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Domains of Finiteness in Japanese Control Structures

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日本語のコントロール構造における定形性の領域

坂口　真理

英語の不定詞に対応する日本語の表現は、従来から動詞の連用形だと言われている。

しかし、例えば、「明日大学へ行くと約束した」という文の「行く」も不定形ではないだろうか。この「行く」は過去形の動詞と交換することはできない。上のような文をコントロール構造とよび、その特性を動詞・時制・補文の３つの領域に関して、考察する。

第１節では、主節の動詞によって、補文の動詞の時制のとり方が多様になる構造とならない構造と全く時制要素をとらない構造という３種類に分類する。第２節では、上で分類した３構造の補文の主語の解釈と時の副詞を用いた時制の解釈について論じる。第３節では、３構造における否定極性項目の解釈の相違と疑問詞の作用域の解釈について述べる。

結論として、日本語の定形性は動詞・時制・補文の３つの領域に関して、形態的に２区分ではなく、３区分に分けられ、この３構造の違いを反映して、否定極性項目や疑問詞の作用域の解釈などが、統語的にも異なる振る舞いをすると主張する。本論文の分析は、三原(2012)や内堀(2007)の分析と問題意識を同じくする。

キーワード：定形性，時制の多様性，コントロール構造

0．Introduction

It is controversial how the notion of finiteness can be defined in a language like Japanese, which has no overt subject-verb agreement morphology. However, recent literature in Japanese linguistics abound in arguments that finiteness can be defined in a theoretically meaningful way. (Uchibori (2007), Mihara (2012), Akuzawa and Kubota (2019), Kubota and Akuzawa (2020), Tagawa(2019), to name just a few.)

Following Nikolaeva (2007) and Adger (2007), I will consider three domains in which finiteness features are displayed:1) Main Clausehood, 2) Tense, and 3) Agreement. These three domains are treated as A-bar, A, and theta-positions (in Chomsky's Government and Binding theory), and corresponds to the heads C, T, and V in the generative framework. For the ease of exposition, we will look at these finiteness

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features in reverse order V, T, and C.

First, it will be shown that the distinction of control and non-control structures in Japanese is based on the three-way distinction on the embedded verb forms in Section 1 below. Japanese embedded verbs which takes *–ru* affix that do not alternate with *–ta* affix have finite forms based on the Tense Variation Criterion proposed by Sakaguchi (1990).

Secondly, in Section 2, the position of the overt subjects in the embedded clause and anchoring of tenses are examined in control and non-control structures. It will be shown that embedded verbs with non-alternating ru-forms allow empty subjects and reflexive *zibun* and pronouns with controlled interpretation, but do not allow lexical NPs with disjoint-referential meaning.

Thirdly, in Section 3, in order to determine the existence of CP in embedded clauses, the domain of Negative Polarity Item (NPI) *sika ~nai* is examined in 3.1. The scope of wh-elements in embedded clause is explored in 3.2. It will be shown that NPI *sika~nai* is only allowed in control structures with embedded complex verbs without tense-markers. On the other hand, control structures uniformly and unambiguously express wide scope reading for wh-elements.

The analysis in this paper is along the lines of Uchibori (2007) and Mihara (2012). It is proposed that the notion of finiteness in Japanese can be expressed by at least 3-way distinctions that are required by its morphology and syntax.

1. Verb forms and Tense Variation Criterion

In this section, as a point of departure, I will recapitulate the Tense Variation Criterion proposed in Sakaguchi (1990) in (1), which introduces the three way classification of embedded verbs in Japanese.

(1) Tense Variation Criterion – Embedded verbs in control structures do not have the flexibility of taking various tense or modal suffixes (i.e. past tense-*ta*, present tense-*ru* and modal *daroo*.)

The idea in (1) is not new and observations abound in the literature of Japanese linguistics. (For instance, Mikami 1953, Mihara 2012). Tense Variation Criterion in (1) can be regarded as a morphological requirement on the embedded verbs. It classifies embedded verbs into the following three categories:

1) embedded verbs which can take various tense suffixes
   (non-control structures)
   a. complement clauses
   b. relative clauses

2) embedded verbs which cannot have tense variation
(control structures)
a. object control verbs
b. subject control verbs
c. arbitrary control

3) embedded verbs which cannot directly take tense suffixes at all
(control structures)
a. causative *–ase* (object control)
b. passive *–are* (object control)
c. want (adj.)*-tai* (subject control)
-te hosii (object control)[1]
d. other ren'yookei forms of verbs

Verbs in 3) are embedded inside other predicates such as the causative or passive, etc. As for the verbs in 3), at some point in the history of generative grammar, bi-clausal structures were proposed, assuming PRO as subject for these clauses.

The following are the (non-exhaustive) examples of matrix verbs in non-control and control structures.

(2) 1. matrix verbs in non-control structures take the complementizer *to*

i-u (say)
omo-u (think)
sinzi-ru (believe)

2. matrix verbs in control structures
object control verbs take the complementizer *yoo-ni*

i-u (say)
tanom-u (ask)
meizi-ru (order)
settokusu-ru (persuade)

subject control verbs take the complementizer *to*

(*V+oo*) *to suru* (try)
to yakusokusu-ru (promise)
to chika-u (vow)
to mooside-ru (offer)

Object control verbs in (2) have an imperative meaning and overlap with matrix verbs in subjunctives discussed in Uchibori (2007). Subject control verbs in (2) can be performative verbs.

Object control verbs take the complementizer *yooni* while subject control verbs

take the complementizer *to* that is indistinguishable from the complementizer *to* in the non-control structures. Thus, Tense Variation Criterion in (1) is needed to differentiate subject control structures from non-control structures.

Let us look at the examples. Non-control structures in (3) allow the embedded verbs to be in any kind of tense forms; present, past, and modals such as *daroo* (will). On the other hand, in object control structures with *yooni,* the embedded verbs are acceptable only in the present tense forms as shown in (4). There are embedded verbs which exclusively take past-tense forms observing (1), but we will not discuss them in this paper.[2]

(3) non-control structures
Taroo-ga Ziroo-ni [Hanako-ga {ku-ru-daroo/ ku-ru/ ki-ta}] to i-tta.[3]
-nom -dat -nom come-pres-mod/ come-pres/ come-pst cp say-pst
"Taroo said to Ziroo that Hanako {will come/ comes/ came }."

(4) object control
Taroo$_i$-ga Ziroo$_j$-ni [[e]$_{i/j}$ kuruma-o {*naos-u-daroo/ naos-u/ *naosi-ta}]yooni i-tta.
-nom -dat car -acc *fix-pres-mod/ fix-pres/ *fix-pst cp say-pst
"Taroo said to Ziroo {*will fix/ to fix/ * fixed } the car."

The empty subject [e] in (4) is controlled obligatorily by the object *Ziroo*.

As shown in the following examples, subject control structures and arbitrary control structures also disallow tense variation in the embedded clause.

(5) subject control
Taroo$_i$-ga Ziroo$_j$-ni [[e]$_{i/*j}$ kuruma-o {*naos-u-daroo/naos-u/*naosi-ta}]-to mooside-ta.
-nom -dat car-acc *fix-pres-mod/ fix-pres/ *fix-pst -cp offer-pst
"Taroo offered to fix the car for Ziroo."

(6) arbitrary control
a. [[e] tabako-o { *su-u-daroo/ su-u / *su-tta}]-no-wa yoku-nai.[4]
tobacco-acc {*smoke-pres-mod/smoke-pres/ *smoke-pst}-cp-top good-neg
"(It) is not good to smoke (pres)."
b. [[e] shokuzi-o {*su-ru-daroo/su-ru/*si-ta}] zikan-ga nai.
meal-acc {*do-pres-mod/do-pres/*do-pst} time-nom neg
"There is no time to take a meal."

The empty subject [e] in (5) is obligatorily controlled by the subject *Taroo*, whereas [e] in (6a) and (6b) have an unspecified or generic controller which may be decided by the context. The empty subjects in obligatory control structures will be discussed more in

the next section.

2. Tense and the subject position of the non-finite clauses

According to Government and Binding Theory (Chomsky 1981), the null subjects of certain infinitive clauses are called PRO. The PRO theorem dictates that the distribution of PRO is restricted to non-finite clauses and the subject position of the infinitives are ungoverned in English. Cross-linguistically a lot of languages are found not to obey the PRO theorem.

The examples in (7a) show that in English no lexical NPs are licensed in the subject position of the infinitive control structures. On the other hand, in (7b) Japanese control structures allow the reflexive *zibun* and the pronoun *kare* to be in the subject position. Only the disjoint-referential NP *Hanako* is disallowed in this position.

(7) a. Bill$_i$ tried {PRO$_i$ / *himself/ *him/*Mary} to leave.
b. Taroo$_i$-ga [{ [e]$_i$/ zibun$_i$-ga/ kare$_{i/*j}$-ga/ *Hanako-ga} ik-oo] to si-ta.[5]
-nom [e]/ self-nom/ he-nom/ *hanako-nom go-vol. cp do-pst
"Taroo$_i$ tried {[e]$_i$/ self$_i$/ he$_i$/ *Hanako} to go." (subject control structure)

A similar distribution of reflexives, pronouns, and referential NPs in Korean is discussed by Borer (1988). At least in Japanese and Korean we have to assume that the subject position of the embedded clause can be governed and Case-marked. I will regard the empty subject [e] in (7b) as pro, following Kubota and Akuzawa (2020).

The interpretations of the controlled reflexives and pronouns systematically differ from the interpretations of reflexives and pronouns in non-control finite structures. In non-control structures, the reflexive *zibun* must refer to the subject NP of the matrix clause as shown in (8).

(8) non-control structures with reflexive *zibun*
Taroo$_i$-ga Ziroo$_j$-ni [zibun$_{i/*j}$-ga Ken-o utaga-ttei-ru] to i-tta.
-nom -dat self-nom -acc doubt-asp-pres cp say-pst
"Taroo$_i$ said to Jiroo$_j$ that self$_{i/*j}$ doubted Ken."

Pronouns in non-control structures are three-ways ambiguous as shown in (9): they may refer to the subject NP, the object NP, or the NP outside the sentence.

(9) non-control structure with a pronoun *kare*
Taroo$_i$-ga Ziroo$_j$-ni [kare$_{i/j/k}$-ga Hanako-o aisi-tei-ta] to i-tta.
T -nom -dat he-nom H -acc love-asp-pst cp say-pst
"Taroo$_i$ said to Ziroo$_j$ that he$_{i/j/k}$ loved Hanako."

The interpretation of *kare* in non-control structure (9) clearly differs from the interpretation of *kare* in control structure (7b).

In this section, it was shown that overt subjects are allowed in Japanese control structures with embedded verbs in 2) which do not have tense alternation. Only overt subjects with control interpretation are allowed and those NPs with disjoint reference are not allowed.

On the other hand, control structures with complex predicates without tense-markers in 3) do not allow overt subjects.

(10) control structures in 3)
Taroo-ga Hanako-ni [[{PRO/*Ziroo-ga} sika]-rare]-ta
-nom -by *Ziroo-nom scold-pass-pst
"Taroo was scolded by Hanako."

Besides the presence of the subject in the embedded clause, another test for finiteness is said to be the anchoring of tense.

In non-control structures, the tense of the matrix clause and the tense of the embedded clause can be independently anchored as shown by time-adverbials *rainen* (next year) and *kinoo* (yesterday) in (11):

(11) Taroo$_i$-ga Ziroo-ni [rainen [e]$_i$ Amerika-ni ik-u-kamosirenai] to kinoo i-tta.
-nom -dat next-year America-to go-pres-may cp yesterday say-pst
"Taroo$_i$ said yesterday to Ziroo that [(he)$_i$ might go to America next year]."

Not all control structures disallow anchoring of a separate tense. Control structures in 2) have varied results:[6]

(12) (subject control)
a. *Kinoo Taroo$_i$-wa [asu [e]$_i$ Hanako-ni a-oo] to si-ta.
yesterday -top tomorrow -dat see-vol. cp try-pass
"*Yesterday Taroo tried to see Hanako tomorrow."
b. Kyonen Hanako$_i$-wa Taroo-ni [[e]$_i$ kotosi-wa ganbatte benkyoosu-ru]
last year -top -dat this year-top hard study-pres
{ to/koto-o} yakusokusi-ta.
cp/ KOTO-acc promise-pst
"Last year Hanako promised to Taroo that she would study hard this year."
c. (object control)
Kinoo Hanako-wa Taroo$_i$-ni [asu [e]$_i$ heya-o soozisu-ru] yooni meizi-ta.
yesterday -top -dat tomorrow room-acc clean-pres cp order-pst
"Yesterday Hanako ordered Taroo to clean the room tomorrow."

In control structures 3) without tense markers, separate time-adverbials cannot be used to mark the embedded tense.

(13) control structures with complex predicates without tense markers

a. *Kinoo Hanako-wa Taroo$_i$-ni [asu [e]$_i$ heya-o soozisi]-te hosi- ga-ttei-ta.
yesterday -top -dat tomorrow room-acc clean-TE want GAR-asp-pst
"*Yesterday Hanako wanted Taroo to clean the room tomorrow.(object control)

b. *Hanako-wa kinoo Ziroo-ni asu sika-rare-ta.
-top yesterday -by tomorrow scold-pass-pst
"*Yesterday Hanako was scolded by Ziroo tomorrow."

Although further data must be examined for the anchoring of tense, the properties of control structures disallow distinct time-adverbials when they have no tense markers on embedded verbs. In the case of examples like (13), the events expressed in the clause are considered to be one event.

In this section, we have discussed the presence of the overt subject in the embedded clause and the anchoring of tense in non-control and control structures. The results are summarized in Table 1. (The numbers in the parentheses are examples discussed in this paper.)

(14) Table 1 Presence of Subjects and Anchoring of Tense

	The presence of overt subjects in the embedded clauses	**Anchoring of tense by time-adverbials**
1) non-control structures	allowed (3),(8),(9)	two separate tenses (11)
2) embedded verbs with no tense alternations	[e] or controlled reflexives and pronouns (4), (5),(7b)	two tenses or one tense (depends on the matrix verb) (12)
3) embedded verbs with no tense intervening	disallowed (10)	one tense (13)

Empty subjects in 1) and 2) are regarded as pro since they appear in governed, Case-marked positions. On the other hand, the empty subjects in 3) behave like the subject of infinitives (PRO) in English.

In order to visualize the differences in these structures, I will utilize Noda's (2012) diagram with minor modifications. Table 1' expresses predicate projections of three different structures in (14) with examples along the line of Noda (2012). Noda distinguishes "X" from "/". "X" means that the lexical item is not selected by the speaker and "/" implies that the element is left unspecified by the requirement of morphology or

syntax. The verb stem in the leftmost column is the embedded verb. The element in the CP [-WH] at the rightmost column is selected by the matrix verb in the larger sentence. The CP [+WH] is the CP in the embedded clause.

(15) Table 1' Predicate projections in Japanese

	Verb stem	Voice	Aspect	Neg	pol	tense	mood	CP [+WH]	CP (matrix) [-WH]
1) non-control str.	tabe	X	X	naka	X	tta/ru	daroo	ka-	to
2) embedded v. with no alternations	tabe	X	X	nai	X	*ta/ru			yooni
3) embedded v. with no tense intervening	tabe	(-sase) -rare	X	naka	X	tta/ru	daroo	ka	

The results in this section show that overt subjects in non-control structures 1) (finite clauses) are licensed by the embedded tense. The subjects in control structures 2) are licensed, for instance, by the embedded present tense morpheme *-ru* which was selected by the complementizer *yooni*. On the other hand, in control structures 3), the tense morpheme *ta/ru* does not intervene in the Verb-Voice-Aspect Neg+Pol morpheme sequence. The tense morpheme *ta/ru* in 3) is the only possible position in the projection. In other words, *ta/ru* in 3) is regarded as a tense marker for the embedded verb *-tabe* as well as the matrix verb *-sase*.

In 1), two different time-adverbials may be used to indicate that the event time of the embedded clause may differ from that of the matrix clause. In 2), one or two events may be expressed by the time adverbials. This may be due to the lexical semantics of the matrix verb. In 3), only one event is expressed by the complex verb.

The behaviors of the subjects and time-adverbials in Table 1 show that the tense is in the embedded clause has a three-way distinction; 1) has a full-fledged tense like the matrix clauses, 2) has a tense which depends on the properties of matrix verbs, and 3) has no tense directly on the embedded verb.

3. Complementizers and the domain of NPIs and Wh-elements

In this section, the status of CP in the embedded clause in control and non-control structures are discussed. First, the domain of Negative Polarity Item (NPI) *sika ~ nai* is discussed, and then the scope of the wh-element.

3.1. Domain of Negative Polarity Items

In this section, the NPI *sika ~ nai* is used to capture the difference between control and non-control structures. The following examples in (16) show that NPI *sika ~ nai*

obeys the clause-mate condition, as pointed out by Muraki (1978).[7]

(16) a. Taroo-wa [Hanako-ga kono hon sika kawa-naka-tta] to i-tta.
-top -nom this book SIKA buy- neg-pst cp say-pst
"Taroo said that Hanako bought only this book."
b. *Taroo-wa [Hanako-ga kono hon sika ka-tta] to iwa-naka-tta.
-top -nom this book SIKA buy-pst cp say-neg-pst
"*Taroo didn't say that Hanako bought anything but this book."

(16b) is unacceptable because *sika* cannot be licensed by the negative morpheme *–nai* outside the embedded clause.

Let us look at the behavior of *sika* ~ *nai* in control structures in 2). Examples in (17) are marginal at best.

(17) a. (object control)
?? Taroo-wa Hanako-ni [[e] kono hon-sika ka-u] yooni tanoma-naka-tta.
-top -dat this book-SIKA buy-pres cp ask-neg-pst
"??Taroo didn't ask Hanako to buy anything but this book."
b. (subject control)
?? Taroo-wa Hanako-ni [[e] kono hon-sika ka-u] to yakusokusi-naka-tta.
-top -dat this book-SIKA buy-pres cp promise-neg-pst
"?? Taroo didn't promise Hanako to buy anything but this book."

As for control structures without embedded tense-markers in 3), *sika* is licensed by *nai* because they are clause-mates. There is no tense-marker to intervene *sika* and *nai*.

(18) Taroo-wa Hanako$_i$-ni [[PRO$_i$ kono hon-sika yom-]-ase]-naka-tta.
-top -dat this book-SIKA read- CAUSE-neg-pst
"Taroo caused Hanako to PRO read only this book."

It has been shown that acceptability of the NPI changes depending on the structures they are used in. As shown in Table 1' in (15), *sika* in the embedded clause may be licensed by the negation in the embedded clause, but not by the negation in the matrix clause in 1) and 2).

3.2. The Scope of Wh-elements

Sakaguchi (1990) argues that wh-elements in controlled embedded clause take only the wide scope readings and not the narrow scope readings. Only in non-control structures, the wide scope reading and the narrow scope reading are possible. This property may be specific to Japanese control structures since English infinitives can

take a wh-complement.

Japanese wh-elements appear in-situ and scopes are obligatorily marked by a clause-final interrogative particle *–ka*. [8]

(19) Hanako-wa nani-o kai-masi-ta-ka.
-top what-acc buy-pol-pst-Q
"What did Hanako buy?"

In non-control structures, the interrogative particle *–ka* may appear either at the end of the embedded clause or at the end of the main clause so long as the subcategorization properties of the predicate is satisfied.

(20) a. Taroo-wa [Hanako-ga nani-o ka-tta-ka] to i-tta.
-top -nom what-acc buy-pst-Q cp say-pst
"Taroo said 'what did Hanako buy?'." (narrow scope)
b. Taroo-wa [Hanako-ga nani-o ka-tta] to i-tta-ka
-top -nom what buy-pst cp say-pst-Q
"What did Taroo said Hanako bought ?" (wide scope)

In (20a), the scope of the wh-element *nani* is the embedded clause, whereas in (20b), the scope of nani is the entire matrix clause.

The complementizer *–to* (which is referred to as a quotative marker by traditional grammarians) never appears in the COMP position of the main clause.

The following example is regarded as a subordinate clause.

(21) [Hanako-ga kae-tta]-to
-nom returned cp
"(Somebody said) Hanako returned."

(20a) is a quotative sentence and (20a') is an indirect question. Both of sentences show the narrow scope reading.

(20a') Taroo-wa [Hanako-ga nani-o ka-tta-ka] i-tta.
-top -nom what-acc buy-pst-Q cp say-pst
"Taroo said what Hanako bought." (narrow scope)

In contrast to non-control structures which allow two types of reading of wh-elements, in control structures in 2) the narrow scope reading is disallowed. Only the wide scope reading is possible.

(22) (object control)

a. *Taroo-wa Ziroo-ni [[e] nani-o naos-u-ka] yooni i-tta.
-top -dat what-acc fix-pres-Q cp say-pst
"*Taroo said to Ziroo to [e] fix what."

b. Taroo-wa Ziroo-ni [[e] nani-o naos-u-] yooni i-tta-ka
-top -dat what-acc fix-pres cp say-pst-Q
"What did Taroo say to Ziroo to [e] fix?"

(23) (subject control)

a. *Taroo-wa Ziroo-ni [[e] nani-o ka-u-ka] to yakusokusi-ta.
-top -dat Ziroo to [e] buy what?"
"*Taroo promised Ziroo what to buy."

b. Taroo-wa Ziroo-ni [[e] nani-o ka-u] to yakusokusi-ta-ka
-top -dat what-acc buy-pres cp promise-pst-Q
"What did Taroo promise to Ziroo to [e] buy?"

Similarly, control structures in 3) allow only the wide scope reading.

(24) control structures without tense

a. *Taroo-wa Ziroo-ni nani-o su-ru-ka-ase--ta?
-top -dat what-acc do-pres –Q-cause-pst
"*Did Taroo make Ziroo do what?"

b. Taroo-wa Ziroo-ni nani-o s-ase-ta-ka?
-top -dat what-acc do-cause-pst-Q
"What did Taroo make Ziroo do?"

We may say that the embedded clauses in control structures do not have the full status of the main clause since they cannot take a wh-scope inside. It is assumed that control structures in 2) do not have [+WH] COMP position, as indicated in Table 1' (15).

3.3. Summary

Arguments in 3.1. and 3.2. are summarized by the following Table 2.

(24) Table 2 NPI licensing and the scope of Wh-elements

	NPI licensing by neg on the matrix verb	**Scope of wh-elements**
1) non-control structures	disallowed (16b)	wide scope reading (20) narrow scope reading
2) embedded verbs with no tense alternations	marginal (17)	only wide scope reading (22) (23)
3) embedded verbs with no tense intervening	allowed (18)	only wide scope reading (24)

Let us look at Table 1' in (15) again.

(15) Table 1' Predicate projections in Japanese

	Verb stem	Voice	Aspect	Neg	pol	tense	mood	CP [+WH]	CP(matrix) [-WH]
1) non-control str.	tabe	X	X	naka	X	tta/ru	daroo	ka-	to
2) embedded v. with no alternations	tabe	X	X	nai	X	*ta/ru			yooni
3) embedded v. with no tense intervening	tabe	(sase)-rare	X	naka	X	tta/ru	daroo	ka	

NPI licensing cannot cross the clause boundary, so (16b) is disallowed and examples in (17) are marginal. In 3), *sika* is licensed by *nai* which is the only negative in the clause. The negative morpheme cannot intervene in the Verb-Voice-Aspect sequence.

The wh-elements in 1) allow wide scope reading because the wh-elements in the embedded clause may be syntactically bound by *ka* in the embedded CP as well as the matrix [+WH] *ka*. On the other hand, in 2) the wh-element can only be syntactically bound by the matrix CP. 3) has only one *ka* that binds the wh-element.

It is proposed that the embedded clauses in Japanese control structures 2) do not have a CP, but only an IP.

4. Concluding Remarks

In this paper, we have seen that finiteness in Japanese is manifested in a three-way distinction in embedded verb forms, choice of tense, and CP positions. This three-way distinction is required by the morphology, and reflected in the syntactic behavior of NPI licensing, overt subjects, and the scope of wh-elements.

Further research is needed to find out how the case of Japanese can shed light on other languages which defy the analysis in terms of traditional notion of finiteness.

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Notes

1. In this paper, *-te* forms are not discussed in detail. See Yoshinaga (2012) for a detailed analysis.
2. An example of embedded verbs which exclusively take past tense forms are the following.

(i) John-wa mai - niti [[e] soozisi-ta/*ru atode], hon-o yom-u.
-top everyday clean-past /*pres after book-acc read-pres
"Every day John reads a book after he cleaned up."

3. Throughout the paper, I will abstract away from the difference between the topic marker *-wa* and nominative marker *-ga* in the subject position. No argument here hinges on the distinction between the topic position and the subject position.

4. The past tense form of the verb is only acceptable in non-control structures. Compare (6a) with (i) below:
(i) [[e] tabako-o su-tta] no-wa yoku-nai.
taboco-acc smoke-pst cp-top good-neg
"(It) is not good that [e] smoked."
The empty subject NP in (i) above is an empty pronoun referring to a specific person, whereas the reference of the empty subject in (6a) is arbitrary, and its interpretation is generic.

5. The grammatical examples with *zibun* in (7b) and (8) sound quite emphatic or contrastive. They have a reading "not anybody else but".

6. In (12a), (12b) and (12c), the event in the embedded clause is unrealized with respect to the event expressed by the matrix verb. This is the characteristics of English infinitives as pointed out by Stowell (1982).

7. The condition that NPI *sika* must be licensed by the Neg in the same clause would account for the acceptability in examples (16)～(18).

8. It may be assumed that *-ka* c-commands the wh-element in situ at S-structure, following K. Harada (1971) or the wh-elements move at the CP position at LF to obtain the wh-question interpretation as in Nishigauchi (1990).

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