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ECM subjects in Japanese

Hideki Kishimoto¹

Abstract The present paper argues that ECM subjects undergo A-movement to Spec of ForceP in the subordinate clause, but not to the matrix object position, in Japanese ECM constructions where a complementizer is required for the embedded clause. ECM subjects are argued to move to Spec of ForceP, accessible to the matrix predicate, while a topic fills the lower TopP. It is suggested that an ECM subject appears in ForceP on the grounds that it enters into ϕ -feature agreement with the Force head, and that the Case feature of the ECM subject is valued as accusative by the matrix verb. It is further shown that when a major subject construction where both major subject and thematic subject are marked with nominative case is embedded under the ECM verb, the major subject rather than the thematic subject of the embedded predicate is raised to Spec of ForceP to serve as an ECM argument.

Keywords Exceptional Case Marking • Japanese • Case • C-system • A-movement • labeling • ϕ -feature agreement

1 Introduction

Exceptional Case-Marking (ECM) constructions, where the subjects of embedded clauses are marked with accusative case, are found in many languages. ECM constructions have a number of properties that differ from those found in canonical subject marking constructions, most typically, nominative subject constructions. In Japanese ECM constructions, unlike English ECM constructions, a complementizer is required for the embedded clause. English ECM constructions are often analyzed as taking TP-complements (with no higher projection like CP) owing to the fact that a complementizer is not realized in any way. Obviously, this analysis

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cannot be extended to Japanese ECM constructions. Consequently, a theoretical question arises about how Japanese ECM constructions can be treated.

In the present paper, it is argued that in Japanese ECM constructions, the embedded subject undergoes A-movement to Spec of ForceP—but not to the matrix object position—appearing at the edge of the subordinate clause, but not to the matrix object position. It is suggested that ECM subjects are raised to Spec of ForceP, and enter into ϕ -feature agreement with the Force head, and that since Spec of ForceP is visible from the upper clause, the Case feature on the ECM subjects is valued as ‘accusative’ by the matrix *v* head—a Case-licensing head which asymmetrically c-commands them. The data on ECM constructions lead to the conclusion that Case-licensing heads may be distinct from heads invoking ϕ -feature agreement in Japanese (cf. Chomsky 2008).²

The discussion proceeds as follows. Section 2 discusses some crucial properties of Japanese ECM constructions and goes over a controversy on the position of ECM subjects in the Japanese literature. Section 3 presents some new arrays of empirical evidence that in Japanese, ECM subjects remain in the embedded clause with no A-movement into the matrix object position. This section shows that ECM subjects undergo A-movement into Spec of ForceP in the embedded clause, to which the upper verb can have access for Case valuation (with no violation of the Phase Impenetrability Condition (PIC)). In section 4, it is shown that in ECM constructions formed by embedding major subject constructions under the ECM verbs, the major subject rather than the thematic subject of the embedded predicate undergoes A-movement. A conclusion is presented in Section 5.

2 The structural position of subjects

In Japanese, subjects are most typically marked with nominative case, but can be marked with accusative case as well when they appear in the complement clauses taken by verbs like *iu* ‘say’ and *omou* ‘think’.³ These verbs can construct Exceptional Case-Marking (ECM) constructions.

² In this paper, I refer to structural Case with upper-case “Case”, and morphological case with lower-case “case”.

³ Verbs like *omou* ‘think’, *iu* ‘say’, *kangaeru* ‘consider’, *utagau* ‘suspect’, *sinziru* ‘believe’, *katei/soutei-suru* ‘assume’, etc. can take ECM complement clauses or nominative-subject complement clauses. On the other hand, verbs such as *toru* ‘take’ and *minasu* ‘regard’ take ECM

One notable property of Japanese ECM constructions is that the complementizer *to* ‘that’ is required for the embedded clause, just like an ordinary embedded clause with a nominative subject, as seen in (2).

- (2) a. Ken-wa [Eri-o kawai-i *(to)] it-ta/omot-ta.
 Ken-TOP Eri-ACC cute-PRS COMP say-PST/think-PST
 (lit.) ‘Ken said/thought Eri to be cute.’
- b. Ken-wa [Eri-ga kawai-i *(to)] it-ta/omot-ta.
 Ken-TOP Eri-NOM cute-PRS COMP say-PST/think-PST
 ‘Ken said/thought that Eri was cute.’

In languages like English, by contrast, no complementizer is allowed to appear in ECM constructions. Accordingly, English ECM constructions are often analyzed as taking TP- rather than CP-complement structure (Massam 1985; Chomsky 1986; Bošković 1997, 2016; cf. Postal 1974).

- (3) a. John believes/expects/considers [Mary/her to be honest].
- b. [_{CP} [_{TP} John believes/expects/considers [_{TP} Mary/her to be honest]]]

While it is possible to analyze ECM constructions in English as possessing complement clauses with less than full clausal projections lacking CP, this analysis cannot be carried over to Japanese ECM constructions, given the fact that they must comprise a complementizer, indicating that C-related projections (located above TP) are included in the subordinate clause. This raises the question of where ECM subjects are located in Japanese.

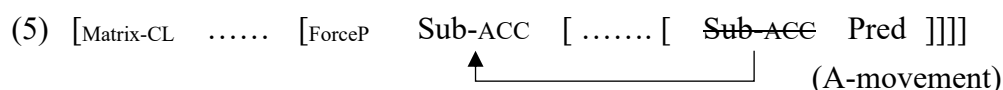
With regard to the position of Japanese ECM subjects, two major views are available in the Japanese literature. One view is that ECM subjects appear in the matrix object position, and another view is that ECM subjects are located in the embedded clause.

- (4) a. [_{Matrix-CL} Sub-ACC_i [_{Subord-CL} *t_i/pro_i/PRO_i*]]
- b. [_{Matrix-CL} [_{Subord-CL} Sub-ACC]]

complement clauses only. Only stative predicates are allowed to appear in the ECM complement clauses. ECM sentences are found to be degraded, though not severely, if the embedded predicates appear in the past rather than the non-past form.

The “matrix object” view is further divided into two types. One type of analysis (e.g. Kuno 1976, 2007; Sakai 1998; Tanaka 2002) holds that ECM subjects are A-moved to the matrix object position from the subordinate clause. The other type of analysis (e.g. Hoji 1991; Takano 2003) maintains that ECM subjects are base-generated matrix objects (and possibly bind the null subject *pro* (or PRO) in the embedded clause). Under the “embedded subject” view (e.g. Kaneko 1988; Takeuchi 2010; Taguchi 2015), ECM subjects are claimed to be located in the embedded CP, unlike ordinary nominative subjects appearing in TP. In this connection, it is also worth noting that Hiraiwa (2001, 2005) claims that ECM subjects appear in the embedded CP, but that they are optionally raised to the matrix object position.

I will argue, in line with the embedded subject view, that in Japanese, ECM subjects are not extracted from the complement clause but occur at the edge of the complement clause, which is generally labeled as “CP”. In the following discussions, I assume the articulated C-system with ForceP-TopP*-FocP-TopP*-FinP, which is proposed by Rizzi (1997, 2004).⁴ There are at least two kinds of elements located above TP, i.e. ECM subjects and topics, and these elements possess distinct properties. This fact suggests that ECM subjects and topics are related to distinct positions in the articulated C-system, which raises the question of precisely where an ECM subject occurs. Since both ECM constructions and embedded nominative subject constructions include the same complementizer *to* ‘that’, it can be assumed that these constructions have the same set of C-related projections, even though ForceP possesses different properties in the two types of constructions (see section 3.2). Given this assumption, I suggest that ECM subjects undergo A-movement from a predicate-internal position to Spec of ForceP in the embedded clause.



ForceP is the topmost projection that closes off the C-system, which determines a clause type (Rizzi 1997), and I assume that in Japanese the Force head may be filled by the complementizer

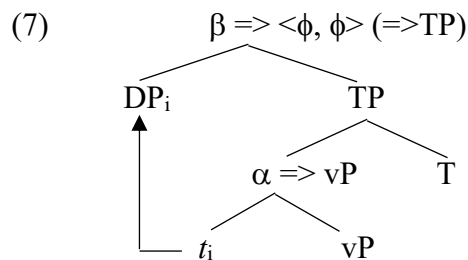
⁴ In Rizzi (1997, 2004), TopP may appear in two distinct positions (indicated by the star (*)), which suggests that TopP may be projected above or below FocP. Since TopP occurs in a lower structural position than ForceP in any case, it is immaterial whether TopP is located above FocP or below FocP for the purposes of the present paper.

to ‘that’, just in the same way as English *that* and Italian *che* ‘that’ are.⁵ As I will discuss below, if ForceP is a phase, Spec of ForceP is accessible from the ECM verb in the matrix clause even though the complement domain of ForceP is not. Accordingly, it is naturally expected that ECM subjects located in Spec of ForceP can be marked with accusative case by the upper verb.

In regard to the question of how A-movement (subject raising) takes place, Chomsky (2013, 2015) proposes that it is motivated by the labeling algorithm (LA) on the assumption that syntactic objects need to be labeled for their interpretation at the interface (see also Rizzi 2015, 2016). According to Chomsky, the label of a new object created by Merge inherits the label of the closest head, which is determined by a minimal search. There are three conceivable cases.

- (6) a. Merge (X, Y) = {X, Y}
- b. Merge (X, YP) = {X, YP}
- c. Merge (XP, YP) = {XP, YP}

(6a) involves a head-head relation, and (6b) a head-phrase relation. In the context of subject raising, (6c), which represents a phrase-phrase relation, is relevant. In (6c), XP and YP have the same status, and a minimal search is ambiguous, locating X and Y, the result of which is that no label can be encoded for the newly created object. In such cases, two distinct mechanisms, i.e. Move and ϕ -feature agreement, may be invoked for labeling. To be concrete, consider (7).



When a subject is merged with vP , a syntactic object α is formed, but is not labeled, for it has the form {DP, vP }. Nevertheless, once the subject DP is moved out of it leaving a trace, labeling is made possible, since the trace does not count for the purpose of the labeling algorithm. Then,

⁵ Under the view taking ForceP to constitute the topmost projection of the C-system, ForceP corresponds to ReportP in Saito’s (2012) analysis. The “ForceP” projection under Saito’s analysis might be regarded as the Japanese analogue of “Int(errogative)P” proposed in Rizzi (2001), which is located in a lower position than ForceP.

α is labeled as vP. The subject displaced from vP is raised to TP. When the raised subject DP is merged with TP, the syntactic object β , which has the form {DP, TP}, is created. If ϕ -feature agreement takes place, β is assigned the label $\langle\phi, \phi\rangle$, and thus, no further movement is invoked. Since T includes ϕ -features, it is postulated here that $\langle\phi, \phi\rangle$ is interpreted as TP in terms of the traditional phrase structure.

In the process of probe-goal matching, the probe values the Case feature of the goal, and the goal values the ϕ -features of the probe, according to Chomsky (2008). This mechanism, where Case and agreement work in tandem, poses a problem for Japanese, which does not show morphological agreement, as noted by Saito (2016). In this light, Saito (2016) proposes, following Bošković (2007), that Case is dissociated from agreement, and that the Case feature on an argument probes for a Case-licensing head (the goal), so that the argument undergoes A-movement to the structural position from which it c-commands the goal. Under Saito's analysis, a case marker in Japanese is an anti-labeling device, which does not enter into the labeling algorithm. Thus, when a DP with a case marker is merged with vP, the newly created object is labeled as vP, for instance. This means that in Japanese A-movement is not induced by the requirement of labeling. Under this view, Case is the only motivation for subject raising (A-movement). Nevertheless, there is an alternative view discussed in the literature to the effect that Japanese can invoke "abstract" ϕ -feature agreement (e.g. Ura 2000; Hiraiwa 2001). In light of data pertaining to ECM constructions, I will pursue the latter line of inquiry, and argue that an ECM subject stops at Spec of ForceP owing to its abstract ϕ -feature agreement with the Force head.

The issue that arises here is which analysis is feasible. It is suggested in the following discussions that ECM subjects do not raise to a structural position sufficiently high for their Case feature to serve as a probe, which will be at variance with Saito's analysis taking Case to be a sole trigger for A-movement. Whether A-movement is induced solely for Case reasons, as claimed by Saito (2016), or is based on the labeling requirement plus abstract ϕ -feature agreement may be assessed by looking at where ECM subjects are located. As noted above, however, there is a perennial issue over the structural position of Japanese ECM subjects, and it still remains to be determined empirically where they occur. In the next section, I will argue, on the basis of several arrays of new data, that ECM subjects undergo A-movement to the edge

of the embedded clause, which provides the basis for the argument that an ECM subject invokes ϕ -feature agreement at the level of embedded ForceP, while its Case feature is valued by a higher v head.

3 Arguments for the “embedded subject” view

In this section, I will present some new arguments in support of the view that ECM subjects appear at the edge of the embedded clause without extraction. I argue that they undergo A-movement to Spec of embedded ForceP, to which the matrix verb sanctioning accusative Case can have access.

3.1 ECM subjects, major objects, and embedded nominative subjects

Prior to discussing the syntactic position of ECM subjects, two kinds of accusative arguments need to be distinguished. To be concrete, (8a) is a genuine ECM construction where the embedded subject is marked with accusative case, but (8b), where the accusative argument includes the noun *koto* ‘fact’, is a “major object” construction—the Japanese counterpart of a sentence like *John said of Mary that she was honest*.

(8) a. Ken-wa [**Eri-o** kawai-i *(to)] it-ta.

Ken-TOP Eri-ACC cute-PRS COMP say-PST

(lit.) ‘Ken said Eri to be cute.’

b. Ken-ga **Eri-no koto-o** [kawai-i *(to)] it-ta.

Ken-NOM Eri-GEN fact-ACC cute-PRES COMP say-PAST

‘Ken said of Eri that she was cute.’

In the Japanese literature, these two constructions are often not clearly distinguished (Kuno 1976; Hoji 1991; Hiraiwa 2001), but they do indeed have distinct syntactic structures. As I will discuss from now on, the ECM subject is included in the complement clause. In the major object construction, by contrast, the accusative argument (i.e. the major object) occurs in the matrix clause even though it is taken to be the logical subject of the embedded predicate.

There are a number of indications that ECM subjects, but not major objects, occur in the embedded clause. In the first place, whether an argument is located in the matrix clause or in the embedded clause can be determined by way of indeterminate pronoun binding by *ka*. (When

an indeterminate pronoun is bound by *ka*, the whole complex is interpreted as an existential quantifier.) The particle *ka* attached to the complementizer *to* takes scope over its associated embedded clause and hence can bind an indeterminate pronoun inside the embedded clause, but not one in the matrix clause, as shown in (9).

- (9) a. Ken_i-wa Mari-ni [PRO_i kodomo-o sikar-u to] iwa-nakat-ta.
 Ken-TOP Mari-DAT child-ACC scold-PRS COMP say-NEG-PST
 ‘Ken did not tell Mari that he would scold the children.’
- b. *Ken-wa **dare-ni** [PRO kodomo-o sikar-u to **ka**] iwa-nakat-ta.
 Ken-TOP anyone-DAT child-ACC scold-PRS COMP Q say-NEG-PST
 ‘Ken did not tell someone that he would scold the children.’
- c. Ken-wa Mari-ni [PRO **dare-o** sikar-u to **ka**] iwa-nakat-ta.
 Ken-TOP Mari-DAT anyone-ACC scold-PRS COMP Q say-NEG-PST
 ‘Ken did not tell Mari that he would scold someone.’

In (9a), the dative argument *Mari* appears as a complement of the verb *iu* ‘say’, and thus is not related to the embedded clause. The unpronounced PRO, which is the subject of the embedded predicate, is controlled by the matrix subject, but not the dative argument. (9b) shows that *ka* cannot bind the dative argument in the matrix clause, and (9c) shows that the accusative argument included in the embedded clause can be bound by *ka*.⁶

By making use of *ka*-binding, the difference in structural position between ECM subjects

⁶ Hiraiwa (2005) argues for his view of the position of ECM subjects by appealing to *mo*-binding rather than *ka*-binding (cf. Kishimoto 2001). In this connection, it is important to see, as pointed out by Takano (2003), that the binding domain of *mo* extends beyond the embedded clause (see also Akaso 2009, 2015). As seen in (i), *mo* can bind a matrix dative argument, as well as an embedded accusative argument.

- (i) a. Ken-wa **dare-ni** [PRO soko-ni ik-u to **mo**] iwa-nakat-ta.
 Ken-TOP anyone-DAT there-to go-PRS COMP Q say-NEG-PST
 ‘Ken did not tell anyone that he would go there.’
- b. Ken-wa Mari-ni [PRO **doko-ni** ik-u to **mo**] iwa-nakat-ta.
 Ken-TOP Mari-DAT anywhere-to go-PRS COMP Q say-NEG-PST
 ‘Ken did not tell Mari that he would go anywhere.’

This fact indicates that *mo*-binding cannot be used for assessing whether ECM subjects are located in the matrix clause or in the embedded clause. See Kishimoto (2020) for discussion on this point.

and major objects can be easily verified. To make this point, consider (10).

- (10) a. Ken-wa [{**dare-o/dare-ga**} gakusei da to **ka**] iwa-nakat-ta.
 Ken-TOP {anyone-ACC/anyone-NOM} student COP COMP Q say-NEG-PST
 ‘Ken did not say {someone to be a student/that someone was a student}.’
- b. *Ken-wa **dare-no koto-o** [gakusei da to **ka**] iwa-nakat-ta.
 Ken-TOP anyone-GEN fact-ACC student COP COMP Q say-NEG-PST
 ‘Ken did not say of someone that he was a student.’

The examples in (10) show that the accusative ECM subject, as well as the embedded nominative subject, can be bound by the particle *ka*, but the major object cannot.⁷ Given this fact, it is easy to see that the ECM subject in (10a) resides in the embedded clause, whereas the major object in (10b) is located in the matrix clause.

Data regarding *soo* ‘so’ replacement provide another piece of evidence that ECM subjects, but not major objects, reside in the subordinate clause. The examples in (11) illustrate how *soo* replacement applies to a subordinate clause that includes the complementizer *to* ‘that’.

- (11) a. Ken-wa [Eri-ga kawai-i *(to)] it-ta.
 Ken-TOP Eri-NOM cute-PRS COMP say-PST
 ‘Ken said that Eri was cute.’
- b. Mari-mo *soo* (***to**) it-ta.
 Mari-also so COMP say-PST
 ‘Mari said so, too.’

Soo ‘so’ is an adverbial proform that can replace non-nominal antecedents (including an adjective predicate, an adverb, a small clause, a clause with a complementizer, etc.).⁸ Note that

⁷ One reviewer mentions that the contrast between (10a) and (10b) is not so clear, but at least for the speakers I consulted, the contrast was clear.

⁸ In Japanese, the pronoun *sore* ‘it, that’ is not usable for replacing a CP-complement. Thus, (ib) is deviant when *sore* is taken to replace the embedded CP in (ia).

- (i) a. Ken-wa [Eri-ga kawai-i to] it-ta.
 Ken-TOP Eri-NOM cute-PRS COMP say-PST
 ‘Ken said that Eri was cute.’
- b. ?*Mari-mo *sore-o* it-ta.

the complementizer *to* ‘that’ cannot be omitted in (11a), but that it is not allowed to occur when *soo* replacement applies to the embedded clause, as shown in (11b).⁹ This fact indicates that in (11), *soo* substitutes for the entire embedded clause.

$$(12) \left[\underbrace{[\text{ForceP} \dots [\text{TP} \dots \dots] \text{to}]}_{\text{soo}} \text{it-ta} \right]$$

Under the articulated C-system proposed by Rizzi (1997, 2004), the projection containing the complementizer is the uppermost ForceP. Thus, if the complementizer is eliminated by *soo* replacement, it follows that *soo* replacement targets ForceP. Lower projections in the embedded clause are not candidates for *soo* replacement. If the complementizer were null, TP (or some other projections in the C-system lower than ForceP) could be replaced by *soo*, as in $[\text{ForceP} \dots [\text{TP } \textit{soo}] \phi]$. Nonetheless, this possibility is excluded since the presence of an overt complementizer is required in (11a), but still, it cannot be overtly realized under *soo* replacement.¹⁰

Mari-also it-ACC say-PST
‘Mari said it, too.’

Presumably, the deviance of (ib) comes from a category mismatch between the antecedent and the pronoun. The sentence improves if *sono koto* ‘that thing’ is used instead of *soo*. In the case of *sono koto*, what is referred to does not have to be a faithful reflection of the antecedent clause. Then, the increased acceptability can be attributed to the fact that *sono koto* refers to the semantic content of what is said (rather than replacing the antecedent clause).

⁹ The verb *omou* ‘think’ allows a small clause in addition to an ECM clause to appear as its complement, but the verb *iu* ‘say’ does not take a small clause as its complement. In the case of a small clause complement, the embedded subject in the accusative case may be realized overtly under *soo* replacement, as shown in (i), which stands in contrast to an ECM clause complement.

- (i) a. Sensei-wa Eri-o kawaiku omot-ta.
 teacher-TOP Eri-ACC cute think-PST
 ‘The teacher thought Eri cute.’.
 b. Seito-mo Eri-o *soo* omot-ta.
 pupil-also Eri-ACC so think-PST
 (lit.) ‘The pupils thought Eri so, too.’

To exclude the possibility that an ECM clause is somehow reinterpreted as a small clause under *soo* replacement, which is apparently allowed by some speakers, the ECM verb *iu* ‘say’ rather than *omou* ‘think’ is used for the purpose of the *soo* replacement test.

¹⁰ The complementizer *to* ‘that’ may be realized overtly, perhaps for the purpose of emphasis, when a particle like a contrastive topic *wa* or *sika* ‘only’ follows, as in (i).

When *soo* replaces an entire embedded clause, as represented in (12), it is possible to identify what constituent is included in the embedded clause. For instance, if *soo* replacement operates on the embedded clause of the subject-control construction in (13a), the dative argument may be present, as shown in (13b). But unacceptability results when the accusative argument remains undeleted under *soo* replacement, as in (13c).

- (13) a. Watasi-wa Ken-ni [PRO kodomo-o sikar-u to] it-ta.
 I-TOP Ken-DAT child-ACC scold-PRS COMP say-PST
 ‘I told Ken that I would scold the children.’
- b. Masao-wa **Eri-ni** soo it-ta.
 Masao-TOP Eri-DAT so say-PST
 (lit.) ‘Masao told so to Eri.’
- c. *Masao-wa Ken-ni **kodomo-o** soo it-ta.
 Masao-TOP Ken-DAT child-ACC so say-PST
 (lit.) ‘Masao told the children so to Ken.’

In (13a), the dative argument is selected by the upper verb, but the accusative argument is selected by the lower verb. The asymmetry in acceptability between (13b) and (13c) illustrates that when *soo* replaces the embedded clause, arguments included in the embedded clause cannot be overtly realized, while arguments located outside it can.

In regard to the question of how ECM subjects and major objects behave under *soo*

-
- (i) Mari-wa soo to wa iwa-nakat-ta.
 Mari-TOP so COMP TOP say-NEG-PST
 ‘Mari did not say so.’

Note that when (11a) serves as a linguistic antecedent, (ii) is deviant, although it sounds a little better than (11b), presumably because of its structural complexity.

- (ii) ?*Mari-mo Eri-o soo to wa iwa-nakat-ta.
 Mari-also Eri-ACC so COMP TOP say-NEG-PST
 (lit.) ‘Mari did not say Eri so, either.’

This shows that if (ii) follows (11a), the ECM subject cannot be realized, which suggests that *soo to* functions as a proform as a whole, and hence replaces the CP constituent containing the complementizer.

replacement, observe that it is not possible to replace the embedded clause in (14a) by *soo*, with its nominative subject manifested.

- (14) a. Ken-wa [Eri-ga kawai-i to] it-ta.
 Ken-TOP Eri-NOM cute-PRS COMP say-PST
 ‘Ken said that Eri was cute.’
- b. Masao-mo (*Eri-ga) soo it-ta.
 Masao-also Eri-NOM so say-PST
 (lit.) ‘Masao said (Eri) so, too.’

(14b) is legitimate under *soo* replacement if the nominative subject is not present, but the sentence is not acceptable when it is overtly realized. The same holds true of ECM constructions. (15) illustrates that *soo* replacement is legitimate when the ECM subject is not pronounced, but unacceptability results if *soo* replacement applies to the embedded clause while the ECM subject remains undeleted.

- (15) a. Ken-wa Eri-o kawai-i (*to) it-ta.
 Ken-TOP Eri-ACC cute-PRS COMP say-PST
 (lit.) ‘Ken said Eri to be cute.’
- b. Masao-mo (*Eri-o) soo it-ta.
 Masao-also Eri-ACC so say-PST
 (lit.) ‘Masao said (Eri) so, too.’

In (15a), the complementizer *to* cannot be null, but when *soo* replacement takes place, the ECM subject and the complementizer cannot be manifested, as in (15b).¹¹ This fact indicates that the ECM subject in (15a) is located in the embedded clause, since (15b) is derived by substituting *soo* for the entire embedded clause including the complementizer.

Major objects accompanying *koto* behave differently from ECM subjects with regard to *soo*

¹¹ The complementizer *to* ‘that’ may select a clausal constituent, but can also be used as a direct quote marker. In either case, *soo* replacement may apply to the constituent containing the complementizer. Note, however, that the complement clauses of ECM constructions cannot be direct quotes, for subjects cannot be marked with accusative case in non-embedded contexts.

replacement, as shown in (16).

- (16) a. Ken-wa Eri-no koto-o kawai-i to it-ta.
 Ken-TOP Eri-GEN fact-ACC cute-PRS COMP say-PST
 ‘Ken said of Eri that she was cute.’
- b. Mari-mo **Eri-no koto-o** *soo* it-ta.
 Mari-also Eri-GEN fact-ACC so say-PST
 (lit.) ‘Mari said of Eri so, too.’

In (16), the major object can be overtly realized even when *soo* applies to the embedded clause, which illustrates that the major object is located in the matrix clause.

The data suggest that *soo* replacement does not give rise to a legitimate sentence when *soo* substitutes for the embedded clause while an ECM subject or a nominative subject is overtly realized.

- (17) a. [Matrix-CL [Subord-CL Eri-ga/-o Pred to] omou]
 b. [Matrix-CL Eri_i-no koto-o [Subord-CL PRO_i Pred to] omou]

Given that a constituent in an embedded clause cannot be manifested when the clause is replaced by *soo*, it follows that the nominative subject in (14a) and the ECM subject in (15a) occur in the embedded clause, while the major object in (16a) appears in the matrix clause.

It is also worth noting that, as discussed by some researchers (e.g. Saito 1989), when arguments located in the embedded clause are extracted to its right, they give rise to Proper Binding Condition (PBC) effects (Fiengo 1977; May 1978).¹²

- (18) a. Watasi-wa [PRO kodomo-o sika-ru to] **Ken-ni** it-ta.
 I-TOP child-ACC scold-PRS COMP Ken-DAT say-PST
 ‘I told Ken that I would scold the children.’
- b. *Watasi-wa Ken-ni [PRO sika-ru to] **kodomo-o** it-ta.
 I-TOP Ken-DAT scold-PRS COMP child-ACC say-PST

¹² The phenomenon is often accounted for by appeal to the Proper Binding Condition, but there are attempts to dispense with it (e.g. Saito 2001, 2003).

‘I told Ken that I would scold the children.’

A sentence like (18a), derived from (13a) by postposing the dative argument to the right of the complementizer, is acceptable. By contrast, (18b), where the embedded accusative argument is placed to the right of the complementizer, is unacceptable. (18b) is derived from (13a) by extracting the accusative argument from the embedded clause, followed by the fronting of the embedded clause across the accusative argument, as schematically illustrated in (19) (see Saito 1989).

- (19) a. [..... komodo-o [_{Subord-CL} ... kodomo-e ...]]
 ↑
 b. [... [_{Subord-CL} ... kodomo-e...]_i kodomo-o t_i]
 ↑

(18b) is excluded on the grounds that it has the configuration in which the extracted argument does not c-command its trace (created by movement). No “argument extraction” effect is observed for (18a), which indicates that the embedded clause does not include a trace left by the postposed argument. The data in (18) suggest that the dative argument resides in the matrix clause, and the accusative argument, in the embedded clause.

In the same vein, a contrast in acceptability is observed between ECM subjects and major objects when they are placed to the right of the embedded clause (Kuno 1976).

- (20) a. {Eri-o /Eri-no koto-o} Ken-wa [gakusei da to] it-ta.
 {Eri-ACC/Eri-GEN fact-ACC} Ken-TOP student COP COMP say-PST
 (lit.) ‘Ken said {Eri to be a student/of Eri that she was a student}.’
- b. Ken-wa [gakusei da to] ***{Eri-o /Eri-no koto-o}** it-ta.
 Ken-TOP student COP COMP {Eri-ACC/ Eri-GEN fact-ACC} say-PST
 (lit.) ‘Ken said {Eri to be a student/of Eri that she was a student}.’

The ECM subject shows an argument extraction effect when placed to the right of the embedded clause. On the other hand, the major object shows no such effect. The contrast in acceptability in (20b), suggests that the major object, but not the ECM subject, appears in the matrix clause.

Essentially the same point can be made for nominative subjects, while some complication is

involved. The following extraction patterns are observed for the extraction of nominative subjects from the embedded clause.

- (21) a. **Kono hon-{*ga/wa}** Ken-ga [tukue-kara oti-ta to] it-ta.
 this book-{NOM/TOP} Ken-NOM desk-from drop-PST COMP say-PST
 (lit.) ‘This book, Ken said that dropped from the desk.’
- b. Ken-ga [tukue-kara oti-ta to] it-ta no wa **kono hon** da.
 Ken-NOM desk-from drop-PST COMP say-PST COMP TOP this book COP
 (lit.) ‘What Ken said that dropped from the desk was this book.’
- c. *Ken-ga [tukue-kara oti-ta to] **kono hon-{ga/wa}** it-ta.
 Ken-NOM desk-from drop-PST COMP this book-{NOM/TOP} say-PST
 (lit.) ‘Ken said, this book, that dropped from the desk.’

As discussed by Saito (1985) (see also Kuroda 1983), nominative subjects generally cannot be scrambled from within the embedded clause, but can be extracted from the embedded clause by operator movement, as shown in (21a-b).¹³ The sentence is rendered unacceptable when the nominative subject is placed to the immediate right of the embedded clause irrespective of whether it is marked with nominative case or the topic *wa*, as shown in (21c).¹⁴ The example

¹³ Although there are some theoretical issues over the status of scrambling (see e.g. Tada 1993; Miyagawa 1997), it is descriptively obvious that scrambling displays many properties different from those observed for A-movement and A'-movement. Thus, in this paper, scrambling is treated as a movement operation distinct from A'-movement (into an operator position) and A-movement (related to Case) (see e.g. Chomsky 1995; Bošković 2007). For ease of exposition, I assume, in line with Saito (1985, 2016), that scrambling involves adjunction to some maximal projection.

¹⁴ In light of an example like (i), Saito (1985) argues, following Kuno (1973), that a DP topic may be base-generated in the topic position, and is licensed by an aboutness relation to the rest of the sentence.

- (i) ??Peking-wa John-ga [*e* it-ta koto-ga ar-u] hito-o mituke-ta rasii.
 Peking-TOP John-NOM go-PST fact-NOM be-PRS man-ACC found-PST seem
 ‘Speaking of Peking, it seems that John found a man who has been (there).’

If the topic is base-generated in the matrix clause, i.e. if topicalization does not involve extraction from the relative clause, a strong island effect can be circumvented. Nevertheless, an argument extraction effect is observed when the relative clause is fronted across the topic, as in (i).

- (ii) * [*e* it-ta koto-ga ar-u] hito-o_i Peking-wa John-ga *t_i* mituke-ta rasii.

in (21c) illustrate that when preceded by the embedded clause, the nominative subject of the embedded predicate fails to c-command its trace in the embedded clause. This configuration is necessarily created if an argument is positioned to the right of the embedded clause after it is extracted from the embedded clause via scrambling or topicalization. This means that whether nominative subjects reside in the matrix clause or in the embedded clause can be assessed by placing them to the right of the embedded clause. (The sentence in (21c), comprised of an embedded nominative subject postposed to the right of the embedded clause, is in violation of the PBC, which yields an argument extraction effect, and it additionally violates the scrambling condition imposed on it if it is moved by scrambling.) The facts of subject postposing in (21) show then that the ECM subject and the nominative subject of the embedded predicate reside in the complement clause, but not in the matrix clause.

The surface difference that distinguishes between the ECM construction in (8a) and the major object construction in (8b) lies in the presence or absence of the noun *koto*. At first sight, it looks as if *koto* in (8b) serves as a “formal noun”, which does not carry any substantive meaning (Kuno 1976). This is not the case, however. The noun *koto* in (8b) behaves differently from the formal noun *koto*. As observed by some researchers (Sasaguri 2000; Takano 2003; Kishimoto 2004; Takubo 2010), the formal noun *koto* can occur only with arguments in object position, as shown by (22).

- (22) a. Ken-ga Eri(-no koto)-o sikat-ta.
 Ken-NOM Eri(-GEN fact)-ACC scold-PST
 ‘Ken scolded Eri.’
 b. Eri(*-no koto)-ga Ken-ni sikar-are-ta.
 Eri(-GEN fact)-NOM Ken-by scold-PASS-PST
 ‘Eri was scolded by Ken.’

go-PST fact-NOM be-PRS man-ACC Peking-TOP John-NOM found-PST seem
 ‘Speaking of Peking, it seems that John found a man who has been (there).’

This fact suggests that the gap in the relative clause counts as a variable bound by the topic, and hence is subject to the PBC condition. The fact suggests that in Japanese, due to the presence of a resumptive pronoun strategy, a base-generated topic is allowed (marginally), and thus a strong island effect can be evaded in (i).

In (22a), the theme object can occur with *koto*, but when this argument is turned into a passive subject, it can no longer accompany *koto*, as shown in (22b). The difference in acceptability between (22a) and (22b) comes from the “direct object” constraint that applies to the formal noun insertion.

In contradistinction, the noun *koto* in (23a) can be retained even if the major object accompanying *koto* is rendered as a matrix subject via passivization, as in (23b).

- (23) a. Minna-ga **Mari-no koto-o** kawai-i to omot-ta.
 all-NOM Mari-GEN fact-ACC cute-PRS COMP think-PST
 ‘Everyone thought of Mari that she was cute.’
- b. **Mari-no koto-ga** minna-kara kawai-i to omow-are-ta.
 Mari-GEN fact-NOM all-from cute-PRS COMP think-PASS-PST
 (lit.) ‘Mari was thought of that she was cute by everyone.’

If *koto* were inserted as a formal noun, the passive subject in (23b) would not be allowed to occur with *koto* by the direct object constraint. Nevertheless, (23b) is acceptable, which shows that the noun *koto* appearing in the major object construction is not a formal noun.

The major object with *koto* in (23a), but not an ECM subject, is selected by the matrix verb. The adequacy of this view is further confirmed by (24).

- (24) a. Ken-ga {*Mari-o/Mari-no koto-o} it-ta.
 Ken-NOM {Mari-ACC/Mari-GEN fact-ACC} say-PST
 ‘Ken said (about) Mari.’
- b. Kono kurasu-de-wa {Mari-ga/*Mari-no koto-ga} kawai-i.
 this class-in-TOP {Mari-NOM/Mari-GEN fact-NOM} cute-PRS
 ‘Mari is cute in this class.’
- c. Mari-no koto-ga (nani-mo) iw-are-nakat-ta.
 Mari-GEN fact-NOM anything-Q say-PASS-NEG-PST
 ‘Nothing was said about Mari.’

The verb *iu* ‘say’ selects for an object referring to an abstract entity, but not a human object, as shown in (24a). Importantly, *koto* cannot be added to the subject of an adjectival predicate like

kawaii ‘cute’ in a simple clause, as in (24b). Since the adjective *kawaii* ‘cute’ does not allow the subject *Mari* to occur with *koto*, *Mari-no koto* in (23a) must be an argument of the matrix predicate referring to an abstract entity, and thus the noun *koto* is not a formal noun. (24c) additionally shows that the argument with *koto* selected by the verb *iu* ‘say’ can appear in the subject position, which illustrates that *koto* in (23a) is not a formal noun susceptible to the surface direct object constraint.

Let us next discuss the facts of matrix adverb modification, which are often taken to constitute one important argument for the “matrix object” analysis. As discussed by Kuno (1976) and others, matrix adverbs can intervene between ECM subjects and the embedded predicates. Since a matrix adverb cannot be placed after the embedded subject marked with nominative case, the facts of matrix adverb modification lead Hiraiwa (2005) to claim that ECM subjects can be moved into the matrix object position optionally. Nevertheless, there is evidence suggesting that an ECM subject can precede a matrix adverb if the former is scrambled out of the embedded clause. To be concrete, a matrix modal adverb like *orokanimo* ‘stupidly’ modifying the matrix clause can be placed after an ECM subject, but cannot appear after the nominative subject of the embedded clause, as shown in (25).

- (25) a. Ken-wa Eri-o **orokanimo** baka-da to it-ta.
 Ken-TOP Eri-ACC stupidly foolish-PRS COMP say-PST
 (lit.) ‘Ken said Eri stupidly to be foolish.’
- b. *Ken-wa [Eri-ga **orokanimo** baka-da] to it-ta.
 Ken-TOP Eri-NOM stupidly foolish-PRS COMP say-PST
 (lit.) ‘Ken said that Eri was stupidly foolish.’

At first sight, it looks as if the facts were consonant with the view taking the ECM subject to undergo A-movement into the matrix object position. On the contrary, the modal adverb can follow the ECM subject when it has been moved into the matrix clause via scrambling, but not via A-movement, as represented in (26).

- (26) [... SUBJ-ACC_i ... ADV [CP t_i [TP Pred]] think/say]
 ↑
 (scrambling)

If a scrambled argument is moved from an A-position and adjoined to a maximal projection (Saito 1985), it cannot be the case that the ECM subject occurs in the matrix object position as a consequence of A-movement. To understand this point, consider (27).

- (27) {Ken-*o*/**Ken-ga*_i} sensei-ga [*t*_i baka-da to] it-ta.
 {Ken-ACC/Ken-NOM} teacher-NOM foolish-PRS COMP say-PST
 (lit.) ‘Ken, the teacher said {to be foolish/was foolish}.’

(27) shows that the ECM subject, but not the nominative subject, can be scrambled out of the subordinate clause to the sentence-initial position. *Ka*-binding confirms that the ECM subject in (25a) is moved into the matrix clause. As we saw previously, *ka* attached to the complementizer *to* ‘that’ can bind an ECM subject. Nevertheless, the particle *ka* fails to bind the ECM subject if a matrix adverb follows it.

- (28) **Ken-wa* **dare-o** *orokanimo* gakusei da to **ka** iwa-nakat-ta.
 Ken-TOP anyone-ACC stupidly student COP COMP Q say-NEG-PST
 (lit.) ‘Ken did not say someone stupidly a student.’

In (28), the *ka* particle takes scope over the embedded clause. Then, the failure of *ka* to bind the ECM subject in (28) shows that the ECM subject is located in the matrix clause. Given the difference in the extractability of the two types of subjects, it is plausible to hypothesize that the contrast in acceptability between (25a) and (25b) is attributed to the fact that an ECM subject, but not a nominative subject, may be extracted from the embedded clause via scrambling.

In light of the results of *soo* replacement, it can be confirmed that in (25a), the ECM subject is scrambled into the matrix clause. First, observe that when an ECM subject is turned into a passive subject, as in (29a), *soo* replacement can legitimately operate on the embedded clause even if the passive subject remains undeleted, as shown in (29b).

- (29) a. Sensei-kara Eri-ga kawai-i to iw-are-te i-ru.
 teacher-from Eri-NOM pretty-PRS COMP say-PASS-GER be-PRS
 ‘Eri is said to be pretty by the teachers.’
 b. Tomodati-kara-mo **Eri-ga** *soo* iw-are-te i-ru.

friend-from-also Eri-NOM so say-PASS-GER be-PRS
 (lit.) ‘Eri is also said so by her friends.’

In (29a), the passivized subject is moved to Spec of the matrix TP from within the embedded clause via A-movement. The fact that (29b) is acceptable suggests that a legitimate structure is formed when *soo* replaces a clause from which an argument has been moved via A-movement.

Scrambled ECM subjects behave differently with regard to *soo* replacement. (30) shows that even if an ECM subject is scrambled to the sentence initial position, it cannot be pronounced under *soo* replacement.

- (30) a. **Eri-o** sensei-ga kasiko-i to it-ta.
 Eri-ACC teacher-NOM smart-PRS COMP say-PST
 (lit.) ‘Eri, the teacher said to be smart.’
 b. (***Eri-o**) tomodati-mo *soo* it-ta.
 Eri-ACC friend-also so say-PST
 (lit.) ‘(Eri), her friend said so, too.’

The sentence in (30) is unacceptable when the scrambled ECM subject is overtly realized under *soo* replacement. Recall that as shown in (15), the ECM subject appearing in the embedded clause cannot be manifested when the embedded clause is replaced by *soo*. If so, the unacceptability of (30b) suggests that *soo* replacement applies to the pre-scrambling structure where the ECM subject remains in the embedded clause.

The examples in (29) and (30) show that an argument extracted from the embedded clause via A-movement may be overtly realized under *soo* replacement, while an argument scrambled out of the subordinate clause may not. Thus, *soo* replacement allows us to determine whether an ECM subject in (25a) is moved to the matrix clause by scrambling or A-movement. The example in (31), comprised of the ECM subject occurring to the left of the matrix adverb *orokanimo* ‘stupidly’, shows that the ECM subject cannot be realized overtly under *soo* replacement.

- (31) a. Ken-wa **Eri-o** *orokanimo* kawai-i to it-ta.
 Ken-TOP Eri-ACC stupidly cute-PRS COMP say-PST

(lit.) ‘Ken said Eri stupidly to be cute.’

b. Mari-mo (*Eri-o) *orokanimo soo* it-ta.

Mari-also Eri-ACC stupidly so say-PST

(lit.) ‘Mari said (Eri) stupidly so, too.’

(31b) patterns with (30b) with regard to *soo* replacement. Given that (31b) is unacceptable just like (30b) if the ECM subject is not elided, it can be concluded that the ECM subject in (25a)(=31a) is moved to the left of the adverb via scrambling (i.e. it is not moved to the matrix object position via A-movement). The facts of matrix adverb modification lead Hiraiwa (2005) to claim that ECM subjects may be moved to the matrix object position optionally, but (31) shows that the ECM subject in (25a) does not undergo A-movement (even optionally).

The data discussed in this section illustrate that ECM subjects reside in the embedded clause, i.e. they are not extracted from the embedded clause. Note, however, that the diagnostics discussed in this section can only assess what constituent is included in the complement clause, and are not usable for determining whether ECM subjects stay below TP or are raised to a higher position than TP. In the next section, I will present different pieces of empirical evidence suggesting that ECM subjects are raised to Spec of ForceP.

3.2 A-Movement into ForceP

The foregoing section has shown that ECM subjects do not undergo A-movement into the matrix clause. In this section, drawing data from *dake*-focusing, *ka*-coordination, and the NPI *amari* ‘very’, ECM subjects are shown to move into the edge of the embedded clause, i.e. Spec of ForceP, via A-movement.

First, for the purpose of illustrating that ECM subjects occupy a higher structural position than nominative subjects, I will look into the facts of association of focus with *dake* ‘only’ placed to the right of tense. One important property of the clause-final focus particle *dake* is that it can undergo association with arguments located below TP, which constitutes the focusing domain of *dake*. To be concrete, observe that (32a), but not (32b), allows the subject-focus interpretation that only Ken is interesting. (# indicates that the relevant interpretation is not available.)

- (32) a. **Ken-ga** omosiro-i **dake** da.
 Ken-NOM interesting-PRS only COP
 ‘It is only that Ken is interesting.’
- b. #_{[CP} **Ken-wa**_i [_{TP} *t*_i omosiro-i] **dake** da].
 Ken-TOP interesting-PRS only COP
 ‘As for Ken, it is only that he is interesting.’

The interpretive facts show that the particle *dake* can be associated with the nominative subject in (32a), but not with the topicalized subject in (32b). As discussed by Kishimoto (2009), *dake* is adjoined to TP (at LF), so that the focusing domain of *dake* extends over TP, but not CP. The nominative subject in Spec-TP is c-commanded by *dake* and thus, can be the focus of *dake*. But the topicalized subject appearing in CP (or TopP in the C-system under the present view) lies outside the c-command domain of *dake*, and thus cannot be focused by *dake*.¹⁵ The facts of *dake*-focusing in (33) lend further support to the present view.

- (33) a. Mari-wa [**Ken-ga** me-ga waru-i **dake** da to] it-ta.
 Mari-TOP Ken-NOM eye-NOM bad-PRS only COP COMP say-PST
 ‘Mari said only that Ken had bad eyesight.’
- b. #Mari-wa [**Ken-wa** me-ga waru-i **dake** da to] it-ta.
 Mari-TOP Ken-TOP eye-NOM bad-PRS only COP COMP say-PST
 ‘Mari said that Ken only had bad eyesight.’

In (33a), the first nominative argument *Ken* in the embedded clause is a so-called “major subject”. This major subject can be regarded as some kind of adjunct that is allowed to occur with a possessive relation to the second nominative argument—the thematic subject of the embedded predicate *warui* ‘bad’. The clause-final *dake* can be associated with the nominative-marked major subject appearing in outer Spec of TP (Kishimoto 2009; see also section 4). In fact, (33a) can have the subject-focus interpretation that only Ken has bad eyesight. By contrast,

¹⁵ A topic that remains in situ in the overt constituent structure receives a contrastive interpretation (with a contrastive stress). While a clause-initial topic undergoes raising into TopP in overt syntax, an “in-situ” topic undergoes movement into TopP at LF (see Kishimoto 2009).

when the major subject is topicalized, the subject-focus interpretation is not available for (33b). The data illustrate that the focusing domain of *dake* does not extend to the C-system, so *dake* cannot be associated with the topicalized major subject in (33b).

Turning to the question of how ECM subjects behave with regard to *dake*-focusing, observe that the sentences in (34) show a difference in availability of the subject-focus interpretation.

- (34) a. Mari-wa [Ken-ga omosiro-i **dake** da to] it-ta.
 Mari-TOP Ken-NOM interesting-PRS only COP COMP say-PST
 ‘Mari said that only Ken was interesting.’
- b. #Mari-wa [Ken-o omosiro-i **dake** da to] it-ta.
 Mari-TOP Ken-ACC interesting-PRS only COP COMP say-PST
 (lit.) ‘Mari said Ken to only be interesting.’

In (34a), the interpretation that only Ken is interesting is available, which indicates that *dake* can be associated with the nominative subject. In (34b), this interpretation is not obtained, showing that the accusative-marked ECM subject cannot be the focus of *dake*. The data show that unlike nominative subjects (located in Spec of TP) and nominative major subjects (which occur in outer Spec of TP), ECM subjects fall outside the focus domain of *dake*.

- (35) a. # [..... [ForceP DP-ACC [TP Pred-*dake*]] V]
 b. [..... [ForceP [TP DP-NOM Pred-*dake*]] V]
└──────────────────┘
(the focusing domain of *dake*)

Given that ECM subjects are not extracted from the embedded clause, as discussed in section 3.1, it can be stated that ECM subjects are positioned in the C-system, projected over TP.

A different kind of evidence may be derived from the facts of *ka*-coordination. The particle *ka* ‘or’ can be used as a (correlative) coordinator, and can form coordinate structures on a number of different phrase levels (Kishimoto 2013). For present purposes, it is instructive to make use of the construction where the coordinating *ka* particles are placed to the right of tensed predicates, as in (36).

- (36) [**Ken-ga** tuyo-i] ka [**Mari-ga** tuyo-i] ka da.
 Ken-NOM strong-PRS or Mari-NOM strong-PRS or COP
 ‘Either Ken is strong or Mari is strong.’

Note that the particle *ka* immediately preceding the copula *da* can be used only as a coordinator. The example in (36), in which nominative subjects are included in both conjuncts, is acceptable. On the other hand, unacceptability results if topics are included in the coordinate structure, as in (37).

- (37) ***[Ken-wa** tuyo-i] ka [**Mari-wa** tuyo-i] ka da.
 Ken-TOP strong-PRS or Mari-TOP strong-PRS or COP
 ‘Either, as for Ken, he is strong or as for Mari, she is strong.’

Given that nominative subjects are located in TP, and topics are accommodated in a projection located in the C-system, a comparison of (36) and (37) shows that TP-coordinate structures can be formed with the coordinating *ka* particles, but coordinate structures cannot be constructed by conjoining projections above TP.¹⁶

If (36) is embedded under verbs like *iu* ‘say’ and *omou* ‘think’, the subject can in principle be marked with nominative or accusative case. Nevertheless, the resultant sentences show a difference in acceptability depending on the subject case marking.

- (38) a. Ken-wa [[**Eri-ga** tuyo-i] ka [**Mari-ga** tuyo-i] ka da] to it-ta.
 Ken-TOP Eri-NOM strong-PRS or Mari-NOM strong-PRS or COP COMP say-PST
 ‘Ken said that either Eri was strong or Mari was strong.’
 b. *Ken-wa [[**Eri-o** tuyo-i] ka [**Mari-o** tuyo-i] ka da] to it-ta.
 Ken-TOP Eri-ACC strong-PRS or Mari-ACC strong-PRS or COP COMP say-PST
 (lit.) ‘Ken said either Eri to be strong or Mari to be strong.’

¹⁶ The *wa*-marked topics can be placed outside the coordinate structure, as shown by the acceptability of (i).

- (i) [Ken-wa [[tuyo-i] ka [yowa-i] ka] da].
 Ken-TOP strong-PRS or weak-PRS or COP
 ‘Ken is either strong or weak.’

The acceptability of (38a) is naturally expected, since the embedded clause involves TP-coordination. On the other hand, (38b), where the coordinate structure includes ECM subjects, is not acceptable. This fact suggests that ECM subjects are included in a projection in the C-system.

A third piece of evidence that ECM subjects occupy a higher structural position than nominative subjects can be adduced from the facts of negative polarity items (NPIs), which are licensed under the scope of negation. Here, I will make use of *amari* ‘very’, which can be used as an adverbial modifier. One important property of this NPI is that an argument to which it is added serves as an NPI as a whole. For instance, in (39a), the NPI subject with *amari* is licensed by a clause negator *nai* ‘not’, but in (39b) the NPI subject with *amari* is not licensed in the absence of a clausal negator.

- (39) a. [**Amari** *yuunoona hito-ga*] *kaityoo-no kooho de-wa na-i.*
 very efficient man-NOM president-GEN candidate COP-TOP NEG-PRS
 ‘Not very efficient men are candidates for the president.’
- b. *[**Amari** *yuunoona hito-ga*] *kaityoo-no kooho de ar-u.*
 very efficient man-NOM president-GEN candidate COP be-PRS
 ‘Very efficient men are candidates for the president.’

As argued by Kishimoto (2017), nominative subjects undergo raising to Spec of TP. Then, the well-formedness of (39a) shows that negative *nai* extends its scope over TP in the nominal-predicate construction.

Since the nominal predicate in (39a) is a stative predicate denoting a property, (39a) can be embedded under ECM verbs. Notably, the sentences in (40), derived by embedding (39a) under the verb *iu* ‘say’, display a difference in acceptability according to whether the embedded subject is marked with nominative case or accusative case.

- (40) a. Ken-wa [[**amari** *yuunoona hito-ga*] *kaityoo-no kooho de*
 Ken-TOP very efficient man-NOM president-GEN candidate COP
 na-i to] it-ta.
 NEG-PRS COMP say-PST

‘Ken said that not very efficient men were candidates for the president.’

- b. *Ken-wa [[**amari** yuunoona hito-o] kaityoo-no kooho de
 Ken-TOP very efficient man-ACC president-GEN candidate COP
na-i to] it-ta.
 NEG-PRS COMP say-PST
 (lit.) ‘Ken said very efficient men not to be candidates for the president.’

In (40a), the nominative subject with *amari* is licensed by the negator appearing in the embedded clause. By contrast, the ECM subject with *amari* is not licensed in (40b). The difference in acceptability between (40a) and (40b) indicates that the ECM subject, but not the embedded nominative subject, falls outside the scope of negation.

- (41) a. * [..... [ForceP NPI-ACC [TP Pred-NEG]] V]
 b. [..... [ForceP [TP NPI-NOM Pred-NEG]] V]
└──────────────────┘
(the scope of negation)

The ECM subject stays in the embedded clause. Given that the embedded negator takes scope over the embedded TP, it follows that the ECM subject occurs in a C-related position above TP, and hence it appears in a higher structural position than the nominative subject.

ECM subjects are Case-licensed by the matrix predicate even though they are not extracted from the embedded clause. The analysis taking the matrix verb to Case-license ECM subjects gains plausibility from the fact that the ECM verbs *iu* ‘say’ and *omou* ‘think’ can take an accusative object, as in (42).

- (42) Ken-wa sono koto-o {it-ta/omot-ta}.
 Ken-TOP that matter-ACC {say-PST/think-PST}
 (lit.) ‘Ken said/thought that matter.’

It is often claimed that syntactic operations across the complement domain of a phase are not possible. If the matrix verb is held responsible for the accusative marking of ECM subjects, there is a sense in which ECM subjects should undergo raising to the edge of the clause, given

the Phase Impenetrability Condition (PIC) (see Chomsky 2000, 2001).¹⁷

(43) Phase Impenetrability Condition (PIC)

In phase α with head H, the domain of H is not accessible to operations outside α , only H and its edge are accessible to such operations.

Chomsky (2000) suggests that a full clause including tense and force can be viewed as constituting a phase. In the articulated C-system, the topmost projection delimiting the clause boundary is ForceP, and the force of the clause is indicated by a complementizer (Rizzi 1997, 2004). Then, ForceP can be assumed to be a phase (although, in the analysis where only CP is projected above TP, CP is taken to form a phase). If an ECM subject appears in ForceP, it is naturally expected that the v head in the upper clause will be allowed to have access to an ECM subject for Case licensing.

ECM subjects undergo A-movement to Spec of embedded ForceP from the predicate-internal position of the stative predicate in the subordinate clause. This view is verified by the fact that ECM subjects can be rendered as matrix subjects when direct passivization applies to the matrix predicate, as in (44).

- (44) a. Karera-wa subete-no hon-o omosiro-i to omot-te i-ta.
they-TOP all-GEN book-ACC interesting-PRS COMP think-GER be-PST
'They considered all books to be interesting.'
- b. Subete-no hon-ga karera-ni omosiro-i to omow-are-te i-ta.
all-GEN book-NOM they-by interesting-PRS COMP think-PASS-GER be-PST
'All books were considered to be interesting by them.'

Since the ECM subject appears in an A-position which is visible to the matrix predicate for Case licensing, it can be rendered as a matrix subject when the matrix verb is passivized.¹⁸ (A

¹⁷ Not all operations are subject to the PIC, but at least Case licensing and association with focus of *dake* 'only' are constrained by the PIC in the sense that these operations do not cross finite TP. There are also operations that do not respect the PIC, such as reflexive binding (in Japanese), and the licensing of some NPIs, such as *amari* 'very' in Japanese and *any* in English, which allow a higher negation to license them (e.g. *John did not think that Mary ate anything.*).

¹⁸ The original subjects of the ECM verbs are rendered as adjuncts by direct passivization. The adjuncts can be marked with either *ni* 'by' or *kara* 'from'.

universally quantified inanimate expression is used for the passive subject to exclude the possibility that it is taken to be an argument base-generated in the matrix clause, coreferential with *pro* or PRO in the embedded clause.) In the passive clause in (44b), the ECM subject is moved into Spec of TP, which is an A-position. As noted by Chomsky (1986, 1991), if movement proceeds from an A-position into an A-position through an A'-position, it results in the formation of an illicit A-A'-A chain. Then, the well-formedness of (44b) shows that Spec of ForceP in which the ECM subject appears is an A-position, and that the ECM subject is A-moved to ForceP from its predicate-internal position.

Note further that when an object is Case-licensed by an embedded transitive verb, it cannot be rendered as a matrix subject by direct passivization.

- (45) a. Karera-wa [Ken-ga tukue-ni subete-no hon-o oi-ta to] omot-te i-ta.
 they-TOP Ken-NOM desk-on all-GEN book-ACC put-PST COMP think-GER be-PST
 ‘They thought that Ken put all books on the desk.’
- b. *Subete-no hon-ga karera-ni [Ken-ga tuke-ni oi-ta to] omow-are-te
 all-GEN book-NOM they-by Ken-NOM desk-on put-PST COMP think-PASS-GER
 i-ta.
 be-PRS
 ‘All books were thought by them that Ken put on the desk.’

The long-distance direct passive movement in (45) is not possible since the object is not Case-licensed by the matrix predicate.

The facts of NPI licensing lend further support to the view that ForceP offers an A-position for ECM subjects. This is because the possibility of licensing the NPI *amari* is determined with reference to the highest A-position which the argument comprising it reaches via A-movement. To illustrate this point, consider how arguments with *amari* behave in the aspectual construction in (46).

- (46) a. *[Amari ooku-no sensyu-ga] siai-ni de-nai-de i-ru.
 very many-GEN player-NOM game-at play-NEG-GER be-PRS
 ‘Very many players are not playing at the game.’

- b. Gakusei-ga [amari ooku-no hon-o] kawa-nai-de i-ru.
 student-NOM very many-GEN book-ACC buy-NEG-GER be-PRS
 ‘The students are not buying very many books.’

In (46a), the complement clause containing *de-nai-de* ‘not playing’ is embedded under the aspectual verb *iru* ‘be’, and the sentence forms a raising construction (Kishimoto 2017). In this construction, the nominative subject of the embedded predicate is raised to Spec of TP in the matrix clause from within the embedded clause, but an object stays in the embedded clause, as illustrated in (47).

- (47) [TP SUBJ [TP ~~SUBJ~~ OBJ V-NEG-te] V]

Since the negator is located in the embedded clause in (46), its scope extends only over the embedded clause. The subject containing the NPI *amari* in (46a) is moved to Spec of TP in the main clause, which falls outside the scope of negation, and thus the NPI subject with *amari* is not licensed, as seen in (46a). On the other hand, the NPI object with *amari* in (46b) is licensed under the scope of negation, since the object remains in the embedded object position. Note that the subject with *amari* is licensed if the negator is added to the right of the aspectual verb rather than the embedded predicate.

- (48) [Amari ooku-no sensyu-ga] siai-ni de-te i-na-i.
 very many-GEN player-NOM game-at play-GER be-NEG-PRS
 ‘Not very many players are playing at the game.’

The negative *nai* appearing to the right of the aspectual verb takes scope over TP in the matrix clause, so (48) is grammatical. A comparison of the data in (46) and (48) shows that NPI arguments comprising *amari* are not licensed if they are extracted from the scope domain of negation via A-movement.

NPI arguments with *amari* behave differently when topicalization or scrambling is implemented. In (49), the NPI object with *amari* is licensed even if it occurs outside the scope of a clausal negator as a result of topicalization or scrambling.

- (49) [Amari ooku-no hon-{o/wa}]_i gakusei-ga *t_i* kawa-nai-de i-ru.
 very many-GEN book-{ACC/TOP}] student-NOM buy-NEG-GER be-PRS
 (lit.) ‘Very many books, the students are not buying.’

In (49), the object is moved to the left of the subject, and thus, the configuration in (50b) is derived from (50a).

- (50) a. [TP ... SUBJ [TP ... [DP amari ...] ... V-Neg-te] i-ru]
 b. [TP [DP amari ...]_i SUBJ [TP ... *t_i* ... V-Neg-te] i-ru]

The nominative subject falls outside the scope of negation in the aspectual *naide iru* construction, which shows that the moved NPI object in (49) lies outside the scope of negation, but still, the NPI object is licensed. This fact suggests that the NPI argument moved out of the scope of negation by topicalization or scrambling is licensed in its pre-movement site, perhaps by way of reconstruction.

In essence, when an NPI argument with *amari* is extracted from within the scope of negation by A-movement, it is not licensed, as in (46a). On the other hand, an NPI argument with *amari* is licensed when moved out of the scope of negation via scrambling or topicalization, as shown in (49). In (40b), the ECM subject with *amari* is not licensed, since it falls outside the scope of the negator in the embedded clause. Given that the ECM subject appears in Spec of ForceP in the embedded clause as a result of movement from a predicate-internal subject position, the failure of NPI licensing in (40b) finds its place if the ECM subject has been moved to ForceP via A-movement.

3.3 ECM subjects and topics in the C-system

As discussed in section 3.2, ECM subjects and topics are both located above TP, but there is good reason to believe that they occupy distinct positions in the C-system. Specifically, I claim that an ECM subject appears in ForceP, while a topic occurs in TopP, which is projected lower than ForceP, as illustrated in (51).

- (51) [[ForceP SUBJ-ACC [TopP TOPIC [TP/IP]]]]

There are several pieces of evidence in support of the view that the ECM subject occurs in Spec of ForceP, representing the edge of the embedded clause, which is higher than the position filled by a topic. In particular, the facts of *dake*-focusing provide empirical evidence allowing us to verify that ECM subjects are raised to ForceP, while topics occupy TopP, projected lower than ForceP.

A first piece of evidence may be adduced from the fact that argument extraction from ECM complements incurs an island effect—the fact first observed by Kaneko (1988).¹⁹

(52) a. Ken-wa [Eri-o (kodomo-ni) yasasi-i to] omot-ta.

Ken-TOP Eri-ACC child-DAT kind-PRS COMP think-PST

‘Ken considered Eri to be kind to the children.’

b. ?*Kodomo-ni Ken-wa [Eri-o yasasi-i to] omot-ta.

child-DAT Ken-TOP Eri-ACC kind-PRS COMP think-PAST

‘To the children, Ken considered Eri to be kind.’

The adjectival predicate *yasasii* ‘kind’ takes a dative complement optionally. An island effect is induced if the dative complement of *yasasii* is scrambled across the ECM subject, as shown in (52b). The same island effect is observed when the dative complement of the embedded predicate is moved across the ECM subject by topicalization.

(53) ?*Kodomo-ni-wa Ken-wa [Eri-o yasasi-i to] omot-ta.

child-DAT-TOP Ken-TOP Eri-ACC kind-PRS COMP think-PST

‘As for the children, Ken considered Eri to be kind.’

If the dative argument is to be extracted from the embedded clause, it needs to go through ForceP. Nevertheless, ForceP is filled by the ECM subject in (52b) and (53). This suggests that

¹⁹ Many speakers detect the island effect, albeit somewhat weak, but as reported by Kaneko, some speakers do not detect its effect. The island effect observed in ECM constructions is similar to the *wh*-island effect in English (e.g. ?**What did John wonder who bought?*). Given this fact, it is plausible to assume that an ECM subject in Japanese occupies the same structural position as does a *wh*-phrase in English. Nevertheless, a moved *wh*-phrase does not show ECM phenomena. A *wh*-phrase that occurs in ForceP is Case-licensed in the pre-*wh*-movement site, so it is not Case-licensed by the matrix predicate (i.e. ForceP counts as an operator position in English, unlike in Japanese).

(52b) and (53) are excluded on the grounds that the dative argument cannot be moved through ForceP whether it is scrambled or topicalized.

By contrast, it is possible to extract an argument from an embedded clause in which topicalization has taken place. (54) represents a case where the embedded clause includes a topicalized subject.

- (54) **Kodomo-ni(-wa)** Ken-ga [**Eri-wa** at-ta to] omot-ta.
 child-DAT-TOP Ken-NOM Eri-TOP meet-PST COMP think-PST
 (lit.) ‘With the children, Ken thought that Eri met.’

In (54), no island effect is observed even if the dative argument is extracted from the embedded clause by either topicalization or scrambling. The absence of an island effect in (54) shows that the dative argument of the embedded predicate can be moved through ForceP, which in turn suggests that the embedded topic phrase *Eri-wa* resides in a lower projection than ForceP.

Note that when a topic is not moved across the ECM subject, the sentence is acceptable, as seen in (55).

- (55) Ken-ga [**Eri-o kodomo-ni-wa** yasai-i to] omot-ta.
 Ken-NOM Eri-ACC child-DAT-TOP kind-PRS COMP think-PST
 (lit.) ‘Ken thought Eri to be kind to the children.’

In (55), topicalization has taken place at the level of the embedded clause. The absence of an island effect in (55) suggests that the embedded topic is moved to the embedded TopP, which is located below ForceP filled by the ECM subject.

There is another indication that an ECM subject is located in ForceP, and a topic in a lower projection of TopP. (56) illustrates that the particle *dake* placed at the end of the matrix clause can be associated with an ECM subject.

- (56) Mari-ga [**Eri-o kodomo-ni** yasai-i to] it-ta **dake** da.
 Mari-NOM Eri-ACC child-DAT kind-PRS COMP say-PST only COP
 (lit.) ‘It is only that Mari said Eri to be kind to the children.’

(56) can have the interpretation that Mari said that only Eri was kind to the children, as well as

the interpretation that only Mari said that Eri was kind to the children. On the other hand, the interpretation that Mari said that Eri was kind only to the children is not available for (56). The interpretive facts illustrate that the focus particle *dake* positioned at the end of the matrix clause can be associated with the ECM subject, as well as the matrix subject, but not the dative complement of the embedded predicate. Furthermore, (57) shows that *dake* in the matrix clause cannot be associated with a topic located in the embedded clause.

- (57) #Mari-ga [Eri-wa/Eri-ga ki-ta to] it-ta **dake** da.
 Mari-NOM Eri-TOP/Eri-NOM come-PST COMP say-PST only COP
 ‘It was only that Mari said that Eri came.’

(57) lacks the interpretation that Ken said that only Eri came, regardless of whether the embedded subject occurs with the nominative *ga* or the topic *wa*. (57) shows that the embedded topic, just like the embedded nominative subject, does not reside in the position to which *dake* in the matrix clause can have access. The data in (56) and (57) show that an ECM subject, but not an embedded topic, occurs in the clause-peripheral position accessible from the matrix clause, i.e. Spec of ForceP.

As noted earlier, an ECM subject can be rendered as a matrix subject by direct passivization. In the passivized ECM construction in (58), the dative argument can be extracted from the embedded clause.

- (58) **Kodomo-ni(-wa)** **Eri-ga** minna-kara [yasasi-i to] omow-are-ta.
 child-DAT-TOP Eri-NOM all-from kind-PRS COMP think-PASS-PST
 (lit.) ‘To the children, Eri was thought by everyone to be kind.’

(58) shows that once an ECM subject is moved to Spec of TP in the matrix clause (by direct passivization), another argument can be moved out of the embedded clause. The fact provides one kind of confirmation for Bošković’s (2016) claim that the trace (left by movement) in the phase edge (ForceP) does not count for the purpose of the PIC.²⁰

²⁰ This raises the question of whether an argument can be extracted from the embedded clause without an island effect in cases where the ECM subject is scrambled out of the embedded

An island effect comparable to one observed for the ECM constructions in (52b) and (53) obtains in the major object construction. This is illustrated in (59).

- (59) a. Ken-ga **Eri-no koto-o** [komodo-ni yasasi-i to] omot-ta.
 Ken-TOP Eri-GEN fact-ACC child-DAT kind-PRS COMP think-PST
 ‘Ken thought of Eri that she is kind to the children.’
- b. ?***Kodomo-ni(-wa)** Ken-ga **Eri-no koto-o** [yasasi-i to] omot-ta.
 child-DAT-TOP Ken-NOM Eri-GEN fact-ACC kind-PRS COMP think-PST
 (lit.) ‘Eri, Ken thought of that she is kind to the children.’

The major object appears in the matrix clause, but still an island effect is observed when the dative complement is extracted from the embedded clause. The major object in the matrix clause is interpreted as the subject of the embedded predicate, which suggests that the embedded clause has an invisible pronoun controlled by the major object. Given this fact, it is reasonable to assume that an invisible pronoun PRO resides in ForceP.

- (60) *[.... kodomo-ni_i **Eri-no koto-o** [ForceP PRO [*t_i* yasasi-i to]]]

If the dative complement of the embedded predicate is to occur in the matrix clause, as in (60), it needs to move through Spec of ForceP, but this position is occupied by PRO, which means that an argument cannot be extracted legitimately from the embedded clause in (59b). Thus, there is a sense in which the major object construction in (59b), where an argument has been extracted from the embedded clause, displays an island effect.

The discussion thus far illustrates that an ECM subject undergoes A-movement to ForceP projected at the edge of the embedded clause. This fact suggests that the ECM subject enters

clause. As far as I can see, scrambling of the ECM subject does not affect the status of an island violation, as in (i).

- (i) ?***Kodomo-ni Eri-o** Ken-wa [yasasi-i to] omot-ta.
 child-DAT Eri-ACC Ken-TOP kind-PRS COMP think-PAST
 (lit.) ‘To the children, Eri, Ken considered to be kind.’

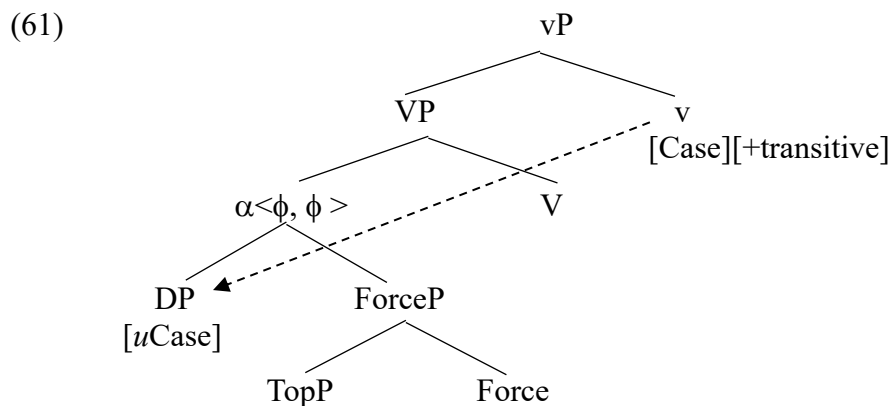
One possible reason for the unacceptability of (i) is that a lower argument has been moved out of the embedded clause before scrambling applies to the ECM subject. If this is the case, (i) is expected to show the same island effect as (52b).

into ϕ -feature agreement with the Force head. If, as suggested by Chomsky (2008), edge features (such as ϕ -features and Case features) are originated from a phase head, it can be assumed that in Japanese, abstract ϕ -features and Case features are assigned to ForceP, and that in nominative subject constructions, these features are transferred to T by feature inheritance. Thus, nominative subjects, which originate from a predicate-internal position, undergo A-movement to Spec of TP to enter into ϕ -feature agreement with the T head. If no feature inheritance takes place, ϕ -feature agreement can in principle take place at the ForceP level. This is exactly what happens in ECM constructions. In ECM constructions, the Force head is assigned abstract ϕ -features, and retain them without feature inheritance. Thus, ECM subjects are moved to Spec of ForceP, and have ϕ -feature agreement with the Force head. Chomsky (2008: 156) states that when an argument (a goal) undergoes movement to the probe, it proceeds by passing through its intermediate positions, while leaving copies. This being so, it is reasonable to state that when an ECM subject undergoes A-movement from the predicate-internal subject position to Spec of ForceP, it moves through all potential intermediate A-positions (including Spec of TP).

In regard to the position of objects, many researchers (e.g. Johnson 1991; Koizumi 1993; Lasnik 1995) claim that in English, objects undergo movement to the edge of vP (or Agr_oP), and Lasnik and Saito (1991) argue that ECM subjects are moved to the same position. In fact, an ECM subject is expected to occupy the same position as a matrix object if Case works in tandem with ϕ -feature agreement, as suggested by Chomsky (2008), i.e. if the ECM subject is Case-licensed by v and also needs to move into vP for ϕ -feature agreement. Furthermore, if Spec of ForceP offers a position only for an operator (e.g. a *wh*-phrase) in English, it follows that ForceP will not be projected for English ECM constructions, and that the ECM constructions cannot comprise a complementizer owing to the lack of the Force projection that can accommodate it. Japanese differs from English, in that ECM subjects occupy Spec of ForceP (i.e. ForceP can be a landing site of A-movement). In Japanese, ECM subjects do not raise to Spec of transitive vP in the matrix clause, although this movement does not violate any conceivable grammatical constraints. This view is reasonable since ECM subjects pattern with embedded nominative subjects with regard to *soo*-replacement, *ka*-binding, etc, as discussed in section 3.1. Given this, it is fair to state that in Japanese, transitive v does not carry ϕ -features,

so ECM subjects are not A-moved into the matrix object position.

ECM subjects can be rendered as passive subjects if the matrix verbs are turned into the passive forms, as seen in (44). This fact illustrates that the Case licenser of ECM subjects cannot be the Force head. This in turn suggests that no Case feature is assigned to the Force head in ECM constructions. Since ECM subjects are marked with accusative case, it is easy to see that their Case features are valued by transitive *v* in the matrix clause. For Case licensing, I postulate that finite *T* and transitive *v* carry uninterpretable Case features that make them probe for arguments. If, as claimed by Chomsky (2000: 123-124), Case features are undifferentiated, and manifestation of structural Case depends on interpretable features, it can be reasonably assumed that the interpretable [+finite] feature values the Case features of arguments as nominative, and the interpretable [+transitive] feature on transitive *v* values the Case features of arguments as accusative. In ECM constructions, since transitive *v* in the matrix clause can have access to the ECM subject (with no violation of the PIC), the [+transitive] on *v* values the Case feature on the ECM subject as accusative.²¹



Case features are uninterpretable and the derivation converges if they are deleted under matching (after Case valuation). In (61), the head sanctioning accusative Case is located in a higher position than the ECM subject, which induces ϕ -feature agreement with a Force head. For Chomsky (2008), Case is tied to ϕ -feature agreement, in that Case is a pre-requisite for ϕ -feature agreement, and a head with unvalued ϕ -features probes for a DP with an unvalued Case feature. Under the present view, this cannot be the case with ECM constructions in Japanese,

²¹ In Chomsky (2008), *V* is taken to be the licenser of accusative Case. The point remains the same even if this view is adopted.

since transitive *v* in a higher clause does not bear unvalued ϕ -features. If ϕ -features are not held responsible for probe-goal agreement, and if some uninterpretable feature motivates a head to serve as a probe, it is reasonable to say that a head with an uninterpretable Case feature probes for a DP carrying an unvalued Case feature, and that if probe-goal agreement is established, an interpretable [+transitive] feature values the Case feature on the DP. The facts of ECM constructions suggest that at least in Japanese, Case can be dissociated from ϕ -feature agreement, and that a head with an uninterpretable Case feature rather than an unvalued ϕ -feature probes for a goal with an unvalued Case feature (cf. Bošković 1997, 2007).

Japanese is distinguished from European languages like English, in that Case-licensing head may be distinct from ϕ -feature agreement head. I claim that the difference as to whether single heads carry both Case features and ϕ -features or these features are allowed to appear in distinct heads arises from the nature of ϕ -feature agreement. To be concrete, in European languages, ϕ -features have morphological reflexes which work in tandem with Case values. Since these languages have overt morphologies that inflect for Case and ϕ -features, a single head needs to bear Case features and ϕ -features. In Japanese, by contrast, ϕ -feature agreement is abstract, which does not have a morphological reflex. Since case morphology is realized independently of ϕ -feature agreement, I postulate that when abstract ϕ -feature agreement is implemented, the agreement feature of an Agreeing head receives a default value. In Japanese, as opposed to English, there is no need to have a bi-directional relationship between Case and agreement by virtue of the default value assigned to agreement features, and thus, a Case-licensing head can be distinct from a head participating in abstract ϕ -feature agreement.

The dissociation of Case from agreement is, in part, in conformity with the proposal advanced by Bošković (2007). Saito (2016), adopting Bošković's (2007) analysis, argues that an argument rather than a head serves as a probe, claiming that A-movement in Japanese is solely motivated by Case, i.e. an argument with an unvalued Case feature is raised to the position where it c-commands its Case-licensing head. Appealing as his analysis may be, the data regarding ECM constructions suggest the contrary; an ECM subject is not raised to a position sufficiently high to probe for the matrix *v* (or *V*), but appears in the lower clause. The ECM subject participates in ϕ -feature agreement with the Force head, and the matrix *v* functions as an accusative Case licenser. Bošković (2007) suggests that an argument appears in a

structural position c-commanding its Case-licensing head. The configuration in which an argument stays in a lower position than a Case head is not expected under the system proposed by Bošković (2007) (and also Saito (2016)). Nevertheless, in Japanese ECM constructions, the Case-licensing head is located in a position where it c-commands the ECM subject, but not conversely, which is at variance with Bošković's (2007) claim.

Before concluding this section, recall that ECM subjects can undergo scrambling to a higher clause, but embedded nominative subjects cannot. I suggest that the difference in the possibility of scrambling observed between nominative subjects and ECM subjects follows if scrambling is not a feature-driven movement, as suggested by Saito (2016), and if it can apply to an argument which remains active at the point of ϕ -feature agreement. Specifically, if an argument comes to possess no uninterpretable feature upon ϕ -feature agreement, the argument is rendered inactive. If the argument has an operator feature as an additional feature to Agree with a higher probe, it remains active, and hence can undergo A'-movement to the probe. In nominative subject constructions, the nominative subject goes into ϕ -feature agreement with T, and T Case-licenses the subject. Then, the nominative subject (with no additional features such as an operator feature) is rendered inactive. In this case, the nominative subject must stay in the position where ϕ -feature agreement is established, and thus cannot be scrambled. In ECM constructions, when the ECM subject enters into a ϕ -feature agreement relation with a Force head, the Case feature of an argument is not valued, and a higher probe *v* later values the Case feature as accusative. In this case, the ECM subject is not rendered inactive at the point of ϕ -feature agreement. Accordingly, the ECM subject can undergo scrambling.

To summarize, I have argued in this section that in Japanese ECM constructions, the ECM subject remains in the subordinate clause with no A-movement into the matrix object position. In the next section, it will be shown that when the major subject construction is embedded under the ECM verbs, Spec of ForceP in the embedded clause is filled by the major subject rather than the thematic subject of the predicate.

4 ECM major subjects

In this section, I will look at the syntactic behavior of the major subject construction embedded in the ECM construction. It is shown that the upper nominative argument (i.e. the major subject)

undergoes A-movement to ForceP to serve as an ECM argument in the embedded clause. A typical example of the major subject construction is found in (62a).

- (62) a. Eri-ga me-ga/*-o kawai-i.
 Eri-NOM eye-NOM/-ACC cute-PRS
 ‘Eri has cute eyes.’
- b. Eri-no me-ga kawai-i.
 Eri-GEN eye-NOM cute-PRS
 ‘Eri’s eyes are cute.’

In (62a), the first nominative argument is the major subject, which is licensed by a possessive relation with the second argument, i.e. the thematic subject. Thus, (62a) has the same logical meaning as (62b) whose subject contains a genitive-marked argument corresponding to the major subject in (62a). (The second argument in (62a) cannot be marked with accusative case in the major subject construction, since it is not an object.)

An ECM construction can be formed on the major subject construction if embedded under the ECM verb *iu* ‘say’ or *omou* ‘think’. As observed by Hiraiwa (2001), only the outermost argument of the embedded clause can be marked with accusative case.

- (63) a. Mari-wa [Eri-**o** me-**ga** kawai-i to] it-ta.
 Mari-TOP Eri-ACC eye-NOM cute-PRS COMP say-PST
 (lit.) ‘Mari said Eri to have cute eyes.’
- b. *Mari-wa [Eri-**ga** me-**o** kawai-i to] it-ta.
 Mari-TOP Eri-NOM eye-ACC cute-PRS COMP say-PST
- c. *Mari-wa [Eri-**o** me-**o** kawai-i to] it-ta.
 Mari-TOP Eri-ACC eye-ACC cute-PRS COMP say-PST
- d. Mari-wa [Eri-**ga** me-**ga** kawai-i to] it-ta.
 Mari-TOP Eri-NOM eye-NOM cute-PRS COMP say-PST

The data in (63) suggest that the major subject, but not the thematic subject, can be moved into ForceP. Note that the major subject marked with accusative case in (63a) is located in the embedded clause. This is confirmed by the fact of *ka*-binding in (64).

- (64) Mari-wa [**dare-o** me-ga kawai-i to **ka**] iwa-nakat-ta.
 Mari-TOP anyone-ACC eye-NOM cute-PRS COMP Q say-NEG-PST
 ‘Mari did not say that someone had cute eyes.’

In (64), the particle *ka* can bind the accusative argument. Since the binding domain of *ka* attached to the complementizer extends only over the embedded clause, (64) shows that the ECM argument, i.e. the accusative-marked major subject, is located in the embedded clause. The adequacy of this view is further verified by *soo* replacement.

- (65) a. Mari-wa [Eri-o me-ga kawai-i to] it-ta.
 Mari-TOP Eri-ACC eye-NOM cute-PRS COMP say-PST
 ‘Mari said of Eri that she had cute eyes.’
 b. Ken-mo (*Eri-o) soo it-ta.
 Ken-also Eri-ACC so say-PST
 (lit.) ‘Ken said of (Eri) so, too.’

As shown in (65b), the accusative-marked major subject cannot be overtly realized under *soo* replacement. This fact shows that the major subject resides in the subordinate clause.

Note that the accusative-marked major subject is located in a higher position than its nominative counterpart. This can be verified, for instance, by *ka*-coordination.

- (66) a. Ken-wa [[[Eri-ga me-ga kawai-i] ka [Mari-ga me-ga kawai-i] ka da]
 Ken-TOP Eri-NOM eye-NOM cute-PRS or Mari-NOM eye-NOM cute-PRS or COP
 to] it-ta.
 COMP say-PST
 ‘Ken said that either Eri had cute eyes or Mari had cute eyes.’
 b. *Ken-wa [[[Eri-o me-ga kawai-i] ka [Mari-o me-ga kawai-i]
 Ken-TOP Eri-ACC eye-NOM cute-PRS or Mari-ACC eye-NOM cute-PRS
 ka da] to] it-ta.
 or COP COMP say-PST
 (lit.) ‘Ken said either Eri to have cute eyes or Mari to have cute eyes.’

As shown in (66), while the major subjects in the two conjuncts can be marked with nominative case, it is not possible for them to be marked with accusative case. Given that the coordinating particle *ka* cannot conjoin projections above TP (cf. section 3.2), the data show that the accusative-marked major subject is located in a higher position than TP.

There is good reason to believe that the accusative-marked major subject is located in ForceP of the complement clause. This can be evaluated by resorting to clause final *dake* ‘only’. Observe that (67a) lacks the interpretation where the focus of *dake* falls on the ECM major subject, but this interpretation is available for (67b).

- (67) a. #Mari-wa [Eri-o me-ga kawai-i **dake** (da) to] it-ta.
 Mari-TOP Eri-ACC eye-NOM cute-PRS only COP COMP say-PST
 (lit.) ‘Mari said that Eri to only have cute eyes.’
- b. Mari-ga [Eri-o me-ga kawai-i to] it-ta **dake** da.
 Mari-NOM Eri-ACC eye-NOM cute-PRS COMP say-PST only COP
 (lit.) ‘It was only that Mari said Eri to have cute eyes.’

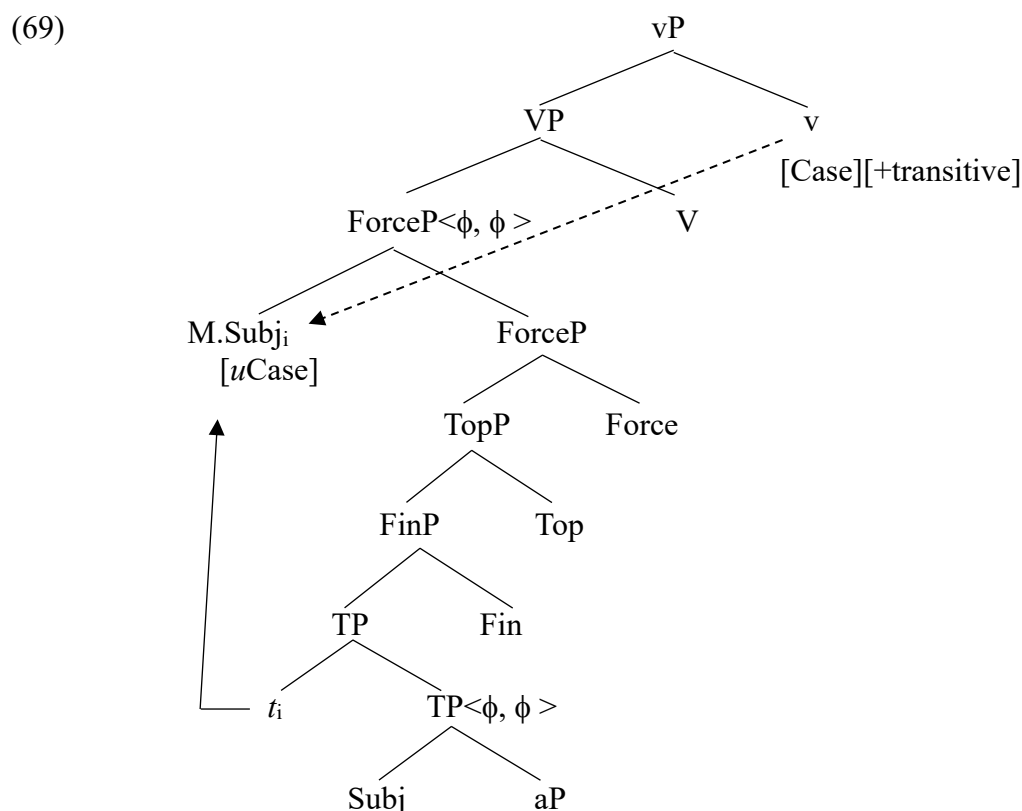
(67a) cannot have the interpretation that only Eri has cute eyes, but the interpretation that Eri has only cute eyes is possible, which shows that *dake* in the embedded clause cannot be associated with the accusative major subject *Eri* although it can be associated with the thematic subject *me* ‘eye’. On the other hand, *dake* in (67b) appears at the end of the matrix clause, and can be associated with the major subject, as well as the matrix subject. Thus (67b), as opposed to (67a), can have the interpretation that Mari said that only Eri had cute eyes (alongside the interpretation that only Mari said that Eri had cute eyes).

The data in (67) suggest that the ECM major subject is accessible from *dake* appearing at the end of the matrix clause, but is located outside the focusing domain of *dake* in the embedded clause. Then, the facts indicate that the ECM major subject appears in ForceP.

- (68) [[ForceP **Eri-o** [TP me-ga kawai-i] to] it-ta]

Recall that the major subject, but not the thematic subject of the embedded predicate, can be marked with accusative case in the ECM major subject construction, as shown in (63). A-movement (Move) can be assumed to be constrained by the minimality condition such that only

the closest argument can be affected (see Bošković 2007; Anagnostopoulou 2017). The major subject is located in a position closer to TP than the thematic subject. If A-movement to ForceP is subject to the minimality condition, it is plausible to say that in an ECM construction comprising a major subject as well as a thematic subject in the embedded clause, only the major subject, which appears in a higher position than the thematic subject, can be A-moved into ForceP.



In (69), the thematic subject appears at Spec of TP in the embedded clause. The thematic subject is merged with aP, but is displaced from aP; it stops at Spec of TP because it induces ϕ -feature agreement with the T head. (The embedded clause has an adjectival predicate, so it is assumed that the embedded predicate has two projections of aP, where the subject is merged, and AP.) On the other hand, the major subject merged at the edge of TP is displaced from this position, and moves to Spec of ForceP. The major subject enters into ϕ -feature agreement with the Force head, and its Case feature is valued as accusative by the matrix v head.²²

²² It is assumed here that in the ECM major subject construction, while the ϕ -feature and Case feature related to the thematic subject are transmitted from Force to T by feature inheritance, the ϕ -feature used for agreement with the major subject is retained in the Force head.

It is important to see that a major subject is distinguished from ordinary adjuncts, in that it undergoes A-movement from TP to ForceP in the ECM major subject construction. An ordinary adjunct involving external Merge is adjoined to its host (and perhaps, the same holds true of a scrambled element involving internal Merge). Adjunction structure is created by pair-Merge, i.e. the ordered pair $\langle \alpha, \beta \rangle$ is created by adjoining β to α (Chomsky 2001). Pair-Merge has asymmetric properties, and thus, adjuncts are invisible to the labeling algorithm (Chomsky 2013). Since an adjunct does not cause a problem on the labeling of a newly created object, it is not displaced from the adjoined position. But the major subject is relevant for the labeling algorithm, just in the way as ordinary arguments (selected by predicates). I presume that the movement of a major subject into Spec of ForceP in the ECM major subject construction is motivated by the fact that it bears a structural Case feature, and is merged with TP via set-Merge (rather than pair-Merge). Since the thematic subject is located in a lower TP position, the major subject is closer to ForceP than the thematic subject. Then, the ECM major subject is moved from TP to ForceP to enter abstract ϕ -feature agreement with the Force head.

In ECM constructions, only one argument is moved to Spec of embedded ForceP via A-movement. Thus, when the major subject construction is embedded under the ECM verb, only the major subject can be marked with accusative case, and this major subject can be turned into the matrix subject by direct passivization, as in (70a).

- (70) a. Eri-ga Mari-ni [me-ga kawai-i to] omow-are-ta.
 Eri-NOM Mari-by eye-NOM cute-PRS COMP think-PASS-PST
 ‘Eri was considered by Mari to have cute eyes.’
- b. Eri-no me-ga Mari-ni [kawai-i to] omow-are-ta.
 Eri-GEN eye-NOM Mari-by cute-PRS COMP think-PASS-PST
 ‘Eri’s eyes were considered by Mari to be cute.’

(70a) is a direct passive sentence derived by applying passivization to the ECM sentence in (63a), and (70b) is a passive sentence in which the argument *Eri* is realized as a genitive phrase inside the thematic subject.

The passive clause in (70a) includes two nominative arguments, i.e. the major subject and the thematic subject (selected by the embedded predicate). By making use of the matrix adverb

odoroitakotoni ‘surprisingly’, it can be shown that in (70a) the first argument (the major subject) resides in the matrix clause, and the second argument (the thematic subject) resides in the embedded clause.

- (71) a. Eri-ga (odoroitakotoni) Mari-ni [me-ga (*odoroitakotoni) kawai-i to]
 Eri-NOM (surprisingly) Mari-by eye-NOM (surprisingly) cute-PRS COMP
 omow-are-te i-ta.
 think-PASS-GER be-PST
 (lit.) ‘Eri was (surprisingly) considered to have (surprisingly) cute eyes.’
- b. Eri-no me-ga (odoroitakotoni) Mari-ni [kawai-i to] omow-are te i-ta.
 Eri-GEN eye-NOM (surprisingly) Mari-by cute-PRS COMP think-PASS-GER be-PST
 ‘Eri’s eyes were (surprisingly) considered by Mari to be cute.’

In the passive clause in (71a), the matrix adverb can follow the major subject, but not the thematic subject.²³ By contrast, in the active counterpart of (71a), the matrix adverb cannot follow the major subject, as shown in (72).

- (72) Mari-wa [Eri-ga (*odoroitakotoni) me-ga kawai-i to] omot-ta.
 Mari-TOP Eri-NOM (surprisingly) eye-NOM cute-PRS COMP think- PST
 (lit.) ‘Mari considered Eri surprisingly to have cute eyes.’

In the active construction in (72), the major subject marked with nominative case cannot be scrambled into the matrix clause, just like the nominative subject (see section 3.1). Then, the facts of (71) suggest that in the passivized major subject construction in (71a), the major subject is moved into the matrix subject position, while the thematic subject remains in the embedded clause. On the other hand, the nominative subject is raised to the matrix clause in the ordinary nominative subject construction in (70b), which is confirmed by the fact that the adverb can follow the nominative subject in (71b).

Another piece of evidence in favor of the present view may be derived from the facts of argument extraction effects triggered by postposing the nominative arguments to the right of

²³ One reviewer does not find the placement of the adverb to right of the embedded thematic subject in (71a) as bad as the asterisk (*) indicates.

the complementizer, as shown in (73).

- (73) a. [Kodomo-ga otokonoko da to] **Eri-ga** omow-are-te i-ru.
 child-NOM boy COP COMP Eri-NOM think-PASS-GER be-PRS
 ‘Eri’s child is considered to be a boy.’
- b. *[Otokonoko da to] **Eri-ga kodomo-ga** omow-are-te i-ru.
 boy COP COMP Eri-NOM child-NOM think-PASS-GER be-PRS
 ‘Eri’s child is considered to be a boy.’
- c. [Otokonoko da to] **Eri-no kodomo-ga** omow-are-te i-ru.
 boy COP COMP Eri-GEN child-NOM think-PASS-GER be-PRS
 ‘Eri’s child is considered to be a boy.’

Note that the major subject cannot be postposed to the right of the complementizer in the active construction in (74a), behaving on a par with the nominative subject in (74b). This is due to the fact that they appear in the embedded clause.

- (74) a. *Mari-wa [kodomo-ga otokonoko da to] **Eri-ga** omot-te i-ru.
 Mari-TOP child-NOM boy COP COMP Eri-NOM think-GER be-PRS
 ‘Mari considers Eri’s child to be a boy.’
- b. *Mari-wa [otokonoko da to] **Eri-no kodomo-ga** omot-te i-ru.
 Mari-TOP boy COP COMP Eri-GEN child-NOM think-GER be-PRS
 ‘Mari considers Eri’s child to be a boy.’

When passivization applies to the matrix verb, the ECM argument is rendered as the matrix subject. The acceptability of (73c) shows that in the passive ECM construction, the ECM subject occurs in Spec of TP in the matrix clause, but a comparison of (73a) and (73b) shows that in the passivized ECM major subject construction, the major subject, but not the thematic subject, appears as the matrix passive subject.

The data suggest that only one argument can appear in ForceP. This view is further corroborated by the fact that when the major subject construction is embedded under an ECM verb, the thematic subject cannot be marked with accusative case, as seen in (75a) and (75b).

- (75) a. *Mari-ga [subete-no kaiga-**o** iroai-**o** i-i to] omot-ta.
 Mari-NOM all-GEN painting-ACC coloring-ACC good-PRS COMP think-PST
 ‘Mari considered all paintings to have good coloring.’
- b. *Subete-no kaiga-**ga** Mari-ni [iroai-**o** i-i to] omow-are-ta.
 all-GEN painting-NOM Mari-by coloring-ACC good-PRS COMP think-PASS-PST
 ‘All paintings were considered by Mari to have good coloring.’

(75a) is not acceptable since the thematic subject *iroai* ‘coloring’ is marked with accusative case. Its direct passive counterpart in (75b) is not acceptable, either, because the thematic subject is marked with accusative case. The nominative thematic subject counterparts of (75a) and (75b) are acceptable, as shown in (76a) and (76b).

- (76) a. Mari-ga [subete-no kaiga-**o** iroai-**ga** i-i to] omot-ta.
 Mari-NOM all-GEN painting-ACC coloring-NOM good-PRS COMP think-PST
 ‘Mari considered all paintings to have good coloring.’
- b. Subete-no kaiga-**ga** Mari-ni [iroai-**ga** i-i to] omow-are-ta.
 all-GEN painting-NOM Mari-by coloring-NOM good-PRS COMP think-PASS-PST
 ‘All paintings were considered by Mari to have good coloring.’

As suggested above, in the ECM major subject construction, the thematic subject remains in the embedded clause. Given this fact, it is reasonable to state that (75a) and (75b) are excluded on the grounds that the Case feature of the thematic subject cannot be valued as accusative by the matrix *v*, i.e. the thematic subject cannot be marked with accusative case because it is too far away from the matrix *v* with the intervention of a TP boundary.²⁴

²⁴ Hiraiwa (2001) claims that a sentence like (75a), where both major subject and thematic subject appear in the accusative case, is excluded by the double-*o* constraint, and that the double-*o* constraint violation is ameliorated if two accusative phrases are separated from each other. Nevertheless, there are speakers who do not find such a difference in grammaticality regardless of the position of the two accusative arguments. For this group of speakers, (i) is ungrammatical, just like (75a).

- (i) *Subte-no kaiga-**o**_i Mari-wa [*t*_i iroai-**o** i-i to] omot-ta.
 all-GEN painting-ACC Mari-TOP coloring-ACC good-PRS COMP think-PST
 ‘All paintings, Mari considered to have good coloring.’

The presence or absence of an argument extraction effect follows naturally, given that ForceP can be filled only by the highest argument (cf. Bošković 2016). In the passivized ECM major subject construction in (70a), the major subject, which is a higher argument than the thematic subject, undergoes movement to Spec of embedded ForceP, and then further movement to Spec of matrix TP. In the ordinary passivized ECM construction in (70b), the thematic subject of the embedded predicate is moved to Spec of matrix TP by way of embedded ForceP, since it is the argument closest to ForceP. The data provide another kind of confirmation that only the highest argument can be moved into ForceP.

At this point, it is worth addressing the question of why the passive subjects in (73a) and (73c), which undergo A-movement to Spec of matrix TP, do not display an argument extraction effect. To make this point, first observe the contrast in acceptability between (77b) and (77d), which is caused by VP-fronting (Hoji, Miyagawa and Tada 1989).

- | | |
|--|--|
| (77) a. John-ga hasiri-sae si-ta.
John-NOM run-even do-PST
‘John even ran.’ | b. [hasiri-sae] John-ga si-ta.
run-even John-NOM do-PST
(lit.) ‘Even run, John did.’ |
| c. Ame-ga huri-sae si-ta.
rain-NOM fall-even do-PST
‘It even rained.’ | d. *[huri-sae] ame-ga si-ta.
fall-even rain-NOM do-PST
(lit.) ‘Even fall, the rain did.’ |

The VP fronting facts in (77b) and (77d) show that animate subjects, unlike inanimate subjects, do not display argument extraction effects even if they are moved out of vP-internal position. Hasegawa (1990) suggests that the absence of an argument extraction effect for animate

The discrepancy might be due to speaker variation as to where the lower thematic subject is placed when the upper major subject is displaced. Theoretically, if the thematic subject can be placed in ForceP after the upper major subject is moved out from it by passivization, the thematic subject might be marked with accusative case by the upper predicate. For the group of speakers whose judgment the present discussion is based on, this option is disallowed; the thematic subject occupies the same position regardless of whether the major subject is in the embedded clause or is moved into the higher clause. If this is the case, the thematic subject does not reside in the domain where accusative Case is licensed by the upper verb. Thus (75a) and (75b) are both ruled out independently of the double-*o* constraint. ((75b) is slightly better than (75a), however, since (75b) does not have the sequence of two accusative phrases.)

subjects is attributed to the repair strategy of substituting PRO for a trace left by A-movement, which can apply only when the subject is animate (due to the animacy condition imposed on PRO replacement).

- (78) a. *[[_{VP} t_i V-v] Arg_i]
 b. [[_{VP} ... PRO_i ... V-v] Arg_i]

In (77b), which comprises an animate subject, the trace inside the VP can be replaced by PRO, but this operation does not apply to (77d), which includes an inanimate subject. PRO does not have to be c-commanded by its antecedent, but a trace must be c-commanded by its antecedent. Thus, a difference in acceptability is observed between (77b) and (77d).

In the passive constructions in (70), the ECM argument undergoes A-movement out of the embedded clause. Under the present view, then, it is expected that an argument extraction effect will emerge if the passive subject does not satisfy the animacy condition on PRO replacement. This expectation is fulfilled, as shown by the unacceptability of (79b), which includes an inanimate passive subject.

- (79) a. Minna-ni **koko-no yakei-ga** [utukusi-i to] omow-are-te i-ru.
 all-by here-GEN night.view-NOM beautiful-PRS COMP think-PASS-GER be-PRS
 ‘The night view here is thought to be beautiful by everyone.’
 b. ?*Minna-ni [utukusi-i to] **koko-no yakei-ga** omow-are-te i-ru.
 all-by beautiful-PRS COMP here-GEN night.view-NOM think-PASS-GER be-PRS
 ‘The night view here is thought to be beautiful by everyone.’

The examples in (79) show that when an embedded inanimate subject is rendered as the matrix passive subject in the ECM construction, it cannot be placed to the right of the embedded clause. (79b) gives rise to an argument extraction effect. No such argument extraction effect is incurred in (73a) and (73c), since the topmost trace of the animate passive subjects left in the subordinate clause can be replaced by PRO, as (80b) illustrates.

- (80) a. *[[_{Subord-CL} t_i ] Arg_i]
 b. [[_{Subord-CL} PRO_i] Arg_i]

If the data in (73) are compared with those in (79), it is easy to see that when the passive subjects of ECM constructions are animate, they can be postposed to the right of the embedded clause thanks to the repair strategy of PRO replacement.

The crucial point is that in the ECM construction where a major subject appears in the embedded clause, only the major subject can be A-moved from the complement clause to the matrix subject position when the matrix verb is passivized. This fact naturally follows, given that *v* in the matrix clauses loses the ability to value the Case feature on an argument under direct passivization. In the passivized ECM major subject construction, the Case feature on the major subject cannot be valued, for the passivized *v* does not have an ability to value its Case feature. In this case, the major subject is Case-licensed by the matrix *T* and is raised to the matrix TP, participating in ϕ -feature agreement with the *T* head.²⁵ On the other hand, the thematic subject of the embedded predicate marked with nominative case stays in Spec of TP in the embedded clause. The thematic subject is Case-licensed by the embedded *T*, and is moved into Spec of the embedded TP to participate in abstract ϕ -feature agreement with the embedded *T*. Accordingly, the passivized ECM major subject construction has the structure where the major subject appears in Spec of the matrix TP, and the thematic subject, in the embedded TP.

To summarize, I have shown in this section that in an ECM construction formed by embedding a major subject in the complement clause, the major subject is A-moved to Spec of embedded ForceP, with the thematic subject remaining in TP in the embedded clause. When passivization applies to the matrix verb, the major subject is moved from Spec of embedded ForceP to Spec of matrix TP, while the thematic subject of the embedded predicate remains in Spec of TP in the embedded clause. The data show that only one argument can be raised to Spec of ForceP by A-movement, i.e. in the ECM construction in which the major subject construction is embedded under the ECM verb, only the major subject enters into abstract ϕ -feature agreement with the Force head in the embedded clause. This means that the ECM major subject is located in the embedded clause, and that the matrix *v* serves as a probe for the ECM major subject, and values its Case feature as accusative. The data on ECM constructions show that

²⁵ I assume here that transitive *v* is a phase (even if passive *v*, which deprives the Case licensing ability of transitive *v*, is added on top of it), so that *T* cannot have access to an argument lower than transitive *v*P.

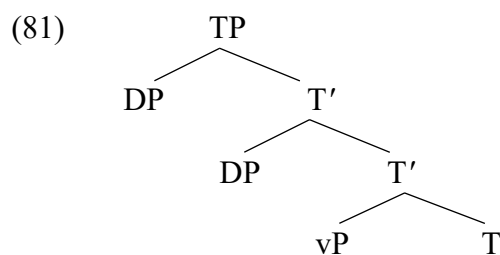
Case-licensing heads may be distinct from heads invoking ϕ -feature agreement in Japanese.

5. Conclusion

In this paper, I have argued that ECM subjects undergo A-movement to Spec of ForceP in the embedded clause, but not to the matrix object position, in Japanese ECM constructions, where a complementizer is required for the embedded clause. The ECM subject has been argued to appear in ForceP accessible to the matrix predicate, while a topic fills in lower TopP. It is suggested that in the ECM construction, the ECM subject is raised to ForceP because it enters into ϕ -feature agreement with the Force head, and that its Case feature is valued as accusative by the matrix verb. It has further been shown that when the major subject construction is embedded under the ECM verb, the major subject rather than the thematic subject of the embedded predicate is raised to ForceP to serve as an ECM argument.

Appendix 1: Nominative Case

In regard to the question of how nominative Case is licensed in the multiple nominative construction, Saito (2016) advances the analysis to take arguments with unvalued Case features to probe for a Case head, and claims that one advantage of his analysis is that it can provide a ready account for the facts of multiple nominative constructions, where nominative DPs are merged with TP, as in (81).

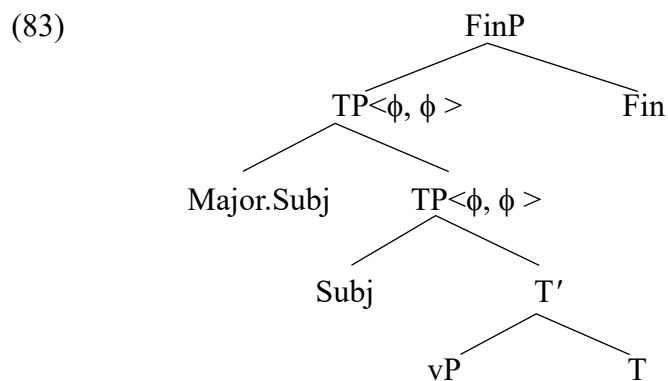


Saito claims that T cannot be a probe for the multiple nominative construction, for it cannot c-command all the nominative phrases appearing in TP. In the ECM construction, on the other hand, the matrix v serves as a probe, and Agrees with the ECM subject in the lower clause for accusative Case licensing. Then, a question arises as to how the facts of multiple nominative constructions can be accounted for in the present perspective.

First, recall that as discussed in section 4, when the accusative-marked major subject is embedded under an ECM verb, it undergoes A-movement to ForceP, but that when the nominative-marked major subject is added to TP by set-Merge, it participates in ϕ -feature agreement with T. The fact regarding *dake*-focusing in (82)(=(33a)) provides empirical evidence that the nominative-marked major subject stays in TP (section 3.2).

- (82) Mari-wa [Ken-ga me-ga waru-i dake da to] it-ta.
 Mari-TOP Ken-NOM eye-NOM bad-PRS only COP COMP say-PST
 ‘Mari said that it was only that Ken had bad eyesight.’

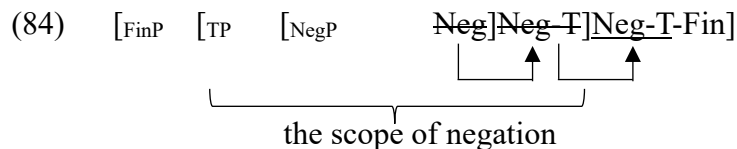
In (82), the clause final *dake* ‘only’ can be associated with the major subject, as well as the thematic subject of the embedded predicate. The fact shows that both major subject and thematic subject appear in TP in the embedded clause when they are marked with nominative case. In view of this fact, it is necessary to say that in the major subject construction, the major subject is added to embedded TP by set-Merge. This in turn suggests that ϕ -feature agreement may be iterated at the level of TP, as (83) illustrates (see e.g. Ura 2000; Hiraiwa 2001).



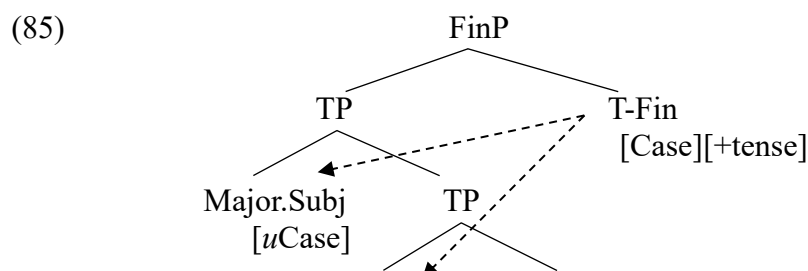
In English, once an argument values the ϕ -feature on T, it does not induce ϕ -feature agreement with another argument. Japanese differs from English in this respect. In the major subject construction in (82), the major subject and the thematic subject appear in TP, suggesting that both arguments establish an abstract ϕ -feature agreement relation with T. Here, I surmise that in Japanese, T can iterate abstract ϕ -feature agreement on the basis that the ϕ -feature on the T head is assigned a default value—the agreement value not specific to any argument (section 3.2).

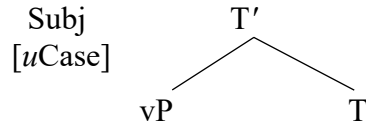
It has been seen in section 3 that the Case feature on the ECM subject is valued as accusative by the matrix verb. How about the Case feature on nominative arguments? There are a number of possibilities that come to mind. One possible analysis is to maintain that the Case feature on the nominative argument acts as a probe, as suggested by Saito (2016). On this view, *v* and *T* have different statuses in probe-goal agreement. On the other hand, if *T* probes for the Case features of nominative arguments, a problem arises in the multiple nominative major subject construction because *T* is located in a position where it does not c-command the major subject in (82), as Saito (2016) notes. In light of this consideration, Saito (2016) proposes that an argument is a probe rather than a goal. Nevertheless, under the present perspective, it is possible to maintain that *T* (rather than an argument) counts as a probe for nominative Case licensing if Kishimoto's (2017) suggestion that *T* undergoes head raising to *Fin* is granted.

Specifically, Kishimoto (2017) suggests that the *T* head undergoes raising to a higher head, in light of the fact that the scope of clausal negation extends over *TP* even though the morphological string indicates that a clause negator should be generated in a position lower than tense (*T*). According to Kishimoto, this scope extension is obtained when *Neg* is first raised to *T*, and then the complex head of *Neg-T* is further raised to *Fin*, as illustrated in (84).



The two instances of head movement result in the formation of a complex head which allows *Neg* to extend scope over *TP*. If *Neg* can extend its scope over *TP*, it is plausible to postulate that *T*, which is moved along with *Neg*, can also exert its influence over *TP*. This being the case, the *T* head raised to *Fin* can value the Case features of the major subject and the thematic subject, both of which appear in *TP*, (85) illustrates.





While it is beyond the scope of the present paper to draw a definite conclusion about nominative Case licensing, it is plausible to state that T can probe for the Case features of nominative arguments if it undergoes head raising to a higher head position.

Appendix 2: Reciprocal binding

It is sometimes claimed (e.g. Saito 1992; Tada 1993; Miyagawa 1997) that clause-internal scrambling can count as A-movement on the grounds that it can feed new binding possibilities of reciprocal *otagai* ‘each other’, but the fact does not necessarily provide evidence that scrambling can be A-movement. To make this point, consider (86).

- (86) a. **Otagai-no sensei-ga [Ken-to Eri]-ni at-te i-ta.*
 each.other-GEN teacher-NOM Ken-and Eri-DAT meet-GER be-PST
 ‘Each other’s teachers were meeting Ken and Eri.’
- b. [*Ken-to Eri*]-ni_i *otagai-no sensei-ga t_i at-te i-ta.*
 Ken-and Eri-DAT each.other-GEN teacher-NOM meet-GER be-PST
 ‘Ken and Eri, each other’s teachers were meeting.’

In (86a), the object cannot bind the reciprocal *otagai* ‘each other’, but once the object is scrambled across the subject, *otagai* is allowed to be bound by the object, as in (86b). Tanaka (2002) shows that an ECM subject displays the same behavior. While it is often claimed that only A-movement can create new binding possibilities, a caution needs to be exercised for *otagai*-binding. The examples in (87) show that topicalization gives rise to the same effect.

- (87) [*Ken-to Eri*]-ni-wa_i [*otagai-no sensei*]-ga *t_i at-te i-ta.*
 Ken-and Eri-DAT-TOP each.other-GEN teacher-NOM meet-GER be-PST
 ‘With Ken and Eri, each other’s teachers were meeting.’

In (87), the argument marked with *ni* ‘to’ is selected by the verb, which suggests that it has undergone movement from a clause-internal position to the clause-initial topic position,

although a topic without a postposition can be base-generated in the topic position (Saito 1985). This type of topicalization involves operator movement (non-A-movement), but still the fronted topic can bind the reciprocal, as in (87).

Note further that the effect of creating new binding possibilities is observed when the reciprocal is embedded in a DP, but that no such effect is obtained when the reciprocal is not embedded. (88) shows that a scrambled object does not feed a new binding possibility.

- (88) a. **Otagai-ga* [*Ken-to* *Eri*]-o *sonkei-si-te* *i-ta*.
 each.other-NOM Ken-and Eri-ACC respect-do-GER be-PST
 (lit.) ‘Each other respected Ken and Eri.’
- b. *[*Ken-to* *Eri*]-o_i *otagai-ga* *t_i* *sonkei-si-te* *i-ta*.
 Ken-and Eri-ACC each.other-NOM respect-do-GER be-PST
 (lit.) ‘Ken and Eri, each other respected.’

Topicalization behaves on a par with scrambling. (89) shows that *otagai* cannot be bound by the DP fronted by topicalization.

- (89) a. **Otagai-ga* [*Ken-to* *Eri*]-ni *at-te* *i-ta*.
 each.other-NOM Ken-and Eri-DAT meet-GER be-PST
 (lit.) ‘Each other were meeting Ken and Eri.’
- b. *[*Ken-to* *Eri*]-ni-wa_i *otagai-ga* *t_i* *at-te* *i-ta*.
 Ken-and Eri-DAT-TOP each.other-NOM meet-GER be-PST
 (lit.) ‘With Ken and Eri, each other were meeting.’

The possibility of reciprocal binding is not affected by scrambling and topicalization in this context. On the other hand, reciprocal binding is made available if a DP undergoes A-movement, as illustrated in (90).

- (90) [*Ken-to* *Eri*]-ga_i *otagai-kara* *t_i* *sonkei-s-are-te* *i-ta*.
 Ken-and Eri-NOM each.other-from respect-do-PASS-GER be-PST
 ‘Ken and Eri were respected by each other.’

The facts show that scrambling and authentic A-movement do not pattern together in *otagai*-

binding. Given the discrepancy observed between (88b) and (90), it is reasonable to state that the creation of new binding possibilities for the reciprocal *otagai* observed in (86) does not provide evidence for the claimed A-movement status of scrambling.

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