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A Note on Empty Subjects of the so-called 'Control' Complements in Japanese*

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　本稿では、日本語におけるコントロール補文と呼ばれるもののうち、「よう（に（と））」及び「ことを」で導かれる補文を取り上げ、特に空主語が何であるかについて、PRO 及び pro が実際に現われていることを示唆する各種の事実を提出・検証し、これまでの分析を補足する。まず、これらの補文では、空主語だけでなく、再帰形又は代名詞が、原則的に可能な場合があると従来指摘されているが（Hasegawa 1984 等）、更に、再帰形・代名詞以外の語彙主語も可能である事実を提出し、いわゆるコントロール補文における主文要素による補文主語の義務的コントロールは、必ずしも厳密に要請されない場合（本稿では semi-control と呼ぶ場合）があることを示す。このような語彙主語の主格は、Takezawa（1987）に従った Ueda（1990）の分析によれば、時制接辞の存在によって保証されている。また語彙主語が空主語に交替した場合、pro でありうることが予測されるが、これを支持する事実として、空主語の指示先が主文要素以外の文脈に存在する例を報告する。また主節事象と同時に生起する事象を表わす主語コントロール補文では、補文の事象が瞬間相を表わす場合、厳密にはコントロールされない空主語、即ち pro（本稿では semi-controlled pro）が許されないことを観察する。次に、空主語が PRO であることを、義務的コントロールという解釈上の性質とは別個の見地から仮定する分析（Nemoto 1993, Watanabe 1996b）がこれまでにあるが、これを裏付ける統語上の証拠として、弱交差現象においてこれらの補文の空主語が、いわゆる PRO gate（Higginbotham 1980）として機能する事実を観察する。最後に、この種の補文が語彙主語・pro を自由に許すかどうかは、補文述語の持つ時制に関する他の性質にも関連があることを指摘する。

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1. Introduction: Is an empty subject PRO or *pro*?

This paper is primary concerned with the question of which empty category appears in the subject position of the so-called control complements in Japanese, namely, PRO, *pro*, or even both. I will present several pieces of evidence that PRO takes place generally (section 3). On the other hand, nominative/*pro* subjects appear on a certain condition (section 2). That is, when nominative/*pro* subjects are allowed in the subject control complements selected by aspectual verbs and verbs meaning 'try/attempt', the complements cannot denote a momentary action in contrast to a generic or durative action. It will be pointed out that the control property of the so-called control complements is closely connected to their temporal property. It will be suggested that there is another correlation between the distribution of PRO/*pro* subjects of the so-called control complements and the tense property of the complements (section 4).

In Japanese, complement clauses introduced by *koto-o/-yoo(-ni(to))*[1] are so-called control complements,[2] since their empty subjects seem to be always coreferential with the matrix elements. The empty subject in (1a) below exhibits subject control (hereafter, SC) and the one in (1b) object control (hereafter, OC).[3]

(1) a. Hanako$_i$-ga [e$_{i/*j}$ mainiti   umi-de oyog-u   koto-o]

            -nom   everyday sea-dat swim-nonpast

    hajime/kokoromi/kime-ta

    start/try   /decide-past

    'Hanako started/tried/decided to swim in the sea everyday.'

    b. Hanako$_i$-ga Taro$_j$-ni [e$_{*i/j}$ mainiti umi-de oyog-u   koto-o/-yoo(-ni(to))]

                -nom   -dat   everyday sea-dat swim-nonpast

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[1] Previous studies have treated another form *-yoo (ni)*, instead of the one *-yoo (ni (to))*, as the morpheme signifying control complements. These two forms alternate with each other without changing either the meaning or the grammaticality (although some informants prefer the shorter forms *-yoo* and *-yooni* to the longest form *-yoonito*). The existence of *-to* is quite important for the question whether the so-called control complements are CP or TP (IP). See Uchibori (1997, 2000) for an argument for CP and Nemoto (1993) for an argument for TP (IP). See also Nakau (1973) for an argument against the assumption held in traditional Japanese linguistics that *-yoo (ni)* is a combination of the so-called formal noun *-yoo* 'the way' plus *-ni* 'to/dative'.

[2] There are several other types of control complements, namely, those marked by *-to*, *-(y) ooto*, and *-yoo (ni)* (the last is not same as the one discussed here. See note 1). For discussion on Japanese control clauses including these types, see Sakaguchi (1990) and Watanabe (1996b), for example.

[3] While OC complements are marked either by *-koto-o* or *-yoo (ni (to))*, SC complements are marked by *-koto-o* , but not by *-yoo (ni (to))*.

meiji/susume/negat-ta

order/recommend/wish-past

'Hanako ordered/recommend/wished Taro to swim in the sea everyday.'

The empty subject of a control infinitival complement in English has been assumed to be controlled PRO.[4]

(2) a. John$_i$ started/tried/decided [PRO$_{i/*j}$/*he$_{i/j}$ to swim in the sea].

b. John$_i$ ordered/asked Bill$_j$ [PRO$_{*i/j}$/*he$_{i/j}$ to go to Boston].

It seems, thus, natural to regard the empty subjects of the so-called control complements in Japanese to be also controlled PRO, if the obligatory local control phenomenon is attributed to some referential property of PRO (Cf. Hornstein 1999).

As is pointed out by Watanabe (1993), however, the obligatory control requirement of a complement clause does not necessarily imply that its subject is controlled PRO, given Borer's (1989) observation on Korean control clauses, where an overt reflexive and pronoun as well as an empty element are eligible to satisfy the control requirement by the governing verb.

(3) John$_i$-ka [e$_{i/*j}$/ku$_{i/*j}$/cagi$_{i/*j}$/*Bill$_j$ ttena-lye-ko] nolyek ha-ess-ta

         -nom   he   self   leave-will-comp try   do-past

      'John tried to leave.'

Sakaguchi (1990) indeed demonstrates that the so-called control complements in Japanese are very similar to Korean control clauses in this respect. That is, overt anaphors and/or pronouns are permitted in certain cases (see also Hasegawa 1984). Consider the following example of an OC complement:[5]

(4) Hanako$_i$-wa   Taro$_j$-ni [(?)karejisin$_{*i/j}$-ga/(?)kare$_{*i/j}$-ga mainiti   umi-de

              -top   -dat   heself-nom /   he-nom   everyday sea-dat

    oyog-u   -koto-o/-yoo(-ni(-to))] meiji/susume-ta

    swim-nonpast   order/recommend-past

      'Hanako ordered/recommend Taro to swim in the sea everyday.'

Following Takezawa's (1987) hypothesis that the [+Tense] feature is responsible for nominative Case in Japanese, Ueda (1990) argues that nominative Case of an overt reflexive/pronoun as in (4) is licensed by an embedded [+Tense] predicate marked with

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[4] See Chomsky and Lasnik 1993, Martin 1996, Hornstein 1999, and references cited therein, for Minimalist approaches to PRO and/or control.

[5] The grammatical judgements given here are mine.

the nonpast tense suffix *-(r)u*. Since Japanese has *pro*, it seems quite reasonable to assume that those overt subjects can be replaced by *pro* in the so-called control complements. This sharply contrasts with the PRO subject of the control infinitival complement in English, which never alternates with an overt nominative NP. The question raised here is whether the empty subjects of the so-called control complements are indeed PRO, *pro*, or even both.

Here, one might observe the overt reflexive and pronoun to be less acceptable and doubt that nominative Case is licensed in the subject position of an OC complement. Previous studies disagree about the degree of acceptability of relevant data. For example, while Hasegawa (1984) judges examples such as in (4) to be less acceptable (see note 7), Sakaguchi (1990) regards them as perfect. According to not a few of my informants, lexical subjects as in (4) are completely grammatical. The examples relevant to this point should be evaluated carefully enough. The lexical subjects as in (4) only receive emphatic or contrastive reading, as noted by Sakaguchi (1990) and Watanabe (1996b). Once appropriate contrastive stress is placed, the apparent marginality disappears accordingly. There is a piece of evidence that the less acceptability in (4) does not come from illegal licensing of nominative Case. Watanabe (1996b) argues that, since overt nominative subjects appear only marginally, they are not licensed by the same syntactic mechanism as the one for empty subjects, which are completely grammatical. However, when a nominative subject occupies a position in which nominative Case is never licensed, the sentence results in total ungrammaticality, which is much more severe than the relatively mild deviancy of nominative subjects such as in (4). Compare (4) with an example of the *-ni* (dative) causative sentence as in the following:[6]

(5) Hanako-ga Taro$_i$-ni [e$_i$/*kare(jisin)$_i$-ga   heya-o   soojis]-ase-ta

        -nom   -dat   he   self -nom room-acc clean -cause-past

    'Hanako made Taro clean the room.'

The embedded overt nominative subject is strictly prohibited here. Takezawa (1987) argues that, since there is no [+Tense] element in a complement of the causative morpheme *-(s)ase*, nominative Case is unavailable. The contrastive/emphatic stress does not improve the severe ungrammaticality at all. This strongly suggests that the mecha-

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[6] I thank Daiko Takahashi for drawing my attention to the contrast between the so-called control complements and the complements of the *-ni* (dative) causative in this regard.

nism of licensing nominative Case is in principle available in the OC complements as shown in (4). The fact that a lexical subject and an empty subject are both permitted, therefore, needs to be accounted for by the grammar.[7]

2. Lexical subjects, *pro* subjects, and the control requirement

In this section, I will present examples of three types of subjects in both SC complements and OC complements, i.e., (1) subjects which are empty and not strictly coreferential with the matrix elements, (2) those which are lexical, but neither reflexives nor pronouns, and (3) controlled reflexives and pronouns. It will be shown that, in the OC complements and in some of the SC complements, their subjects are not always locally controlled, whereby their empty subjects can be *pro*. In the other SC complements, *pro* subjects take place in a restricted fashion.

First let us consider the case of OC complements. As discussed above, the OC complements allow controlled reflexives and pronouns to appear in their subject positions, and license nominative Case there. Now, consider the examples in (6) below, where the embedded subjects are lexical, but not pronouns.[8, 9]

(6) a. Context: Hanako$_i$ is the chief of a section which [Taro, Keiko$_j$, and Jiro]$_k$ belong
        to Keiko$_j$ wanted to go to Boston on business by herself. Hanako$_i$, how-
        ever, decided to sent all of them$_k$ to Boston.

   Hanako$_i$-ga Keiko$_j$-ni [[kanojyo$_{*i/j/*k}$-o hukum-u 3-nin]-ga Boston-ni

           -nom   -dat she -acc include-nonpast -cl   -nom   -to

   syucchyoosu -ru   -koto-o/-yoo(-ni(-to))] meiji-ta.

   'have a trip on business'-nonpast   order-past

   'Hanako$_i$ told Keiko$_j$ that the three including her$_j$ should have a trip to Boston on

   business.'

   b. koochyoo$_i$-ga sono kyooshi$_j$-ni [(kare$_{*i/j/*k}$-no) ukemochi-no seito-ga

      principal-nom that teacher-dat he-gen 'taking charge'-gen student-nom

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[7] In this paper, I follow Hasegawa's (1984) suggestion that the mild deviancy as in (4) is due to a violation of the Avoid Pronoun Principle (Cf. Watanabe 1996b).

[8] I owe this example Mamoru Saito (p.c.).

[9] The pronouns do not have to be interpreted as contrastive or emphatic here, because they are embedded under the embedded subject, so that the matrix subject and the pronouns are not coreferential. Notice that reflexive subjects such as *kanojyozisin* 'sheself' are also possible. Here, I just omit them for the sake of space.

chyoorei-no aidajyuu shizukadear-u -koto-o/-yoo(-ni(-to))] yookyuusi-ta

'morning assembly'-gen during 'be quiet'-nonpast   request-past

'The principal$_i$ requested the class teacher$_j$ that the students of his$_i$ class should keep quiet during the morning assembly.'

In these examples, the referent of the embedded subject must be closely related, but need not be identical, to that of the matrix object. That is, these complements are not truly control complements. Since the embedded subject and the matrix object are not completely referentially independent of each other, let us tentatively call these complements 'semi-control' complements. Notice that it is not possible to assume that these complements in (6) have multiple subjects that consist of a controlled empty subject plus the lexical NP appearing. The examples in (7) below clearly indicate that, in each example in (6) above, there is no empty subject controlled by the matrix object in addition to the embedded nominative subject.

(7) a. *Keiko$_j$-ga [kanojyo$_j$-o hukum-u   3-nin]-ga Boston-ni

             -nom she   -acc include-nonpast -cl-nom   -dat

syuttyoosi   -ta

'have a trip on business'-past

'As for Keiko$_j$, the three members including her$_j$ had a trip to Boston on business.'

b. *sono kyooshi$_i$-ga (kare$_i$-no) ukemochi-no   seito-ga

   that teacher-nom he-gen   'taking charge'-gen student-nom

chyoorei-no   aidajyuu shizukadat-ta

'morning assembly'-gen during   'be quiet'-past

'As for the teacher$_i$, the students of his$_i$ class kept quiet during the morning assembly.'

It is naturally assumed that the semantics of the governing verbs of the OC complements determines what referential dependency is held between the goal argument of the governing verb such as ordering, asking and so on, and the agent/experiencer argument of an embedded verb. The semantic requirement by these governing verbs may be satisfied either by control complements or by semi-control complements as in (6). In the former case, what is denoted by the complement should be carried out by the goal person. On the other hand, in the latter, what is expressed by the complement does not have to be fulfilled by the goal person, but it can be done by those who are connected with him/her. That is, the strict coreference between the matrix object and the embed-

ded subject is not necessarily required when the OC complements have semi-control structure. Since a semi-OC complement allows lexical subjects as in (6), it is safe to assume that an empty subject in the complement can be *pro*. The following example also supports the point.

(8) Context: (same as in 6a) Keiko$_j$ wanted to go to Boston on business together with the others. Hanako$_i$, however, decided to sent them$_k$ to Boston individually.

Hanako$_i$-ga Keiko$_j$-ni [e$_{*i/*j/k}$ zen'in-de Boston-ni syucchyoosu -ru

      -nom   -dat   'all the member' -to 'make a business trip'-nonpast

yoo (ni (to))] meiji-ta

          order-past

'Hanako$_i$ ordered Keiko$_j$ that they$_k$ should go to Boston on business all together.'

Cf. karera$_k$-ga/*Keiko$_j$-ga   zen'in-de Boston-ni syucchyoosi-ta

      -nom   -nom 'all the memer' -to 'make a business trip'-past

'(*As for Keiko$_j$) they$_k$ went to Boston on business all together.'

Next, let us turn to the SC complements. The governing verbs of the SC complements are divided into two types in regard to the semi-control structure: some freely permit it, and the others allow it in a very limited fashion. The verbs of the latter type are aspectual verbs such as *hazime* 'start', oe 'stop', *tuduke* 'continue', and verbs meaning 'try' and 'attempt' such as *kokoromi* and *tames*. The other so-called subject control verbs belong to the former type, which are *keikakus/kuwadate* 'plan', *kime* 'decide', *nozom* 'hope' and so forth. The following examples show that these verbs actually allow both lexical subjects and empty subjects that are not controlled by the matrix subjects.

(9) Context: [Hanako$_i$, Taro, Keiko, and Jiro]$_j$ are close friends. Hanako$_i$ wondered what to do as a physical exercise. She thought of swimming in the sea.

a. Hanako$_i$-wa [e$_{i/j}$/zibun$_i$-ga /[zibun$_i$-o hukum-u   4-nin]$_j$-ga

         -top   self -nom/ self -acc include-nonpast -cl-nom

mainiti umi-de oyog-u   koto-o] keikakusi/kime-ta

everyday sea-at swim-nonpast   plan/decide-past

'Hanako$_i$ made a plan/decision that she$_i$/they$_j$ swim in the sea every day.'

b. Hanako$_i$-ga [e$_{*i/j}$ mainiti   hitori-hitori(-de) umi-de oyog-u koto-o]

         -nom   everyday 'one by one' sea-at swim-nonpast

keikakusi/kime-ta

plan/decide-past

'Hanako made a plan/decision that they$_j$ swim in the sea every day individually.'

Cf. karera$_j$-ga/*Hanako$_i$-ga   hitori-hitori(-de) mainiti umi-de oyoi-da

they -nom/   -nom 'one by one' every day sea-at swim-past

'They$_j$/*Hanako$_i$ swim in the sea every day individually.'

In order to allow semi-controlled subjects, a special context in the discourse, as given in the examples above, is required that a person referred to by the matrix object is able to impel those who are referred to by the empty subject to do whatever he/she wants in the future. In fact, these examples are nearly paraphrased as 'Hanako forced them to do the action of swimming in the sea everyday.' It straightforwardly follows from the semi-control cases in (9) that an empty subject of this type of SC complements can be *pro*.

On the other hand, whether a semi-control structure is possible in the SC complements of the aspectual verbs and those verbs meaning 'try' depends on the following condition. The semi-control complement of this type expresses an action that is simultaneous with the matrix action. When the complement denotes a momentary action that instantaneously takes place at a specific point of time, which is typically expressed by verbs showing the so-called momentaneous aspect, the embedded subject cannot be *pro*, not referring to someone/something in a given context (as in 10 below). On the other hand, if the complement expresses a different type of action, such as a generic/habitual action, the embedded subject can be *pro* (as in 11 below). That is, semi-control structure is in principle possible also in this type of complement, and nominative Case (for *pro*) is available there.

Compare (9a-b) above with (10a-b) below, in the latter which semi-controlled lexical and empty subjects appear in the complement denoting a momentary action. The ungrammatical status of (10a-b) also becomes clear if compared with the controlled empty and lexical subjects of the complements of the same type in (10c), which is much better than (10a-b).

(10) a. Context: [Hanako$_i$, Taro, Keiko, and Jiro]$_j$ are close friends. Hanako$_i$ is the leader of [her$_i$ friends]$_j$. She$_i$ planned to have a picnic and to leave her house together with them$_j$ exactly at eight a.m.

*Hanako$_i$-wa [[zibun$_i$-o hukum-u   4-nin]-ga e$_j$ ie-kara sono syunkan

         -top   she-acc include-nonpast -cl   -nom home-from that moment

syuppatusu-ru koto-o] hajime/kokoromi-ta

 leave-nonpast-acc   start/try-past

'Hanako$_i$ started/tried to conduct the action, which was their$_j$ leaving home at that moment.'

Cf. karera-ga ie-kara   sono syunkan/*sibaraku syuppatusi-ta

         -top home-from that moment/'for a while' leave-past

'The left home at that moment/*for a while.'

b. Context: same as above

*Hanako$_i$-ga [e$_j$ ie-kara hitori-hitori(-de) sono syunkan syuppatusu-u koto-o]

         -nom   home-from 'one-by-one' that moment leave-nonpast

hajime/kokoromi-ta

start/try-past

'Hanako$_i$ started/tried to conduct the action, which was their$_j$ leaving home one by one/individually at that moment.'

c. Hanako$_i$-wa [e$_i$/zibun$_i$-ga ie-kara   sono syunkan syuppatusu-ru-koto-o]

         -top   self-nom house-from that moment leave-nonpast

hajime/kokoromi-ta

start/try-past

'Hanako$_i$ started/tried to leave home at that moment'

It should be noted here that, if the SC complement of this type denotes a generic action, semi-controlled subjects are possible, just like the case of the other type as in (9). Consider the example in (11) below.

(11) Context: same as in (9a)

Hanako$_i$-ga [(?)zibun$_i$-ga/(?)[zibun$_i$-o hukum-u   4-nin]$_j$-ga mainiti umi-de

         -nom   self-nom/   self -acc include-nonpast -cl   -nom everyday sea-at

oyog-u koto-o] hajime/kokoromi-ta

swim-nonpast start/try -past

'Hanako$_i$ started/tried to conduct the action, which was his$_i$/their$_j$ swimming in the sea every day.'

The examples in (10a-b) also require a special context for semi-control interpretations

that is similar to the one mentioned above for the case of (9).[10] Whether such a context is allowable or not seems to be determined by the given discourse, which results in different judgements depending on speakers (the same essentially applies to the case of 9). It is certainly difficult to have a semi-control interpretation such that the agents of two actions that simultaneously take place are not coincide with each other. Some speakers actually disapprove lexical subjects as in (11) in this types of SC complements.

Such a variety in judgements, nonetheless, does not immediately throw doubt on the general availability of semi-control structure and of nominative Case/*pro* in the complements at issue. Interestingly enough, even those speakers who dislike (11) admit semi-controlled *pro* subjects in (9b), in which nominative Case must be surely available. Notice that speakers tend to judge lexical subjects of the SC complements as less acceptable in general whether they are controlled or semi-controlled (just like the case of the OC complements). I, therefore, take it that the problem is not a matter of Case, but a matter of interaction between semi-control interpretations and required tense interpretations of these complements with respect to the time point expressed by the matrix. Now, it seems natural to assume the following. In the complement denoting an action that is simultaneous with the matrix action, if the denoted action is a generic one that refers to certain time duration over the point of time of the matrix action, it is possible to admit the necessary context for a semi-control interpretation, in which the agents of two actions are not strictly identified with each other. Moreover, in the complement denoting a future event, a semi-control interpretation (and its special context) is more easily given. In the latter case, whether the action denoted by the complement is generic or momentary naturally does not matter.

In sum, nominative subjects are basically allowed in the so-called OC and SC control complements, whether they are controlled or semi-controlled, with one exception. The exceptional case is the complements of aspectual verbs and verbs of 'trying'. This type of SC complements do not allow semi-control structure when they denote momentary actions. On the oher hand, the rest do not show the restriction. The distinction between the restricted cases and the non-restricted cases relates to the time point of an action denoted by the complement. In section 4, I will give another hint of the con-

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[10] Compatibility of a main verb's meaning with such a special context seems vary. For instance, one might admit *kokoromi* 'try' to appear in such a context relatively more freely than aspectual verbs such as *hajime* 'start'. Again, it seems to depend on speakers.

nection between an embedded subject and the tense property of these complements.

3. PRO subjects and WCO[11]

In this section, I will demonstrate that an empty subject of the so-called control complements behaves exactly like PRO in a WCO configuration. That is, the empty subject yields the effect same as the so-called PRO gates (Higginbotham 1980).

In a WCO structure such as illustrated in (12) below, where an operator is in an A'-position and neither pronoun nor variable does not c-command each other, the pronoun cannot be interpreted as a bound variable.

(12) Op_i ... $[_{XP}$ ... $pronoun_i$ ...$]$ ... vbl_i ...

(ex. ?*Who_i did his_i mother kiss t_i?/?*His_i mother kissed $everyone_i$.)

I assume in this paper that in such a configuration, a bound pronoun must be c-commanded by a variable, putting aside details of theoretical treatments of WCO phenomena.[12] A typical example of WCO in Japanese is shown below.

(13) ?*[$soitu_i$ -no sensei]-ga $dare_i$-o susensi-ta -no?

'the guy'-gen teacher-nom who-acc recommend-past-Q

'?*Who_i did his_i teacher recommend?'

The pronoun *soitu* is not c-commanded by the variable of the wh-operator *dare* 'who' at LF. Higginbotham (1980) points out that there are no WCO effects in configurations such as in (14).

(14) Op_i ... $[_{XP}$ PRO_i ...$pronoun_i$... $]$ ... vbl_i ...

Here, even though the pronoun is not c-commanded by the variable, it can serve as a bound pronoun. The only difference between this structure and the WCO configuration is the existence of PRO that is controlled by the operator, which is the so-called PRO gate. Compare (15a/b) with (15c/d).

(15) a. ?*Who_i did [her_j forgetting what he_i said] annoy t_i?

b. ?*[$Their_i$ getting letters from $their_i$ sweethearts] is important for [many of the soldiers]$_i$.

c. Who_i did [PRO_i forgetting what he_i said] annoy t_i?

d. [PRO_i getting letters from $their_i$ sweethearts] is important for [many of the sol-

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[11] Japanese examples of PRO gates discussed in this section are originally suggested by Daiko Takahashi (p.c.).

[12] See Hornstein (1995) for a Minimalist approach to WCO effects, for example.

diers]$_i$.

Suppose that XP in (14) is the so-called control complement and that the operator con-
trols an empty subject of XP. If the empty subject is PRO, it is expected that there is no
WCO violation thanks to the PRO gate. Before proceeding to the so-called control
complements, it must be confirmed that lexical subjects do not induce such gate effects
also in Japanese. Consider the following example in this respect.

(16) ?*[Soitu$_i$-ga /[soitu$_i$-no hahaoya]-ga /*pro*$_i$ soitu$_i$ -no koibito-ni

       he-nom/'the guy'-gen mother-nom 'the guy'-gen girlfriend-dat

   at-ta   no -ga]   dare$_i$-niyotte iyagar-are-ta-no?

   see-past nominalizer-nom who-by dislike-pass-past-Q

   '[His$_i$'s/his$_i$ mother/pro$_j$'s seeing his$_i$ girlfriend] was disliked by who$_i$?'

(Cf. dare$_i$-ga [Soitu$_i$-ga /[soitu$_i$-no hahaoya]-ga/*pro*$_i$ soitu$_i$-no koibito-ni

      -nom   he-nom/'the guy'-gen mother-nom 'the guy'-gen girlfriend-dat

   at-ta   no -o]   iyagat-ta-no?

   see-past nominalizer-acc dislike-past-Q

   'Who$_i$ disliked [His$_i$'s/*pro*$_j$/his$_i$ mother's seeing his$_i$ girlfriend]?')

In these examples, the pronoun *soitu* cannot be interpreted as a variable bound by the
wh-operator *dare* 'who' due to the WCO effect. Even if the embedded subject is *pro*, it
does not change the grammaticality. I, therefore, assume that PRO gate effects are
obtained in Japanese.[13]

    Now, let us return to the so-called control complements. The examples to be

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[13] One might argue that here the use of the pronoun *soitu* might not be appropriate here, since it might be the case
that *soitu* cannot be locally A-bound. If the object *soitu* is replaced by a reflexive *zibun*, which can be bound by a
quantified NP (Saito and Hoji 1983), then, the wh-operator must appear as the matrix subject due to the subject ori-
entation of *zibun*. Taking into consideration this and the other conditions on constructing examples of PRO gates
that are discussed below in the text, I tentatively give the following example. Here, *zibun* should not receive any
emphatic or contrastive stress, since it should not be treated as a sort of an emphatic pronoun.
(i) [[?*soitu$_i$-ga /??*pro*$_i$ zibun$_i$ -no koibito-ni doko-de at-ta no -ga]

    'the guy'-nom   self-gen girlfriend where-dat see-past nominalizer-nom

    matigaida -ta   to]]$_j$ [[t sore$_j$-o ii-soo-mo-nai] dare$_i$-ga] it-ta-no?

    'be a mistake'-past comp it acc say-seem-even-not who-nom say-past-Q

    'Which person$_i$ who is not likely to say it$_j$ said [that [*pro*$_i$ seeing self$_i$'s girlfriend where]
    was a mistake]$_j$?'
(Cf. [[t sore$_j$-o ii-soo-mo-nai] dare$_i$-ga] [[soitu$_i$-ga /*pro*$_i$ zibun$_i$-no koibito-ni

        it-acc say-seem-even-not who-nom 'the guy'-nom self-gen girlfriend-dat
    doko-de at-ta no -ga]   matigaida-ta to]$_j$ it-ta-no?
    where-dat see-past nominalizer-nom 'be a mistake'-past comp say-past-Q)
Although I feel the controlled *pro* subjects in (i) to be less acceptable, I will leave finer examination on relevant
facts for future research. See also note 15.

examined with respect to PRO gates must have overt structures such as schematized below.

(17) [$_{XP}$ PRO$_i$ ...soitu$_i$... -koto-o/-yoo (ni (to))] ... Op$_i$ ...

Here, since the operator is the controller of PRO at the same time, it is either the matrix subject or the matrix dative object. It follows that the complement clause must be overtly moved higher than the matrix subject or object, and stay there at LF. It is necessary to ensure that the complement is moved to an A-position from which LF reconstruction does not take place. I will first introduce examples to testify A-movement of the complements, and then, return to those of PRO gates.

First, let us observe examples of the SC complements. Consider the following example, where the intended reading of the pronoun *sore* 'it' is the one such that it is bound to the complement clause in which the operator *doko* 'where' occurs.

(18)?*[[t sore$_i$-o si-soo-mo-nai] hito]$_j$ -ga [e$_j$ doko$_k$-de John-o hihansu-ru]$_i$

        it -acc do-seem-even-not person-nom where-at   -acc criticize-nonpast

    -koto-o hajime/keikakusi-ta-no?

        start/plan-past-Q

    'A person$_i$ who is not likely to do it$_j$ started/planned [PRO$_i$ to criticize John where$_k$]$_j$?'

The example is degraded only if the pronoun *sore* 'it' has the intended reading. This fact suggests that the pronoun serves as a variable bound by the complement, and also that the sentence exhibits a kind of WCO violation, since the pronoun *sore* is not c-commanded by the complement. Although the complement clause itself is not a wh-operator, it contains the wh-operator *doko* 'where', so that it functions as a quantified antecedent of the pronoun.[14] There is a piece of evidence supporting this analysis. It is well known that A-movement of an operator remedies a WCO violation (ex. 'Everyone$_i$ seems to his$_i$ mother t$_i$ to be intelligent.'). If the less acceptability of (18) above is caused by WCO, it is predicated that A-movement of the control complement cancels it. This is actually the case. Compare the degraded example in (18) with the following in (19), where the complement undergoes passivization.

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[14] It might be assumed that the control complement is pied-piped as a container of the wh-operator, moves to an operator position, and binds the pronoun at LF. I will leave the exact mechanism of LF operator-movement for future research. For detailed discussion of LF pied-piping in Japanese, see Nishigauchi (1990).

(19). [e$_j$ doko$_k$-de John-o hihansu-ru]$_i$-koto   -ga [[t sore$_i$-o si-soo-mo-nai] hito]$_j$

where-at   -acc criticize-nonpast -nom   it -acc do-seem-even-not person

-niyotte hajime-rare/keikakus-are -ta -no?

-by   start-pass/plan-pass -past-Q

'[PRO$_j$ to criticize his$_j$ friend where$_k$]$_i$ was started/planned by a person$_j$ who is not

likely to do it$_i$?'

The example in (19) is perfect. The moved complement is not reconstructed to its origi-

nal position at LF, since the sentence would otherwise be as bad as the example in (18).

Based on this, I utilize this type of bound interpretation of the pronoun *sore* 'it' for

guaranteeing A-movement of a complement that plays a role of the quantified

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[15] Jun Abe (p.c.) proposes alternative examples relevant to PRO gates in which the wh-operator *doko* 'where' is dropped as shown in (i-ii) below, reporting that the occurrence of multiple wh-operators in (20) interferes with grammatical judgements concerning the availability of the bound interpretation of *soitu*.
(i) a. ??[[t sore$_i$-o si-soo-mo-nai] dare]$_j$-ga [e$_j$ soitu$_j$ -no yuujin -o
        it -acc do-seem-even-not who-nom 'the guy'-gen friend -acc
    hihansu-ru]$_i$-koto-o hajime/keikakusi-ta-no?
    criticize-nonpast   start/plan-past-Q
    'Which person$_j$ who is not likely to do it$_i$ started/planned [PRO$_j$ to criticize his$_j$ friend]$_i$?'
  b. [e$_j$ soitu$_j$ -no yuujin-o   hihansu- ru]$_i$ -koto-ga [[t sore$_i$-o si-soo-mo-nai] dare]$_j$
        'the guy'-gen friend-acc criticize-nonpast   it -acc do-seem-even-not who
    -niyotte hajime-rare/keikakus-are -ta-no?
    -by   start-pass/plan-pass -past-Q
    '[PRO$_j$ to criticize his$_j$ friend$_k$]$_i$ was started/planned by which person$_j$ who is not likely to do it$_i$?'
An alternative way to ensure that the complement is in an A-position in (ib) is to have recourse to c-command requirement of the pronoun *sore*. That is, at least some speakers require that *sore*, in its non-deictic use, should be c-commanded by its antecedent at LF (see Ueyama 1998, for detailed discussions on this requirement as well as syntactic requirements on *so*-words in general). Those speakers judge the example in (iib) to be worse than the one in (iia).
(ii) a. ?(?)[[t sore$_i$-o si-soo-mo-nai] hito]$_j$ -ga [e$_j$ yuujin -o hihansu-ru]$_i$-koto-o
            it -acc do-seem-even-not person-nom friend -acc criticize-nonpast
    hajime/keikakusi-ta
    start/plan-past
    'A person$_j$ who is not likely to do it$_i$ started/planned [PRO$_j$ to criticize his$_j$ friend]$_i$'
  b. [e$_j$ yuujin-o hihansu- ru]$_i$ -koto-ga [[t sore$_i$-o si-soo-mo-nai] hito]$_j$-niyotte
            friend-acc criticize-nonpast   it -acc do-seem-even-not person-by
    hajime-rare/keikakus-are-ta
    start-pass/plan-pass -past
In (iia), the pronoun sore fails to be c-commanded by the complement, which results in the less acceptability. In contrast to this, (iib) is completely grammatical. It follows that in the alternative example of PRO gates in (ib), the SC complement stays at the moved position at LF.
    Akira Watanabe (p.c.) points out another problem about multiple-wh constructions. That is, the example in (20a) is not degraded to speakers those who use the operation of absorption in the sense of Higginbotham and May (1981) (by which a sequence of simple operators is mapped onto a single complex operator). In that case, it is impossible to detect the contrast between (20a) and (20b). Furthermore, as is suggested by Daiko Takahashi (p.c.) and Akira Watanabe (p.c.), the examples might be ameliorated if the reflexive *zibun* 'self' is used instead of the pronoun *soitu*. A potential problem of the use of *soitu* is that it might have to be locally A-free (which seems to depend on speakers) (see also note 13). Although there might be these and other interfering factors involved in the examples discussed in this section, I present them as a first approximation of the examples of PRO gates in Japanese.

antecedent of *sore* 'it'.

Now, the sentences in (20) below exemplify PRO gates in the SC complements.

(20) a. ?*[[t sore$_i$-o si-soo-mo-nai] dare]$_j$-ga [e$_j$ doko$_k$-de soitu$_j$ -no yuujin-o

it -acc do-seem-even-not who-nom where-at 'the guy'-gen friend-acc

hihansu-ru]$_i$ -koto-o hajime/keikakusi-ta-no?

criticize-nonpast   start/plan -past-Q

'Which person$_j$ who is not likely to do it$_i$ started/planned [PRO$_j$ to criticize his$_j$

friend where$_k$]$_i$?'

b. [e$_j$ doko$_k$-de soitu$_j$ -no yuujin-o hihansu- ru]$_i$ -koto-ga [[t sore$_i$-o

where-at 'the guy'-gen friend-acc criticize-nonpast   it -acc

si-soo-mo-nai] dare]$_j$-niyotte hajime-rare/keikakus-are -ta no?

do-seem-even-not who -by start-pass /plan-pass -past-Q

'[PRO$_j$ to criticize his$_j$ friend where$_k$]$_i$ was started/planned by which person$_j$ who

is not likely to do it$_i$?'

In these examples, the agent NP *hito* 'person' in (18-19) above is changed into the wh-phrase *dare* 'who', which is the controller of the embedded empty subject. The sentence in (20a) is degraded because of the WCO effect. That is, the intended bound reading of *sore* 'it' is illicit. On the other hand, the example in (20b) significantly sounds better than (20a). Since the passivized complement clause in (20b) is in an A-position at LF, a WCO configuration such as in (20a) is avoided. Although the difference in judgements might be subtle, what is important here is the fact that the interpretation of *soitu* 'the guy' as a variable bound by *dare* 'who' is allowable in (20b), but not in (20a).[15] Since the LF structure of (20b) corresponds to (17) above, it is assumed that an empty subject of the SC complement can be PRO.

Second, let us turn to the OC complements. The example in (21a) below exhibits a WCO effect of the same kind as discussed in the case of the SC complement as shown in (18) above. In (21b) below, on the other hand, the WCO effect disappears by clause-internal scrambling of the OC complement. It follows that the moved complement stays at the scrambled position at LF.[16]

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[16] As for clause-internal scrambling of NPs, Yoshimura (1992) argues that it can be A-movement, since it remedies a WCO violation (see Saito 1992 for theoretical discussions on relevant data). Interestingly, the fact shown in (21) indicates that a complement clause can also undergo clause-internal A-scrambling. See Uchibori (2000) for discussion on nominal features of the so-called control complements and its relevance to the mechanism of A-scrambling.

(21) a. ?*[[t sore$_i$-o meiji-soo-mo-nai] hito] -ga John$_j$ -ni [e$_j$ doko$_k$-de yuujin-o

              it -acc order-seem-even-not person-nom -dat   where-at friend-acc

hihansu-ru]$_i$ -yoo (ni (to)) meiji-ta-no?

criticize-nonpast   order-past-Q

'A person who is not likely to order it$_i$ ordered John$_j$ [PRO$_j$ to criticize his friends

where$_k$]$_i$?'

b. [e$_j$ doko$_k$-de yuujin-o hihansu- ru]$_i$ -yoo (ni (to)) [[t sore$_i$-o meeji-soo-mo-nai]

          where-at friend-acc criticize-nonpast   it -acc order-seem-even-not

hito] -ga John$_j$-ni meiji-ta-no?

person-nom   -dat start-pass-past-Q

The followings are examples of PRO gates in the OC complements. The empty subject
of the OC complement is controlled by the matrix wh-operator, *dare* 'who'.

(22) a. ?* [[t sore$_i$-o meiji-soo-mo-nai]   hito] -ga   dare$_j$ -ni [e$_j$ doko$_k$-de soitu$_j$ -no

            it -acc order-seem-even-not person-nom who-dat where-at 'the guy'-gen

yuujin-o hihansu-ru -yoo (ni (to))]$_i$ meiji-ta-no?

            friend-acc criticize-nonpast order-past-Q

'A person who is not likely to order it$_i$ ordered whom$_j$ [PRO$_j$ to criticize his$_j$ friend

where$_k$]$_i$?'

b. [e$_j$ doko$_k$-de soitu$_j$ -no yuujin-o hihansu- ru -yoo (ni (to))]$_i$ [[e$_j$ sore$_i$-o

          where-at 'the guy'-gen friend-acc criticize-nonpast   it -acc

si-soo-mo-nai] hito]-ga   dare$_j$-ni meiji-ta-no?

do-seem-even-not person-nom who-dat order-past-Q

Since the bound reading of *soitu* in the OC complement is possible in (22b), it is sug-
gested that the empty subject is PRO. The acceptable status of (22b) becomes clearer if
it is compared with examples in which a lexical subject appears in a non-control com-
plement clause.[17] Consider the example of a WCO structure with a non-control com-
plement in (23a), and that of cancellation of the WCO structure in (23b).[18]

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[17] The empty subject in the examples in (22b) should be also compared with degraded examples where a controlled
pro subject occurs in a non-control clause. I here omit discussion on the relevant examples, since much complica-
tions are involved there as discussed in note 13 and 15.

[18] A question immediately arises about what kind of A-movement the complement in (23b) undergoes. The comple-
ment might fill the subject position as a result of passivization. Another possibility is that the complement is moved
by clause-internal A-scrambling. The next question is, then, what feature drives passivization/A-scrambling and
whether the complement at issue possess a feature that agrees with the trigger feature of the movement. These ques-
tions ought to be explored in future research.

(23) a. ?*/??[[t sore$_i$-o ii-soo-mo-nai] hito] -ga minna-ni [Taro-ga doko$_k$-de

　　　　　　　it -acc say-seem-even-not person-nom all-dat　-nom where-at '

Jiro-o hihansi-ta to]$_i$ hookokusi-ta no?

　　　-acc criticize-past comp report-past Q

'A person$_j$ who is not likely to say it$_i$ reported to all that Taro criticized Jiro

where$_k$]$_i$?'

b. [Taro-ga doko$_k$-de Jiro-o hihansi-ta to]$_i$ [[t　　sore$_i$-o ii-soo-mo-nai]

　　　　　-nom where-at　-acc criticize-past comp it -acc say-seem-even-not

hito]-niyotte minna-ni hookokus-are-ta no?

person-by　　all-dat report-pass-past Q

'That [John criticized his$_j$ friend where$_k$]$_i$ was reported by a person$_j$ that is not like-

ly to say it$_i$?'

Given this, compare (22b) above with (24b).

(24) a. ?*/??[[t sore$_i$-o ii-soo-mo-nai]　　hito] -ga　　dare$_j$-ni [John-ga doko$_k$-de

　　　　　　　it -acc say-seem-even-not person-nom who-dat -nom where-at

soitu$_j$ -no yuujin-o　　　hihansi-ta to]$_i$ mina-ni hookokusi-ta no?

'the guy'-gen friend-acc criticize-past comp all-dat report-past Q

'Which person$_j$ who is not likely to say it$_i$ reported to all that John criticized

his$_j$ friend where$_k$]$_i$?'

b. ?*[John-ga doko$_k$-de soitu$_j$-no yuujin-o　　　　hihansi-ta to]$_i$ [[t　sore$_i$-o

　　　　　　　-nom where-at 'the guy'-gen friend-acc criticize-past comp it -acc

ii-soo-mo-nai] hito] -ga　　　dare$_j$ -niyotte hookokus-are-ta no?

say-seem-even-not person-nom who-by report-pass-past Q

'That [John criticized his$_j$ friend where$_k$]$_i$ was reported by a person$_j$ that is not

likely to say it$_i$?'

Notice that (24b) is much degraded than (22b). This fact also supports the assumption

that the example of the OC complements in (22b) is an instance of PRO gates.

Consequently, an empty subject of the OC complement as well as the SC complements

are assumed to be PRO.

4. Conclusion

I have shown so far (1) that the so-called control complements are not necessarily

strictly control clauses, but sometimes semi-control clauses, (2) overt nominative sub-

jects and *pro* are available whether they are controlled or semi-controlled with one exception; namely, the case in which SC complements of aspectual verbs and verbs meaning 'try' denote a momentary action (see section 2), and (3) even in those complements where nominative Case is basically licensed, PRO subjects are also allowed.

Let us here observe another restriction on the tense property of the complements that correlates with the distributions of controlled PRO and of semi-controlled *pro*. Nakau (1973) points out that these complements differ as to whether they make a time reference that is independent from the one made by the matrix. The SC complements selected by the aspectual verbs and the verbs of trying cannot make a time reference independent from the time reference made by the matrix, and are always interpreted either as being simultaneous with the matrix tense or as being generic/habitual. In the example in (25), since the matrix clause refers to the event in past, the complement cannot be modified by a different temporal adverb such as *ima/asu* 'now/tomorrow'.

(25) slightly modified from Nakau's (1973) example:VI.2.1.(19)

  *John$_i$-wa [e$_i$ ima/asu umi-de oyog-u koto-o] kinoo hajime/kokoromi-ta

    -top now/tomorrow sea-dat swim-nonpast   yesterday start/try-past

  '*Yesterday, John started/tried to swim in the sea now/tomorrow.'

On the other hand, the SC complements selected by the other verbs and the OC complements can make an independent time reference.

(26) John$_i$-wa [e$_i$ ima/asu umi-de oyog-u koto-o] kinoo keikakusi/kime-ta

    -top now/tomorrow sea-dat swim-nonpast   yesterday plan/decide-past

  'Yesterday, John planned/decided to swim in the sea now/tomorrow.'

(27) John-wa Mary$_i$-ni [e$_i$ ima/asu umi-de oyog-u yoo (ni (-to)) /koto-o]

    -top -dat now/tomorrow sea-dat swim-nonpast

  kinoo meiji-ta

  yesterday order-past

  'Yesterday, John wanted Mary to swim in the sea now/tomorrow.'

Recall that these complements in (26-27) freely allow *pro*/nominative subjects in contrast to the one in (25), as discussed in section 2. That is, the same dichotomy among verbs selecting the so-called control complements is applied also to this distinction in the tense property, i.e., whether the complement is able to make a specific time reference. Further investigation of the correlation among the tense property of a clause, the control property of the clause, the Case property for its subject, should be necessary,

which is beyond the scope of this paper. [19]

The following summarizes what I have shown in this paper.

(28)

Control type/ governing verbs	denoted action	time reference	controlled Nom/PRO	semi-controlled Nom/*pro*
OC/verbs of 'order/wish' SC/verbs of 'plan/decide'	future	OK	OK	OK
SC/aspectual verbs verbs of 'try'	simultaneous	*	OK	OK only if the complement does not denote a momentary action

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[19] Uchibori (1997, 2000) argues that the so-called 'control' complements are subjunctive clauses. Watanabe (1996a) independently maintains that a clause headed by -*koto* is subjunctive. See Uchibori (2000) for more detailed discussions on relevant topics.

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