control cases is the same suffix as the one we have been calling the intensive mood particle. (10)a is repeated here:

- (54) Taro-wa boku-no beeguru-o tabe-yoo-to keikakusita
Taro-Top my bagel-Acc eat-YOO-C_{io} planned
 Taro planned to eat my bagel.’

As was pointed out by Nakau (1973: 38-39), the particle *-(y)oo* is, descriptively speaking, ambiguous between its intensive use and its exhortative use:

- (55) a. *intentive*
 Taro_i-wa [Δ_i boku-no koto-ni zibun_i-no me-o
Taro-Top [*my thing-to* *self-Gen eye-Acc*
 hikarase-te ok-oo-to] omotta/kimeta (yooda)
keep.brightening-YOO-C] *thought/decided seems*
 ‘(It seems) that Taro {thought of keeping, decided to keep} his eye on
 me.’
- b. *exhortative*
 Taro_i-wa Hanako_j-ni [Δ_{i+j} boku-no koto-ni
Taro-Top Hanako-Dat] [*my thing-to*
 otagai-no me-o hikarasete ok-oo-to] itta/teiansita
each other-Gen eye-Acc keep.brightening-YOO-C] *said/proposed*
 (yooda)
seems
 ‘(It seems that) Taro said to/proposed to Hanako to keep each other’s
 eye on me.’
 ≈ “Taro said to Hanako: “Why don’t we keep our own eye on him.”

(55)a means that Taro had the intention of paying his attention the actual speaker’s behavior. The sentence is a subject control construction. (55)b means that Taro proposes to Hanako the idea of him and her paying their attention to the actual speaker’s behavior. Split control is found with the exhortative interpretation of *-(y)oo*, but not with the intentive interpretation of the particle.

In sum, this section shows that the exhortative construction allows split control. Recall Landau’s remark, which was cited in the quick review of English facts given in section 1. He mentions that “[u]nlike *propose* and *ask*, *recommend* and *order* do not allow split control.” (Landau 2000: 55) If he is right, the Japanese data suggests that roughly the same thing is happening in both languages. It is plausible that *propose* and *ask* can be associated with the exhortative mood but *recommend* and *order* cannot be.

4 Split Control and the PMD

4.1 A gap in the paradigm

Notice now that there is one pattern of indexation that has not been mentioned in the above discussion of embedded mood constructions. The embedded imperative given in (56)a is straightforward. The patterns given in (56)b,c correspond to (55)b,c respectively. What has not been examined is the pattern in (56)d, where the matrix predicate takes an indirect object, and the null subject is controlled by the matrix subject and not by the matrix indirect object:

- (56) a. $NP_i NP_j [_{CP} \Delta_j \dots \text{Mood}^\circ C^\circ]$ say/order imperative
b. $NP_i [_{CP} \Delta_i \dots \text{Mood}^\circ C^\circ]$ think/decide intentive [(55)a]
c. $NP_i NP_j [_{CP} \Delta_{i+j} \dots \text{Mood}^\circ C^\circ]$ say/propose exhortative [(55)b]
d. $NP_i NP_j [_{CP} \Delta_i \dots \text{Mood}^\circ C^\circ]$ V

The mood meaning associated with the pattern in (56)d is perfectly imaginable. Such conventional force would be to add the relevant property denoted by the embedded clause, e.g. the property of screwing up x 's face, to the speaker's TO-DO LIST and crucially not to the addressee's. Let's call the unattested use of $-(y)oo$ the 'promissive' use. (The term is borrowed from Portner 2004, but it is used in a more specific way here.) I characterize the promissive differently from the intentive in that the former necessarily involves the speaker and the addressee, while the latter only involves the speaker.

Having introduced the hypothetical mood meaning that $-(y)oo$ may be associated with, let us determine whether indexation of the type (56)c is actually permitted or not, i.e. whether the promissive use of $-(y)oo$ is possible. I propose to use the possessive construction discussed before. With the verb phrase *X-no kao-o sikameru* 'screw up X's face', the value of X signals the antecedent for its null subject. By manipulating gender of the possessive, we can force the Δ in (56)c to be bound by the matrix subject but not by the matrix indirect object. Bearing this in mind, consider (57) (an example of the same type as (46)b):

- (57) * Taro_i-wa Hanako-ni [Δ_i kare_i-no kao-o sikame-yoo-to]
Taro-Top Hanako-Dat [*his face-Acc screw up-YOO-C*]
 itta/ teiansita
said/ proposed
 lit. ‘Taro_i {said to, proposed to} Hanako to screw up his_i face.’

The sentence is unacceptable. When *his face* is replaced with *their face*, the sentence becomes considerably better:

- (58) ?? Taro_i-wa Hanako_j-ni [Δ_{i+j} karara_{i+j}-no kao-o
Taro-Top Hanako-Dat [*their face-Acc*
 sikame-yoo-to] itta/teiansita
screw up-YOO-C] *said/proposed*
 lit. ‘Taro {said to, proposed to} Hanako that Δ screw up-YOO their
 face.’
 ≈‘Taro said to Hanako: “Let’s screw up our own face!”’

The version of (58) with *karera* ‘they’ is far from perfect. To obtain a perfect sentence with the same interpretation, *otagai* ‘each other’ or *zibun(-tati)* ‘self-Plural’ needs to be substituted for ‘they’. On the other hand, (57) sounds gibberish. Thus the matrix subject cannot control the complement subject in the presence of the matrix object. The minimal difference between (57) and (58) lies in whether the matrix predicate has the indirect object or not. Therefore, no promissive mood marker seems to exist in Japanese.

The same point can be confirmed in another way. (59)a looks like an effect of the Condition B type. A pronoun is too close to its antecedent. If subject control can be licensed without the intervening object controlling the complement subject, (59) should be good under that interpretation. But it is not.

- (59) * Taro-wa Yoko-ni [Δ kanozyo-o sonkeisi-yoo-to]
Taro-Top Yoko-Dat [*her-Acc respect-YOO-C*]
 itta
said
 lit. ‘Taro said to Yoko [Δ to respect her].’
- cf. Taro-wa [Δ kanozyo-o sonkeisi-yoo-to] omotta
Taro-Top [*her-Acc respect-YOO-C*] *thought*
 lit. ‘Taro thought [Δ to respect her].’

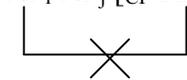
The fact that the sentence is unacceptable therefore indicates that this particular control possibility is not allowed. The present situation can be summarized as follows:

- (60) a. NP NP [_{CP} [Δ Mood^o] C^o] V
 i. imperative possible (object control)
 ii. exhortative possible (split control)
 ii. *promissive not possible (subject control over indirect object)
- b. NP [_{CP} [Δ ... Mood^o] C^o] V
 iv. intentive possible (subject control)

Then, the following generalization emerges:

- (61) In embedded mood constructions, the complement subject can be controlled by the matrix subject across the indirect object only when it is controlled by the indirect object as well.

Why should this be so? My suggestion is that the PMD is at stake here. In other words, the indirect object counts as an intervener for the minimality purposes only when it has no control relation with the complement subject.

(62) $NP_i NP_j [_{CP} PRO_i \dots Mood^\circ C^\circ] V$


The PMD, or minimality, provides an answer to the question of why there is no mood marker that is available in environment (62).

It is interesting to note that the verb *promise* cannot take as its complement a (y)oo-clause, as pointed out by Watanabe (1996b):

- (63) a. * John-wa Mary-ni/to [Δ kare-no kao-o sikame-yoo-to]
John-Top Mary-Dat/with [*his face-Acc screw. up-YOO-C*]
 yakusokusita
promised
- b. ? John-wa Mary-ni/to [Δ kare-no kao-o
John-Top Mary-Dat/with [*his face-Acc*
 sikame-ru-koto]-o yakusokusita
screw. up-Prs-C_{koto}]-Acc *promised*
 ‘John promised Mary to screw up his face.’

The b-example, which is a little degraded because of presence of the overt pronoun *kare*, shows that the embedded clause can be headed by the nominalizing complementizer *-koto*, which follows the present tense form of the verb. Note however that it is not the case that *yakusoku(su/ru)* ‘promise’ never takes a *yoo* clause. When the downstairs predicate is a plural predicate, it is allowed under the exhortative mood interpretation of *-(y)oo*.¹¹

¹¹ In this case, the indirect object cannot be marked with dative. See Nakau 1973:74-75, who made an observation quite similar to this.

- (64) John-wa Mary-to [Δ (boku-ga kita-ra)
John-Top Mary-with [I-Nom came-Cond
 otagai-no kao-o sikame-yoo-to] yakusokusita (yooda)
each other's face-Acc screw.up-YOO-C] promised seems
 lit. ‘(It seems that) John promised Mary to screw up each other’s face (if
 I come).’
 ‘John and Mary agree to screw up their own face.’

The contrast given in (63) can be accounted for if we assume three things: (i) that mood clauses headed by the postpositional complementizer *-to*, unlike *koto*-clauses, resist Case marking;¹² (ii) that ‘promise’ must assign objective Case, and (iii) that minimality is respected. Under these assumptions, the indirect object in (63)a must be an NP if a PP cannot obtain Case. Then (63)a must receive the analysis shown in (62), and therefore the sentence can be excluded as a minimality violation. On the other hand, (63)b can have a derivation in which the indirect object is analyzed as a PP. This is so because objective Case can be assigned to the nominalized CP in this case. If the PP does not cause a minimality violation, the status of the sentence is expected.¹³ If we do not assume the PMD, we seem to have to say that Japanese accidentally does not have a mood marker that is available for the promissive mood, even though the language has a marker for the intentive (which is similar to the promissive in that both are associated with the effect of placing a property on the speaker’s TO-DO LIST). I do not know at this point how to test the claim that the gap we saw in the paradigm in (56) is an accidental gap. Thus it seems useful to assume that the above account is correct because, even if it proves to be wrong eventually, it could shed light on the theory of controller choice and the mood system.

In the next section, I propose one analysis to explain the other half of the generalization in (61); that is, subject control becomes possible when the object also control, which can be represented as in (65):

¹² Mood markers cannot appear in *koto*-clauses. See Bhatt and Yoon (1991) for discussion.

¹³ Verbs like *tika(u)* ‘vow’ behave in exactly the same way as ‘promise’.

(65) $NP_i NP_j [_{CP} PRO_{i+j} \dots Mood^\circ C^\circ] V$

I seek for a way to make the derivation for split control sentences not violate minimality.

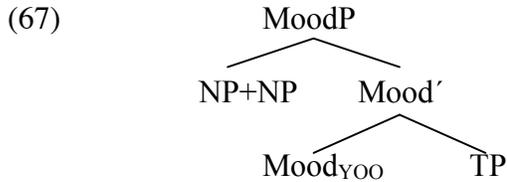
4.2 Analyses of split control

Let us first consider what a PRO-based approach to the possibility of split control would be like. As we saw earlier, Landau (2000) takes the position that PRO, in principle, can be bound by two antecedents. He seems to claim, as we saw earlier, that the fact that split control is prohibited in cases we call embedded imperatives is reduced to incompatibility between the meaning of higher verbs and the interpretation of the embedded subject, namely PRO. He notes that “[w]here split control is impossible with certain OC verbs (e.g. *encourage*), there seems to be plausible pragmatic reasons for that. (p.31).” He also remarks that [u]nlike *propose* and *ask*, *recommend* and *order* do not allow split control -- for obvious reasons, given that in order to engage in some action, one does not recommend to/order other people to do it” (p. 55).

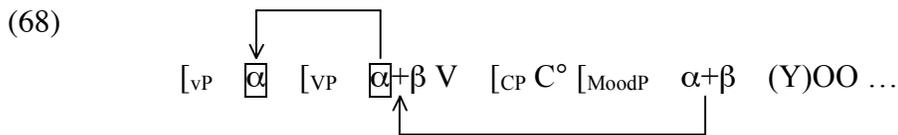
This kind of account does not seem to be available once we assume the PMD. The relevant configuration arguably violates the minimality principle. In (66), repeated from (65), PRO is controlled by the antecedent that is not closest, as well as the closest antecedent:

(66) $NP_i NP_j [_{CP} PRO_{i+j} \dots Mood^\circ C^\circ] V$

To capture the fact that split control is possible, assuming the PMD, I suggest that two NPs are allowed to occur in the specifier of $-(y)oo$. The idea can be illustrated roughly by (67):



The unusual structure given in (67) makes it possible for the derivation to proceed without violating minimality in tandem with a few other technical assumptions. The proposed derivation is as follows:



In this derivation, α and β are conjoined, and the conjoined elements move to Spec,MoodP from their base position. One of the conjuncts (say, β) then moves to the indirect object position of the matrix clause to check a θ -role feature of V, pied-piping the other conjunct, as in (68). Finally, α moves up to Spec, v P, checking the external θ -role feature of v .

This proposal is based on at least three assumptions that deserve comments. First, it essentially assumes that at least a certain type of plural noun phrases can be a conjunction in syntax. Schlenker (2002) proposes that variables are conjoined in syntax, citing the following example to argue that *we* is partially bound:

(69) Each of my colleagues is so difficult that at some point or other we've had an argument

The informal paraphrase of the meaning of his example would be: For each of the speaker's colleagues x , x is so difficult that the speaker and x had an argument (See Stockwell et al. 1975, Lasnik 1976 for relevant classic observations). The pronoun *we* is analyzed as 'I+x' in the relevant interpretation. See also Kayne 2002, who hinted at

a possibility of treat bound plural pronouns to be a combination of traces of their split antecedents.¹⁴

Second, α and β in (68) must be “equidistant”. Namely, neither should α block movement of β in the first movement (pied-piping α), nor should β block movement of α in the second movement. As mentioned above, movement of “ $\alpha+\beta$ ” must be motivated by the θ -role feature checking of β , because if “ $\alpha+\beta$ ” obtains the Theme role, the wrong interpretation would result. So we need to assume that α is pied-piped when β moves to the matrix clause.

Third, movement of α to the specifier of vP seen in (68) looks like extraction out of a derived position. It is often claimed in the literature that extraction out of a moved element is prohibited (Takahashi 1994, Nunes and Uriagereka 2000, Lasnik 2003, among others; cf. also Wexler and Culicover 1980). Notice that this view of extraction is not odds with only the particular analysis of split control that I am considering. Any theory in which movement into theta-position is allowed faces a potential problem. Based on the fact pointed out by Chomsky (1973), Runner (2006) observes that a problem for a movement theory of control is posed by the acceptability of extraction out of a controller:

¹⁴ A similar but different idea is found in Vassilieva and Larson (2005), who propose an analysis of the Russian plural pronoun construction. Consider first (69) (cited from Vassilieva and Larson 2005: 101):

- (i) *My projdēm domoj*
we go-Fut home
‘We/*I will go home’

My is first person plural pronoun, as indicated in the English translation of the sentence. However, when the plural pronoun appears with a comitative phrase ‘with NP’, it shows an interesting property:

- (2) *My s Ivanom nenavidim brokkoli*
we with Ivan hate-1st Pl broccoli
‘Ivan and I hate broccoli’

Here ‘we + Ivan’ comes to mean ‘Ivan and I’. To account for this curious fact, Vassileva and Larson propose that plural pronouns take a comitative phrase as their complement and that the first plural pronoun *my* ‘we’ is semantically interpreted as ‘I+___’, where ___ indicates the slot that is filled with the value of the complement of the preposition *s* in semantics.

- (70) Which famous person did Martha persuade [a friend of t] to sign the program?

The logic is that if extraction out of a moved element is prohibited, then sentences like (70) should not be allowed. So, what proponents of a movement theory might have to say is that the condition on extraction in question should be Condition on Extraction Domain of the Huang type, rather than a condition of the Takahashi type. Namely, domains of lexical heads do not prohibit sub-extraction but those of functional heads do.

A final question to ask is why imperative null subjects do not support split antecedents. (45)a is repeated:

- (71) * John_i-wa Bill_j-ni [Δ {otagai/zibun-tati}_{i+j}-no kao-o
John-Top Bill-Dat [*e.o./self-Pl-Gen face-Acc*
sikame-ro-to] itta/meireisita
screw up-Imp-C] *said/ordered*
 lit. ‘John said to/ordered Bill to screw up their face.’
 ≈ ‘John said to Mary: “Screw up our own face!”’

I do not have a definitive answer to this question. I would rather suggest one speculation. Suppose that the semantics and pragmatics of mood are organized in such a way that they ‘read off’ the structures that are yield by syntax. Subject control structures are interpreted as intentive mood clauses, split control structures are interpreted as exhortative mood clauses, and object control structures are interpreted as imperative mood clauses. This amounts to saying that mood is not represented in syntax as such (see Portner 2004, Zanuttini and Portner 2005 for relevant discussion; cf. Han 2000).¹⁵ At this point, our conjecture admittedly looks very close to a mere

¹⁵ If this is the case, verbs should not select these mood clauses in syntax. This is so because there is no clause marked for [imperative] or [intentive] in syntax; cf. Landau 2000, 2004 for a theory in which selection plays a significant role.

restatement of the fact that, for example, the subject of imperatives must exclude the author of the relevant request from its reference. Further investigations are needed.

4.3 A note on the root case

We started the discussion of mood particles in Japanese by the following examples (repeated from (9)):

- (72) a. (boku-wa) beeguru-o tabe-yoo
I-Top bagel-Acc eat-YOO
'I'll eat bagels'
- b. (kimi-wa) beeguru-o tabe-ro
You-Top bagel-Acc eat-Imp
'You eat bagels!'

An example of root exhortative is added:

- (73) (watasi-tati-wa) beeguru-o tabe-yoo
we-Top bagel-Acc eat-YOO
'Let's eat bagels.'

Not surprisingly, NPs that do not refer to discourse participants never be subjects of these constructions.

- (74) a. * aitu-wa beeguru-o tabe-yoo
that guy-Top bagel-Acc eat-YOO
- b. * aitu-wa beeguru-o tabe-ro
that guy-Top bagel-Acc eat-Imp

What is curious about these non-embedded cases is that the effect of the PMD found in the embedded cases can be found in them as well. We observed in section that the intensive interpretation of *-(y)oo* disappears when the higher verb takes an

indirect object, which we took to be an instance of the PMD effect. It seems correct that what we call the intensitive mood in Japanese, when it appears in a root, requires that the addressee of the actual speech not participate in the relevant discourse. Namely, intensitive sentences are always monologues of some sort. Suppose that Ana promises Bill that she will leave his party in a couple of minutes because she has another appointment. It is very odd for her to say to Bill: *kaer-oo* ‘leave-YOO’. Ana may utter the same sentence felicitously, when she is alone at the party as a monologue or when the hearers are just side-participants of the discourse, who are not “the one for whom the speaker most directly designs his utterances” in Potsdam’s word (Potsdam 1996/1998: 166). When the addressee is present, the utterance can only be understood exhortative: Let’s leave. When the existence of the addressee is intended by the speaker, the subject of the *-(y)oo* sentence must be the inclusive ‘we’ including the addressee, as opposed to the exclusive ‘we’ excluding it. Hence, the root sentence *kaer-oo* cannot be the promissive.

Given the present discussion of control constructions involving mood, we are led to the hypothesis that mood clauses in roots are root infinitives of some sort and that projections that support indexicals like ‘you’ are located somewhere in the relevant clause structure, along lines with Portner and Zanuttini (2005); cf. Ross 1970, Tenny and Speas 2003, Tenny 2006. In the present case, ‘Speaker Phrase’ and ‘Addressee Phrase’ are located above Mood Phrase, and it must be the case that Spec,AddresseeP is closer to the Spec,MoodP than the Spec,SpeakerP is. Namely, the movement of an indexical element to Spec,SpeakerP cannot skip the Spec,AddresseeP. If these phrases can only support indexicals, then the person restriction found in examples like (74) is readily expected. If we are right that the Case is not available inside the domain of MoodP, it is possible to maintain that the motivation of short movement of indexicals is Case in the root construction. NPs like *that guy*, if they do not undergo movement to the specifier of SpeakerP or AddresseeP, fail to have their Case licensed. It is also worth stressing that these phrases should not be available in embedded clauses. If they were, the proposed analysis of control into mood clauses could not be instantiated because the embedded AddresseeP/SpeakerP would trap the embedded subject in the complement clause. They only occur in roots.

5 Conclusions

This chapter discussed split control and the PMD effect based on the facts concerning Japanese mood constructions. It was observed that split control is systematically allowed in exhortative control clauses and not in other clauses and that no subject control mood construction with the matrix indirect object exists in the language. Semantic and pragmatic considerations do not seem to help because the promissive mood seems to be coherent on semantic and pragmatic grounds. Taking this gap in the paradigm as an explanandum for the theory of control, we appealed to the PMD (or the minimality condition on A-movement under the movement theory of control) and derived the absence of the ‘promissive’ mood particle in the language. The analysis led us to the hypothesis that minimality is respected in cases where split control is allowed, i.e. in embedded exhortative constructions. I suggested that a plural subject can be a conjunction of two NPs and that they move to argument positions of the matrix clause in a way that does not violate minimality. Consequently, the impossibility of split control in embedded imperative constructions cannot be a matter of syntax. I suggested that whether a mood clause is an imperative, exhortative or intensitive one is determined by the structure of that mood clause (though the interpretive process needs to be made concrete in future research). In a nutshell, the difference among these moods should not be represented in syntax if the absence of promissive clauses is reduced to the PMD.

Chapter 4: Remarks on Backward Control in Japanese

1 Introduction

The goal of this chapter is to argue, in favor of Potsdam (2006), that a movement-based theory of obligatory control and a copy theory of movement (Nunes 2004) provide an adequate account of the wide range of data pertaining to a backward control construction found in Japanese. The proposal entertained here does not only account for the core data of backward control, but also provides an answer to one question that arises in what we may call a ‘Counter Equi’ theory, proposed in Harada (1973) and developed in Kuroda (1978), which is probably the earliest proposal about the phenomenon in the generative literature. As noted by these authors, in Japanese, backward control is not always possible, i.e. there are cases where forward control is required. Thus, application of backward control needs to be prevented in these cases by something stated in the theory. The question is, as already touched on in Harada 1973, why this something does not prevent backward control from existing in the grammar entirely. In his recent paper on Malagasy backward object control, Potsdam (2006) proposes a theory that can answer this question, capitalizing on Nunes’s theory of chain linearization. In what follows, I will show an analysis of a Japanese backward object control construction, which retains both the appealing feature of Potsdam’s proposal and the descriptive advantage of the Harada-Kuroda type formulation of Counter Equi.

The organization of the chapter is as follows: In section 2, background information about backward control is presented, based on Polinsky and Potsdam’s (2002) findings. There, I mention one theoretical/methodological issue that has arisen in prior theories, that is, the issue as to when backward control is permitted and when it is blocked. In short, the problem for the prior theories is that they do not make any prediction about the distribution of backward control versus forward control. Then I show that Potsdam’s (2006) approach to Malagasy backward object control

constructions opens up a new way to tackle this distribution question. Examining two important components of his approach, i.e. a movement theory of control and a particular theory of chain linearization, I show how the Potsdam-style approach to backward control solves the inadequacy of the existing theories. In section 3, it is observed that a Japanese object control construction (referred to as the *assist*-construction), if it involves backward control, raises theoretical and analytical issues. First, I show that the classic Counter Equi theory successfully covers a wide range of facts about (non-)alternations between forward and backward control in Japanese. However, despite being descriptively successful, it does not explain why backward control is permitted where it is actually permitted. Section 4 presents a number of empirical arguments that the *assist*-construction allows backward object control and explains how the basic syntactic properties of the *assist*-construction follow from the movement theory. In section 5, we return to our main question and provide a copy theoretic analysis that accounts for the distributions of forward and backward control in Japanese. Section 6 briefly discusses the circumstantial adverbial *tokoro*-clause construction, which is a construction that the Harada-Kuroda theory is mainly concerned with. I will show that this construction is not an obligatory control construction, contrary to the widely believed claim that it is so. Section 7 concludes.

2 Background

2.1 Backward control

The phenomenon called backward control has become a hot topic in the “Principles and Parameters” framework of syntax, especially since Polinsky and Potsdam’s work on a control construction in Tsez (Polinsky and Potsdam 2002). The basic characterization of the phenomenon is as follows: In the sample examples in (1), the phonologically null argument in the lower S (indicated by Δ) takes as its antecedent one of the arguments occurring in the higher S. Descriptively, when the relation between the overt NP and the non-overt NP displays a certain set of syntactic and interpretational properties, we speak of an “obligatory control” (OC) relation holding between the two NPs. Call the lexically realized NP the “controller” and the null category the “controllee”, following Bresnan (1982). When the controller is a

subject of the control clause becomes a trace, rather than PRO, after movement. Polinsky and Potsdam's (2002) innovation is the observation that backward control in Tsez is a covert analogue of the type of A-chains that are argued to exist in *forward control* in the movement theory of control.

2.2 Potsdam (2006) on backward control

While the movement-based approach to backward control claims that the control construction in question involves the covert version of A-movement found in standard forward control constructions, this core idea may be implemented in various ways, depending on how we think of covert movement. Polinsky and Potsdam's (2002) original analysis is proposed within Chomsky's (1993) framework (except that Chomsky rejects movement into θ -position), where covert movement is viewed as movement of phrasal categories that takes place in the component after Spell-out: assuming the traditional T-model, this theory attempts to differentiate overt and covert movements in terms of timing of movement. Within this framework of assumptions, forward control is obtained when the subject of an embedded clause moves into a theta-position before Spell-out, whereas backward control is obtained when the same kind of movement takes place after Spell-out. Also, another variant of this theory can be thought of. The notion of feature movement, proposed by Chomsky (1995) and developed by a series of papers included in Lasnik 2002, may take backward control to be a case in which the higher thematic verb (and the Case assigner) attract(s) the θ -role feature (and the Case feature) of the embedded subject with other features including phonological features in-situ. Or the effect might be achieved within the Agree-based system (Chomsky 2000, 2001), where the relevant head(s) in the matrix clause probe(s) the embedded subject with respect to the θ -role feature (and the Case feature). One unsatisfactory aspect of these theories of backward control seems to be that while each theory manages to express control relations instantiated "backward", a deep answer is hard to provide for the question of why backward control is required or allowed in certain cases while forward control is required in other cases. Although it is not well-documented yet what the cross-linguistic distributional pattern of forward and backward control is like, we can ask,

for example, why we do not find backward control in English. In the theories just discussed, we do or would have to say that the relevant attracting feature or the relevant probe does not have the ability to give rise to overt phrasal movement when we observe backward control, whereas the feature or head has such ability when we observe forward control. Moreover, as Potsdam (2006) notes, things look worse when both overt and covert movement is available in the same construction, as observed in Malagasy (Potsdam 2006) and Korean (Monahan 2004). An example of the forward-backward alternation in Malagasy is given in (5) (from Potsdam 2006):

(5) a. forward object control

tranon' iza no naneren' i Mery ahy [hofafana]?
house who FOC force.CT Maryme sweep.TT

b. backward object control

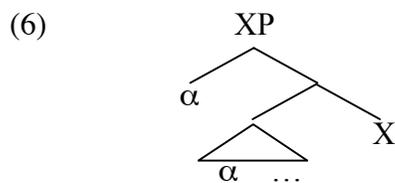
tranon' iza no naneren' i Mery [hofafa- ko]?
house who FOC force.CT Mary sweep.TT I
 'Whose house did Mary force me to sweep?'

In (5)a, the first person pronoun 'me' appears in the matrix clause and binds an empty subject of the embedded clause, which is preceded by the verb *sweep*, given the Malagasy VSO word order. In (5)b, the theme object of *force* is not seen. Rather, the first person pronoun occurs after the embedded predicate. (The reader is referred to Potsdam's work for the details of voice morphology and the role of A-bar movement such as question formation in the backward object control construction.) At any rate, when a theory ceases to make a prediction about when backward (or forward) control is permitted or required, that seems to show weakness of the theory.

Potsdam (2006) develops a theory of forward and backward control that may overcome this unsatisfactory feature of prior theories, by making recourse to Nunes's (2004) theory of linearization of chains. The major issue that Potsdam is concerned with has to do with the contrast between English and Malagasy with respect to object control. While English only allows forward control, Malagasy allows *both* forward and backward object control, as in (5). Potsdam observes that this cross-linguistic

difference in question comes out as a consequence of interactions of two different kinds of conditions of grammar (and other assumptions about the relevant construction): convergence conditions and economy conditions. First, the convergence condition that is relevant here is the Linear Correspondence Axiom (LCA), which requires that one and only one copy be pronounced. Which copy to be pronounced is determined by an economy condition. The gist of Potsdam's proposal incorporating Nunes's theory of chain linearization is that while the derivation involving deletion of the higher copy is less economical than the one involving deletion of the lower copy in the English construction, the former is as economical as the latter in the Malagasy construction.

Let us examine properties of the Nunes-style theory of chain linearization more closely. He proposes that phonological deletion of links is motivated by a version of LCA, which is first proposed in Kayne (1994). To see that how LCA is relevant to linearization of chains, take a sample derivation where the element α moves to the specifier of some head:



If no link of the chain that contains two instances of α undergoes deletion, this structure yields the partial sequence $\langle \alpha, \alpha \rangle$. It suffices for the current purposes to note that this sequence violates the LCA, which requires, among other things, that a single element cannot precede itself (the irreflexivity condition on linear order); see Nunes 2004: 24. If a deletion operation (dubbed Chain Reduction by Nunes) deletes either the higher or the lower occurrence, the particular kind of violation of the LCA can be avoided.

For determining which copy is wiped out, Nunes's proposal is as follows: (i) Uninterpretable features of a copy are deleted in the syntax if the copy enters into a checking relation. (ii) Unchecked uninterpretable features cause the derivation to

crash at the PF level (and at the LF level), unless they undergo checking. (iii) Copies appearing in non-checking positions may carry unchecked uninterpretable features. As an illustration of these three assumptions, let us see the derivation for standard raising such as *John seems to be happy* (following Nunes, unchecked features are in bold, and checked features are subscripted):

(7) [IP α -CASE T seems [TP α -CASE to be happy]]]

In (7), the higher copy of α has no unchecked feature. The Case feature is checked by T. The lower copy of α does have an unchecked feature, assuming that *to* is not able to check Case. **CASE** in the embedded clause will cause the derivation to crash if it is not deleted some how. (iv) According to Nunes, such unchecked features may be deleted by the copy deletion process that reduces chains or by an operation called FF-Elimination, which may apply after Morphology. (v) FF-Elimination is subject to economy considerations, i.e. the fewer times it applies, the more economical the derivation is. If Chain Reduction targets the higher copy in (7) for deletion, then FF-elimination needs to be applied in order to eliminate the unchecked Case feature of the lower copy, so that the derivation may converge. If, on the other hand, the copy deletion process targets the lower copy, FF-elimination does not have to apply because there are no unchecked uninterpretable features left in the structure. Hence, the computational system, by economy, prefers the derivation where the lower copy is deleted to the one where deletion of the higher copy is followed by applying FF-Elimination to the lower copy.

Keeping these in mind, let us return to Potsdam's observation. When these assumptions are made, backward control is excluded by economy:

(8) [TP [VP Mary ν [VP α -CASE force [TP α -CASE T sweep the house]]]]

Because the embedded T does not check Case, the lower instance of α must undergo deletion. If the higher α were deleted, FF-elimination would have to apply to eliminate **CASE**, which is unnecessary if the lower α is deleted.

Now turn to Potsdam's treatment of the Malagasy construction, where both forward and backward control are both allowed. Potsdam claims that in the Malagasy construction, the embedded Infl or T assigns Case to its specifier, as schematically represented in (9):

- (9) [TP [_{VP} Mary *v* [_{VP} α -CASE force [TP α -CASE T sweep the house]]]]

Given this property of Malagasy, which is reduced to the possibility of multiple Case checking in that language, the LCA can be fulfilled in two ways. Since both copies have their Case features checked, the derivation in which the higher copy undergoes deletion is as economical as the one in which the lower copy does. Hence, optionality is predicted, as desired. Two important aspects of the theory are summarized:

- (10) a. One and only one chain link must be pronounced (in accordance with the LCA)
 b. Pronounce the link with the fewest unchecked features

3 The Case of Japanese

This section is devoted to illustrating the major question that this paper addresses. As we will argue in later sections, Japanese allows backward object control in the construction called the *assist*-construction:²

- (11) a. Taro-wa [John-ga siken-ni too-ru-no]-o tetudat-ta
Taro-Top [John-Nom exam-Dat pass-Prs-C_{no}]-Acc assisted
 'Taro assisted John to pass the exam.'

² The *assist*-construction has been largely ignored in the generative literature. To the best of my knowledge, the construction was first discussed by Josephs (1976: 330); see also Kuroda (1977) for relevant discussion. Josephs also correctly noted that the construction differs from a head-internal relative clause construction, attributing the observation to Susumu Kuno. We will discuss how they differ in section 4.3.

- b. ?? Taro-wa John-i-o [Δ_i siken-ni too-ru-no]-o
Taro-Top John-Acc [exam-Dat pass-Prs-C_{no}]-Acc
 tetudat-ta
assisted
 ‘Taro assisted John to pass the exam.’

The example given in (11)a is a transitive construction in which the matrix verb *tetudau* ‘assist’ takes an apparently tensed complement headed by a nominalizing complementizer *-no*. The difference between (11)a and (11)b is the position of *John* in the structure and case marking. One interesting property of the construction is that the native speaker has the intuition that (11)a means what (11)b would mean. Namely, in (11)a, the referent of the embedded subject is thematically understood not only as the agent of the subordinate ‘passing’ event, but also the theme of the matrix ‘assisting’ event. Though the sentence is degraded for the reason I will shortly discuss, the surface syntax of (11)b is thus more faithful to the interpretation in the relevant sense than that of (11)a in that the NP *John* occupies the direct object position of the verb *assist*.

The status of (11)b is strongly reminiscent of the well-known Double-O Constraint. Harada (1973) stated the constraint as follows:³

³ For double-*o* phenomena, see also Shibatani 1973, Kuroda 1965, 1978, Harada 1975, Poser 1981, Miyagawa 1989, 1999, Hiraiwa 2002a, among others. It is sufficient for the present purposes to note that the Double-O Constraint is a constraint that is circumvented by clefting and other processes (see Hiraiwa 2002a for a recent attempt to identify the nature of the constraint). Hence, the ban on the Acc-Acc frame in transitive-stem causative constructions such as (ia) has nothing to do with the constraint, as proposed by Harada 1976; Kuroda 1978; Miyagawa 1989, 1999; Watanabe 1993, etc.). Its violation is not remedied by clefting as in (iia):

- (i) a. * *Naomi-ga Taro-o rooka-o soozis-ase-ta*
Naomi-Nom Taro-Acc hallway-Acc clean-Caus-Past
 ‘Naomi let Taro clean the hallway.’
 b. ?? *Naomi-ga Taro-o rooka-o hasir-ase-ta*
Naomi-Nom Taro-Acc hallway-Acc run-Caus-Past
 ‘Naomi let Taro run down the hallway.’
 (ii) a.* [*Naomi-ga Taro-o soozis-ase-ta-no*]-wa rooka-o da
 [*Naomi-Nom Taro-Acc clean-Caus-Past-C_{no}*]-Top hallway-Acc Cop
 ‘It is the hallway that Naomi let Taro clean.’

(12) The Double-O Constraint

A derivation is marked as ill-formed if it terminates in a surface structure which contains two occurrences of NPs marked with *o*, both of which are immediately dominated by the same VP-node
(Harada 1973: (55))

In fact, as is the case with typical double-*o* effects (see footnote 3), clefting removes its effect by moving one of the overt accusative NPs out of the VP:

- (13) [Taro-ga John-o e_i tetudat-ta-no]-wa
[Taro-Nom John-Acc assist-Past- C_{no}]-Top
[Δ_i siken-ni too-ru-no]-o da
[exam-Dat pass-Prs- C_{no}]-Acc Cop
'It is [to pass the exam] $_i$ that Taro helped John e_i .'

Note that the surface structure, as opposed to a structure that seems to be obtained in the course of the derivation, does not have a VP-domain containing two overtly accusative-marked NPs.⁴ Exactly the same point can be made with the construction in which the verb *zyamasuru* 'disrupt' takes a *no*-CP:

- (14) a. Taro-wa Δ_i [John $_i$ -ga siken-ni too-ru-no]-o zyamasita
Taro-Top [John-Nom exam-Dat pass-Prs- C_{no}]-Acc disrupted
'Taro disrupted John from passing the exam.'

-
- b. [Naomi-ga Taro-o hasir-ase-ta-no]-wa rooka-o da
[Naomi-Nom Taro-Acc run-Caus-Past- C_{no}]-Top hallway-Acc Cop
'It is down the hallway that Naomi let Taro run.'

The example in (ib), which is intransitive-stem causative, contains an accusative-marked "adverbial" *hallway*. This example violates the Double-O Constraint, because the VP contains two accusatives. This double-*o* violation is remedied by clefting, as in (iib).

⁴ As will be discussed in section 5.3, we assume that cleft formation involves A-bar movement of the focalized phrase from the position represented by *e* in (13).

- b.?? Taro-wa John_i-o [Δ_i siken-ni too-ru-no]-o zyamasita
Taro-Top John-Acc [exam-Dat pass-Prs-C_{no}]-Acc disrupted
 ‘Taro disrupted John from passing the exam.’
- c. [Taro-ga John_i-o zyamasi-ta-no]-wa [Δ_i siken-ni
[Taro-Nom John-Acc disrupt-Past-C_{no}]-Top [exam-Dat
 too-ru-no]-o da
pass-Prs-C_{no}]-Acc Cop.Prs
 ‘Taro disrupted John [to pass the exam].’⁵

Therefore, a simple, active *assist*-construction violates the Double-O Constraint, but the construction permits a forward-backward alternation in principle.

3.1 Forward but not backward

Note that generally, constructions that allow forward control do not allow backward control. Consider the following passive control sentence with an *assist*-type verb:

- (15) Yoko_i-ga Hiroshi-niyotte [Δ_i san-pun-de syukudai-o
Yoko-Nom Hiroshi-by [3-munite-in homework-Acc
 oe-ru-no]-o zyamas-are-ta
finish-Prs-C_{no}]-Acc disrupt-Pass-Past
 ‘Yoko was disrupted by Hiroshi from finishing her homework in three minutes.’

This passive sentence can be considered as “transformationally related” to the forward object control sentence in (16)a, which is unacceptable due to the Double-O Constraint but has its backward counterpart as in (16)b:

⁵ For expository purposes, focus material of cleft constructions is sometimes underlined with _____.

- (16) a. ?? Hiroshi-ga Yoko_i-o [Δ_i san-pun-de syukudai-o
Hiroshi-Nom Yoko-Acc [3-minute -in homework-Acc
 oe-ru-no]-o zyamasita
finish-Prs-C_{no}]-Acc disrupted
 ‘Hiroshi disrupted Yoko from finishing her homework in three minutes.’
- b. Hiroshi-ga [Yoko-ga san-pun-de syukudai-o
Hiroshi-Nom [*Yoko-Nom* 3-minute-in homework-Acc
 oe-ru-no]-o zyamasita
finish-Prs-C_{no}]-Acc disrupted
 ‘Hiroshi disrupted Yoko from finishing her homework quickly.’

Given that the active control construction permits both forward and backward control sentences (abstracting away from the effect of the Double-O Constraint), one might think that the alternation would hold for the passive sentence in (15), as well. This expectation turns out to be wrong, however:

- (17) * Δ_i Hiroshi-niyotte [san-pun-de Yoko_i-ga syukudai-o
Hiroshi-by [3-minute-in Yoko-Nom homework-Acc
 oe-ru-no]-o zyamas-are-ta
finish-Prs-C_{no}]-Acc disrupt-Pass-Past
 Yoko was disrupted by Hiroshi from finishing her homework in three
 minutes.’

The contrast between the two backward examples (i.e. (16)b and (17)) needs to be explained.⁶

Second, a subject control construction of the following kind also raises a similar problem. In (18), the verb *kessinsuru* ‘decide’ takes a *koto*-CP complement:

⁶ One terminological note. “Backward” is sometimes used pretheoretically in this chapter. When a sentence (putatively) has the null element Δ that is coreferential with an NP in the superordinate clause, the sentence may be referred to as “backward” for purely descriptive convenience. In this usage of “backward”, non-control sentences also could be backward.

- (18) Taro_i-wa [Δ_i syukudai-o oe-ru-koto]-o kessinsita
Taro-Top [homework-Acc finish-Prs-C_{koto}]-Acc decided
 ‘Taro decided to finish the homework.’

This construction involves OC. As the data in (19) show, Δ is not allowed to have either a long distance or a non-c-commanding antecedent ((19)a); The empty category requires sloppy interpretation ((19)b); With an “only NP” as its antecedent, the covariant reading is possible while the invariant reading is not ((19)c); and the non-*de se* reading is clearly prohibited in this construction ((19)d).

- (19) a. * karera-wa [sono kyoodai-no titioya-ni [Δ otagai-o
they-Top [the brother's father-Dat [e.o.-Acc
sonkeisi-a-u-koto]-o kessinsi-te] hosikatta
finish-Prs-C_{koto}]-Acc to.decide] wanted
 ‘They wanted the brothers’ father to decide to respect each other.’
- b. Mary-wa [Δ sigoto-o yame-ru-koto]-o kessinsita
Mary-Top[work-Acc quit-Prs-C_{koto}]-Acc decided
 ‘Mary decided to quit her job.’
 butyoo-mo da
manager-even Cop
 ‘The manager decided to quit his job, too.’
 *’The manager decided that she should quit her job.’
- c. Naomi-dake-ga [gaikoku-ni ik-u-koto]-o kessinsita
Naomi-only-Nom[foreign country-to go-Prs-C_{koto}]-Acc decided
 ‘Only Naomi decided to go abroad.’
- d. kanzya-wa [syuzyutu-o uke-ru-koto]-o kessinsita
patient-Top[operation-Acc receive-Prs-C_{koto}]-Acc decided
 ‘The patient decided to have the operation.’

Again, the backward analogue of this subject control construction fails to be attested. An example like (20), where the nominative subject is intended to appear downstairs, is unacceptable:

- (20) * Δ_i ni-byoo-de [san-pun-de Taro_i-ga syukudai-o
 2-second-in [3-minute-in Taro-Nom homework-Acc
 oe-ru-koto]-o kessinsita
 finish-Prs-C_{koto}]-Acc decided
 ‘Taro decided in two seconds to finish the homework in three minutes.’

Another case where forward control does not alternate with backward control has to do with pairs such as (21) (adapted from Cormack and Smith 2004), which involves a complement *yooni*-clause:

- (21) a. Taro-wa [Mary-ga mise-ni ik-u-yooni] susumeta
 Taro-Top [Mary-Nom store-to go-Prs-C_{yooni}] recommended
 b. Taro-wa Mary-ni [mise-ni ik-u-yooni] susumeta
 Taro-Top Mary-Dat [store-to go-Prs-C_{yooni}] recommended
 ‘Taro recommended Mary to go to the store.’

Cormack and Smith claim that (21)a and (21)b illustrate a backward-forward alternation. If (21)a, which sounds slightly awkward to some speakers including me, is acceptable at all, it looks like forward control alternates with backward control here. The data in (22) demonstrate that they are right that examples like (21)b involve forward object control:

- (22) a. * karera-wa [sono kyoodai-ni Taro-ni [Δ otagai-o
 they-Top [the brothers-Dat Taro-Dat [e.o.-Acc
 home-a-u-yooni] susumete] hosikatta
 praise-Recip-Prs-C] to.recommend] wanted
 ‘They wanted the brothers to recommend Taro to praise each other.’

- b. A: Taro-wa Maryi-ni [Δ_i Osaka-ni ik-u-yooni] susumeta
Taro-Top Mary-Dat [Osaka-to go-Prs-C_{yooni}] recommend
 ‘Taro recommended Mary to go to Osaka.’
 B: Dave-ni-mo da
Dave-Dat-even Cop
 ‘Dave, too.’
 ‘Taro recommended Dave that {Dave, *Mary} should go to Osaka.’

The choice of the antecedent for Δ is severely restricted as in (22)a. (22)b shows that the sloppy reading is obligatory.

However, alleged backward examples like (23)b do not look like an OC construction. First, it does not seem to be the case that the referent of the null recommendee in (23)a is restricted to Taro, if the sentence is acceptable at all:

- (23) a. Yoko-wa [butyoo-ni Δ [Taro-ga Osaka-ni
Yoko-Top [manager-Dat [Taro-Nom Osaka-to
 iku-yooni] susume-te] hosikat-ta
go-Prs-C_{yooni} to.recommend] wanted
 lit. ‘Yoko wanted her boss to recommend Δ for Taro to Osaka.’
 b. Yoko-wa [butyoo-ni Taro-ni [Δ Osaka-ni
Yoko-Top [manager-Dat Taro-Dat [Osaka-to
 iku-yooni] susume-te] hosikatta
go-Prs-C_{yooni}] to.recommend] wanted
 ‘Yoko wanted her boss to recommend Taro Δ to Osaka.’

Consider the following scenario: Yoko was going to have a meeting with her boss to talk about who to send to Osaka. She wanted it to be true for Taro to be chosen. She hoped that her boss would tell him that Taro would be the one. Statement (23)a seems to be compatible with this situation, unlike (23)b. This suggests that the antecedent for the empty object could be the subject of the highest clause. Such long distance antecedence should be impossible if the construction is backward *obligatory* control.

As will be seen in section 4.2, such a long distance dependency is clearly barred in the genuine backward control sentence (see footnote 13 for a minimal pair of sentences in which genuine backward control is contrasted with alleged one).

One other indication that the complement *yooni*-construction with a nominative complement subject is not OC is the fact that a strict reading is possible under ellipsis:

- (24) A: Taro-wa Δ_i [Mary_i-ga Osaka-ni ik-u-yooni]
 Taro-Top [Mary-Nom Osaka-to go-Prs-C_{yooni}]
 susumeta
 recommend
 ‘Taro recommended Mary that Mary should go to Osaka.’
 B: [Dave-ga Tokyo-ni ik-u-yooni]-mo da
 [Dave-Nom Tokyo-Dat go-Prs-C_{yooni}]-even Cop
 ‘~~Taro recommended Mary~~ that Dave should go to Tokyo, too.’⁷

The judgment about the acceptability of the strict reading seems robust. Thus it is reasonable to conclude that putative backward *yooni*-constructions like (21)a are not OC, while forward counterparts of them such as (21)b surely are. (See section 4.2 for the ellipsis data for the true backward control construction. See also footnote 15 for comparison between the two backward constructions with respect to the availability of strict reading.)

Thus, even if the complement *yooni*-construction under discussion allows forward control, the careful examination of “backward” examples of the Cormack and Smith type reveals that their “backward” construction does not involve OC. Rather, if these backward examples are acceptable, they must be cases of pronominalization of some sort, ironically enough.⁸ Hence, the construction with a dative object and a *yooni*-CP

⁷ Most speakers, including me, find the strict reading much better than the sloppy one here. It is not clear to me if the sloppy reading is acceptable. If it is not, it might be suggesting that there is no bound variable relationship between the matrix null element and the nominative subject in the antecedent clause.

⁸ This is so, given Cormack and Smith’s (2004) claim that those examples are backward

clausal complement does not show an alternation between forward and backward control.

The generalization accounting for the distribution of backward control discussed above is straightforward.

- (25) A control sentence allows backward control if and only if its forward control analogue would result in a double-*o* violation in the surface structure of the sentence.

This is virtually what Harada (1973/2000: 213) proposes for a construction that he argues involves backward control (or Counter Equi NP deletion in his terms), namely the circumstantial adverbial *tokoro*-clause construction. For the sake of discussion, though, we examine his proposal, based on the data from *assist*-constructions that we have looked at. Harada's theory of backward control was proposed in the framework of Standard Theory. Forward control was analyzed as Equi NP deletion (Rosenbaum 1967). Harada proposed that the grammar employs a rule called General Equi NP deletion, which dictates that deletion targets one of the identical NPs. When a structural description satisfies the format of General Equi, there are two manners of application of the rule. Where application of Straight Equi causes a violation of the Double-O Constraint, Counter Equi is required. Otherwise, Straight Equi must apply:

- (26) a. Straight Equi: [s ... NP_i [s ~~NP_i~~ ...]]
b. Counter Equi: [s ... ~~NP_i~~ [s NP_i ...]]
(if and only if (26)a would arrive at a double-*o* violation)

As far as the data discussed so far are concerned, his proposal of General Equi makes empirically correct predictions.

It should be noted that in Harada's theory, what he calls the double-*o* conspiracy

control and should be treated as a *pro*-construction, rather than a movement-into- θ -position construction.

is crucial.⁹ As we saw, many cases of obligatory control do not allow backward control. Therefore, we need something in the theory (call it P) that prevents backward control from happening in those environments, i.e. cases like the ones seen in (20), (17), and (22)-(24). If nothing like P exists, then we might expect that those forward control constructions do have their backward analogue as well, which is not the case. If P is stated in the grammar somehow, then we should ask why that property does not block backward control in cases where it is actually permitted. Let us make sure that the existence of the Double-O Constraint does not answer this question by itself. Suppose that the Double-O Constraint is a mere surface constraint. Then it follows from the constraint that forward control such as (14)b (=27)b) is not available in the *assist*-construction unless clefting applies (cf. (14)c=(27)c). (27)a does not violate the Double-O Constraint. But if nothing more than that were added, P would wrongly block the backward control in (14)a (=27)a):

- (27) a. Taro-wa Δ_i [John_i -ga siken-ni too-ru-no]-o zyamasita
Taro-Top [John-Nom exam-Dat pass-Prs-C_{no}]-Accdisrupted
 ‘Taro disrupted John from passing the exam.’
- b. ?? Taro-wa John_i-o [Δ_i siken-ni too-ru-no]-o
Taro-Top John-Acc [exam-Dat pass-Prs-C_{no}]-Acc
 zyamasita
disrupted
 ‘Taro disrupted John from passing the exam.’
- c. [Taro-ga John_i-o zyamasi-ta-no]-wa [Δ_i siken-ni
[Taro-Nom John-Acc disrupt-Past-C_{no}]-Top[exam-Dat
 too-ru-no]-o da
pass-Prs-C_{no}]-Acc Cop
 ‘Taro disrupted John [to pass the exam].’

In fact, Harada seems to have worried about this issue, though in a slightly different

⁹ The “double-*o* conspiracy” refers to the way that General Equi, which applies in the course of the derivation, is formulated: The rule is able to “see” whether or not the derivation where it applies will end up with a double-*o* violation at the surface structure.

way than we do. He noted, “in order to participate in the double-*o* conspiracy, General Equi is forced to violate [the principle that requires the lower copy, rather than the higher copy, to be deleted].” (Harada 1973/2000: 214, fn. 28). The question is why P is violable.

Potsdam’s (2006) economy-based approach to backward control provides a perfectly coherent answer to the question of why backward control is not ruled out by P across the board. Higher copy deletion is sometimes permitted because the choice of the copy to be deleted is regulated by an economy condition, rather than a condition on convergence. More precisely, as seen in the previous section, Nunes’s Chain Reduction says that the derivation in which higher copy is deleted actually converges, though it might be blocked by a more economical derivation. The economy theory therefore gives a principled explanation of the existence of backward control.¹⁰

This cannot be the whole story, however. The particular analysis provided by Potsdam for the Malagasy construction cannot be carried over to the Japanese data for empirical reasons. Before we see how this is so, it need be shown that backward examples of the *assist* construction really involve OC. The next section is devoted to this task.

4 Assist-constructions

Our goal here is to show that examples like (11)a (=28) involve backward control in Polinsky and Potsdam’s sense:

¹⁰ As Potsdam notes, this is very similar to the condition on *wh*-in-situ in multiple *wh*-fronting languages reported by Bošković (2002) and taken up by Nunes (2004) (see also Franks 1998). In multiple *wh*-interrogative sentences in these languages (including Serbo-Croatian, Bulgarian, Russian, and Romanian), two *wh*-phrases generally must be fronted. However, when two *wh*-phrases are homophonous, *wh*-in-situ is allowed, and forming a sequence of these *wh*-phrases by fronting both of them is disallowed. Thus, the “double homophonous *wh*-conspiracy” is at stake.

- (28) Taro-wa [John-ga siken-ni too-ru-no]-o tetudatta
Taro-Top [John-Nom exam-Dat pass-Prs-C_{no}]-Acc assisted
 ‘Taro assisted John to pass the exam.’

I would like to show that the syntactic representation of these examples contains a phonologically unrealized argument NP in the thematic object position of the matrix clause and that the empty element is “controlled backward” by the embedded subject, as in (29):

- (29) [_{VP} NP [_{VP} Δ_i [_{CP} NP_i ... C_{No}] V-*v*]
 θ_{Agent} θ_{Theme} θ_{Situation}

In order to draw this conclusion, we take two steps. First, we show that some empty position Δ exists in the syntax of examples like (28). Second, we show that the distribution and interpretation of Δ is restricted in a similar way to the way that Δ in forward OC is restricted.

4.1 Arguments for the presence of the syntactically active theme position

I will provide five arguments in favor of the claim that in the *assist*-construction, the matrix verb discharges a null syntactic position that thematically functions as Theme.

The first argument makes use of a semantic implication relation that holds between sentences. Consider the pair of (30)a (or (30)b) and (30)c:

- (30) a. [Taro-ga John_i-o e_j tetudat-ta-no]-wa
 [Taro-Nom John-Acc assist-Past-C_{no}]-Top
 [Δ_i siken-ni too-ru-no]-o_j da
 [exam-Dat pass-Prs-C_{no}]-Acc Cop
 ‘It is [to pass the exam]_i that Taro helped John_i.’

- b. [Taro-ga e_j [Δ_i siken-ni too-ru-no]-o]
 [Taro-Nom [exam-Dat pass-Prs-C_{no}]-Acc
 tetudat-ta-no]-wa John_i-o da
 assist-Past-C_{no}]-Top John-Acc Cop
 ‘It is John that Taro assisted to pass the exam.’
- (31) Taro-wa John-o tetudaw-anakat-ta
 Taro-Top John-Acc assist-Neg-Past
 ‘Taro didn’t assist John.’

(30)a and (30)b are examples of the forward *assist*-construction. These two cleft sentences differ with respect to which phrase undergoes clefting, but the difference is immaterial here. It is easy to observe that either of the statements contradicts the statement given in (31). There is no state of affairs in which (30)a (or (30)b) and (31) are both true at the same time. The first two sentences thus entail a sentence associated with a logical form like (32)a, where “e” ranges over events (Parsons 1990), namely (32)b:

- (32) a. $\exists e$ [Assist(e) & Taro(Agent,e) & John (Theme,e)]
 b. Taro-wa John-o tetudatta
 Taro-Top John-Acc assisted
 ‘Taro assisted John.’

(31) contradicts (32)b because the former is obtained by negating the latter.

Now examine the backward equivalent of (30)a and (30)b:

- (33) a. Taro-wa [John-ga siken-ni too-ru-no]-o tetudat-ta
 Taro-Nom [John-Nom exam-Dat pass-Prs-C_{no}]-Acc assist-Past
 ‘Taro assisted [John to pass the exam].’

- b. [Taro-ga tetudat-ta-no]-wa [John_i-ga
 [Taro-Nom assist-Past-C_{no}]-Top [John-Nom
 siken-ni too-ru-no]-o_j da
 exam-Dat pass-Prs-C_{no}]-Acc Cop
 ‘Taro assisted John to pass the exam.’

Observe that both (33)a and (33)b, just like their forward counterparts, contradict (31). This means that the sentences in (33) both entails (32)a. This set of facts is explained if the null element whose semantic value is identical with John exists in the syntactic representation of the backward construction as well as the forward construction. If there is no such an element, it would be unclear why the forward and backward constructions behave similarly with respect to entailment relations to the negative sentence in (31).

A traditional voice alternation test provides another reason to think that the empty object analysis of examples like (33)a and (33)b is right. As is well known, control constructions, unlike raising constructions, do not allow a voice alternation in the embedded clause without changing the meaning of the sentence:

- (34) a. Hiroshi persuaded the doctor to examine the patient
 b. Hiroshi persuaded the patient to be examined by the doctor

(34)a and (34)b have different interpretations, which contrasts with the fact that the raising-to-object construction is insensitive to the alternation:

- (35) a. Hiroshi believes the doctor to have examined the patient
 b. Hiroshi believes the patient to have been examined by the doctor

The standard explanation of this difference between control and raising is that control predicates assign a theta role to their subject or object, while raising predicates do not.

The examples of *assist*-construction in (36) show that the construction behaves like the standard object control construction in this respect:

- (36) a. Hiroshi-wa [isya-ga kanzya-o sinsatusu-ru-no]-o
Hiroshi-Top [doctor-Nom patient-Acc examine-Prs-C_{no}]-Acc
 tetudatta
assisted
 ‘Hiroshi assisted the doctor to examine the patient.’
- b. Hiroshi-wa [kanzya-ga isya-niyotte sinsatus-are-ru-no]-o
Hiroshi-Top [patient-Nom doctor-by examine-Pass-Prs-C_{no}]-Acc
 tetudatta
assisted
 ‘Hiroshi assisted the patient to be examined by the doctor.’

(36)a implies that Hiroshi helped the doctor while (36)b implies that he helped the patient. This contrast in meaning is accounted for if *doctor* is interpreted as Theme of the assisting event in the first sentence and so *patient* is in the second sentence. The contrast in question becomes even clearer when the pair in (36) is compared with a pair that is similar on surface but thematically different from the *assist-construction*. Consider (37):

- (37) a. Hiroshi-wa [isya-ga kanzya-o sinsatusu-ru-no]-o
Hiroshi-Top [doctor-Nom patient-Acc examine-Prs-C_{no}]-Acc
 kanoo-ni sita
possible did
 ‘Hiroshi made it possible for the doctor to examine the patient.’
- b. Hiroshi-wa [kanzya-ga isya-niyotte sinsatus-are-ru-no]-o
Hiroshi-Top [patient-Nom doctor-by examine-Pass-Prs-C_{no}]-Acc
 kanoo-ni sita
possible did
 ‘Hiroshi made it possible for the patient to be examined by the doctor.’

The verb *suru* ‘do’ can take a small clause; the subject of the small clause in these

examples is a *no*-clause, of which the adjective *kanoo-ni* ‘possible’ is predicated. Neither *do* nor *possible* seems to theta mark the subject of the *no*-clause. As expected, the voice alternation that takes place in the most deeply embedded clause does not affect the meaning of the original sentence.

Data having to do with ellipsis also provide interesting evidence that the forward construction has the same meaning or structure as the backward construction in a particular sense. Saito (2004) and Nishigauchi and Fujii (2006) argue that so-called short answers in Japanese are derived from cleft formation followed by ellipsis:

- (38) A: Jade-wa dare-o asokode matteiru-nodesu-ka?
Jade-Top who-Acc there is.waiting-NODA.Pol-Q
 ‘Who is Jade waiting for out there?’
- B: [Jade-ga asokode matteiru-no]-wa [kanozyo-no
[Jade-Nom there is.waiting-C_{no}]-Top [her office-Gen
officemeeto-o] desu
mate-Acc] Cop.Pol
 ‘The person that Jade is waiting for out there] is her officemate.’
- B’: ~~[Jade-ga asokode matteiru-no]-wa~~ [kanozyo-no
officemeeto-o] desu

Under this approach to short answers, the fragment in (38)B’ is derived through the cleft sentence in (38)B via ellipsis that targets the presuppositional *no*-clause, as represented by a strikethrough in (38)B’. Both Saito (2004) and Nishigauchi and Fujii (2006) argue that ellipsis is licensed under some sort of identity or parallelism between the elided site and its antecedent (see Merchant 2001, 2004, Fox and Lasnik 2002, Fox and Takahashi 2005 for different ideas about the identity condition). Let us suppose that the elided site and its antecedent must be parallel in terms of binding relations at LF. In the case of (38), we can think of the elided site in (38)B to have [λx John-ga x asokode matteiru(-no)], which is arguably identical with the LF for the antecedent TP in (38)A. Keeping this in mind, let us consider (39):

- (39) A: Taro-wa [dare-ga gakkai-ni ik-u-no]-o
Taro-Top [who-Nom conference-to go-Prs-C_{no}]-Acc
 zyamasita-nodesu-ka
disrupted-NODA.Pol-Q
- B: [Taro-ga e_i [Δ_j gakkai-ni ik-u-no]-o
 [*Taro-Nom [conference-to go-Prs-C_{no}]-Acc*
 zyamasita-no]-wa [kare-no officemeeto_j-o]_i desu
disrupted-C_{no}]-Top [his office mate-Acc] Cop.Pol
- B': [~~Taro-ga e_i [Δ_j gakkai-ni ik-u-no]-o~~
 [*Taro-Nom [conference-to go-Prs-C_{no}]-Acc*
~~zyamasita-no]-wa~~ [kare-no officemeeto_j-o]_i desu
disrupted-C_{no}]-Top [his office mate-Acc] Cop.Pol

The short answer in (39)B' is acceptable and therefore the elided site must be able to find an appropriate antecedent in (39)A. The elided site, which involves forward control, seems to contain the LF that can be represented as in (40) (we are assuming that the focalized phrase or a null operator undergoes focus movement; see section 5.3 for the details of cleft formation):

- (40) [λx Taro-ga x [_{CP} x gakkai-ni iku-no]-o zyamasita]
 [*Taro-Nom [conference-to go-C_{no}]-Acc disrupted]*

If the identity or parallelism condition for ellipsis requires the antecedent clause to have the representation identical or parallel with (40), then it follows that the backward sentence in (39)A must have the representation in which there are two instances of x . Hence its matrix clause should contain an argument position that hosts one of these x 's.¹¹

¹¹ One might think that the strength of the argument may be weakened if Merchant (2001, 2004) is right that appropriateness of antecedents for ellipsis is regulated by a semantic condition.

The third argument for positing an empty position in the object position has to do with object honorification. When a simple transitive predicate takes the so-called object honorific form, it is presupposed that the speaker takes the referent of the object NP to be socially superior to her; see Harada 1979 for basic properties of Japanese honorifics. When the referent of the object is not socially superior to the speaker, the honorific form of the predicate makes the sentence sound awkward, as can be seen in the contrast between (41)a and (41)b:

- (41) a. Taro-wa Yamada-sensei-o otazunesi-ta
Taro-Top Prof. Yamada-Acc visit.OH-Past
 ‘Taro visited Prof. Yamada.’
- b. # Taro-wa boku-no ootoo-o otazunesi-ta
Taro-Top my younger brother-Acc visit.OH-Past
 ‘Taro visited my younger brother.’

The following shows that *assist* behaves as a simple transitive when it takes an accusative object:

- (42) Taro-wa {Yamada-sensei-o/ #otooto-o} otetudaisi-ta
Taro-Top Prof. Yamada-Acc/ younger brother-Acc assist-Past
 ‘Taro assisted {Prof. Yamada, #my brother}.’

Now let us see what happens in the backward *assist*-construction. If the object position of the matrix verb is occupied by the element that is eventually understood as identical with the referent of the embedded subject, then it is expected that the embedded subject triggers object honorific agreement on the matrix object when it

-
- (i) John was reading. But I don’t know what ~~he was reading~~

A possible flaw of the present argument would be that there is a possibility that *assist* takes a ‘hidden’ direct object of the same kind as the hidden theme argument of *read* in the antecedent clause in (i). However, an objection to the argument along these lines seems to be weak, precisely because the ‘hidden’ internal argument of *tetuda(u)* ‘assist’ and *zyamasu(ru)* ‘disrupt’ is not generic.

refers to a socially superior person and causes awkwardness when it refers to a non-socially-superior person. This expectation is correct:

- (43) a. Taro-wa [Yamada-sensei-ga Hiroshi-to
Taro-Top [Prof. Yamada-Nom Hiroshi-with
 oainina-ru-no]-o otetudaisi-ta
meet.SH-Prs-C_{no}]-Acc assist.OH-Past
 ‘Taro assisted Prof. Yamada to meet with Hiroshi.’
- b. # Taro-wa [otooto-ga Hiroshi-to
Taro-Top [younger brother-Nom Hiroshi-with
 {oainina-ru/ a-u}-no]-o otetudaisi-ta
meet.SH-Prs/ meet-Prs-C_{no}]-Acc assist.OH-Past
 ‘Taro assisted my brother to meet with Hiroshi.’

(43)a and (43)b differ with respect to the social superiority of the subject of the *no*-clause. The honorific on the matrix predicate is licensed when it is *Prof. Yamada* and not licensed when it is *my younger brother*. This is explained under empty object analyses. If no material is posited in the theme position, the object honorific should be able to operate across a clause boundary, which has not been attested.

The fourth argument for the existence of the Theme position in the theta grid of verbs of the *assist*-type, as in (29), is due to Potsdam (2006). Potsdam convincingly shows that Malagasy allows a backward object control structure, as well as its forward analog, with verbs like *force*. He observes that these verbs can show up as a non-control verb, as in (44) (from Potsdam 2006: §3.2.2):

- (44) a. omby iza no nanere- nao **an’i Paoly** hovonoin’
 cow which FOC force.CT you ACC’Paul kill.TT
 ny mpiompy?
 the cattleman
 ‘Which cow did you force Paul to have the cattleman to kill?’

- b. omby iza no nanere- nao ny mpiompy_i
 cow which FOC force.CT you the cattleman
 hovonoi- ny_i?
 kill.TT he
 ‘Which cow did you force him/the cattleman to kill?’

In (44)a, *Paul* is the theme argument of *force*, and *the cattleman* is the complement subject. In (44)b, the matrix theme object *the cattleman* is coreferential with the overt pronoun *he* in the embedded subject position. (Note incidentally that Malagasy does not allow null objects, unlike Japanese or Korean; see Potsdam 2006 and references therein.) It seems that Japanese *assist*-type verbs also have a non-control use, as illustrated by the examples below:

- (45) a. [Yoko-ga Taro_i-o tetudatta-no]-wa
 [Yoko-Nom Taro-Acc assisted-C_{no}]-Top
 [kare_i-ga sono kaisya-o uttae-ru-no]-o da
 [he-Nom that company-Acc sue-Prs-C_{no}]-Acc Cop
 ‘Yoko assisted Taro_i (to have) [him_i sue that company].’
- b. ? [Yoko-ga butyoo-o zyamasita-no]-wa
 [Yoko-Nom manager-Acc disrupted-C_{no}]-Top
 [kare-no hisyo-ga sono kaisya-o uttae-ru-no]-o da
 [he-Gen secretary-Nom that company-Acc sue-Prs-C_{no}]-Acc Cop
 ‘Yoko disrupted the manager (from having) his secretary sue that company].’

Both examples have a nominative element in the complement clause. In (45)a, the complement subject position is occupied by the overt pronoun *kare*, which is coreferential with the overt matrix object DP. In (45)b, which might be less natural but still seems to be possible, the complement subject is an NP that is referentially disjoint from the matrix object. These data argue that the Theme position actually exists. In particular, the synonymy between (45)a and the backward example in (46),

suggests that the latter example also contains the Theme position, which is silent:

- (46) [Yoko-ga Δ tetudatta-no]-wa
 [Yoko-Nom assisted-C_{no}]-Top
 [Taro_i-ga sono kaisy-a-o uttaeru-no]-o da
 [Taro-Nom that company-Acc sue-Prs-C_{no}]-Acc Cop
 ‘Yoko assisted Taro to sue that company.’

Note in passing that the data do not argue against the possibility that the verb can be a “control verb”. In English, for instance, the verb *prefer* allows a non-control use (cf. *Bill prefers for himself/Mary to leave*), but this does not mean that *Bill prefers to leave* is not an OC construction (see Landau 2000 for relevant discussion).

Finally, it appears that the higher verb exhibits a selectional restriction with respect to the embedded subject:

- (47) a. John-wa [Mary-ga tobu-no]-o tetudatta
 John-Top [Mary-Nom fly-Prs-C_{no}]-Acc assisted
 ‘John assisted Mary to fly’
 b. * John-wa [huusen-ga tobu-no]-o tetudatta
 John-Top [balloon-Nom fly-Prs-C_{no}]-Acc assisted
 ‘John assisted a balloon to fly’
 (48) a. John-wa Mary-o tetudatta
 John-Top Mary-Acc assisted
 ‘John assisted Mary.’
 b. * John-wa huusen-o tetudatta
 John-Top balloon-Acc assisted
 ‘John assisted a balloon.’

The pair of sentences given in (48) shows that *tetsudau* ‘assist’, when it is used as a simple transitive predicate, only takes an NP denoting a sentient entity. The contrast seen in (47) receives an account if the higher verb discharges a Theme position that is

coreferential with the embedded subject. Hence, backward constructions such as those in (47) have a syntactic object position, even though it does not have phonological content.¹²

The arguments presented so far do not necessarily show that the relation between the empty category and the subject of the *no*-clause is OC. The goal of the next subsection is to show that the dependency between the two NPs in question is best analyzed as OC.

4.2 Arguments for the involvement of OC

The strategy that is taken here is try to show that the *assist*-construction is a backward object control construction is to show parallels between the backward construction and the forward construction. As we will see, there are a number of reasons to believe that the forward construction involves forward object control. Thus, if we can successfully show that the backward construction just differs from the forward construction with respect to the way that the controller is located, then the conclusion

¹² It is possible to claim that these verbs “select” a verb denoting a voluntary action. (Note the use of *fly* in (47)b, which is presumably an unaccusative use, does not denote such action while the one in (47)a does.) A similar claim can be found in Higgins (1973), who (capitalizing on certain observations made by Kajita 1967) observes that verbs like *serve* impose a thematic restriction on the controllee: PRO must be an instrument in the relevant cases, as in *the ice serves to chill the beer* vs. **the ice serves to melt* (see Lasnik 1985, 1992 for related discussion; cf. Bresnan 1972). If so, the contrast in (47) might be accounted for by saying that ‘assist’ requires that the embedded subject be an agent. However, as pointed out by Howard Lasnik (personal communication), the phenomenon is not that simple. First, the complement of *order* seems to have the same ‘agentive’ requirement. But if negation is added in the embedded clause, the effect apparently goes away:

- (i) John-wa Mary-ni [ki-o {*usina-u/usinaw-na-i}-yooni] meizita
John-Top Mary-Dat [energy-Acc lose-Prs/lose-Neg-Prs-C_{yooni}] ordered
 ‘John ordered Mary {*to faint, not to faint}.’

On the other hand, *assist/disrupt* seem to behave differently from *order*. The saving effect with negation does not seem to hold for these verbs:

- (ii) * John-wa [Mary-ga ki-o {*usina-u/*usinaw-na-i}-no]-o tetudatta
John-Top [Mary-Nom energy-Acc lose-Prs/lose-Neg-Prs-C_{no}-Acc] assisted
 ‘John assisted Mary {to faint, not to faint}.’

Hence, admitting that a potentially interfering factor is involved in the argument given in the text, the nature of that factor is unclear at best.

that OC is involved in the backward construction can be drawn. Given this reasoning, we will see five empirical arguments below.

First, take a look at the forward *assist*-construction, where the antecedent for the null subject of the *no*-clause must be the object of the clause one higher up, i.e. the object of *assist*. Native speakers of Japanese's intuition is that for instance, (49) only means that the teacher made Hiroshi assist his friend to ask a question (X in the translations is intended to an entity provided by the prior discourse):

- (49) [sensei₁-ga [Hiroshi₂-ni tomodati₃-o e_i
 [teacher-Nom[Hiroshi-Dat friend-Acc
 {tetudaw/zyamas}]-ase-ta-no]-wa [Δ *₁/*_{2/3}/*₄ situmon-o
 assist/disrupt]-Caus-Past-C_{no}]-Top [question-Acc
 su-ru-no]-o_i da
 do-Prs-C_{no}]-Acc Cop
 'The teacher₁ made Hiroshi₂ disrupt his friend₃ from {*the teacher₁'s,
*Hiroshi₂'s, his friend₃, *X₄'s} asking a question].' OR
 'The teacher₁ made Hiroshi₂ assist his friends₃ for {*the teacher₁'s,
*Hiroshi₂'s, his friend₃, *X₄'s} to ask a question).'

If this intuition is right, then the null subject of the most deeply embedded clause, i.e. Δ , must take as its antecedent the accusative-marked NP *friend*, which is the Theme argument of *assist/disrupt*. Neither the Agent argument of the causative predicate, *teacher*, nor the Agent argument of *disrupt*, *Hiroshi*, can antecede the null subject. Also, Δ is not allowed to refer to an entity which is prominent in context, as indicated by the index 4 in the example. These restrictions on the interpretation of Δ are expected if it is OC PRO. (Recall that predicates of the *assist*-type are not ECM predicates; see the discussion of the examples in (36).) The property of the *assist*-construction under consideration can be seen even clearer when it is contrasted with the purpose *yooni*-construction:

- (50) [sensei₁-ga [Hiroshi₂-ni tomodati₃-o e_i tetudaw]-ase-ta-no]-wa
 [teacher-Nom[Hiroshi-Dat friend-Nom assist]-Caus-Past-C_{no}]-Top
 [$\Delta_{1/2/3/4}$ situmon-ga deki-ru-yooni]_i da
 [question-Nom can.do-Prs-C_{yooni}] Cop
 ‘The teacher₁ made Hiroshi₂ assist his friend₃ (from doing something)
 so that {the teacher₁, Hiroshi₂, his friend₃, X₄} could ask a question.’

The complementizer *-yooni* can be the head of a purpose clause. The subject of the purpose *yooni*-clause does not have to refer to the object of the matrix clause.¹³

The backward equivalent of (49) is the example in (51):

- (51) [sensei₁-ga [Hiroshi₂-ni $\Delta_{*1/*2/3/*4}$
 [teacher-Nom [Hiroshi-Dat
 {zyamas/tetudaw}]-ase-ta-no]-wa [tomodati₃-ga
 disrupt/assist]-Caus-Past-C_{no}]-Top [friend-Nom
 situmon-osu-ru-no]-o da
 question-Acc do-Prs-C_{no}]-Acc Cop
 ‘The teacher₁ made Hiroshi₂ disrupt {*the teacher₁, *Hiroshi₂, his
 friend₃, *X₄} from his friend₃’s asking a question.’ OR
 ‘The teacher₁ made Hiroshi₂ assist {*the teacher₁, *Hiroshi₂, his friend₃,
 *X₄} for his friend₃ to ask a question.’

(49) and (51) are parallel in that no referential dependencies other than the one

¹³ The same result is obtained for the construction where *yooni*-clauses are selected by verbs like *recommend*, discussed in section 3.1 ((ib)=(23)):

- (i) a. * Yoko_i-wa [butyoo-ni Δ_i [Taro-ga Osaka-ni iku-no]-o
 Yoko-Top [manager-Dat [Taro-Nom Osaka-to come-C_{no}]-Acc
 zyamasi-te]hosikatta
 to.disrupt] wanted
 ‘Yoko wanted her boss to disrupt her so that Taro would not go to Osaka.’
 b. Yoko_i-wa [butyoo-ni Δ_i [Taro-ga Osaka-ni iku-yooni]
 Yoko-Top [manager-Dat [Taro-Nom Osaka-to come-C_{yooni}]
 susume-te] hosikat-ta
 to.recommend] want-Pat
 ‘Yoko wanted his boss to recommend her that Taro should go to the store.’

referred to by the index 3 are possible: The object of *disrupt/assist* is identical with the subject of the *no*-CP in the backward construction as well as the forward construction. Given that (49) is an OC construction, the empty category in (51) likely enters into a backward control relation with the lowest subject. The ‘parallelism’ argument seems to be reliable. The purpose clause construction apparently allows a backward dependency between the matrix object position and the embedded subject position, as in (52):

- (52) [sensei₁-ga [Hiroshi₂-ni $\Delta_{1/*2/3/4}$ {zyamas/tetudaw}]-ase-ta-no-wa
 [teacher-Nom[Hiroshi-Dat *disrupt/assist*]-Caus-Past-C_{no}]-Top
 [tomodati₃-ga situmon-ga deki-ru-yooni] da
 [friend-Nom question-Nom can.do-Prs-C_{yooni}] Cop
 ‘The teacher₁ made Hiroshi₂ disrupt {the teacher₁, *Hiroshi₂, his friend₃,
 X₄} (from doing something) so that his friend could ask a question.’ OR
 ‘The teacher₁ made Hiroshi₂ assist {the teacher₁, *Hiroshi₂, his friend₃,
 X₄} (to do something) so that his friend could ask a question.’

The important difference from the construction with a *no*-CP is that the null matrix object in (52) can be understood as coreferential to the highest subject and a discourse referent as well. (Some of the readings require unusual situations such as the one in which the teacher asked Hiroshi to interrupt her so that Hiroshi’s friend, say John, can ask a question or something like this.) The only one unavailable interpretation, that is the 2 reading, looks like a standard Condition B effect. Nothing is surprising if the purpose *yooni*-clause is adjoined to a position between the subject and the object of the VP headed by an *assist*-type verbs. Thus parallelism between forward and backward constructions holds for a non-control construction as well as a control construction.

The claim that the null object in the backward *assist*-construction must be referentially linked to the overt complement subject is further confirmed by the test using the adverbial *sorezore* ‘each’. The examples of *forward* *assist*-construction in (53) show that ‘each’, which occurs right before *assist*, must be locally associated

with a plural NP:

- (53) a. * [karera-ga [Mary-ni John-o e_i sorezore tetudat-te]
 [they-Nom [Mary-Dat John-Acc each to.assist]
 hosikatta-no]-wa [Δ oyog-u-no]-o_i da
 wanted-C]-Top [swim-Prs-C_{no}]-Acc Cop
 ‘They wanted Mary to assist John each [to help each other].’
- b. [karera-ga [Mary-ni John-to Bill-o e_i sorezore
 [they-Nom [Mary-Dat John-and Bill-Acc each
 tetudat-te] hosikatta-no]-wa [Δ oyog-u-no]-o_i da
 to.assist] wanted-C]-Top [swim-Prs-C_{no}]-Acc Cop
 ‘They wanted Mary to assist John and Bill each [to help each other].’

In (53)a, the direct object of assist is *John*, whereas in (53)b, the direct object is *John and Bill*. The unacceptability of the a-example indicates that the subject of *wanted*, which is a plural, is too far from ‘each’ to license it.

Keep this in mind, observe the pair of examples in (54), both of which are examples of backward *assist*-construction:

- (54) a. * [karera-ga [Mary-ni Δ e_i sorezore tetudat-te]
 [they-Nom [Mary-Dat each to.assist]
 hosikatta-no]-wa [John-ga oyog-u-no]-o_i da
 wanted-C]-Top [John-Nom swim-Prs-C_{no}]-Acc Cop
 lit. ‘They wanted Mary to assist Δ each [John to help each other].’
- b. [karera-ga [Mary-ni Δ e_i sorezore tetudat-te]
 [they-Nom [Mary-Dat each to.assist]
 hosikatta-no]-wa [John-to Bill-ga oyog-u-no]-o_i da
 wanted-C]-Top [John-and Bill-Nom swim-Prs-C_{no}]-Acc Cop
 lit. ‘They wanted Mary to assist Δ each [John and Bill to help each other].’

These examples differ from each other only in number of the complement subject. The unacceptability of (54)a reveals that the null object of the backward *assist*-construction cannot be bound by the higher subject. In a nutshell, the interpretive properties of the null object in the backward *assist*-construction are accounted for if it is in the control chain whose tail is the complement subject.

Let us move onto another structural argument in favor of the analysis put forward here. Note that whereas the forward purpose *yooni*-construction is not sensitive to c-command, the forward *no*-construction is:

- (55) a. [Taro₁-ga Hiroshi₂-no tuma₃-o tetudat-ta-no]-wa
 [Taro-Nom Hiroshi's wife-Acc assisted-Past-C_{no}]-Top
 [$\Delta_{*1/*2/3}$ nimotu-o hakob-u-no]-o da
 [luggage-Acccarry-Prs-C_{no}]-Acc Cop
 'Taro₁ assisted Hiroshi₂'s wife₃ to carry the luggage.'
- b. [Taro₁-ga Hiroshi₂-no tuma₃-o tetudat-ta-no]-wa
 [Taro-Nom Hiroshi's wife-Acc assisted-Past-C_{no}]-Top
 [$\Delta_{1/2/3}$ nimotu-o hakob-e-ru-yooni] da
 [luggage-Acccarry-can-Prs-C_{yooni}] Cop
 'Taro₁ assisted Hiroshi₂'s wife₃, so that {Taro₁, Hiroshi₂, Hiroshi's wife₃} could carry the luggage.'

The generalization may be stated as follows: in object control, the subject of the subordinate clause and the matrix object can participate in an OC chain, but not an NP inside it. Once the data in (55) are seen in this way, the contrast found in the corresponding pair of backward sentences can be taken to suggest that the *no*-version involves an OC chain:

- (56) a. Taro₁-wa $\Delta_{*1/*2/3}$ [Hiroshi₂-no tuma₃-ga nimotu-o
Taro-Top [Hiroshi's wife-Nom luggage-Acc
 hakob-u-no]-o tetudatta
*carry-Prs-C_{no}]*Acc assisted
 'Taro₁ assisted $\Delta_{*1/*2/3}$ [Hiroshi₂'s wife₃ to carry their luggage].'
- b. Taro₁-wa $\Delta_{*1/2/3}$ [Hiroshi₂-no tuma₃-ga nimotu-o
Taro-Top [Hiroshi-Gen wife-Nom luggage-Acc
 hakob-e-ru-yooni] tetudatta
carry-can-Prs-C_{yooni}] assisted
 'Taro₁ assisted $\Delta_{*1/2/3}$ [so that Hiroshi₂'s wife₃ could carry their
 luggage].

The examples need to be located in situations where Hiroshi and his wife both are carrying their luggage and Taro helped him but didn't help her at all. Then, a clear contrast emerges in such a way that (56)a is false but (56)b is true. This contrast tells us that the NP embedded inside the actual controller cannot be anteceded Δ in the backward *no*-construction.

The third argument for the control analysis of the backward *no*-construction has to do with one general fact about forward control; that is, the empty category, i.e. PRO in standard GB terms, cannot appear in non-subject position of a control complement. The unacceptability of the following example shows that this is the case with the forward *assist*-construction as well:

- (57) * [boku-ga Tanaka-sensei-o otetudaisita-no]-wa
 [I-Nom Tanaka-sensei-Acc assisted.ObjHon-C]-Top
 [tomodati-ga Δ ohomesu-ru-no-o] da
 [friend-Nom praise.ObjHon-Prs-C_{no}-Acc Cop
 lit. 'I assisted(ObjHon) Tanaka-sensei for my friend to praise(ObjHon)
 Δ_i .'
 Intended meaning: 'I assisted Tanaka-sensei_i to have my friends praise
 him_i.'

- (58) * [boku-ga Δ otetudaisita-no]-wa [tomodati-ga
 [I-Nom assisted.ObjHon-C]-Top [friend-Nom
 Tanaka-sensei-o ohomesu-ru-no-o] da
 Tanaka-sensei-Acc praise.ObjHon-Prs-C_{no}]-Acc Cop
 lit. ‘I assisted(ObjHon) Δ for my friends to praise(ObjHon) Tanaka-
 sensei.’
- (59) [boku-ga Tanaka-sensei₁-o otetudaisita-no]-wa
 [I-Nom Tanaka-sensei-Acc assisted.ObjHon-C-Top
 tomodati-ga $\Delta_{1/2}$ ohomesu-ru-yooni] da
 [friend-Nom praise.ObjHon-Prs-C_{yooni} Cop
 ‘I assisted Tanaka-sensei₁ so that my friends would praise him_{1/2}.’
- (60) [boku-ga $\Delta_{1/2}$ otetudaisita-no]-wa [tomodati-ga
 [I-Nom assisted.ObjHon-C]-Top [friend-Nom
 Tanaka-sensei₁-o ohomesu-ru-yooni] da
 Tanaka-sensei-Acc praise.ObjHon-Prs-C_{yooni}]-Acc Cop
 ‘I assisted {Tanaka-sensei₁, X₂} so that my friends would praise him₁.’

No matter how this fact is explained, if backward control exists at all, it should be the case that the controller cannot appear in a non-subject position, given forward-backward parallelism. Indeed, such a backward construction is clearly unacceptable:

- (61) [boku-ga Δ otetudaisita-no]-wa [tomodati-ga
 [I-Nom assisted.ObjHon-C]-Top [friend-Nom
 Tanaka-sensei-o ohomesu-ru-no-o] da
 Tanaka-sensei-Acc praise.ObjHon-Prs-C_{no}]-Acc Cop
 lit. ‘I assisted(ObjHon) Δ for my friends to praise(ObjHon) Tanaka-
 sensei.’

It should be noted that in the purpose clause construction, whether it is forward or backward, the matrix object and Δ in the embedded object position can be coreferential quite easily:

- (62) a. [boku-ga Tanaka-sensei₁-o otetudaisita-no]-wa
I-Nom Tanaka-sensei-Acc assisted.ObjHon-C-Top
 [tomodati-ga $\Delta_{1/2}$ ohomesu-ru-yooni] da
 [friend-Nom praise.ObjHon-Prs-C_{yooni}Cop
 ‘I assisted Tanaka-sensei₁ so that my friends would praise him_{1/2}.’
- b. [boku-ga $\Delta_{1/2}$ otetudaisita-no]-wa [tomodati-ga
 [I-Nom assisted.ObjHon-C]-Top [friend-Nom
 Tanaka-sensei₁-o ohomesu-ru-yooni] da
 Tanaka-sensei-Acc praise.ObjHon-Prs-C_{yooni}]-Acc Cop
 ‘I assisted {Tanaka-sensei₁, X₂} so that my friends would praise him₁.’

Again, the forward construction parallels its backward counterpart. Given that the unacceptability of (57) indicates that the construction is OC, the unacceptability of the corresponding backward construction, (61), constitutes evidence that the latter is also an OC construction.

Forth, the forward *assist*-construction, like a typical OC construction, does not allow a strict interpretation of the null subject under ellipsis:¹⁴

¹⁴ The careful reader might wonder if (63)b is really an instance of ellipsis, as opposed to deep anaphora of some sort. One independent (though indirect) argument for the involvement of ellipsis in such examples can be made. As originally pointed out in Kuno (1978, 1980) and recently discussed in Merchant (2001), ellipsis generally exhibits the effect called “Max Elide,” which roughly dictates that when the process applies, a bigger constituent be deleted whenever possible (cf. Takahashi and Fox 2005). An interaction of Sluicing and VP-ellipsis in English is presented to illustrate the effect:

- (i) a. She loves someone, but I don’t know who ~~she loves~~
 b. *She loves someone, but I don’t know who she does ~~love~~

The generalization is that VP-ellipsis is barred here since Sluicing, which elides a TP, could be applied. A similar effect is found with potential ellipsis of *no*-clauses in Japanese. Consider:

- (ii) A: [Yoko-ga e_j [Δ_{*ij} [tamago-ga hukasu-ru-no]-o mi-ru-no]-o
 [Yoko-Nom [[egg-Nom hatch-Prs-C_{no}]-Acc see-Prs-C_{no}]-Acc
 tetudatta-no]-wa Taro_i-o desu-ga
 assisted-C_{no}]-Top Taro-Acc Cop.Pol-though

- (63) a. [Yoko-ga e_i [Δ_i suugaku-no mondai-o tok-u-no]-o
 [Yoko-Nom [math problem-Acc solve-Prs- C_{no}]-Acc
 tetudatta-no]-wa Taro_i-o desu-ga
 assisted- C_{no}]-Top Taro-Acc Cop.Pol-though
- b. [Naomi-ga e_j [~~Δ_{*ij} -suugaku-no mondai-o tok-u-no-o~~]
 [Naomi-Nom [math problem-Acc solve-Prs- C_{no}]-Acc
 tetudatta-no]-wa Hiroshi_j-o desu
 assisted- C_{no}]-Top Hiroshi-Acc Cop.Pol
 ‘Although Yoko assisted Taro_i to solve a math problem, Naomi assisted
 Hiroshi_j ~~Δ_{*ij}~~ to solve a math problem.’

As seen in the translation of the second sentence, the subject of the elided *no*-clause cannot be understood as referring to Taro. Thus, the forward construction behaves like an OC construction. Now consider the backward construction to see if a strict interpretation is not allowed:

-
- B: [Naomi-ga e_j [Δ_j [tamago-ga huku-ru-no]-o mi-ru-no]-o
 [Naomi-Nom [egg-Nom hatch-Prs- C_{no}]-Acc see-Prs- C_{no}]-Acc
 tetudatta-no]-wa Hiroshi_j-o desu
 assisted- C_{no}]-Top Hiroshi-Acc Cop.Pol
- B’*: [Naomi-ga e_j [Δ_j [~~tamago-ga huku-ru-no~~]-o mi-ru-no]-o
 tetudatta-no]-wa Hiroshi_j-o desu
- B’’: [Naomi-ga e_j [~~Δ_j [tamago-ga huku-ru-no]-o mi-ru-no~~]-o
 tetudatta-no]-wa Hiroshi_j-o desu
 ‘Although it is Taro_i that Yoko assisted to see an egg hatch, it is Hiroshi_j
 that Naomi assisted e_j to see an egg hatch.’

The contrast between (iiB’) and (iiB’’) shows that omission of the lowest *no*-clause is barred. This is totally expected if the process under consideration is ellipsis and subject to Max Elide. Under this view, (63)b is fine because the presence of *Naomi* makes it impossible for the largest *no*-clause to be elided. The subject of the potential antecedent in (63)a, i.e. the largest *no*-clause, is different.

- (64) A: Yoko-ga [Taro-ga suugaku-no mondai-o tok-u-no]-o
 Yoko-Nom [Taro-Nom math problem-Acc solve-Prs-C_{no}]-Acc
 tetudai-masita
 assisted- Pol.Past
 ‘Yoko assisted Taro to solve a math problem.’
- B: [Naomi-ga buturi-no mondai-o tok-u-no]-mo desu
 [Naomi-Nom physics problem-Acc solve-Prs-C_{no}]-even Cop.Pol
 ‘~~She~~ assisted Naomi to solve a physics problem, too.’

Since, as is well known, cleft sentences are not preferred when the focus element is marked with nominative case, stripping the sense of Hoji (1990) is employed; see Hoji 1990 for arguments that the process involves ellipsis. (64)B may have the (irrelevant) interpretation, “Naomi also assisted Taro to solve a math problem,” and this interpretation might be the most preferred one. The point is that the interpretation indicated above, i.e. the one in which Naomi is understood as the “assiste,” is possible. When the sentence is so interpreted, the “solver” must be her, rather than Taro. Thus, no strict interpretation exists, hence another argument for the OC analysis of the backward *assist*-construction. Backward purpose *yooni*-constructions, on the other hand, seem to allow both sloppy and strict readings as in (65)B.¹⁵

¹⁵ Here is the minimal pair that was promised in section 3.1, which illustrates the contrast between the backward *assist*-construction and the backward *yooni*-complement construction, with respect to the possibility of strict reading ((24) is repeated as (i)):

- (i) A: Taro-wa Δ_i [Mary_i-ga Osaka-ni ik-u-yooni] susumeta
 Taro-Top [Mary-Nom Osaka-to go-Prs-C_{yooni}] recommend
 ‘Taro recommended Mary that Mary should go to Osaka.’
- B: [Dave-ga Tokyo-ni ik-u-yooni]-mo da
 [Dave-Nom Tokyo-to go-Prs-C_{yooni}]-even Cop
 ‘Taro recommended Mary that Dave should go to Tokyo, too.’
- (ii) A: Taro-wa Δ_i [Mary_i-ga Osaka-ni ik-u-no]-o tetudatta
 Taro-Top [Mary-Nom Osaka-to go-Prs-C_{no}]-Acc assisted
 ‘Taro assisted Mary to go to Osaka.’
- B: [Dave-ga Tokyo-ni ik-u-no-mo] da
 [Dave-Nom Tokyo-to go-Prs-C_{no}]-even Cop
 lit. ‘Taro disrupted Mary from Dave’s going to Tokyo, too.’

The genuine backward control construction, unlike the construction illustrated by (i), does not permit the strict reading.

- (65) A: Yoko-ga *pro_ij* [Taro_i-ga suugaku-no mondai-o
 Yoko-Nom [Taro-Nom math problem-Acc
 tok-e-ru-yooni] tetudai-masita
 solve-can-Prs-C_{yooni}] assisted-Past.Pol
 ‘Yoko assisted {Taro_i, Naomi_j} so that Taro_i could solve a math
 problem.’
- B: [Naomi(-zisin)-ga buturi-no mondai-o tok-e-ru-yooni]-mo
 [Naomi-self-Nom physics problem-Acc solve-Prs-C]-even
 desu
 Cop.Pol
 ‘~~She assisted Naomi~~ so that Naomi can solve a math problem, too.’ OR
 ‘~~She assisted Taro~~ so that Naomi (herself) can solve a physics problem,
 too.’

This section has examined forward and backward *assist*-constructions, both of which display diagnostic properties of obligatory control.

4.3 A brief comparison with the head-internal relative clause

One might analyze the backward *assist*-construction, such as (66) below, as a head-internal relative clause (HIRC) of some sort:

- (66) isya-wa [kanzya-ga aru-ku-no]-o tetudat-ta
 doctorn-Top [patient-Nom walk-Prs-C_{no}]-Acc assist-Past
 ‘The doctor assisted a patient to walk.’

This is a fair worry because typical Japanese HIRCs are also headed by *-no* and are case-marked as if they are direct arguments of predicates:

- (67) isya-wa [kanzia-ga arui-tei-ru-no]-o tukamaeta
doctor-Top [patient-Nom walk-Prog-Prs-NO]-Acc caught
 ‘A patient was walking, and then the doctor caught him.’

The possibility of assimilating the backward *assist*-construction to the HIRC is worth considering for the following reason. No prior analyses of the HIRC explicitly claim that the construction should be treated as a variety of OC.¹⁶ So assume that HIRCs do not involve OC. If examples like (66) turn out to be a species of HIRC, then, as a logical consequence, these should not involve OC, contrary to the empirical claim advanced here. Thus it is important to show that the *assist*-construction is not an instance of HIRC construction.

Let us start with one well-established descriptive generalization about the temporal interpretation of HIRCs. As noted by Kuroda (1976-77) and extensively discussed by M.J. Kim (2004), HIRCs must be interpreted to mean that the event described by them takes place simultaneously with the time reference of the superordinate clause. For instance, the sentence in (67), repeated as (68), means that an event of a patient’s walking (= the event described by the HIRC) had been going on, and at a point in its duration, an event of the doctor’s catching that patient (= the event described by the superordinate clause) took place:

- (68) isya-wa [kanzia-ga arui-tei-ru-no]-o tukamaeta
doctor-Top [patient-Nom walk-Prog-Prs-NO]-Acc caught
 ‘A patient was walking, during which time the doctor caught him.’

Following Fuji (1998) and M.-J. Kim (2004), let us call this the Simultaneity Condition, which is intended to cover what Kuroda’s (1976-77) Relevancy Condition covers.

¹⁶ See Kuroda (1999a: 49) for a relevant comment on this possibility. This is not a place to discuss how the HIRC should be analyzed. The reader is referred to Kuroda (1974, 1976-77, 1977; 1999a), Watanabe (1991), Hoshi (1995), Mihara (1994), Shimoyama (1999), M.-J. Kim (2004), among many others.

Now consider the temporal interpretation of the *no*-clause of the *assist* control construction:

- (69) a. isya-wa [kanzya-ga aruk-u-no]-o tetudatta (=66))
doctor-Top [patient-Nom walk-Prs-C_{no}]-Acc assisted
‘The doctor assisted a patient to walk.’
- b. isya-wa [kanzya-ga aruk-u-no]-o zyamasita
doctor-Top [patient-Nom walk-Prs-C_{no}]-Acc disrupted
‘The doctor disrupted a patient from walking.’

As noted by Josephs (1976: 330, n 23), examples like those in (69) do not allow an interpretation of the kind that HIRC constructions exhibit. The Simultaneity Condition does not apply to the backward control construction: it is not the case that the walking event described by the *no*-clause is interpreted as taking place simultaneously with the event described by the matrix assisting or disrupting event. Rather, the *no*-complement of *assist/disrupt* receive an ‘irrealis’ interpretation of the familiar kind in the literature on English infinitival complements (Bresnan 1972, Grosu 1974, Stowell 1982, Pesetsky 1992, Martin 1996, Bošković 1997, Landau 2000, Wurmbrand 2001 and many others). Take (70) as an example:

- (70) The doctor ordered a patient to walk

The walking event described by the infinitive is a hypothetical or unrealized event. Roughly put, the patient has not walked yet at the time of the doctor’s ordering.

The ‘tense mismatch’ phenomenon found in examples like (71) might help to give a flavor for this irrealis interpretation (though not every infinitival complement allows this sort of ‘tense mismatch’; cf. Wurmbrand 2001, Landau 2000):

- (71) Yesterday, the doctor ordered a patient to walk tomorrow

The point here is that presence of the time adverb *tomorrow* indicates that the walking

event is a future event with respect to the ordering event. The same is observed for the backward *assist*-construction. Returning to examples like those in (69), observe that tense mismatch is allowed:

- (72) kinoo isya-wa [kanzya-ga asu aru-ku-no]-o
yesterday doctor-Top [patient-Nom tomorrow walk-Prs-C_{no}]-Acc
tetudatta/ zyamsita
assisted/ disrupted
‘Yesterday, the doctor {assisted a patient to walk, disrupted a patient from walking}.’

Compare with the HIRC equivalent, where such placement of adverbials is generally unacceptable:

- (73) * kinoo isya-wa [kanzya-ga asita
yesterday doctor-Top [patient-Nom tomorrow
{arui-tei-ru/aru-ku}-no]-o tukamaeta
walk-Prog-Prs/walk-Prs-NO]-Acc *caught*
lit. ‘A patient {is walking, walks} tomorrow, and yesterday the doctor caught that patient.’

Thus, while HIRCs always have a simultaneous interpretation, the complement of *assist* cannot have such an interpretation.

Second, the two types of *no*-clauses differ with respect to their ability to take past tense and present progressive complements. Note first that HIRCs can support past tense and progressive aspect as long as the Simultaneity Condition is met:

- (74) keikan-wa [doroboo-ga kinko-o
policeman-Top [burglar-Nom safe-Acc
 ake {-ta/-tei-ru}-no]-o tukamaeta
{open-Past/Prog-Prs-C_{no}}-Acc caught
 ‘A burglar policeman {opened, was opening} a safe and the policeman
 caught him then.’

The complement of *assist*, on the contrary, does not seem to allow either past tense or present progressive. It requires simple present tense.¹⁷ Consider (75):

- (75) keikan-wa [doroboo-ga kinko-o
policeman-Top [burglar-Nom safe-Acc
 ake {-ta/-tei-ru}-no]-o zyamasita
{open-Past/Prog-Prs-C_{no}}-Acc disrupted
 ‘A burglar {opened, was opening} a safe and the policeman disrupted
 him then.’

The example is acceptable. However, its interpretation is clearly not the one associated with *assist*-constructions that we have seen so far. It does not mean that the policeman disrupted a burglar from opening a safe. It means that the policeman disrupted a burglar from doing something when that burglar opened or was opening a safe. This *no*-clause is unambiguously an HIRC. Hence, the *no*-complement of the *assist* control construction cannot support past or present progressive.

I am not putting forth any claim about why HIRC predicates are restricted in the way they are. (For this issue, the reader is referred to Kuroda (1976-77), M.-J. Kim (2004), among others.) All I am trying to show here is that control *no*-clauses always appear in the present tense form whereas HIRCs may appear in other forms. Therefore, when the predicate of a *no*-clause is in the past tense form, it eliminates the possibility of control and forces the HIRC structure of that *no*-clause.

¹⁷ As is extensively argued in chapter 2, this is an indication that control *no*-complements are pseudo-finite clauses, i.e. their Tense is specified for [-finite] (cf. Nakau 1973, Ohso 1976, Josephs 1979, Saito 1982, Sakaguchi 1990, Uera 1990, Nemoto 1993, Watanabe 1996b).

Third, the HIRC and the *assist*-construction behave differently in passives. While the *no*-clause of the HIRC can stand in subject position of a passive sentence, the *no*-clause of the *assist*-construction cannot:¹⁸

- (76) a. [soto-e doroboo-ga nige-yoo-to suru-no]-ga
 [outside-to burglar-Nom run.away-Mood-C_{TO} do-NO]-Nom
 keikan-niyotete tukamae-rare-ta
 policeman-by catch-Pass-Past
 ‘A burglar was about to run toward , and then a policeman catch him.’
- b. * [soto-e doroboo-ga nige-ru-no]-ga keikan-niyotte
 [outside-to burglar-Nom run.away-Pres-C_{no}]-Nom policeman-by
 zyamas-are-ta
 arrest-Pass-Past
 ‘A burglar was disrupted by a policeman from running outside.’

(Note that the Theme object can undergo passivization with forward control; see (15).) Thus, both semantically and syntactically, *no*-clauses that we have been dealing with in the *assist*-construction are not HIRCs.

As has been observed in section 4.2, the choice of the antecedent for OC PRO or the null object of the backward *assist*-construction is severely restricted. As in (77) and (78), control into a non-subject position is prohibited:

- (77) a. John_i hoped [Δ_i to help Mary]
 b. * John_i hoped [Mary to help Δ_i]

¹⁸ In passing, the *tokoro*-clause, which is often argued to be backward control, behaves in the same way as the *no*-clause of the *assist*-construction with respect to passivization. See Harada (1973), Kuroda (1978, 1999b) for passivization of the *tokoro*-clause. See chapter 2 for discussion of prohibition of passivization of control clauses.

- (78) keikan-wa $\Delta_{i/*j}$ [tuukoonin_i-ga doroboo_j-o
policeman-Nom [*passer-by-Nom buirgler-Acc*
 torikako-mu-no]-o zyamasita
surround-Prs-C_{no}]-Acc disrupted
 ‘A policeman disrupted $\Delta_{i/*j}$ [from passers-by_i surrounding the burglar_j].’

The HIRC construction does not exhibit this kind of asymmetry. Consider the example in (79):

- (79) keikan-wa Δ_i [tuukoonin-ga doroboo_i-o
policeman-Top [*passer-by-Nom burglar-Acc*
 torikakon-dei-ru-no]-o tukamaeta
surround-Prog-Prs-NO]-Acc caught
 ‘Passers-by were surrounding the burglar, and then the policeman caught him.’

The following data further confirm the speaker’s intuition that the object in the embedded clause is identical with the thematic argument of the matrix verb:

- (80) sono gakusei-wa Δ_i [tuukoonin-ga koomeina sensei_i-o
 that student-Top [*passer-by-Nom well known teacher-Acc*
 torikakon-dei-ru-no]-o otasukesi-ta
surround-Prog-Prs-NO]-Acc help.ObjHon-Past
 ‘Passers-by were surrounding a well known teacher, and then the student helped him.’

In (80)a, the matrix predicate bears object-honorific morphology and the embedded object, unlike the embedded subject, denotes a socially superior person to the speaker. Thus the matrix verb (or its thematic object position) enters into a dependency with the embedded object, not the embedded subject. This strongly indicates that the construction is something else than obligatory control.

I argue in chapter 2 that (i) complements that do not undergo present-past tense alternation are nonfinite; that (ii) passivization of obligatory control clauses is barred, and that (iii) control chains exhibit properties of A-chain. Given these, the observations made above strongly argue that HIRCs do not involve OC. Since they support both present and past tense, they are [+finite]. Hence, control chains cannot be formed. In terms of the movement-based theory, no A-movement is allowed from the subject position of finite clauses at least in Japanese. Therefore, the fact that HIRCs cannot be control clauses is accounted for straightforwardly. The *assist*-construction, on the other hand, shares these properties with forward control. Namely, its complement does not allow tense alternation (and hence it is [-finite]), cannot be a passive subject, and exhibits A-chain-like properties. The next section will show how the movement theory of control derives properties of the backward control construction.

4.4 Deriving the properties of *assist*-constructions

Assuming a movement theory of control, let us see how the properties documented above are accounted for in that theory. The theory gives a Japanese *assist*-construction such as (81) a derivation of the following kind (head-finality is ignored for ease of exposition):

- (81) Hiroshi-ga [Taro-ga oyog-u-no]-o zyamasita
Hiroshi-Nom [Taro-Nom swim-Prs-C_{no}]-Acc disrupted
 ‘Hiroshi disrupted Taro from swimming.’
- (82) [_{TP} Hiroshi T [_{VP} Hiroshi v [_{VP} Taroⁱ disrupt [_{CP} C_{no} [_{TP} Taroⁱ T [_{VP} Taroⁱ
 swim]]]]]]]]

Let us assume with other movement-based analyses of control that the θ -role feature of a predicate is a formal feature that may be checked through phrasal movement and that an A-chain can carry more than one θ -role feature. These assumptions allow us to move *Taro* in the Spec,TP of the complement CP to the Spec,VP to check the θ -role

feature of *disrupt*, when armed with another assumption, which is that the complement CP does not prevent extraction of the embedded subject out of it.¹⁹ As for Case, we may assume that the little *v* is responsible for the Case of the NP object and the large *V* for the Case of the CP, though some other assumption may be compatible with the main point we are making; e.g., *v* assigns accusative Case to the NP and the CP (Hiraiwa 2005, Chomsky 2004). Regarding the Case for the embedded subject, it suffices for now to assume that nominative Case is available for the complement subject and it does not prevent the subject from moving to the matrix clause. I will elaborate on this hypothesis in section 4.4.

Once the complement subject is allowed to move into the matrix thematic domain, all the syntactic properties of the construction documented in previous sections follow. First, the severe restriction on the interpretation of the empty matrix object (illustrated by (47) and (50)) follows if Δ is occupied by the head of the A-chain. Second, the fact that the embedded object cannot backward control the matrix object [cf. (58)] can be derived from standard assumptions. If A-movement from Case position is impossible (Chomsky 1995, 2001; Lasnik 1995), i.e. if an NP is ‘active’ for A-movement only if it has not had its Case checked, then the movement-based analysis correctly excludes unacceptable examples like the one at issue (see section 5.2 for discussion).²⁰ Third, the unavailability of strict reading [see (63)] also follows from the movement analysis. At LF, the copy in the embedded subject must be interpreted as a bound variable, just

¹⁹ A locality issue may arise, given the generalization that CP is assumed to break an A-chain, which is often considered correct in GB theories (e.g. Aoun 1982). However, it is not entirely clear that this is a correct generalization anymore (see Chomsky 2000, Fujii 2004, 2005, Nevins 2005). Another potential issue would be about minimality. It is conceivable for a minimality constraint (such as Shortest Move or Attract Closest) to block movement of the complement subject in an A-over-A fashion. See chapter 2 for discussion.

²⁰ It is interesting to note here that the subject-object asymmetry in English can be taken to be a Case Filter violation. In (77)b (repeated as (i)) below, *Mary* cannot obtain Case under standard assumptions:

- (i) John_i hoped Mary to help PRO_i

However, this account cannot apply to Japanese examples like (57), because we know independently that the complement subject can obtain nominative Case in the backward construction. Thus, the subject-non-subject asymmetry in Japanese backward control tells us that either minimality or Case-activity is needed, even if (i) can be excluded by the Case Filter.

like the “trace” of A-movement.²¹ Finally, we observed in (76)b that the *no*-clause cannot undergo passivization, whereas the Theme argument can be, as observed in (15). The relevant pair of examples is as follows ((83)b=(76)b):²²

- (83) a. doroboo-ga [soto-e nige-ru-no]-o keikan-niyotte
 burglar-Nom [outside-to run.away-Pres-C_{no}]-Acc policeman-by
 zyamas-are-ta
 arrest-Pass-Past

²¹ How precisely non-top copies are interpreted at the level of interpretation under a copy theory of movement is an issue (cf. Fox 2002). Potsdam reports that in Malagasy, forward controllers and backward controllees behave the same with respect to scope interpretation. According to Potsdam, the Malagasy forward and backward sentences corresponding to *which secret did you ask all your friends not to reveal?* are both ambiguous between the “all>not” and “not>all” interpretations. The situation seems to be different in Japanese. To show how this is so, we use the so-called anti-reconstruction effect (Wurmbrand 2001, Bobaljik and Wurmbrand 2005), where the restructuring verb *forget* cannot scope over its direct object:

- (i) [John-ga zen'in-o tetudai-wasureta-no]-wa [hayaokisu-ru-no]-o desu
 [John-Nom all-Acc assist-forgot-C_{no}]-Top [wake.up.early-Pres-C_{no}]-Acc Cop.Pol
 ‘John forgot to assist all the people to wake up early.’ (*forget>all)
- (ii) [John-ga tetudai-wasure-ta]-no-wa [zen'in-ga hayaokisuru-no]-o desu
 [John-Nom assist-forgot-C_{no}]-Top [aall-Nom wake.up.early-Pres-C_{no}]-Acc Cop.Pol
 ‘John forgot to assist all people to wake up early.’ (forget>all)

The availability of the narrow scope interpretation of the universal with respect to the negative verb, taken as face value, indicates that the embedded nominative NP does not act like the direct object of the higher predicate at the relevant level of representation. There seem to be two ways to characterize this phenomenon. One way is to say that the contrast stems from the rigid nature of scope-taking in languages like Japanese; that is, scope is determined based on S-structure syntax (see Kuroda 1970, Huang 1982, Hoji 1985). Another way of describe the state of affairs is to assimilate the contrast between (i) and (ii) to the contrast between *someone from NY seems to be in the garden* and *there seems to be someone from NY in the garden*. The *there*-construction does not allow for the interpretation where *someone* takes scope over *seem* (see Lasnik 1999, den Dikken 1999, Boeckx 2001, Bobaljik 2002 and references cited therein for recent investigation; see also Lidz and Isardi 1997). I haven’t been able to find a way to tease apart these two possibilities.

²² A multiple nominative configuration is barred here. The following example seem to be unacceptable:

- (i) ?* doroboo_i-ga keikan-niyotte [Δ_i soto-e nige-ru-no]-ga zyamas-are-ta
 burglar-Nom policeman-by [outside-to run.away-Prs-C_{no}]-Nom was.disrupted
 ‘A burglar was disrupted from running outside by the policeman.’

I won’t be able to explore implications of this fact here.

- b. * [soto-e doroboo-ga nige-ru-no]-ga keikan-niyotte
 [outside-to burglar-Nom run.away-Pres-C_{no}]-Nom policeman-by
 zyamas-are-ta
 arrest-Pass-Past
 ‘A burglar was disrupted by a policeman from running outside.’

There is a potential account of this contrast. If (*niyotte*-)passivization involves A-movement to subject position (Kuroda 1979, Hoshi 1994, 1999), the Spec,TP is closer to the first (NP) argument position (which will be deleted in the PF component in our analysis) than the second (CP) argument position. Thus, minimality may block movement of the CP. This account, however, is not likely, because one interfering factor is involved; that is, (83)b is a backward control example. Given Harada’s generalization that backward control is possible if and only if the Double-O Constraint is potentially violated, (83)b can be excluded for this reason. No potential double-*o* configuration can be found in this example. It should be noted that the minimality consideration may be still relevant. The sentence becomes unacceptable when the CP bears nominative case and *burglar* bears accusative case, as opposed to when the former bears accusative case and the latter bears nominative case [(83)a]:

- (84) * [soto-e nige-ru-no]-ga doroboo-o keikan-niyotte
 [outside-to run.away-Pres-C_{no}]-Nom burglar-Acc policeman-by
 zyamas-are-ta
 arrest-Pass-Past

The discussion is not conclusive because of the poorly understood nature of passivization and case absorption. The present analysis of the *assist*-construction, though, is compatible with the unacceptability of examples like (84).

4.5 Case-marked *Pro* vs. deleted copy

It has been shown that examples like (85)a below involve nothing but forward OC. Also, we saw in section 4.1 that the non-control use of *assist* class verbs is available,

as in (85)b:

- (85) a. [Taro-ga Naomi_i -o e_j zyamasita-no]-wa
[Taro-Nom Naomi-Acc disrupted-C_{no}]-Top
[Δ_i oyog-u-no]-o_j da
[swim-Prs-C_{no}]-Acc Cop
- b. [Taro-ga Naomi_i-o e_j zyamasita-no]-wa
[Taro-Nom Naomi-Acc disrupted-C_{no}]-Top
[kanozyo_i-ga oyog-u-no]-o_j da
[she-Nom swim-Prs-C_{no}]-Acc Cop
'Taro disrupted Naomi from swimming.'

Given and that Japanese massively allows null *pro*, we should ask ourselves why Δ in (85)a cannot be the null version of *she* in (85)b. To put it another way, what is wrong with deriving a representation like (86)?

- (86) [Taro-ga Naomi_i-o zyamasita-no]-wa
[Taro-Nom Naomi-Acc disrupted-C_{no}]-Top
[pro_i oyog-u-no]-o_j da
[swim-Prs-C_{no}]-Acc Cop

The puzzle can be related to the Bouchard-Hornstein type 'elsewhere' approach to non-obligatory control (NOC); see Bouchard 1983, 1984, Hornstein 1999, 2001, 2003. The basic idea is that so-called NOC PRO, illustrated in (87), is pronominal, i.e. *pro*, while so-called OC PRO is anaphoric:

- (87) [PRO_{NOC} to swim here] is illegal

Justification for this dichotomy is empirical. Unlike OC PRO, NOC PRO does not need an antecedent in the sentence. When an antecedent is present, it does not have to be local or does not have to c-command Δ. While OC PRO must be interpreted as

bound, NOC PRO can be referential, and so on (see chapter 1 for more details). Since this pronominal NOC PRO is available, we should ask why it does not appear in places where *t* appears:

(88) Bill persuaded John_i [_i{*t*/**pro*_i} to swim here]

The elsewhere approach explains the prohibition of NOC PRO in the complement subject position by claiming that it is inserted only when PRO/*t* is prohibited. That is, insertion of NOC PRO is a last resort strategy.

Exactly the same account carries over to the fact that (86) is not for the representation of (85)a. Since obligatory control, i.e. movement from the complement subject position, is allowed, the representation with NOC PRO cannot be generated. There is one consequence of this ‘elsewhere’ approach to (85)a. Notice that the movement derivation competes with the derivation utilizing NOC PRO-insertion; the fact that (85)b, which contains the overt pronoun *kanozyo* ‘she’, is possible suggests that the derivation for that sentence does not compete with the movement derivation. If it did, (85)b might be incorrectly excluded. Thus, I conclude that overt pronouns, unlike *pro*, are not inserted into the structure as a last resort.²³

4.6 Interim summary

In section 3, we saw that Harada’s theory provides an adequate description of the data. We also noted there that, at the same time, the Harada type theory, as he correctly noted, does not explain why backward control (or Counter Equi) is not blocked by a principle of the grammar that requires Equi NP deletion to apply forward when it is so. Recall that Nunes’s proposal that the choice of the target of deletion is regulated by an economy condition opens up a way to solve this problem, as can be observed in Potsdam’s development of Nunes’s idea. However, Potsdam’s specific analysis for

²³ It seems true that we have to distinguish between structural case-marked and non-structural Case marked *pro*. If so-called PRO_{arb} is restricted to the subject position as Saito (1982) and Kuroda (1983) observe (see Hasegawa 1984-82), it may suggest that NOC PRO in Japanese, as in the one in English, cannot bear structural Case (Authier 1992). The distribution of PRO_{arb} in Japanese, however, awaits more investigations. See the discussion at the end of chapter 1.

Malagasy backward object control cannot be used for the Japanese case. The next section will discuss some descriptive issues that arise when we apply Potsdam's analysis for Malagasy control to Japanese.

5 Lower Copy Pronunciation

5.1 Malagasy ≠ Japanese

Let us recall how Potsdam's theory works for pairs of Malagasy sentences like (89) (=5):

(89) a. forward object control

tranon' iza no naneren' i Mery ahy [hofafana]?
house who FOC force.CT Maryme sweep.TT

b. backward object control

tranon' iza no naneren' i Mery [hofafa- ko]?
house who FOC force.CT Mary sweep.TT I
'Whose house did Mary force me to sweep?'

The gist of his analysis is that either the upper link or the lower link can be made phonetically realized by appealing to the economy nature of link deletion (see the review of Potsdam's proposal in section 2.2). The statements given in (10) are repeated:

- (90) a. One and only one chain link must be pronounced (in accordance with the LCA)
b. Pronounce the link with the fewest unchecked features

The derivation in which Chain Reduction targets the upper link (yielding backward control) and the one in which the operation targets the lower link (yielding forward control) are equally economical due to the assumption that the lower copy, as well as the higher copy, is in a Case checking position. These two copies have the *fewest*

unchecked features:

(91) [IP Mary [_{VP} v [_{VP} α -CASE force [IP α -CASE Infl sweep the house]]]]

One reason that some modification will be needed for the case of Japanese is that if Japanese control constructions with a present-tensed complement clause have the same Case property as the Malagasy construction, we would wrongly expect that backward control was possible with the passive version of *assist*-constructions, the subject control construction with *koto*-CP, and the *yooni*-control construction. (92) is an example of the subject control construction discussed in section 3.1:

(92) * Δ_i ni-byoo-de [san-pun-de Taro_i-ga syukudai-o
2-second-in [3-minute-in Taro-Nom homework-Acc
oe-ru-koto]-o kessinsita
finish-Prs-C_{koto}]-Acc decided
'Taro decided in two seconds to finish the homework in three minutes.'

If the Case checking takes place in the complement subject, then sentences like the above would be ruled in, just like Malagasy backward object control sentences are. To put it another way, while the economy-based approach explains how the grammar allows backward control in principle, the assumption that the complement subject is a Case position leads us to fail to capture the generalization that backward control is permitted when it would cause a double-*o* violation.

5.2 Deriving the distribution of backward control in Japanese

Turn to the Japanese backward object control. Two assumptions are made:

(93) a. The complement subject position of a tensed control complement is not assigned structural nominative Case but may assign inherent nominative Case

- b. It is possible that a link of a chain carries an inherent Case feature as well as a structural Case feature

In section 4.3, we saw that the predicate of the complement of *assist*-type verbs does not allow tense alternation: it must be in the simple present form. As extensively discussed in chapter 2, this non-alternation is taken as indicating that the complement clause is nonfinite. Hence, its T does not assign structural Case. The assumption that nominative Case could be inherent is not entirely new. Saito (1982, 1985) claims, on different empirical ground, that in Japanese, nominative Case, unlike accusative Case, is inherent; see also Monahan 2004 for an analysis of a Korean backward control construction that contains a similar claim. The current assumption about Case departs from Saito's in that inherent nominative is limited to nonfinite clauses (see chapter 2 for arguments that finite T assigns structural Case. As for (93)b, see Chomsky (2000: 131) and Hiraiwa (2005: 49), Boeckx and Hornstein (2006a), among others, for a similar assumption. It has been noted that raising takes place from non-structurally case-marked positions (e.g. dative) or that control into such positions is possible (see, e.g., Zaenen, Maling, and Thráinsson 1985 for raising, and Sigurðsson 1991 for control in Icelandic). Also, the so-called case-stacking phenomenon found in languages like Korean, where two case particles are stacked on one NP, can be taken as indicating that an NP is able to be assigned one structural and one non-structural case (see Hong 2003, Yoon 2004; cf. Schütze 1998).

Let us see how reduction of chains in the *assist*-construction starts to look when we are armed with the assumptions in (93). We consider the case in which double-*o* is relevant and the case in which it is irrelevant in turn. The derivation for the *assist* control construction proceeds in a slightly different way from the one for the Malagasy object control. Since the embedded T does not check the structural Case of α , a structure like (94) would be obtained:

$$(94) \quad [_{IP} \text{ Hiroshi } [_{VP} v [_{VP} \alpha\text{-CASE assist } [_{IP} \alpha\text{-CASE}_{+ \text{Inherent NOM T}_{\text{Prs}} \text{ swim}]]]]]]$$

It should be noted that, as long as one and only one copy is pronounced, there are two

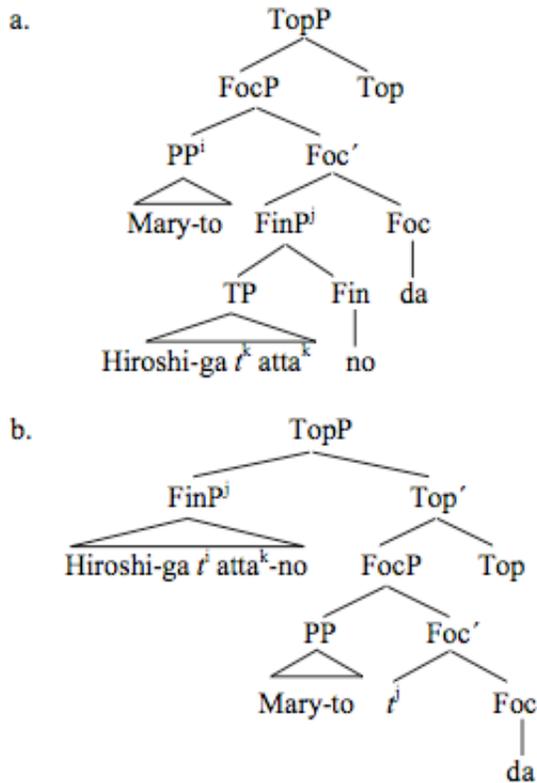
- (96) [Taro-ga John₁-o e_i tetudat-ta-no]-wa
 [Taro-Nom John-Acc assist-Past- C_{no}]-Top
 [Δ_1 oyog-u-no]-o_i da
 [swim-Prs- C_{no}]-Acc Cop
 ‘Taro assisted John [to swim].’

Note that the Harada style theory of Equi NP deletion is descriptively adequate in this respect, as he notes. Because the surface structure does not violate the Double-O Constraint (since the accusative-marked CP has evacuated the VP-domain), Counter Equi cannot apply. How is this exemption from the Double-O Constraint technically made possible under the present proposal? The theory of linearization of chains assumed here, together with our analytical assumptions about the relevant sort of control clauses, predicts that examples like (96) are grammatical. To see this, we need some concrete analysis of cleft constructions. Here Hiraiwa and Ishihara’s analysis is adopted, though I believe other analyses are compatible with my major point as long as the gap position and the focus element are chained (see Kizu 1997, Takano 2002, Koizumi 2000).

Hiraiwa and Ishihara propose a derivation that involves remnant movement. A sample derivation for sentences like (97) proceeds as in (98) (we use traces for convenience):

- (97) [Hiroshi-ga atta-no]-wa Mary-to da
 [Hiroshi-Nom met-Past- C_{no}]-Top Mary-with Cop
 ‘It is with Mary that Hiroshi met.’

(98)



In the derivation, focus movement (of the PP) is followed by topic movement (of the FinP). This yields the correct surface linear order *FinP-wa PP-da* in the case at hand. Assuming the Hiraiwa and Ishihara style derivation of cleft constructions and the movement analysis of the backward object control construction, the analysis of cleft forward control examples such as (96) involves two instances of remnant movement. As represented in (99) with English word-by-word translations and head initial linear order, the complement clause and the FinP undergo remnant movement (we use traces for expository purposes here):

(99) a. the matrix VP is built

[_{VP} assist [_{CP} [_{TP} John_i T° swim]]]

b. movement of John to the Spec,VP ->

[_{VP} John_i assist [_{CP} [_{TP} t_i T° swim]]]

c. building the structure up to FocP ->

$[_{FocP} Foc^\circ [_{FinP} Fin^\circ [_{TP} Hiroshi v^\circ [_{VP} John_i assist [_{CP} [_{TP} t_i T^\circ swim]]]]]]]$

d. movement of the complement clause to the Spec,FocP->

$[_{TopP} Top^\circ [_{FocP} [_{CP} [_{TP} t_i T^\circ swim]]] Foc^\circ [_{FinP} Fin^\circ [_{TP} Hiroshi v^\circ [_{VP} t_i assist t_j]]]]]]$

e. movement of the FinP to the Spec,TopP->

$[_{TopP} [_{FinP} Fin^\circ [_{TP} Hiroshi v [_{VP} t_i assist t_j]]]_k Top^\circ [_{FocP} [_{CP} [_{TP} John_i T^\circ swim]]_j Foc^\circ t_k]]]$

This derivation gives rise to three chains, namely the chains created by movement of *John*, the complement CP and the FinP (vP internal subjects are abstracted away):

- (100) a. CH1: $John^i, John^i$
 b. CH2: $[_{CP} John swim]^j, [_{CP} John swim]^j$
 c. CH3: $[_{FinP} Hiroshi assisted CP]^k, [_{FinP} Hiroshi assisted CP]^k$

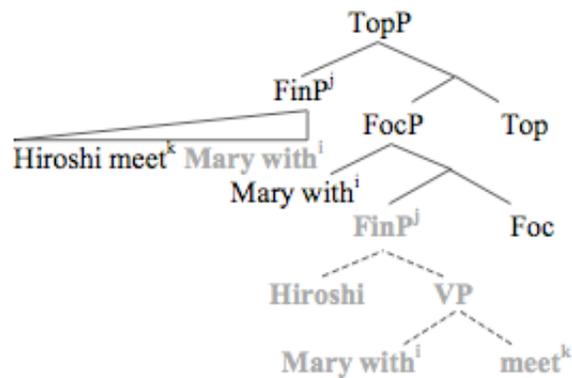
Now the issue becomes how these chains can be made to undergo Chain Reduction to obtain empirically correct results.

Nunes (2004: 50-62) has already presented a proposal on how Chain Reduction works for remnant movement in his system. Following Chomsky's (1995) suggestion, Nunes observes that remnant movement examples can be accounted for straightforwardly if we think of chain links as occurrences of their sisters. To see how, take the derivation for the simple cleft construction given in (97). The chains involved there have to be represented as in (101), rather than as in (102):

- (101) a. CH1: $([_{PP} Mary with]^i, Foc^\circ), ([_{PP} Mary with]^i, meet^k)$
 b. CH2: $([_{FinP} John [[Mary with]^i meet^k]]^j, Top^\circ), ([_{FinP} John [[_{PP} Mary with]^i meet^k]]^j, Fin)$
- (102) a. CH1: $[_{PP} Mary with]^i, [_{PP} Mary with]^i$
 b. CH1: $[_{FinP} John [[Mary with]^i meet^k]]^j, [_{FinP} John [[Mary with]^i meet^k]]^j$

Now CH1 and CH2 in (101) undergo Chain Reduction. Assuming that movement to Spec,FocP and movement to Spec,TopP both involve feature checking, highest copies should survive deletion. It should be noted that there is no reason to think that the two applications of Chain Reduction are specifically ordered. Consider first the case in which CH1 undergoes reduction. What must be deleted in this case is the sister of the verb *meet*^k. Notice that, as Nunes observes, the tree contains two occurrences of that element. One is in the lower copy of the FinP, and the other is in the higher copy of the same phrase. Nunes's point is that these two are indistinguishable (because two instances of *meet*^k are nondistinct.). Therefore, both the PP in the lower link of CH1 and the PP in the upper link of CH2 in (101) undergo Chain Reduction. The result is as follows:

(103)



Then the surface form is obtained by applying Chain Reduction to CH2, which deletes the lower copy of the FinP. The desired linear order ensues. If, on the other hand, reduction of CH2 precedes that of CH1, the lower FinP is deleted first, and then the PP inside the fronted FinP is deleted. Thus, the same (correct) result follows in either way for the cleft sentence in (97), repeated as (104):

- (104) [Hiroshi-ga atta-no]-wa Mary-to da
 [*Hiroshi-Nom met-Past-C_{no}*]-*Top Mary-with Cop*
 ‘It is with Mary that Hiroshi met.’

Having seen how the Nunes style theory of linearization works for remnant movement, we are now in a position to explain the fact that forward control becomes possible in the target example presented in (96) (= (105)):

- (105) [Taro-ga John-o tetudat^k-ta-no]ⁱ-wa
 [*Taro-Nom John-Acc assist-Past-C_{no}*]-*Top*
 [_{CP} Δ oyog-u-no]ⁱ-o da
 [*swim-Prs-C_{no}*]-*Acc Cop.Prs*
 ‘Taro assisted John [to swim].’

The chains we are going to consider are represented as follows:

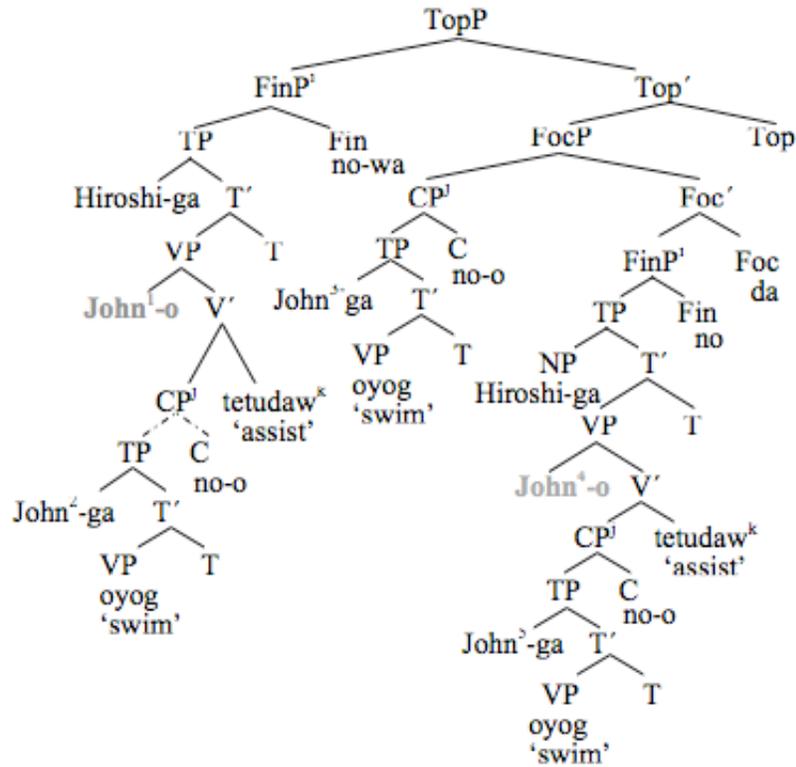
- (106) a. CH1: (John, V’), (John, T’)
 b. CH2: ([_{CP} John swim]^j, Foc’), ([_{CP} John swim]^j, assist^k)
 c. CH3: ([_{FinP} Hiroshi assisted CP]^k, Top’), ([_{FinP} Hiroshi assisted CP]ⁱ, Foc^o)

There are six ways of reducing these three chains, depending on how the three applications of the rule are ordered: CH1-CH2-CH3, CH1-CH3-CH2, CH2-CH1-CH3, CH2-CH3-CH1, CH3-CH1-CH1, and CH3-CH2-CH1. What makes things different is the order of reduction of CH1 and CH3. The linear order seen in (105) follows if application of the rule to CH3 precedes application of the rule to CH1. Reduction of CH3 deletes the sister of *tetudaw*^k ‘assist’. (No economy issue arises because higher link deletion would lead to a double-*o* violation.) This gives rise to the tree given in (107), where occurrences of *John* are numbered exclusively for ease of reference:

Also, Nunes's proposal implies that when two chains or more are present in the structure, they cannot get reduced simultaneously.

If chains are reduced one by one and if evaluation of the output is local, (109) is obtained after CH1 is reduced:

(109)



Since the chain link (John, V') undergoes deletion, *John*¹ and *John*⁴ are wiped out in the tree. Nothing special happens with reduction of CH2 and CH3. The upper link of each chain gets pronounced, regardless of which chain is reduced first. Given these steps of Chain Reduction, it is predicted that a backward control structure should be available even when the complement clause undergoes clefting. Strikingly enough, the prediction is correct, despite the fact that no double-*o* configuration is found in the surface structure:

- (110) [Hiroshi-ga Δ_i tetudat-ta-no]-wa [CP John_i-ga
 [Hiroshi-Nom assist-Past-C_{no}-Top [John-Nom
 oyog-u-no]-o da
 swim-Prs-C_{no}]-Acc Cop
 ‘Hiroshi assisted John to swim.’

(Recall that forward control is also possible as in (96), where we argued that the CP is deleted first.) Thus, our proposal nicely accounts for the fact that backward control is possible with clefting, although the latter process removes a surface double-*o* violation.

In fact, the state of affairs at issue seems to be where Harada’s innovative proposal of Counter Equi runs into a descriptive problem. Recall that his Counter Equi is formulated in such a way that Counter Equi applies *if and only if the surface structure would result in a double-*o* configuration with Straight Equi.*²⁴ Note however that example (110) would not exhibit a double-*o* violation even if Straight Equi had been applied. Nonetheless, backward control is still possible. It should be stressed that, in the proposed system, the computational system does not look at a surface structure. Upper link deletion takes place *if and only if* the outcome of that operation would violate the Double-O Constraint. One other aspect that makes the present proposal distinct from the Counter Equi analysis is that cleft chains interact with control chains in terms of copy deletion under the copy theory of movement. Crucially, this theory of movement, together with the movement-based theory of control, enables us to have the “traces” created by cleft formation and “Equi NPs” subject to the same principle of linearization of chains. As noted in footnote 10, Bošković (2002) and Franks (1998) show that in multiple wh-questions of multiple wh-fronting languages like Serbo-Croatian, the ban on adjacent homophonous wh-phases leads to pronunciation of lower links of *A-bar* chains. The null hypothesis is

²⁴ This is not so in Kuroda’s theory of Counter Equi. Kuroda weakens the condition for application of Counter Equi by proposing that the higher Equi NP undergoes deletion *only if* (rather than *if and only if*) a putative double-*o* environment arises at a surface structure. By this modification, Straight Equi becomes a rule that can freely apply even when a double-*o* violation would arise. Although his major concern was not about examples like (110), his theory successfully rules in this type of examples.

that A- and A-bar chains are treated in the same way with regard to chain reduction. The result here provides empirical evidence for that position.

6 Notes on Circumstantial Adverbial Tokoro-Clause Constructions

6.1 Tokoro-clauses

As Polinsky and Potsdam note (p. 261, fn 15), the circumstantial adverbial *tokoro*-clause construction in Japanese (*tokoro*-clause construction, hereafter) is one of the first phenomena discussed in the generative literature with relevance to backward control.²⁵ ²⁶ Harada (1973) analyzes circumstantial *tokoro*-clause constructions in Japanese, exemplified by (111), in terms of “Counter Equi NP deletion”:

- (111) keikan-wa [doroboo-ga nigeteiku-tokoro]-o
policeman-Top [burglar-Nom escape go-Prs-TOKORO]-Acc
 tukamaeta
caught
 ‘A burglar was about to run away, and then the policeman caught him.’

²⁵ Most studies of *tokoro*-clauses are done in the 70’s. See Nakau 1973: I01ff. 131, Harada 1973, 1975, Kuroda 1976-77, 1978, 1999, Josephs 1976: 345ff., Ohso 1976: chapter 2, Hale and Kitagawa 1976-77, Mihara 1994: 249, Kitagawa 1996, Shimoyama 1999, Fujii 2004, Narita 2006.

²⁶ A basic meaning of the nominal expression *tokoro* seems to be ‘location’, as is seen in:

- (i) Mary-wa [boku-ga it-ta {tokoro/basyo}]-ni it-ta
Mary-Top [I-Nom go-Past TOKORO/place]-to go-Past
 ‘Mary went to the place I went to.’

Having undergone grammaticalization (see Ohori 2001), *tokoro* has at least two interesting uses. One of them occurs in a circumstantial adverbial clause construction such as (111) in the text. The other use can be seen with perception predicates such as *see* (Nakau 1973: 131, Josephs 1976, Kuroda 1999b):

- (ii) keikan-wa [doroboo-ga nigeteiku-tokoro]-o kansatusita
policeman-Top [burglar-Nom escape go-Prs-TOKORO]-Acc watched
 ‘The policeman watched the burglar running away.’

As Kuroda (1999b) observes, *tokoro*-clauses of the latter sort can undergo passivization, while circumstantial adverbial clauses like the one in (111) cannot. We will limit our discussion to the circumstantial adverbial use of *tokoro*-clauses.

Harada (1973) proposes that, observing that the subject of the *tokoro*-clause thematically behaves like the object of the higher verb, these two NPs stand in the relation of Equi NP. Semantically, the clause behaves like an adverbial, as indicated in the English translation. In other words, the circumstantial adverbial *tokoro*-clause does not seem to be theta marked by the matrix verb.²⁷

As is clear from the paradigm presented below, the construction behaves quite similar to the *assist*-construction we have been thus far discussing. It (at least apparently) allows some backward configuration ((112)a), exhibits a double-*o* effect ((112)b), and can avoid the violation with clefting ((112)c):

²⁷ *Tokoro*-clauses share some properties with Romance pseudo-relatives (see Cinque 1996, Kayne 1975, Guasti 1993, Taraldsen 1984 for different analyses). First, they may appear both with verbs like *catch*, which does not select a clausal complement and with perception verbs, which may take a clausal complement (see footnote 26). The Italian examples in (i) and (ii) are from Cinque (1996):

- (i) Ho visto Gianni [che correva]
I saw Gianni that was running
- (ii) Hanno colto Mario [che rubava negli spogliatoi]
They caught M. that was stealing in the dressing-room

Also, Cinque pointed out sentences like (i) are ambiguous between when *Mario* is the subject of the small clause complement selected by *see* and when *Mario* is the direct object of the verb. The same kind of ambiguity is observed for *tokoro*-clauses occurring with perception predicates by Kuroda (1999b). It is interesting to note that pseudo-relatives involve OC; they exhibit the subject-object asymmetry, as authors cited above observe. A French example (from Kanye 1975) is given below:

- (iii) *Je l_i'ai vu que Jean frappait e_i
'I saw him_i Jean hitting e_i.'

This follows if Cinque (1996) is right that the gap of pseudo-relatives is PRO (in standard GB terms). Given this, one would be tempted to analyze circumstantial adverbial *tokoro*-clause constructions as an OC construction, as Harada did. However, the latter do not exhibit this asymmetry, as shown in the text.

- (112) a. keikan-wa Δ_i [doroboo_i-ga nige-te
policeman-Top [burglar-Nom to.run away
iku-tokoro]-o tukamaeta
go-Prs-TOKORO-Acc caught
‘A burglar was about to run away, and then the policeman caught him.’
- b. * keikan-wa doroboo_i-o [Δ_i nige-te
policeman-Top burglar-Acc [to.run away
iku-tokoro]-o tukamaeta
go-Prs-TOKORO-Acc caught
‘A burglar was about to run away, and then the policeman caught him.’
- c. [keikan-ga doroboo_i-o e_j tukamaeta-no]-wa
[policeman-Top burglar-Acc caught-C_{no}]-Top
[Δ_i nige-te iku-tokoro]-o_j da
[to.run away go-Prs-TOKORO]-Acc Cop
‘A burglar was about to run away, and then the policeman caught him.’

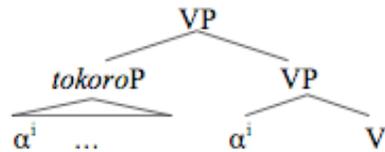
A Harada/Kuroda type analysis of the backward construction says that, as shown in (113) below, when an NP is “coreferential” with the subject of the lower clause, Counter Equi NP deletion, unlike regular Equi, may target the NP in the higher clause for deletion:

- (113) keikan-wa ~~doroboo-o~~ [s doroboo-ga
policeman-Top burglar-Acc [burglar-Nom
nigeteiku-tokoro]-o tukamaeta
escape go-Prs-TOKORO-Acc caught

It is not difficult to translate this traditional analysis to the framework where our analysis of the *assist*-construction is given. One potential difference between the *tokoro*-clause construction and the *assist*-construction lies in the nature of the clause that hosts the backward controller or the forward controllee. If the *no*-clause of the *assist*-construction is the complement of verbs of the *assist*-type, the *tokoro*-clause of

the circumstantial adverbial construction is different from the *no*-clause in that it functions as a VP-adjunct at surface structure at least. (Harada 1973, Kuroda 1978, 1999b).²⁸ If so, and if we assume binary-branching structures, then we might say that the *tokoro*-clause construction has a structure of the following kind:

(114)



Analytically speaking, a coherent movement-based analysis may be given. The derivation would go as follows: First, the *tokoro*-clause is formed. Assume, following Nunes (2004), that it is possible to apply Copy to the subject of the *tokoro*-clause, α . Then nothing prevents the new copy from merging into the θ -position discharged by the V (*sideward movement*).²⁹ Under Nunes's theory (see Nunes 2004: 91), the α in the complement of V has to move to a higher position from which it c-commands the subject position of the adverbial clause and the direct object position. (See also Hornstein 2001 for a theory of sideward movement that does not require the last step.)

The aim of this section is very limited. Instead of giving an analysis to the *tokoro*-clause construction, I will show two things: (i) the data we will present suggest that

²⁸ As an aside, two different structures have been proposed for *tokoro*-clauses in the literature:

- (i) a. [_S NP [_{VP} NP_i [_{Adv} NP_i ... TOKORO] V] T]
 b. [_S NP [_{VP} [_{NP} NP_i [_S NP_i ... TOKORO]] [_{Adv} e] V] T]
 ⇒ [_S NP [_{VP} [_{NP} NP_i t_k] [_{Adv} [_S NP_i ... TOKORO]_k] V] T]

In structure (ia), the matrix object, NP_i, is in the regular direct object position, and the *tokoro*-clause is generated inside the VP, as an adverbial. This is the structure proposed by Harada (1973) for sentences like (113). In structure (ib), which is entertained by Kuroda (1978, 1999b), the *tokoro*-clause is adjoined to the direct object NP as if it is some sort of relative clause. In Kuroda's analysis, the *tokoro*-clause moves to an adverbial position from the NP.

²⁹ See also Bobaljik 1995, Uriagereka 1998: chapter 4, and Hornstein 2001 for sideward movement.

the *tokoro*-clause construction is *not* an obligatory control construction; but (ii) some of its properties suggest that the construction cannot be a simple *pro*-construction, either (see Ohso 1976, Hale and Kitagawa 1976-77 for relevant discussion). And I will suggest a possible reason why the *tokoro*-clause construction cannot participate in OC, assuming that sideward movement mentioned above is possible.

6.2 *Tokoro*-clause ≠ obligatory control construction

The arguments that the *tokoro*-clause construction is not an OC construction are partly similar to the ones we constructed in section 4.3 that the head-internal relative construction has nothing to do with OC.

Take first a subject/non-subject asymmetry. As was seen in (78), control into a non-subject position is prohibited. The *tokoro*-clause construction seems to fail to exhibit the asymmetry, whether in its forward or backward form, as in (115):

- (115) a. keikan-wa Δ_i [tuukoonin-ga doroboo_i-o
policeman-Top [passer-by-Nom burglar-Acc
 torikakon-dei-ru-tokoro]-o tukamaeta
surround-Prog-Prs-TOKORO-]Acc caught
 ‘Passers-by were surrounding the burglar, and then the policeman
 caught him.’
- b. [keikan-wa doroboo_i-o tukamaeta-no]-wa
[policeman-Top burglar-Acc caught-C_{no}]-Top
 [tuukoonin-ga Δ_i torikakon-dei-ru-tokoro]-o da
[passer-by-Nom surround-Prog-Prs-TOKORO]-Acc Cop
 ‘Passers-by were surrounding the burglar, and then the policeman
 caught him.’

- (116) a. Mary-wa Δ_i [gunsyuu-ga sono kasyu_i-niakusyu-o
Mary-Top [crowd-Nom the singer-Dat shaking.hands-Acc
 motome-tei-ru-tokoro]-ni hanataba-o tewatasi-ta
ask for-Prog-Prs-TOKORO]-Dat bouquet-Accpass-Past
 ‘The crowds were trying to shake hands with the singer, and Mary
 passed her a bouquet.’

In the backward example, (115)a, it appears that the null element Δ in the matrix clause corefers to the direct object in the subordinate *tokoro*-clause. In the forward example, (115)b, Δ in the embedded object position corefers to the matrix object *burglar*. The data point in question can be made clearer, using object honorifics:

- (117) Mary-wa Δ_i [kansyuu-ga Suzuki-sensei_i-ni akusyu-o
Mary-Top [crowd-Nom Suzuki-sensei-Dat shake hands-Acc
 motome-tei-ru-tokoro]-ni hanataba-o owatasisi-ta
ask for-Prog-Prs-TOKORO]-Dat bouquet-Acc pass.ObjHon-Past
 ‘The crowds were trying to shake hands with Suzuki-sensei_i, and Mary
 passed him_i a bouquet.’

Here the matrix predicate bears object honorific morphology. The object-honorific form of *pass* requires the interpretation that the speaker of the sentence respects the referent of the Goal argument of the passing event in question; see Harada 1976, Boeckx and Niinuma 2002. The sentence is acceptable under the reading in which Mary passed a bouquet to Professor Suzuki. A dependency over the subordinate clause subject like those found in these examples is not permitted in OC constructions, while it is in the *tokoro*-clause construction. Therefore, this indicates that no OC is involved in the *tokoro*-clause construction.

Second, it seems that a long distance referential dependency is permitted in the *tokoro*-clause construction. Both the putative backward controller (as in (118)a) and the putative forward controllee (as in (118)b) can be embedded inside the clausal complement of the predicate of the *tokoro*-clause:

- (118) a. yakuza-wa [terorisuto-ga [hitoziti-ga kega-o
yakuza-Top [terrorists-Nom [hostage-Nom injury-Acc
si-tei-na-i-koto]-o kakuninsi-ta-tokoro]-o kyuusyutusita
do-Asp-Neg-Prs-C_{koto}]-Acc make.sure-Past-TOKORO]-Acc saved
‘The terrorist made sure that the hostages were not injured, and then the
yakuzas saved them.’ (*backward tokoro-clause*)
- b. [yakuza-ga hitoziti-o kyuusyutusita-no]-wa [terorisuto-ga
[yakuza-Nom hostage-Acc saved-C_{no}]-Top [terrorists-Nom
[Δ_i kega-o si-tei-na-i-koto]-o kakuninsita-tokoro]-o da
[injury-Acc do-Asp-Neg-Prs-C_{koto}]-Acc made sure-TOKORO]-Acc Cop
‘The yakuzas saved the hostages, which happened just when the terrorist
made sure that they were not injured.’ (*forward tokoro-clause
+clefting*)

Abstracting away from clefting, (118)a and (118)b are represented as in (119)a and (119)b, respectively, using English words:

- (119) a. yakuza-Top Δ_i [_{tokoro-clause} terrorists-Nom [CP hostages_i-Nom are.injured-
C]-Acc made.sure-*tokoro*]-Acc saved (*backward*)
- b. yakuza-Top hostages_i-Acc [_{tokoro-clause} terrorists-Nom [CP Δ_i are.injured-
C]-Acc made.sure-*tokoro*]-Acc saved (*forward*)

These examples are acceptable in contrast with the corresponding *assist*-constructions:

- (120) a. * yakuza-wa Δ_i [terorisuto-ga [hitoziti_i-ga kega-o
yakuza-Top [*terrorists-Nom* [*hostage-Nom injury-Acc*
 si-tei-na-i-koto]-o kakuninsu-ru-no]-o tetudatta
do-Asp-Neg-Prs-C_{koto}]-Acc *make sure-Prs-C_{no}-Acc* *assisted*
 ‘The yakuzas assisted the hostages for the terrorists to make sure that
 they were not injured.’
- b. * [yakuza-ga hitoziti_i-o tetudatta-no]-wa [terorisuto-ga
 [*yakuza-Nom* *hostage-Acc assisted-C_{no}]-Top* [*terrorists-Nom*
 kega-o si-tei-na-i-koto]-o kakuninsu-ru-no]-o da
injury-Acc do-Asp-Neg-Prs-C_{koto}]-Acc *make sure-Prs-C_{no}]-Acc* *Cop*
 ‘The yakuzas assisted the hostages, which is for the terrorists to make
 sure that they were not injured.’

Thus, we conclude that the referential dependency found in *tokoro*-clause constructions is less constrained than the one found in obligatory control. One might conclude that null arguments occurring in this construction are *pro*. We will see however that the state of affairs is not that simple.³⁰

6.3 Some non-*pro* properties

Perplexingly enough, though we observed that the *tokoro*-clause construction displays non-control properties, it sometime behaves as if it were a control construction. As is familiar from the literature on this construction, the choice of the antecedent for Δ is not free as that of little *pro*. So the claim that the properties of the *tokoro*-clause construction follow from pronominalization and the Double-O Constraint (just taken to be a surface constraint) is untenable at least in its simplest form (cf. Ohso 1976, Hale and Kitagawa 1976-77).

First, in typical cases, when there is no referential dependency between arguments across a *tokoro*-clause boundary, no acceptable sentences are obtained, as in (121)a.

³⁰ As the reader might have noticed, we have not examined yet whether the *tokoro*-clause construction respects the c-command condition that OC constructions respect. See the subsequent section, where it is shown that the subject position of *tokoro*-clauses does not have to be c-commanded by a coindexed argument in their superordinate clause.

No such restriction is found with temporal adverbial clauses like the one presented in (121)b:

- (121) a. * [keikan-ga doroboo-o e_i tukamaeta-no]-wa
 [policeman-Nom burglar-Acc caught- C_{no}]-Top
 [ginkooiin-ga tasuke-o motome-tei-ru-tokoro]-o $_i$ datta
 [bank clerk-Nom help-Acc call for-Prog-Prs-tokoro]-Acc Cop.Past
 ‘The policeman caught the burglar, which was at the moment a bank clerk was calling for help.’
- b. [keikan-ga doroboo-o taihosita-no]-wa
 [policemen-Nom burglar-Acc arrested- C_{no}]-Top
 [ginkooiin-ga tasuke-o motometa sono toki] datta
 [bank clerk-Nom help-Acc called for that time] Cop.Past
 ‘The policeman caught the burglar, which was at the very moment that a bank clerk was calling for help.’

One might relate this coreference requirement to a similar effect found in some instances of obligatory control construction (cf. **John persuaded Mary for you to leave*), though such an attempt does not fit with non-OC properties of the *tokoro*-clause construction observed in the previous subsection.

Next, the fact that the circumstantial *tokoro*-clause does not allow a strict interpretation under ellipsis makes the construction look like an OC construction. Note that forward *tokoro*-constructions do not allow a sloppy reading:

- (122) A. [Mary-ga kyoo John $_i$ -ni dekuwasita-no]-wa
 [Mary-Nom today John-Dat encountered- C_{no}]-Top
 [Δ_i tabako-o sutteiru-tokoro]-ni da
 [cigarette-Acc is.smoking-TOKORO]-Dat Cop
 ‘Mary encountered John today, which is when he was smoking a cigarette.’

B: Bill-ni-mo desu
 Bill-*Dat-evenCop*
 ‘Bill, too.’

The utterance B cannot mean that Mary encountered Bill, too, when John was smoking a cigarette. The backward variant of (122) behaves the same:

- (123) A. Mary-wa Δ_i kyoo [John_i-ga tabako-o
 Mary-*Top today [John-Nom cigarette-Acc*
 sutteiru-tokoro]-ni dekuwasita
is.smoking-TOKORO]-Dat encountered
 ‘Today, when John was smoking a cigarette, Mary encountered him.’
- B: [Bill-ga tabako-o sutteiru-tokoro]-ni-mo da
 [*John-Nom cigarette-Acc is.smoking-TOKORO]-Dat-even Cop*
 ‘When Bill was smoking, too.’

Utterance B can only receive a sloppy interpretation, as indicated by the translation. Under the hypothesis that obligatory control is involved in the circumstantial *tokoro* clause, these results are expected.³¹

Another OC-dagnostic property found with the *tokoro*-clause construction is that, in most cases, a putative forward controller must be a grammatical object of the clause next higher. The construction looks like an object control construction. When the controller is placed in subject position, for instance, as in (124)a, the sentence is remarkably degraded. (124)b shows that the adverbial *the time* clause, unlike a *tokoro*-clause, does not require a selective antecedent for its null subject:

³¹ Based on Hoji (1990), I analyze ellipsis involved in (123)B as stripping.

- (124) a. [doroboo_i-ga keikan_j-o tukitobasita-no]-wa
 [burglar-Nom policeman-Acc pushed away-C_{no}]-Top
 [Δ*_{i/j} nige-yootositeiru-tokoro]-o da
 [run.away-is.about.to-TOKORO]-Acc Cop
 ‘The burglar pushes away a policeman, which was the moment that
 {*the burglar, the policeman} was about to run away.’
- b. [doroboo_i-ga keikan_j-o tukitobasita-no]-wa
 [burglar-Nom policeman-Acc pushed away-C_{no}]-Top
 [Δ_{i/j} nige-yootositeiru sono toki] da
 [run.away-is.about.to that time] Cop
 ‘The burglar pushes away a policeman, which was at the very moment
 {the burglar, the policeman} was about to run away.’

For the backward *tokoro*-construction, a minimal pair is not easy to construct. In the example in (125)b, the lexical subject of the *that time*-clause is intended to bind backward the null subject of the clause modified by that adverbial clause. The example is degraded, probably due to Condition C (via reconstruction). Nevertheless, I found the *tokoro*-clause example in (125)a much worse than that example:

- (125) a. * [Δ_i keikan-o tukitobasita-no]-wa [zensokuryoku-de
 [keikan-Acc pushed away-C_{no}]-Top [at full speed
 sono doroboo_i-ga nige-yootositeiru-tokoro]-o da
 that burglar-Nom is about to run away-C_{no}]-Acc Cop
 ‘He pushed away the policeman, which was the moment the burglar was
 trying to run away at full speed.’
- b. ?? [Δ_i keikan-o tukitobasita-no]-wa [zensokuryoku-de
 [keikan-Acc pushed away-C_{no}]-Top [at full speed
 sono doroboo_i-ga nige-yootositeiru sono toki] da
 that burglar-Nom is about to run away that time] Cop
 ‘He pushed away the policeman, which was at the very moment {the
 burglar, the policeman} was trying to run away at full speed.’

Thus, it seems that the unacceptable (125)a violates some grammatical condition that is different from what we call a Condition C violation here. If the *tokoro*-clause construction were an object control construction, this would not be surprising.

Having seen that the subject position of a *tokoro*-clause cannot be linked up to the subject position of the superordinate clause in forward and backward constructions, let us examine necessity of c-command. The observation we will make below is that the *tokoro*-clause construction, unlike OC constructions, does not respect the c-command condition. Neither the putative forward controller (cf. (126)a) nor the putative backward controllee (cf. (126)b) needs to c-command the subject position of the *tokoro*-clause:

- (126) a. [NP NP_i ...] ... [*tokoro*-clause Δ_i ... (forward)
 b. [NP Δ_i ...] ... [*tokoro*-clause NP_i ... (backward)

Let us consider concrete examples below:

- (127) a. [keikan-ga [doroboo_i-no kata]-ni tamago-o
 [policeman-Nom [burglar-Gen shoulder]-Dat egg-Acc
 nageta-no]-wa [Δ_i zenryoku-denige-yoo-to-su-ru-tokoro]-ni
 threw-C_{no}]-Top [at full speed run away-Mood-C-do-Prs-TOKORO]-Dat
 datta
 Cop.Past
 ‘A burglar was about to run away at full speed, and then the policeman
 threw an egg to his shoulder.’
 b. * [doroboo_i-no kata]-ga zenryoku-de nige-yoo-to-si-ta
 [burglar-Gen shoulder]-Nom at full speed run away-Mood-C-do-Past
 ‘The burglar’s shoulder was about to run away at full speed.’

- (128) [keikan-ga [Δ_i kata]-ni tamago-o nageta-no]-wa
 [policeman-Nom [shoulder]-Dat egg-Acc threw-C_{no}]-Top
 [sono doroboo_i-ga zenryoku-denige-yoo-to
 [the burglar-Nom at full speed run away-Mood-C
 su-ru-tokoro]-ni datta
 do-Prs-TOKORO-Dat] Cop.Past
 ‘That burglar_i was about to run away at full speed, and then the
 policeman threw an egg to his_i shoulder.’

The acceptability of the forward construction in (127)a and the backward construction in (128) provides initial support for the claim that c-command is not required in *tokoro*-clause constructions. Note, though, that, in these examples, the larger noun phrases that contain the forward antecedent or the backward dependent element are all headed by an inalienable possession expression, namely, *kata* ‘shoulder’. In fact, it is sometimes argued that inalienable possession noun phrases are transparent for A-movement or θ -role assignment in the literature (Kikuchi 1994, Laudau 1999, Fujii 2000, Hiraiwa 2001; cf. Kuroda 1978, 1999b, Cheng and Ritter 1988, Yoon 1989). Given that the possibility that the possessor in these examples might actually c-command the downstairs subject somehow, the test under consideration should use ordinary NPs. The following example provides such a case. Here the putative backward controllee is embedded in the larger NP headed by an animate noun phrase:

- (129) [Blassie-ga [Δ sekondo]-o nagurituketa-no]-wa
 [Blassie-Top [handler]-Acc hit-C_{no}]-Top
 [Destroyer-ga ringu-de sawai-deiru-tokoro]-o
 [The Destroyer-Nom in the ring make noise-Prog-Prs-TOKORO]-Acc
 datta
 Cop.Past
 ‘Blassie hit The Destroyer’s handler, which was the moment he was
 screaming in the ring.’

Given the coreference condition discussed above, the superordinate clause needs a null argument that corefers to the subject of the *tokoro*-clause for the sentence to be grammatical. Unfortunately, the judgment is not clear. So we cannot draw a conclusion with regard to c-command, based on examples like this.

On the other hand, the forward example in (130) seems to be acceptable and have the interpretation: The Destroyer screamed in the ring and his handler did not. That is the interpretation that should be obtained when the non-commanding genitive NP is coindexed with the null subject of the *tokoro*-clause:

- (130) [Blassie-ga [Destroyer-no sekondo]-o nagurituketa-no]-wa
 [Blassie-Top [The Destroyer's handler]-Acc hit-C_{no}]-Top
 [Δ ringu-de sawai-deiru-tokoro]-o datta
 [in the ring make noise-Prog-Prs-TOKORO]-Acc Cop.Past
 ‘Blassie hit Backglund’s handler, which was at the moment he was
 screaming in the ring.’

If the null subject of the *tokoro*-clause can be coindexed with the genitive NP, it should be possible that (130) can be followed by the statement in (131) without yielding a contradiction:

- (131) sekondo zitai-wa sawaideinakatta
 handler itself-Cont was not screaming
 ‘The handler himself was not screaming.’

This continuation seems to be allowed. When (130) is followed by the statement “Neither The Destroyer nor his handler was screaming,” then it is clearly judged as contradictory. Based on this observation, we conclude that at least in the forward *tokoro*-clause construction, Δ does not have to be c-commanded by its antecedent.³²

³² Notice that the data do not necessarily imply that the *tokoro*-clause construction does not require any kind of binding relation between Δ and its antecedent. There are cases where bound variable binding is established under the structural relation which Hornstein (1995:

Finally, we briefly look at examples where the matrix theme position is coreferential with the genitive position of the *tokoro*-clause subject:

- (132) a. [keikan-ga doroboo_i-o taihosita-no]-wa [[Δ_i te]-ga
 [policeman-Top burglar-Acc arrested-C_{no}]-Top[hand-Nom
 kinko-ni hure-ta-tokoro]-o da
 safe-Dat touch-Past-TOKORO]-Acc Cop
 ‘The policeman arrested the burglar, which was at the moment his hand touched the safe’
- b. keikan-wa Δ_i [[doroboo_i-no te]-ga kinko-ni
 policeman-Top [burglar-Gen hand-Nom safet-Dat
 hure-ta-tokoro]-o taihosita
 touch-Past-TOKORO]-Acc arrested
 ‘The burglar’s hand touched the safe, and then the policeman arrested him.’

chapter 6) calls ‘almost c-command’, such as (i) (originally pointed out by Reinhart 1983; cf. Lasnik 1976):

- (i) No one_i’s mother kissed him_i

Norbert Hornstein (personal communication) observes that ‘almost c-command’ does not license OC:

- (ii) a. * No one_i’s mother wants PRO_i to kiss Naomi
 b. No one_i’s mother wants him_i to kiss Naomi

This ‘almost c-command’ might be the licensing condition for the dependency for the *tokoro*-clause construction:

- (iii) [Blassie-ga [[Destroyer-no yokoni i-ru] sekondo]-o nagurituketa-no]-wa
 [Blassie-Top [[The Destroyer’s side-in exist-Prs] handler]-Acc hit-C_{no}]-Top
 [Δ ringu-de sawai-deiru-tokoro]-o datta
 [in the ring make noise-Prog-Prs-TOKORO]-Acc Cop.Past
 ‘Blassie hit the handler who was standing next to The Destroyer,
 which was at the moment he was screaming in the ring.’

The interpretation where *The Destroyer* (semantically) binds Δ seems to be harder in (iii) than in (130).

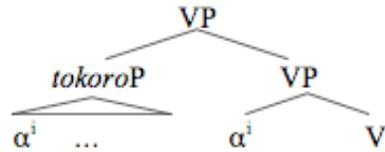
- (133) a. Blassie-wa Destroyer_i -o [[Δ_i sekondo]-ga ringu-de
Blassie-Top The Destroyer-Acc [[*handler*]-*Nom in the ring*
sawai-deiru-tokoro]-o nagurituketa
make noise-Prog-Prs-TOKORO]-*Acc hit*
 ‘His handler was screaming in the ring, and then Blassie hit him.’
- b. Blassie-wa Δ_i [[Destroyer_i-no sekondo]-ga ringu-de
Blassie-Top [[*The Destroyer’s handler*]-*Nom in the ring*
sawai-deiru-tokoro]-o nagurituketa
make.noise-Prog-Prs-TOKORO]-*Acc hit*
 ‘Backglund’s handler was screaming in the ring, and then Blassie hit
 him.’

These sentences are all acceptable under their intended interpretations. The availability of the indicated interpretation of (133)b is confirmed by the fact that the sentence can be uttered truthfully when the statement “Blassie didn’t hit the handler” is true.

If the observations made about the *tokoro*-clause construction so far are correct, the next task will be as follows: First, we want to explain why backward obligatory control does not obtain in this construction. Second, we want to give an analysis of the construction that covers the observed data. As mentioned at the beginning of section 6, I am only able to give an answer to the first question, leaving the second question for future research.³³ Consider again the derivation discussed in (114):

³³ The state of affairs suggests that a chain, which must not be a control (or A-)chain, is involved in the *tokoro*-clause construction, and Chain Reduction manipulates it. Otherwise, it would be mysterious why it behaves the same way as the *assist*-construction with respect to chain reduction (see (112)) (see Harada 1973, Kuroda 1978, 1999b for the relevant data). So I am lead to assume that *tokoro*-clauses involve some kind of A-bar movement that, which moves an internal head to the edge of the *tokoro*-clause, and the top copy of the chain is deleted to avoid a double-*o* violation.

(134)



Recall that in section 5.2, I argued that the *no*-clause of the *assist*-construction does not have a structurally Case-marked subject (see chapter 2 for full discussion). The subject position can be only inherently Case-marked. This proposal was tied to the tense of the embedded clause. In the *assist*-construction (and other obligatory control constructions in Japanese), embedded predicates never allow present-past alternation. This defective nature of the tense of the *no*-complement clause correlates with the defective nature of the Case of T, i.e. not being able to assign structural Case. If this is correct, the T of the *tokoro*-clause must be a structural Case assigner:

- (135) keikan-wa [doroboo-ga tatidomat-ta-tokoro]-o
policeman-Top [burglar-Nom stop-**Past-TOKORO**]-Acc
tukamaeta
caught
'The burglar stopped, and then the policeman caught him.'

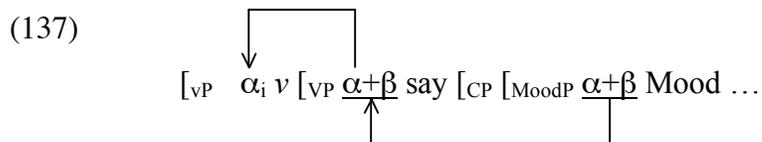
If we assume that checking of the structural Case of a nominal makes the nominal inactive for A-movement (Chomsky 1995, Lasnik 1999: chap. 6, Chomsky 2000, 2001), it follows that A-movement of α out of the *tokoro*-clause to the complement of VP is barred. Hence, obligatory control chains cannot be obtained, which explains why the *tokoro*-clause construction does not pass some diagnostic test of OC.

7 Notes on Backward Split Antecedence

In chapter 3, it is observed that embedded imperative constructions, exemplified by (136)a, and embedded hortative constructions, exemplified by (136)b, behave differently with respect to the possibility of split control:

- (136) a. * Taro-wa Hiroshi-ni [Δ otagai-o sonkeesi-a-e-to]
Taro-Top Hiroshi-Dat [e.o.-Acc respect-Recip-Imp-C]
 meireisita
ordered
 ‘Taro ordered Hiroshi to respect each other.’
- b. Taro-wa Hiroshi-ni [Δ otagai-o sonkeesi-a-oo-to]
Taro-Top Hiroshi-Dat [e.o.-Acc respect-Recip-YOO-C]
 teiansita
proposed
 ‘Taro proposed to Hiroshi to respect each other.’

While the imperative construction does not allow split control, the hortative one clearly does. In chapter 3, I proposed that conjoined subjects are involved in split control. The derivation proposed there is something like (137) (some irreverent details are omitted):



There is no movement that violates minimality in this derivation. As for the unacceptability of (136)b, an embedded imperative construction, I speculated that a structure obtained via the derivation in (137) cannot be interpreted as imperative. It is interesting to note here that neither *assist*-constructions nor *tokoro*-clause constructions involve mood such as the imperative or the exhortative in their embedded clauses. So if the analysis of split control is correct,

This section tries to document the data concerning split antecedence in backward constructions including the *assist*-construction and the *tokoro*-clause construction. Before looking at forward constructions, it should be noted that the forward *assist*-construction does not allow split control. The judgment seems to be robust:

- (138) * [Hiroshi_i-ga Taro_j-o e_k zyamasita-no]-wa
 [Hiroshi-Nom Taro-Acc disrupted-C_{no}]-Top
 [Δ_{i+j} otagai-o hihansi-a-u-no]-o_k da
 [e.o.-Acc criticize-Recip-Prs-C_{no}]-Acc Cop
 lit. ‘Hiroshi_i disrupted Taro_j [Δ_{i+j} from criticizing each other]_k.’

(138) is contrasted with (139), which shows that the null subject of the purpose *yooni*-construction supports split antecedents.

- (139) [Hiroshi_i-ga Taro_j-o e_j zyamasita-no]-wa
 [Hiroshi-Nom Taro-Acc disrupted-C_{no}]-Top
 [Δ_{i+j} otagai-o hihansi-a-e-ru-yooni] da
 [e.o.-Acc criticize-Recip-can-Prs-C_{yooni}] Cop
 lit. ‘Hiroshi_i disrupted Taro_j (from doing something) [so that Δ_{i+j} could criticize each other].’

The fact that the sentence is acceptable is not surprising, because the null subject of purpose clauses, as we saw in section 4.2, constantly displays properties of pronouns. Before accounting for the absence of split control in the forward *assist*-construction, let us see the data concerning “backward split antecedents”.

The immediate issue here is what “backward split control” would mean. If we mechanically replace the empty subject position in a forward construction with an overt expression based on its interpretation and every relevant overt NP with Δ , then a pair of sentences that have the following schema can be thought of:

- (140)a. Δ_i Δ_j [CP [NP_i-and NP_j]-Nom ... V-Prs-C_{No}] assisted
Agent Theme Situation
 b. Δ_i Δ_j [CP [NP_i-and NP_j]-Nom ... V-can-Prs-C_{yooni}] assisted
Agent Theme Purpose

(We are abstracting away from the existence of cases where the first and second conjuncts bear indices j and i respectively.) As can be seen from these schematic representations, we are dealing with examples of ‘conjoined antecedents’, rather than ‘split antecedents’. (141)a and (141)b would be examples that potentially have ‘conjoined antecedents’:

- (141)a. [Hiroshi-to Taro-ga otagai-o hihansi-a-u-no]-o
 [*Hiroshi-and Taro-Nom e.o.-Acc criticize-Recip-Prs-C_{no}]-Acc*
 zyamasita
disrupted
- b. Hiroshi-to Taro-ga otagai-o hihansi-a-e-ru-yooni
Hiroshi-and Taro-Nom e.o.-Acc Recip-Prs-C_{yooni}
 zyamasita
disrupted

These two strings can be analyzed in many ways. For instance, the string in (141)b can mean that Hiroshi and Taro disrupted someone so that they could criticize each other. If we set aside irrelevant interpretations like this, it seems impossible for (141)b to obtain the interpretation that is associated with the structure (140)b. The same situation holds for (141)a. Note that the unacceptability of (141)a under the relevant interpretation does not tell us anything about split control in backward OC since a non-OC sentence like (141)b is also unacceptable.

Backward examples of more interest would be a pair of sentences such as (142):

- (142)a. * Hiroshi-wa Δ_{i+j} [Taro_i-ga Naomi_j-o
Hiroshi-Top [Taro-Nom Naomi-with
 hihansu-ru-no]-o sorezore tetudatta
criticize-Prs-C_{no}]-Acc each assisted
 lit. ‘Hiroshi assisted Taro and Naomi each [Taro to criticize Naomi].’

- b. Hiroshi-wa Δ_{i+j} [Taro_i-ga Naomi_j-to
Hiroshi-Top [Taro-Nom Naomi-with
 hihansu-ru-yooni] sorezore tetudatta
criticize-Prs-C_{yooni}] each assisted
 lit. ‘Hiroshi assisted Taro and Naomi each, [so that Taro would meet
 with Naomi].’

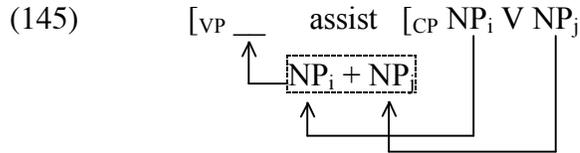
The adverb *sorezore* ‘each’ requires the presence of an expression denoting a plural entity in the same sentence, as is seen in:

- (143)a. * Hiroshi-ga Toro-o sorezore tetudatta
Hiroshi-Nom Taro-Acc each assisted
 ‘Hiroshi assisted Taro each.’
- b. Hiroshi-ga [Taro-to Naomi]-o sorezore tetudatta
Hiroshi-Nom [Taro-and Naomi]-Acc each assisted
 ‘Hiroshi assisted Taro and Naomi each.’

If the contrast between (142)a and (142)b parallels the contrast between (143)a and (143)b, it shows that Δ in the backward *assist*-construction does not allow split backward control. Another example is added:

- (144) * Hiroshi-wa Δ_{i+j} [isya_i-ga kanzya_j-o katug-u-no]-o
Hiroshi-Top [doctor-Nom patient-Acc lift-Prs-C_{no}]-Acc
 sorezore tetudatta
each assisted
 ‘Hiroshi assisted a doctor_i and a patient_j each for the doctor_i to lift the
 patient_j.’

This is accounted for by the proposal made in chapter 3. To obtain split control in backward control constructions, the derivation would proceed as follows:



The conjoined NPs are built via sideward movement (of NP_i and/or of NP_j), and the complex structure moves into the object position. This derivation is prohibited under the proposed system, because the position of NP_j in the embedded clause is a structural Case position, which prevents it from moving to begin with.

Return to the unacceptability of (138). It poses a potential problem for the proposed analysis of split control constructions, which does not prevent the conjoined NPs start out as the complement subject of the *assist*-construction. I do not have a solution to this problem. As was alluded to above, the *no*-clause complement of *assist/disrupt* seems to lack a mood head. So I speculate that only mood heads can host conjoined NPs of the relevant sort in their specifier at this point.

Before discussing split antecedence in the *tokoro*-clause construction, let us take a look at HIRC cases. As observed by Kuroda (1975-76/1992: 155) among others, the HIRC allows a split interpretation. example (146) is contrasted with example (144):

- (146) Hiroshi-wa Δ_{i+j} [isya_i-ga kanzya_j-o katui-de ik-u-no]-o
Hiroshi-Top [doctor-Nom patient-Acc lifting go-Prs-NO]-Acc
 sorezore tetudatta
each assisted
 ‘A doctor was carrying along a patient, and then Hiroshi assisted that
 doctor_i and that patient_j each.’

Note now that split antecedence is allowed with the backward *tokoro*-construction as easily as with the HIRC:

- (147) Hiroshi-wa Δ_{i+j} [isya_i-ga kanzya_j-o katui-de
Hiroshi-Top [doctor-Nom patient-Acc lifting
 ik-u-tokoro]-o sorezore tetudatta
go-Prs-TOKORO]-Acc each assisted
 ‘A doctor was carrying along a patient, and then Hiroshi assisted that
 doctor_i and that patient_j each.’

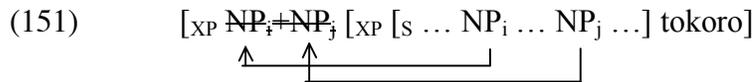
The *tokoro*-clause construction, however, shows a somewhat complicated pattern. While backward examples allow split antecedence, at least forward examples of the sort found in (148) do not seem to allow split antecedence. Example (149) is acceptable:

- (148) * [keikan_i-ga Tamura_j-o tukamaeta]-no-wa [Δ_{i+j}
[policeman-Nom Tamura-Acc caught-C_{no}]-Top [
 (tamatama) zibun_{i+j}-no ie-ni denwasi-yoo-to
by accident self's house-to call-Mood-C
 si-tei-ru-tokoro]-o da
do-Prog-Prs-TOKORO]-Acc Cop
 ‘Both the policeman and Tamura happened to be about to make a phone
 call to their home, and then the policeman caught him.’
- (149) keisatu-wa Δ_{i+j} [Tamura_i-ga yakuza_j-to
police-Top [Tamura-Nom yakuza-Acc
 hanshi-tei-ru-tokoro]-o sorezore taihosita
talk-Prog-Prs-TOKORO]-Acc each arrested
 ‘Tamura_i was talking with a yakuza_j, and then the police rounded up
 both of them_{i+j} each.’

In fn 33, I suggested that *tokoro*-clauses involve some sort of A-bar movement of the internal head to its edge. Let me spell out the idea in more detail here:

- (150) $[_{XP} NP_i [_{XP} [S \dots NP_i \dots] tokoro]$


I adopt Kuroda's (1978) idea that a *tokoro*-clause is a kind of relative clause, whose relative head is adjoined to the *tokoro*-clause and that the 'head' of the *tokoro*-clause is assigned Case from the outside of the clause because of adjunction. The top copy of the created chain is deleted, so that the Double-O Constraint will not be violated. This provides an account of the fact that split antecedents are not allowed in the forward construction as in (148). The matrix subject *policeman* cannot originate inside the *tokoro*-clause. Then the data concerning backward spilt antecedents suggest that a derivation like the following is possible:



Two NPs move to the edge position, and the lowest links of the two chains undergo deletion. Split antecedents should not be possible, otherwise. It is beyond the scope of this chapter to examine the empirical validity of this analysis.³⁴

8 Conclusions

This chapter argued that major properties of the Japanese backward object control construction follow from the movement theory of control and the theory of chain reduction incorporating a copy theory of movement proposed by Nunes (2004). The analysis proposed above cannot be instantiated unless obligatory control is reduced to movement into θ -position, just as prior movement-based analyses of backward control. The issue has been how to account for where backward control is possible

³⁴ Incidentally, it is sometimes argued that Japanese allows 'multiple-headed relative clauses' such as (i) (Takeda 1999):

- (i) [[Taro-ga $e_i e_j$ okutta] ronbun_i-to syupansya_j]-o osie-te
 [[Taro-Nom sent] paper-and publisher]-Acc tell.me
 lit. Tell me the paper and the published that Taro sent to.
 'Tell me which paper Taro sent to which publisher.'

See Takeda (1999) for discussion of such a construction.

and where it is not. As reviewed above, Potsdam (2006) provides an account of the fact that a Malagasy object control construction allows forward and backward control while all the English control constructions prevent backward control. He ties the possibility of backward control in Malagasy to the hypothesis that the language allows A-movement from Case position. According to Potsdam, the higher and the lower links have their Case checked, making these two links equally legitimate targets for pronunciation.

It was shown that this does not fit quite well with Japanese backward control. This is so because backward control appears only when the Double-O Constraint is violated, as has been noted since Harada's (1973) classical work. The conclusion that tensed control clauses are *nonfinite* clauses, drawn in chapter 2, helps to resolve the tension. I argued there that structural Case for the subject is not available in those nonfinite clauses. If this is correct, then it is expected that a Japanese control construction must be forward one unless some condition for convergence is violated.

The present discussion reveals that there are two types of backward control. One type is found in languages where multiple Case checking is allowed, if Potsdam is right. In this case, the controller choice is optional. The other type of backward control, as argued above, shows up only in languages that have a PF-constraint whose violation may prevent the option of higher link pronunciation. Importantly, backward control arises only in constructions that may yield a violation of such a constraint. The Double-O Constraint in Japanese is such a constraint.

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