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On the scope paradox of negation in Japanese*

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1 Introduction

The scope of negation in Japanese is a controversial issue.[1] A recent debate centers on whether Spec-TP falls within this scope. Assuming NegP is positioned between T and *v*P, in line with Pollock (1989), some scholars argue that Spec-TP is excluded from the scope of negation (**narrow NEG scope**) because it is outside the c-command domain of Neg (Miyagawa 2001, 2003, Shibata 2015, Nishioka 2018). In contrast, others argue that Spec-TP should be included within the scope of negation (**wide NEG scope**) due to Neg-raising (Kishimoto 2007) or LF movement of Neg to C (Kishimoto 2008, Hasegawa 1991, Kato 1994, 2000). Empirical data support the former in some cases, but support the latter in others. This is called the paradox of negative scope in Japanese. This paper argues that the paradox can be solved by considering the discourse-configurational nature of Japanese and the interaction between topic/focus and the scope of negation.

The paper is organized as follows. In the next section, it will be shown that the previously presented analyses based on certain negative polarity items (NPIs) for the wide NEG scope are untenable. However, I demonstrate that the paradox does indeed exist based on the interpretations of the subject QPs with respect to negation. I also argue that the scope of negation can be determined by considering the interpretations of the subject QPs in light of their structural positions. To support this argument, it is necessary to determine the position of the subject. Evidence

from a dialect of Japanese, Kumamoto Japanese (KJ), clearly demonstrates these positions through distinct case-marking on the subject. In section 3, I examine the discourse-configurational nature of Japanese and two influential analyses: Miyagawa's (2010, 2017) Downward analysis and Saito's (2010) Upward analysis. In section 4, I argue that both analyses should be integrated to capture the discourse-configurational nature of Japanese, demonstrating that the topic/focus activation requirement in Japanese matrix clauses necessitates feature inheritance and phrasal movement and, accordingly, determines the scope of negation. In section 5, I propose a mechanism behind the analysis presented in section 4, drawing on Nishioka's (2007) analysis of English negative sentences and the cartographic framework suggested by Rizzi (1997) and Haegeman (2000). Section 6 concludes the paper.

2 The scope of negation in Japanese

2.1 NPIs as evidence for determining the scope of negation

A number of analyses of clausal structures and the scope of negation have been proposed based on the distribution of NPIs of which representative ones are indeterminate pronouns with *mo*, which will be referred to as wh-MO such as *daRE-MO* 'who-MO', *naNI-MO* 'what-MO',[2] and exceptive XP-*sika* 'only XP' (Muraki 1978; Kuno 2001; Kishimoto 2007, 2008; among others).[3] For example, consider the analysis by Kishimoto (2007, 2008), who argues that the scope of negation in Japanese extends over the whole TP as a result of Neg-raising (2007) and LF movement of Neg to C (2008). As evidence for the argument that Spec-TP falls under the scope of negation, Kishimoto presents data on the subject-object symmetry of NPI licensing.[4]

(1) a. {Gakusei-sika/Dare-hito-ri gakusei-ga} hon-o yom-anakat-ta.
student-sika/who-one-CL student-NOM book-ACC read-NEG-PAST
'{Only students/Not a single student} read books.'
b. Gakusei-ga {hon-sika/nani-hito-tu hon-o} yom-anakat-ta.
student-NOM book-sika what-one-CL book-ACC read-NEG-PAST
'The students read {only books/not a single book}.'
(Kishimoto 2007: 264)

Kishimoto claims that the grammaticality of (1a) serves as evidence that Spec-TP falls under the scope of negation, assuming that NPIs are licensed uniformly by being c-commanded by Neg at the overt positions of NPIs.

However, analyses of NPIs are still contentious, and the assumption that the scope of negation can be determined by observing the occurrences of NPIs might lead us astray. As argued by Miyagawa, Nishioka and Zeijlstra (hereafter MNZ) (2013, 2016) and Nishioka (2017), the distinction between NPIs and negative concord items (NCIs) is critical. Giannakidou (2006) offers the following definition of NCIs:

(2) An expression α is an NCI (aka 'n-word') iff:
(i) α can be used in structures containing sentential negation or another α-expression, yielding a reading equivalent to one logical negation; and
(ii) α can provide negative fragment answer (i.e. without overt negation).
(Giannakidou 2020:459)

According to (2), XP-*sika* and wh-one-CLF are NCIs, along with wh-MO, whose NCI status is supported by Watanabe (2004). They yield a reading of single negation, and they can constitute negative fragment answers as shown in (3) and (4), in contrast to a typical NPI as shown in (5).[5]

(3) A: Yoku Yamada-sensei to-wa aw no?
often Yamada-prof. with-TOP meet Q
'Do you often see Prof. Yamada?'
B: (Iya,) gakugaide-sika/syuu ni itido-sika.
no off campus-sika/week in once-sika
'No, only off campus/only once a week.' (MNZ 2016: 9)

(4) A: Omosiroi mono atta?
interestin thing be.PAST
'Were there any interesting things?'
B: (Iya,) nani-hito-tu / naNI-MO.
no what-one-CLF / what-mo
'Nothing.'

(5) A: Were there any interesting things?
B: *Anything.

MNZ (2013, 2016) argue, following Zijilstra (2004) and his other works, that the licensing mechanism of NCIs is Upward Agree (UA), which is schematized as follows:

(6) $[_{TP}\ldots[_{NegP}\ Op_{[iNEG]}[_{vP}\ldots NCI_{[uNEG]}\ldots(NCI_{[uNEG]})\ldots v]Neg_{[uNEG]}]]$

UA

The direction of this Agree operation is the opposite of the standard Agree mechanism proposed by Chomsky (2000; 2001), where an uninterpretable probe feature searches for a corresponding interpretable feature in its c-commanding domain. In this case, however, (multiple) probes - elements with [uneg] - are c-commanded by a goal (Op), meaning that Agree applies upward here. This analysis accommodates single negation meaning without assuming semantic resumption, such as

Neg-Factorization (Haegeman and Zanuttini 1996). If this analysis of NCIs is on the right track, NCIs are licensed in their underlying positions within *v*P, regardless of their overt positions, which do not contribute to determining the scope of negation.

Moreover, the Neg-raising and LF movement of Neg to C proposed by Kishimoto (2007, 2008) are theoretically unfounded. I propose a more principled account for the mechanism based on the discourse-configurational nature of Japanese.

If NCIs cannot be used to determine the scope of negation in Japanese, another tool is needed to capture it. I argue that the scope interpretations of the subject QP with respect to negation will satisfy the requirement if we can accurately determine the subject's position.

Let us examine concrete examples and address the problem step by step.

(7) a. Zen'in-ga siken-o uke-nakat-ta. (*not > all, all > not)
all-NOM test-ACC take-NEG-PAST
'All did not take the test.'

b. Go-ninizyo -ga sono hon-o yom-anaka-ta.
5-CLF more than-NOM the book-ACC read-NEG-PAST
(*not > more than 5, more than 5 > not)
'More than 5 people did not read the book.'

As is generally assumed, if the subject in (7) resides in Spec-TP, the impossibility of its partial negation (*not > QP) suggests that Spec-TP is out of the scope of negation. However, is the subject really in Spec-TP? If the subject stays in its original position within the *v*P, its scope can be narrower. However, if the subject moves to a higher position than Spec-TP, this suggestion does not hold. We need to first confirm the position of the subject in (7). In this respect, a dialect of

Japanese, Kumamoto Japanese (KJ), which is spoken in Kyushu, in southwestern Japan, is particularly helpful to determine the position of the subject, as argued in MNZ (2016).

2.2 KJ as a determiner of the position of the subject

KJ uses *-no* as well as *-ga* as subject markers, unlike standard Japanese (SJ), which only uses the *-ga* nominative marker, as observed in (8). Following Kato (2007) and Nishioka (2018a, b), I argue that KJ data reveal the positions of subjects in Japanese which cannot be determined by solely observing SJ data.

(8) a. Tenki-ga/*-no ii-ne.[6]
weather-NOM fine-PRT
'Look! Nice weather, isn't it?'
b. Tenki-ga/-no yoka-ne. (KJ)
weather-NOM fine-PRT
'Look! Nice weather, isn't it?

As for the differences between *-ga* and *-no* in KJ, the generalization shown in (9) holds, which can be demonstrated in (10) and (11).

(9) *-ga* nominative subject in KJ occupies Spec-TP while *-no* subject resides in a lower position. (Cf. Kato 2007, Nishioka 2018)

(10) a. Ame-ga/*?-no uresikakotuni hur-iyo-ru. (KJ)
rain-NOM happily fall-PROG-PRES
'It, happily, is raining.'
b. Uresikakotuni ame-ga/no hur-iyo-ru. (KJ)
happily rain-NOM fall-PROG-PRES
'Happily, it is raining.'

(10) shows that a high adverb such as 'happily' cannot follow a *-no* marked subject unlike *-ga* marked one, which is derived from (9): *-no* marked subject stays in a lower position and cannot precede a high adverb which is located in TP or higher. In light of (9), consider the KJ version of (7).

(11) a. Zen'in-ga/*no siken-ba[7] uke-ndat-ta. (KJ) (*not > all, all > not)
all-NOM test-ACC take-NEG-PAST
'All did not take the test.'

b. Go-nin izyo-ga/*no sono hon-ba yom-andat-ta. (KJ)
5-CLF more than-NOM the book-ACC read-NEG-PAST
(*not > more than 5, more than 5 > not)
'More than 5 people did not read the book.'

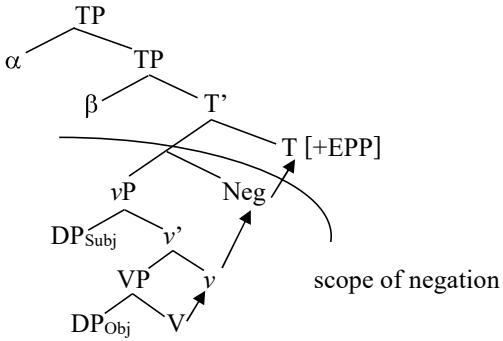
The QP subject in (11) must be marked by *-ga*, indicating that it is in Spec-TP according to (9), making the partial negation interpretation (not > QP) impossible or difficult to obtain. This suggests that Spec-TP is out of the scope of negation. I will illustrate why *-no* cannot be used in KJ here, unlike (8b) and (10b), when discourse-configurational nature of Japanese is presented in section 3. In the following section 2.3, to begin the discussion, I summarize Miyagawa (2001, 2003), who captures the scope facts including (7) based on the syntactic requirement by [EPP].

2.3 EPP based analysis: Miyagawa (2001, 2003)

Assuming that the scope of negation is the c-command domain of T, Miyagawa (2001, 2003) develops his theory of scrambling based on [EPP], which is schematically represented in (12). If the subject moves to Spec-TP (β in (12)) to check [EPP] on T as shown in (14a), it is not within the scope of negation, resulting in the interpretation of total negation (*all* > *not*). This is the derivation shown in

(13a). However, if the object instead moves to check [EPP] on T as shown in (14b), the subject can remain in Spec-*v*P, which falls under the scope of negation, and partial negation results as shown in (13b). However, (13b) has another derivation shown in (14c), where both the subject and the object move to β and α respectively, in (12). This results in the total negation of the subject. In other words, EPP is a key factor in explaining the interpretation of the subject in (13) in Miyagawa (2001, 2003).

(12)



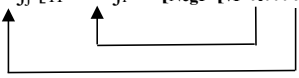
(13) a. Zen'in-ga siken-o uke-nakat-ta. (= (7a)) (*not > all, all > not)
all-NOM exam-ACC take-NEG-PAST
'All did not take the exam.'

b. Siken-o zen'in-ga uke-nakat-ta. (not > all, all > not)
exam-ACC all-NOM take-NEG-PAST
'The exam, all did not take.'

(14) a. [TP Subj$_i$ …**[NegP [vP *t*$_i$ …Obj… *t*$_{V\text{-}v}$] *t*$_{V\text{-}v\text{-}Neg}$]** V-v-Neg-T$_{[EPP]}$] Subj > not

b. [TP Obj$_i$ …**[NegP [vP Subj …*t*$_i$ …*t*$_{V\text{-}v}$] *t*$_{V\text{-}v\text{-}Neg}$]** V-v-Neg-T$_{[EPP]}$] not > Subj

c. [$_{TP}$ Obj$_j$ [$_{TP}$ Subj$_i$ … **[$_{NegP}$ [$_{vP}$ *t*$_i$… *t*$_j$ …*t*$_{V\text{-}v}$] *t*$_{V\text{-}v\text{-}Neg}$]** V-v-Neg-T$_{[EPP]}$]]
Subj > not



The position of the subject can be confirmed by the KJ version of (13b) in (15) as well as by (11a) for (13a).

(15) Siken-ba zen'in-ga/no uke-ndat-ta. (KJ) (*-no*: not > all, *-ga*: all > not)
exam-ACC all-NOM take-NEG-PAST
'The exam, all did not take.'

The fact that both *-ga* and *-no* are possible and that each represents a different scope interpretation in KJ seems to support the derivations in (14b, c) and the analysis above.[8]

However, Miyagawa's EPP based analysis cannot capture the facts presented in (16) and (17).[9]

(16) a. Hora, zen'in-ga utat-tei-na-i. (not > all, all > not)
look, all-NOM sing-PROG-NEG-PRES
'Look, all are not singing.'
b. Zen'in-ga mada ki-tei-na-i. (not > all, all > not)
all-NOM yet come-PERF-NEG-PRES
'All haven't come yet.'

(17) a. Zen'in-ga siken-o uke -na-i nara koma-ru. (not > all, all > not)
all-NOM exam-ACC take-NEG-PRES if be embarrassed-PRES
'If all don't take the exam, I will be embarrassed.'

b. Zen'in-ga sono tesuto-o uke-nakat-ta kara raigetu mata
all-NOM that test-ACC take-NEG-PAST because next month again
sore-o su-ru.F (not > all, all > not)
it-ACC do-PRES
'Because all didn't take that test, we will have another one next month.'

Example (16) involves intransitive verbs with progressive and perfective aspects and (17) involves subordinate clauses, both of which allow partial negation of the subject, unlike (13a). Miyagawa's (2001, 2003) EPP analysis would predict that the subject moves to Spec-TP to check T's EPP and thus making partial negation impossible, contrary to fact.

Moreover, as Saito (2009) points out, Miyagawa's EPP analysis faces a difficulty in explaining the following paradigm:

(18) a. Zen'in-ga zibun-zisin-o seme -nakat-ta. (*not > all, all > not)
all-NOM self-self-ACC blame-NEG-PAST
'Everyone did not blame herself/himself.'
b. Zibun-zisin-o_i zen'in-ga t_i seme-nakat-ta. (not > all, all > not)
self-self-ACC all-NOM blame-NEG-PAST
'Herself/Himself, everyone did not blame.'

According to Miyagawa, the partial negation of (18b) is obtained only if the object moves to Spec-TP to satisfy T's EPP and the subject remains at Spec-*v*P. However, if this were the case, the violation of Binding Condition C would be expected, as the subject would be c-commanded by the anaphor, resulting in predicted ungrammaticality, contrary to fact.

2.4 Paradox of the scope of negation in Japanese

As argued above, the KJ data in (11), which corresponds to SJ in (7), indicate that Spec-TP is out of the scope of negation. However, the KJ sentences corresponding to the SJ sentences in (16) and (17) indicate otherwise.

(19) a. Hora, zen'in-ga/no uto-to-ran (KJ)
Look, all-NOM sing-PROG-NEG.PRES
(*-ga*: all > not, not > all *-no*: *all > not, not > all)
'Look, all are not singing.'

b. Zen'in ga/no mada ki-to-ran (KJ)
all-NOM yet come-PERF-NEG.PRES
(*-ga*: all > not, not > all *-no*: *all > not, not > all)
'All haven't come yet.'

(20) a. Zen'in-ga/*??no siken-ba uke-n nara koma-ru. (KJ) (*if*-clause)
all-NOM exam-ACC take- NEG.PRES if be embarrassed
(not > all, all > not)
'If all don't take the exam, I will be embarrassed.'

b. Zen'in-ga/*??no son tesuto-ba uke-ndat-ta ken raigetu
all-NOM that test-ACC take-NEG-PAST because next month
mata soru-ba suru bai. (KJ) (*Because*-clause) (not > all, all > not)
again it-ACC do PRT
'Because all didn't take that test, (we will) have another one next month.'

In (19) the *-no* subject takes a partial negation interpretation because it is below Neg (within the *v*P), while the *-ga* subject takes both total and partial negation interpretations. In (20), which involves transitive verbs, the subject should move to Spec-TP and the *-no* subject is prohibited, even in KJ. This is because if the *-no* subject is used, both the subject and the object are within the *v*P, which goes

against the generalization discussed in 3.2. Here, the crucial fact is that the *-ga* subject has both total and partial negation interpretations. This indicates that the sentences in (16) and (17), which involve intransitive verbs with progressive and perfective aspects and subordinate clauses, respectively, have a wide NEG scope, including Spec-TP in its domain.[10] That is, the paradox indeed exists with regard to the scope of negation in Japanese, which is summarized in (21).

(21) Narrow NEG scope

a. Spec-TP is excluded from the scope of negation in matrix clauses.
((7)(11)(13a)(18a))

Wide NEG scope

b. Spec-TP may be included in the scope of negation in some matrix clauses such as;
(i) clauses involving scrambling ((13b)(15)(18b))
(ii) clauses involving intransitive verbs in aspectual forms ((16)(19))

c. Spec-TP may be included in the scope of negation in subordinate clauses.
((17)(20))

To clarify this paradox and find a solution, it is crucial to consider the discourse-configurational nature of Japanese.

3 Discourse-configurationality of Japanese

3.1 Clause-initial position and topic/focus

Kiss (1995:6) categorizes discourse-configurational languages as having the properties in (22).

(22) a. The (discourse-)semantic function 'topic,' serving to foreground a specific individual that something will be predicated about (not necessarily identical with the grammatical subject), is expressed through a particular structural relation (in other words, it is associated with a particular structural position).

b. The (discourse-)semantic function 'focus,' expressing identification, is realized through a particular structural relation (that is, by movement into a particular structural position).

It is well-known that Japanese has these properties. Kuno (1973) argues that only a sentence initial *-wa* marked phrase can be interpreted as a (thematic) topic in the sense of (22a). Kuroda (1988) suggests that it occupies Spec-CP. In (23) the sentence is about *Masao*, and *sono hon* is only interpreted in contrast to the other books.

(23) Masao-wa sono hon-wa yon-da.
Masao-TOP that book-TOP read-PAST
'As for Masao, he read that book, but he didn't read the others'

Similarly, Kuno (1973) also argues that a nominative *-ga* phrase in the sentence initial position must be interpreted as an "exhaustive listing focus" when it involves an individual-level predicate in the sense of Carson (1977), as mentioned by Saito (2010), which is exemplified in (24).

(24) Saru-ga kasiko-i.
monkey-NOM smart-PRES
'It is monkeys that are smart.'

Interestingly, both of these are matrix-clause phenomena, as pointed out by Kuno (1973). When embedded, a clause-initial *-wa* phrase cannot be interpreted as a thematic topic and a clause-initial *-ga* phrase involving an individual predicate need not be interpreted as an exhaustive focus.

(25) a. Masao-ga/#-wa yon -da hon-wa kore des-u.
Masao-NOM/-TOP read-PAST book-TOP this be-PRES
'The book that Masao read is this.'
b. Jiroo-wa saru-ga kasiko-i to it-ta.
Jiroo-TOP monkeys-NOM smart-PRES that say-PAST
'Jiroo said that monkeys are smart.'

In (25a), *Masao* with *-wa* cannot be interpreted as a thematic topic and is unacceptable as it stands. However, it becomes acceptable when it is interpreted contrastively by adding context (such as *Jiro didn't read it but…*). In (25b), the (exhaustive) focus reading of monkeys (i.e., it is monkeys that are smart) is not forced, although it is a possible interpretation.

The above phenomena clearly demonstrate the characteristics of Japanese as a discourse-configurational language. The topic, as described in (22a), is associated with a clause-initial position of a matrix clause (i.e., a main clause phenomenon), while focus is related to this position but not restricted to it. If one were to shift perspective slightly, one intriguing question emerges: whether Japanese matrix clauses always require a topic or focus. It might seem that the answer should be negative, because of the existence of 'neutral description' (Kuno 1973) sentences such as the following:

(26) a. Tegami-ga ki-ta.
letter-NOM come-PAST
'Mail has come.'
b. Tukue-no ue-ni hon-ga a-ru.
desk-GEN top-on book-NOM be-PRES
'There is a book on the desk.'
c. Atama-ga ita-i.
head-NOM hurt-PRES
'(Lit.) Head aches./ I have a headache.'

Here, there is no topic phrase with *-wa* and the subject with nominative *-ga* need not be interpreted as the focus (although it could be). These are sentences which can be interpreted as thetic judgement (Kuroda 1992). However, we can assume that these sentences also involve implicit 'stage-topics' that express the 'here-and-now' in the discourse, in the sense of Erteschik-Shir (1997, 2007). It then follows that matrix clauses must involve a topic or focus unlike subordinate clauses, which can be stated as in (27).

(27) Topic/focus must always be activated in matrix clauses unlike subordinate clauses, where it is not necessary, although the activation is possible except for thematic topic.[11]

I also assume that the activation of topic/focus initially occurs in the CP area of the matrix clauses and is inherited by T in some cases, which will be discussed in section 4. In the previous section, we observed some Kumamoto Japanese (KJ) data to examine the position of the subject. In addition, KJ provides insight into the discourse-configurational nature of Japanese, as the topic and focus sensitivity of subjects is directly reflected in their case marking. This can be seen in the fol-

lowing subsection.

3.2 A view from Kumamoto Japanese (KJ)

As observed in 2.2, KJ uses *-no* as well as *-ga* as subject markers, unlike standard Japanese (SJ), which only uses the *-ga* nominative marker. In addition, I argued, following Kato (2007) and Nishioka (2018a, b), that KJ data reveal the positions of subjects in Japanese, as in (9), which cannot be determined by observing SJ data alone. Nishioka (2018) also argues that the distinction is linked with discourse property as in (28).

(28) *-no* nominative subject in KJ cannot have a topic/focus interpretation (anti-topic/ focus property), while *-ga* subject can have either.[12]

(Cf. Nishioka 2018)

(29) a. An Taroo-ga/*-no kinoo son hon-ba koo-ta. (KJ)
that Taroo-NOM yesterday that book-ACC buy-PAST
'The Taroo that you know bought the book yesterday.'

b. Taroo-ga/*-no iintyo (des-u) tai. (KJ)
Taroo-NOM chair (be-PRES) PRT
'Taroo is the chair.'

c. Hora, basu-ga/-no ki-ta. (KJ)
look, bus- NOM come-PAST
'Look, here comes a bus.'

In terms of the interpretation, the subject 'Taroo' functions as the topic or focus of the sentence in (29a),[13] and the focus in (29b), which is an exhaustive listing sentence. The marker *-no* cannot be used in either case. However, a *-no* marked subject appears in (29c), in which the subject functions as neither topic nor focus in a thetic interpretation. In addition, the anti-topic/focus property of *-no* marked

subject is directly observable in (30) and (31).

(30) a. Kozutumi-no todoi-ta (bai). (KJ)
parcel-NOM arrive-PAST (PRT)
'A parcel has arrived.'
b. Kozutumi-dake/-sae-ga/*-no todoi-ta (bai). (KJ)
parcel-only/-even- NOM arrive-PAST (PRT)
'Only/Even a parcel has arrived.'

(31) a. An byooin-de Taroo-ga/-no umare-ta (tai). (KJ)
that hospital-in Taroo-NOM be born-PAST (PRT)
'In that hospital Taroo was born.'
b. An byooin-de watasi-ga/*-no umare-ta (tai). (KJ)
that hospital-in I-NOM be born-PAST (PRT)
'In that hospital I/you was/were born.'

Elements with focus particles such as *-dake* 'only', and *-sae* 'even' cannot be marked with *-no* as shown in (30b). On the other hand, non-anaphoric weak personal pronoun subjects (although third person pronouns are rarely used in colloquial speech in Japanese) are always the topic of the sentence according to Erteschik-Shir (1997), and thus cannot be marked with *-no* as shown in (31b). Here, the nominative subject is the first person pronoun and should be the topic unless it is focused, and should also be marked by *-ga*.

I claim that the positional property of *-no* marked subjects as shown in (9) is partly derived from their anti-topic/focus property shown in (28). If the topic or focus must always be activated in matrix clauses in Japanese, as stated in (27), and the unmarked position for it is the clause initial position (a high position of the clause), then a *-no* marked subject cannot appear there as illustrated in (28). This predicts that a *-no* marked subject appears more freely in subordinate clauses,

where the activation requirement shown in (27) does not hold, in sentences with scrambling, where scrambled elements satisfy the requirement, and in presentational sentences or sentences with thetic judgment, where implicit stage topics can be assumed and the requirement is fulfilled by them. This is borne out by the data.

(32) a. Hanako-ga/-no ik-u nara watasi-mo konpa-ni ik-u. (KJ)
Hanako-NOM go-PRES if I-also party -to go-PRES
'If Hanako goes to the party, I will too.'

b. Taroo-ga/-no odot-ta ken minna-ga yorokon-da. (KJ)
Taroo-NOM dance-PAST because everyone-NOM be pleased-PAST
'Because Taroo danced, everyone was pleased.'

(33) a. Jiroo-ga/*-no son hon-ba yon-da. (KJ)
Jiroo-NOM that book-ACC read-PAST
'Jiroo read that book.'

b. Son hon-ba Jiroo-ga/-no yon-da. (KJ)
that book-ACC Jiroo-NOM read-PAST
'That book, Jiro read.'

(34) a. Tegami-ga/-no ki-ta. (KJ)
letter-NOM arrive-PAST
'A letter has arrived.'

b. Ame-ga/-no hur-iyo-ru. (KJ)
rain-NOM fall-PROG-PRES
'It is raining.'

c. Kodomo-ga/-no nak-iyo-ru. (KJ)
child-NOM cry-PROG-PRES
'A child is crying.'

d. Taroo-ga/-no mada utow-to-ran. (KJ)
Taroo-NOM yet sing-PERF-NEG.PRES
'Taroo hasn't sung yet.'

The sentences in (32) exemplify the cases of subordinate clauses. The sentence in (33b) is a case of scrambling and the sentences in (34) represent a presentational or thetic interpretation. Note that progressive/perfective aspects enhance this interpretation. Here *-no* marked subjects are possible. Note that *-ga* marked subjects are also allowed with or without the meaning of topic or focus, because *-ga* marked subjects can have topic or focus interpretations, but it is not forced. As one may notice, the sentences in (32) and (34) all involve intransitive verbs. In this respect, a few comments are warranted. In fact, speaker variation occurs with the use of *-no* marked subjects in transitive constructions without scrambling in subordinate clauses ((35)) or in sentences involving progressive or perfective aspects, which facilitate a thetic interpretation ((36)).

(35) a. ??/*Hanako-no tesuto-ba ukn nara Jiroo-mo uk-ru. (KJ)
Hanako-NOM test-ACC take if Jiroo-also take-PRES
'If Hanako takes the test, Jiroo will also take it.'

b. ??/*Taroo-no susi-ba kuu-ta ken Jiroo-mo kuu-ta. (KJ)
Taroo-NOM sushi-ACC eat-PAST because Jiroo-also eat-PAST
'Because Taroo ate sushi, Jiroo also ate it.'

(36) a. ??/*Kodomo-no uta-ba uta-iyo-ru. (KJ)
child-NOM song-ACC sing-PROG-PRES
'A kid is singing a song.'

b. ??/*Hanako-no (mada) syukudai-ba si -to-ran. (KJ)
Hanako-NOM (yet) assignment-ACC do-PERF-NEG.PRES
'Hanako hasn't done her assignment yet.'

The fact that many KJ speakers reject sentences such as those in (35) and (36) may support the claim that SSG in (37) applies to Japanese, as suggested by Miyagawa (2012) regarding the use of genitive subjects in the noun-modifying clauses. If a *-no* subject is located in Spec-*v*P, as proposed by Kato (2007), the sentences in (35) and (36) violate the generalization in (37).[14] Thus, I assume (38), leaving details for further investigation.[15]

(37) The subject-in-situ generalization (SSG):
By Spell-Out, *v*P can contain only one argument with a structural Case feature. (Alexiadou and Anagnostopoulou 2007:32)

(38) The unmarked position of *-ga* marked subjects in KJ is in Spec-TP while that of *-no* marked ones is in *v*P.

3.3 Scope of negation in light of the discourse-configurationality in Japanese

Now let us return to the paradox of the scope of negation in Japanese in light of the KJ data, which reveals the positions and the discourse properties of the subject with subject case markers as shown in (28) and (38). Recall the sentences in (13) (repeated here as (39)) with the corresponding KJ sentences shown in (40).

(39) a. Zen'in-ga siken-o uke-nakat-ta. (= (13a)) (*not > all, all > not)
all-NOM exam-ACC take-NEG-PAST
'All did not take the exam.'

b. Siken-o zen'in-ga uke-nakat-ta. (= (13b)) (not > all, all > not)
exam-ACC all-NOM take-NEG-PAST
'The exam, all did not take.'

(40) a. Zen'in-ga/*no siken-ba uke-ndat-ta. (= (11a)) (KJ) (*not > all, all > not)
all-NOM test-ACC take-NEG-PAST
'All did not take the test.'

b. Siken-ba zen'in-ga/no uke-ndat-ta. (Cf. (15)) (KJ)
exam-ACC all-NOM take-NEG-PAST
(*-no*: not > all *-ga*: (*)not > all[16], all > not)
'The exam, all did not take.'

The fact that partial negation is allowed in (39b) is accounted for straightforwardly if the subject occupies Spec-*v*P as suggested by the use of *-no* in the KJ data in (40b). However, the possibility of partial negation in (40b) with *-ga* suggests that Spec-TP is also within the scope of negation in sentences with scrambling, unlike those without scrambling as shown in (39a) and (40a). Recall that the initial position of the matrix clauses is kept for a topic or focus element in Japanese. As long as the subject does not play the role of the topic or focus, it can be within the scope of negation, even if it occupies Spec-TP. Consider (16) and (17), repeated here as (41) and (42), which were pointed out as defects of Miyagawa (2000, 2003), with the corresponding KJ data (19) and (20), repeated as (43) and (44).

(41) a. Hora, zen'in-ga utat-tei-na-i. (not > all, all > not)
look, all-NOM sing-PROG-NEG-PRES
'Look, all are not singing.'

b. Zen'in-ga mada ki-tei-na-i. (not > all, all > not)
all-NOM yet come-PERF-NEG-PRES
'All haven't come yet.'

(42) a. Zen'in-ga siken-o uke -na-i nara koma-ru. (not > all, all > not)
all-NOM exam-ACC take-NEG-PRES if be embarrassed-PRES
'If all don't take the exam, I will be embarrassed.'

b. Zen'in-ga sono tesuto-o uke-nakat-ta kara raigetu mata
all-NOM that test-ACC take-NEG-PAST because next month again
sore-o su-ru. (not > all, all > not)
it-ACC do-PRES
'Because all didn't take that test, we will have another one next month.'

(43) a. Hora, zen'in-ga/no uto-to-ran (KJ)
Look, all-NOM sing-ASP-NEG.PRES
(*-ga*: all > not, not > all *-no*: *all > not, not > all)
'Look, all are not singing.'

b. Zen'in ga/no mada ki-to-ran (KJ)
all-NOM yet come-ASP-NEG.PRES
(*-ga*: all > not, not > all *-no*: *all > not, not > all)
'All haven't come yet.'

(44) a. Zen'in-ga/*?no siken-ba uke-n nara koma-ru. (KJ) (*if*-clause)
all-NOM exam-ACC take-NEG.PRES if be embarrassed
(not > all, all > not)
'If all don't take the exam, I will be embarrassed.'

b. Zen'in-ga/*??no sono tesuto-ba uke-ndat-ta ken raigetu
all- NOM that test- ACC take-NEG-PAST because next month
mata soru-ba suru bai. (KJ) (*Because*-clause) (not > all, all > not)
again it-ACC do PRT
'Because all didn't take that test, (we will) have another one next month.'

The sentences in (41) and (43) suggest that Spec-TP falls within the scope of negation in presentational or thetic sentences, as partial negation of *-ga* subjects is possible in KJ, which positions the *-ga* subject in Spec-TP. As mentioned in 3.1, I assume that presentational or thetic sentences involve implicit stage topics. In cases in which the topic is overt, this also holds true, as confirmed by (45). The

sentences in (45) involve transitive verbs and the subject should be in Spec-TP, according to (37) and (38); nevertheless the partial negation of the subject is possible. If the topic marker *-wa* is dropped, the initial phrase (*in that restaurant*) can also be interpreted as the focus of the sentence and the same scope relation holds.

(45) a. Ano mise-de(-wa) zen'in-ga susi-o tabe-nakat-ta.
that restaurant-in (-TOP) all-NOM sushi-ACC eat-NEG-PAST
'In that restaurant all didn't eat sushi.' (not > all, all > not)
b. An mise-de(-wa) zen'in-ga/??-no susi-ba kuwa-n-datta. (KJ)
that restaurant-in (-TOP) all-NOM sushi-ACC eat-NEG-PAST
'In that restaurant all didn't eat sushi.' (not > all, all > not)

Examples (42) and (44) are cases in subordinate clauses and Spec-TP can be within the scope of negation, as indicated by the use of *-ga* in KJ. Recall that subordinate clauses do not require the activation of topic or focus as stated in (27).

The observation made above is summarized in (46).

(46) a. In matrix clauses, if there is an overt or implicit topic phrase, or an overt focus phrase in front of the nominative subject, the scope of negation can include Spec-TP.
b. In other cases of matrix clauses, the nominative subject is located outside the scope of negation.
c. In subordinate clauses, the scope of negation can include Spec-TP.

Therefore, the paradox in (21) (repeated as (47)) is deduced from the generalization in (48).

(47) Narrow NEG scope

a. Spec-TP is excluded from the scope of negation in matrix clauses.
((7)(11)(13a)(18a))

Wide NEG scope

b. Spec-TP may be included in the scope of negation in some matrix clauses such as:
(i) clauses involving scrambling ((13b)(15)(18b))
(ii) clauses involving intransitive verbs in aspectual forms ((16)(19))

c. Spec-TP may be included in the scope of negation in subordinate clauses.
((17)(20))

(48) The scope of negation in Japanese is associated with the activation of topic/focus and the elements involved in the activation are always outside the scope of negation.

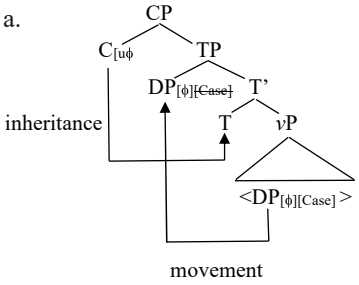
The possible subjects in Spec-TP in (46a), which includes the cases in (47b), fall within the scope of negation as long as they are not elements involved in the activation of topic or focus. Elements that can trigger this activation include an implicit (stage) topic in (41)/(43) ((47bii)), or an overt topic or focus in (39b)/(40b) ((47bi)) and (45). In contrast, nominative subjects in other matrix clauses must participate in the activation and thus lie outside the scope of negation, as stated in (46b), which corresponds to (47a). The activation is not mandatory in subordinated clauses, as stated in (27). This explains (46c) and (47c). In the next section, insightful analyses are introduced which reflect the discourse-configurationality of Japanese, in which two opposing ideas are suggested as a position of the elements with topic or focus interpretations.

4 Analyses of the discourse configurationality of Japanese

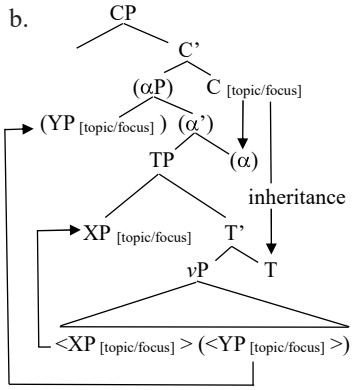
4.1. Downward feature inheritance: Miyagawa (2010)

Miyagawa (2010) argues that discourse-configurational languages such as Japanese have an Agree system based on the [topic/focus] feature with the feature-inheritance mechanism from C to T, which parallels the proposal by Chomsky (2007, 2008) for languages with φ-feature agreement such as English. In this system, the occurrence of agreement on T triggers movement of the appropriate elements to Spec-TP. This is illustrated in (49). (49a) represents the original proposal by Chomsky, while (49b) is the proposal for Japanese presented by Miyagawa (2010). An αP is added here, which optionally projects and whose head α receives the [topic/focus] feature from C when multiple elements in TP have the [topic/focus] feature. The derivations for the sentences in (50) are illustrated in (51).

(49) a.



b.



(50) a. Taroo-ga piza-o tabe-ta.
Taroo-NOM pizza-ACC eat-PAST
'Taroo ate pizza.'

b. Piza-o$_i$ Taroo-ga t_i tabe-ta.
pizza-ACC Taroo-NOM eat-PAST
'Pizza, Taro ate.'

(51) a. [$_{CP}$ [$_{TP}$ Taroo-ga$_i$ [topic/focus] [$_{vP}$ t_i pizza-o tabe]-ta] C [topic/focus]]
movement inheritance

b. [$_{CP}$ [$_{TP}$ pizza-o$_i$ [topic/focus] [$_{vP}$ Taroo-ga t_i tabe]-ta] C [topic/focus]]
movement inheritance

c. [$_{CP}$ [$_{\alpha P}$ pizza-o$_j$ [topic/focus] [$_{TP}$ Taroo-ga$_i$ [topic/focus] [$_{vP}$ t_i t_j tabe]-ta] α] C [topic/focus]]
movement inheritance

In (50a), the subject has the [topic/focus] feature and has moved to Spec-TP to agree with T's feature, which is inherited from C, as illustrated by (51a). In (50b), however, the object has the [topic/focus] feature and has moved to Spec-TP to agree with T's feature, while the subject without the [topic/focus] feature remains in-situ at Spec-vP as shown in (51b). Example (50b) has another derivation illustrated in (51c), where both the subject and the object have the [topic/focus] feature and move to Spec-TP and Spec-αP, respectively. The adequacy of this analysis is supported by the KJ data, as demonstrated by Nishioka (2018a, b). The corresponding KJ sentences for (50) are presented in (52).

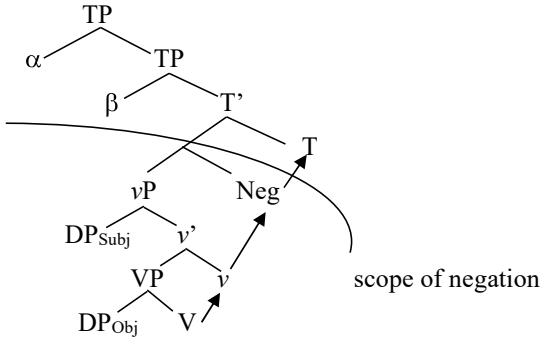
(52) a. Taroo-ga/*-no piza-ba kuu-ta. (KJ)
Taroo-NOM pizza-ACC eat-PAST
'Taroo ate pizza.'

b. Piza-ba$_i$ Taroo-ga/-no t_i kuu-ta. (KJ)
pizza-ACC Taroo-NOM eat-PAST
'Pizza, Taroo ate.'

Recall (9) and (28) in 2.2 and 3.2. in which the correspondence between the positions and the interpretations of case markers *-ga* and *-no* is argued for. If the derivation of (52a) involves (51a), then the ill-formedness of the *-no* subject in KJ naturally follows from (28); a *-no* subject cannot move to Spec-TP to check [topic/focus] due to its anti-topic/focus property. If (52b) involves the two derivations shown in (51b, c), it captures the fact that the *-no* subject occurs in (51b) and the *-ga* subject occurs in (51c), as argued by Nishioka (2018). Thus, the positions of the two subjects are well accounted for in line with (9) and (28).

This analysis, with the assumption in (12), repeated here as (53) (that is, adding NegP to (49b)), predicts that the subject with [topic/focus] which moves to Spec-TP is out of the scope of negation and only the subject within Spec-*v*P is within the scope of negation.

(53)



Unfortunately, however, this does not represent the whole fact. As with the EPP based analysis presented by Miyagawa (2001, 2003) summarized in 2.3, this analysis cannot account for the fact that the subject located in Spec-TP can have a partial negation interpretation for many speakers. In this analysis, it is unclear whether the subject lacking the [topic/focus] feature can appear in Spec-TP. If it is impossible, strictly sticking to the mechanism of [topic/focus] agreement in

(49b), however, this analysis fails to capture the wide NEG scope in (47b). It is also unclear how this analysis can accommodate (47c).

Furthermore, the problem for Miyagawa (2001, 2003), pointed out by Saito (2009), still remains. Recall (18), repeated here as (54).

(54) a. Zen'in-ga zibun-zijin-o seme-nakat-ta. (*not > all, all > not)
all-NOM self-self-ACC blame-NEG-PAST
'Everyone did not blame herself/himself.'

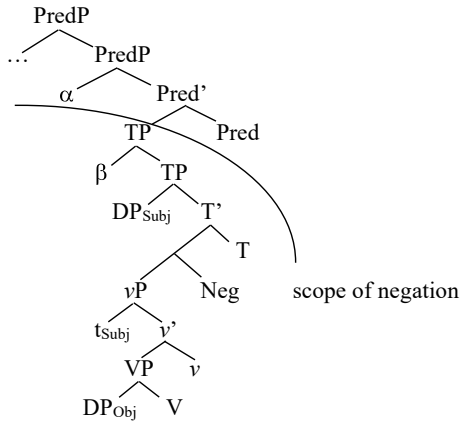
b. Zibun-zisin-o_i zen'in-ga t_i seme-nakat-ta. (not > all, all > not)
self-self-ACC all-NOM blame-NEG-PAST
'Herself/Himself, everyone did not blame.'

If (54b) follows the derivation shown in (51b) to allow partial negation, it should violate Binding Condition C, thereby predicting ungrammaticality.

4.2. Upward movement analysis to Spec-PredP: Saito (2010)

Based on the clause-initial effects, as observed in (23) and (24) in section 3.1, Saito (2010) proposes a functional projection, PredP, which selects a finite TP. Saito argues that an initial element of matrix clauses moves to Spec-PredP, where it is interpreted as a thematic topic if marked with *-wa*, or as exhaustive listing focus if it is a nominative phrase. Specifically, assuming that Spec-TP can be within the scope of negation, as represented in (55), Saito argues that the movement to Spec-PredP (α in (55)) places the moved element out of the scope of negation.[17]

(55)

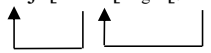


Saito assumes that Pred attracts the closest element with [arg] to Spec-PredP (α in (55)). Thus, in (56a), the subject is drawn from Spec-TP to Spec-PredP, resulting in a total negation interpretation, as illustrated in (57a). In (56b), where the object is scrambled to the TP edge before the subject (to position β in (55)), the object, rather than the subject, is attracted to Spec-PredP, as in (57b), resulting in partial negation of the subject. Example (56b) has another derivation, in which the subject is attracted to Spec-PredP and the object is scrambled to the edge of PredP, as illustrated in (57c). This results in total negation of the subject in (56b).

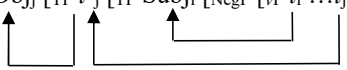
(56) a. Zen'in-ga siken-o uke-nakat-ta. (=(13a)(39a)) (*not > all, all > not)
all-NOM exam-ACC take-NEG-PAST
'All did not take the exam.'

b. Siken-o zen'in-ga uke-nakat-ta. (=(13b)(39b)) (not > all, all > not)
exam-ACC all-NOM take-NEG-PAST
'The exam, all did not take.'

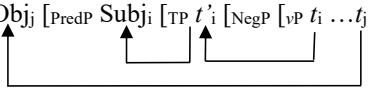
(57) a. [$_{PredP}$ Subj$_i$ [$_{TP}$ t'_i [$_{NegP}$ [$_{vP}$ t_i …Obj…V-*v*] Neg] T] Pred] (Subj > not)



b. [$_{PredP}$ Obj$_j$ [$_{TP}$ t'_j [$_{TP}$ Subj$_i$ [$_{NegP}$ [$_{vP}$ t_i …t_j …V-*v*] Neg] T] Pred] (not > Subj)



c. [$_{PredP}$ Obj$_j$ [$_{PredP}$ Subj$_i$ [$_{TP}$ t'_i [$_{NegP}$ [$_{vP}$ t_i …t_j…V-*v*] Neg] T] Pred]] (Subj > not)



Saito uses the chain interpretation mechanism to interpret moved phrases. Accordingly, the simple case of scrambling in (58a) is analyzed as shown in (58b).

(58) a. Hon -o$_i$ [Taroo-ga t_i kat-ta]
book-ACC Taroo-NOM buy-PAST
'Taroo bought a book.'

b. Hon-o$_{[\sout{arg}, phon]}$ [Taroo-ga hon-o$_{[arg, \sout{phon}]}$ kat-ta]

The object *hon-o* contains the argument feature [arg] and phonetic feature [phon].[18] Feature [phon] is retained, but the [arg] feature is deleted from the scrambled phrase at the landing position, while the converse holds in the copy at the original position as shown in (58b). It is assumed that deletion does not need to occur as soon as the chain is formed; it only needs to be applied before the complement of the phase is transferred to the interpretation components. Therefore, in (57b), when the object is located at the TP edge (t'_j), [arg] remains available and is attracted by Pred, causing the object to move to Spec-PredP. This mechanism resolves Miyagawa's problem in (18b)/(54b). As noted, partial negation is derived by the derivation in (57b), where the [arg] feature of the scrambled object at Spec-TP should be deleted upon transfer. If Binding Condition C applies to the output of the derivation, as proposed by Chomsky (1993), then no issues arise.

Saito's (2010) analysis elegantly captures the discourse-configurationality of Japanese and scope facts of negation with the assumption that Spec-TP is always included within the scope of negation. However, it is unclear how partial negation of the clause-initial subject is possible in (16)/(41), repeated in (59). If the initial phrase in matrix clauses must move to Spec-PredP, it should be predicted that an interpretation of partial negation is impossible.[19]

(59) a. Hora, zen'in-ga utat-tei-na-i. (not > all, all > not)
look, all-NOM sing-PROG-NEG-PRES
'Look, all are not singing.'
b. Zen'in-ga mada ki-tei-na-i. (not > all, all > not)
all-NOM yet come-PERF-NEG-PRES
'All haven't come yet.'

Moreover, Saito's analysis faces a difficulty in accommodating the following contrast:

(60) a. Taroo-ga itumo heya-ni i-na-i. (always > not, *not > always)
Taroo-NOM always room-in be-NEG-PRES
'Taroo is always not in the room.'
b. Taroo-ga itumo heya-ni i-na-i kara koma-ru.
Taroo-NOM always room-in be-NEG-PRES because in trouble-PRES
(always > not, not >always)
'Since Taro is always not/not always in the room, we are in trouble.'

According to Saito's upward movement analysis, the subject must move to Spec-PredP, which is a position outside the scope of negation, but nothing should force the movement of the adverb *always* with it. Then, the impossibility of partial

negation of the adverb (**not* > *always*) in (60a) is an enigma under the assumption of (55). In contrast, it is possible to obtain partial negation in a subordinate clause such as (60b). Here, the fact that total negation of the adverb (*always* > *not*) can be achieved alongside partial negation (*not* > *always*) presents a puzzle for Saito's analysis.

To sum up, Miyagawa's (2010) [topic/focus] feature-inheritance analysis cannot accommodate the wide NEG scope in (47b, c), while Saito's (2010) upward movement analysis cannot explain scope relations between negation and an adverb as in (60). This suggests we need an alternative analysis. I will propose a solution that incorporates both their insights and mechanisms. Before that, however, let us examine how the scope of negation is established in English, based on Nishioka (2004, 2007).

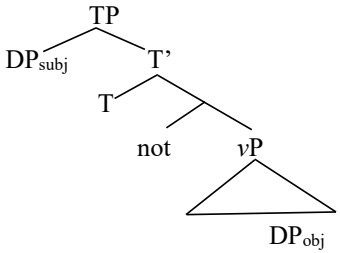
5 Articulated structure and the scope of negation

5.1. The scope of negation in English

Nishioka (2004, 2007) argues that the scope of negation in English extends beyond TP, based on observations related to negative polarity items (NPIs) and the partial negation of quantifiers. First let us consider the arguments based on NPIs. It is widely accepted that NPIs such as *any* in English must be c-commanded by a negative element, to which the contrast in (61) has been attributed.

(61) a. **Anyone* did not attend the party.
b. John did not eat *anything*.

(62)



As schematized in (62), the object is c-commanded by *not*, but the subject is not. However, this simplistic c-command analysis cannot account for the following examples:

(63) a. Pictures of *anyone* did not seem to be available. (Boeckx 2000:362)
b. A good solution to *any* of these problems does not exist. (Hoeksema 2000:136)

(64) a. Even then the writers of *none* of the reports thought that *any* rain had fallen *anywhere* else. (Klima 1964:278)
b. I gave pictures of *no* one to *anyone*. (Ota 1981:22)

In (63), although the NPIs embedded in the subject are not c-commanded by *not*, the sentences are still grammatical. If the reconstruction of A-movement is unavailable, as argued by Chomsky (1993, 1995) and Lasnik (1999), among others, the grammaticality poses an enigma. In addition, irrespective of the reconstruction of A-movement, the negative elements (*none*, *no one*) in (64) do not c-command NPIs without resulting in ungrammaticality. In order to account for these data and to unify a variety of sentential negation including (65), Nishioka (2004, 2007) proposes that Pol above TP establishes the scope of negation through Agree with negative elements in TP, as illustrated in (66).[20]

(65) a. John does *not* eat chocolates. (not)

b. John *never/seldom* eats chocolates. (negative adverbs)

c. John ate *nothing*. (negative quantifier)

(66) a. $[_{PolP}\ Pol_{[uNEG]}\ [_{TP}\ (\ldots)\ NE_{[+NEG][uneg]}\ (\ldots)]]$ (NE stands for negative element)

b. $[_{PolP\ [+NEG]}\ Pol_{\sout{[uNEG]}}\ [_{TP}\ (\ldots)\ NE_{[+NEG]\sout{[uneg]}}\ (\ldots)]]$

Feature Transfer: FT

Following Chomsky's (2000) suggestion for *wh* questions, it is assumed here that Pol has an uninterpretable feature [uNEG], while negative elements (NEs) such as *not*, negative adverbs, and negative quantifiers have an interpretable feature [+NEG] and an uninterpretable feature [uneg]. Agreement (Agree) applies between Pol and NE, allowing Pol to acquire [+NEG] through feature transfer from NE. This can be rendered into a null negative operator (Op) movement involving [+NEG] without assuming FT. If this is correct, then the scope of negation in English corresponds to the c-command domain of Pol, making (63) and (64) unproblematic since NPIs fall within the scope of negation. However, this would make the ungrammaticality of (61a) problematic. Nishioka (2004, 2007) proposes that NPIs such as *any…* cause an intervention effect for Agree between Pol and NE. The contrast in (61) is attributed to the intervention effect as represented in (67).

(67) a. $[_{PolP}\ \ Pol_{[uNEG]}\ [_{TP}\ \ NPI\ \ \ T\ \ NE_{[+NEG][uneg]}\ \ldots.\ \ ]]$

*blocked by NPI

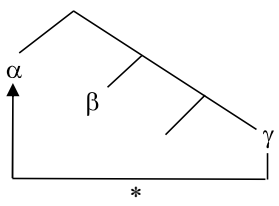
b. $[_{PolP\ [+NEG]}\ Pol_{\sout{[uNEG]}}\ [_{TP}\ (\ldots..)\ NE_{[+NEG]\sout{[uneg]}}\ \ldots NPI\ldots]]$

FT

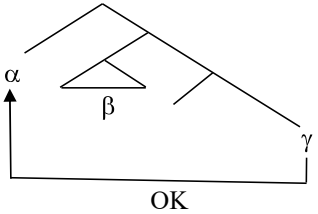
In (61a), the subject NPI creates an intervention effect for Agree between Pol and the negative element (*not*), as shown in (67a), whereas in (61b), the object NPI

does not, as shown in (67b). The NPIs in (63) do not cause intervention effects because, being embedded within the subject DP, they do not c-command the negative element (NE) and are therefore not in the path of Agree. This contrasts with the configuration in (61a). The difference is schematized in (68), where α corresponds to Pol, β corresponds to NPI (*any*), and γ corresponds to NE (*not*).

(68) a.



b.



Next, let us examine examples involving quantifiers.

(69) a. John couldn't solve *many* of the problems. (many > not, not > many)

b. John didn't invite *every* student. (every > not, not > every)

(70) a. *Many* of the children did not go to school yesterday.
(many > not, *not > many)

b. *Everyone* didn't come to the party. (every > not, not > every)

Partial negation (*not* > *many/every*) is easily achieved with both existential and universal quantifiers in the object position, as shown in (69). However, an interesting asymmetry is observed between existential and universal quantifiers in the subject as shown in (70). Partial negation is impossible for the existential quantifier in (70a), in contrast to the universal quantifier in (70b).[21] This is accounted for if we assume that existential quantifiers, but not universal quantifiers, cause intervention effects for the application of Agree (and FT) between Pol and NEs. Then, the contrast between (69a) and (70a) is captured in parallel with (61)/(67), which is schematized in (71) by replacing NPIs with existential quantifiers (EQs).

(71) a. [$_{PolP}$ Pol$_{[uNEG]}$ [$_{TP}$ EQ T NE$_{[+NEG][uneg]}$ ….]]
*blocked by EQ

b. [$_{PolP}$ [+NEG] Pol$_{[\sout{uNEG}}$ [$_{TP}$ (…..) NE$_{[+NEG][\sout{uneg}]}$ …EQ…]]
FT

Recall that NPI *any* is a member of the category of existential quantifiers. A key difference between the NPI *any* and non-NPI existential quantifiers like *many* is that *any* must be interpreted within the scope of negation to avoid ungrammaticality, whereas non-NPI quantifiers remain grammatical even outside the scope of negation. If EQs covertly move higher than Pol to avoid the intervention, they will be out of the scope of negation, resulting in a total negation interpretation. The intervention effects are circumvented if EQs are embedded in the subject.

(72) Pictures of many linguists were not available. (= Pictures of not many/few linguists were available.) (Linebarger 1980: 50)

This involves the structure in (68b) and supports the Agree-based analysis with the intervention effects as well as the PolP analysis above TP in (66). The arguments above hold for embedded clauses.

(73) a. *When *anyone* did not attend the party…, [22]
b. When John did not eat *anything*, ….

(74) a. When/If *many* of the children did not go to school yesterday, …
(many > not, *not > many)
b. When/If *everyone* didn't come to the party, … (every > not, not > every)

Thus, the scope of negation appears to be wider than TP in both main and subordinate clauses in English.

5.2. Proposal

Based on the observations in English, I assume that Japanese also includes PolP above TP, with an Upward Agree system between [uNEG] feature of Pol and the [iNEG] feature of the null operator ($Op_{[iNEG]}$) at Spec-NegP (cf. (6)). In addition, following Rizzi (1997) and Haegeman (2000), I propose that Japanese has an articulated CP structure as shown in (75).[23] (Here the directionality of heads is ignored.)

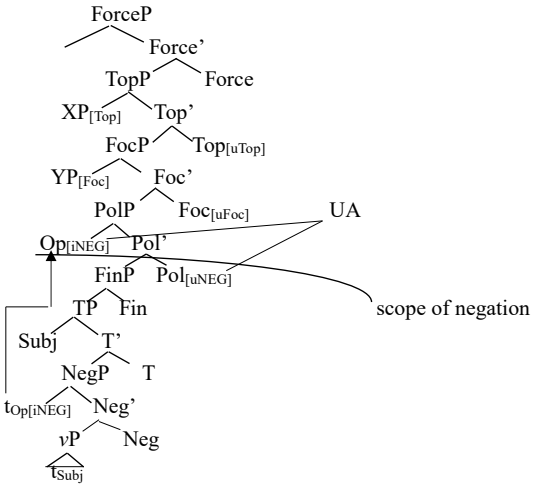
(75) $[_{ForceP}$ Force $[_{TopP}$ Top $[_{FocP}$ Foc $[_{PolP}$ Pol $[_{FinP}$ Fin $[_{TP}$ T… Neg…]]]]]]

I argue that the discourse-configurationality of Japanese – specifically, the activation of topic or focus, as argued in section 3 – is achieved either by (i) placing an overt or covert element in Spec-TopP and an overt element in Spec-FocP, or (ii) inheriting the [topic/focus] feature ([uTOP/uFOC]) to T, which then triggers agreement with an element in Spec-TP. Thus the facts concerning (46) and the generalization in (48) from section 3.3, repeated here as (76) and (77), are accounted for as illustrated in (78).

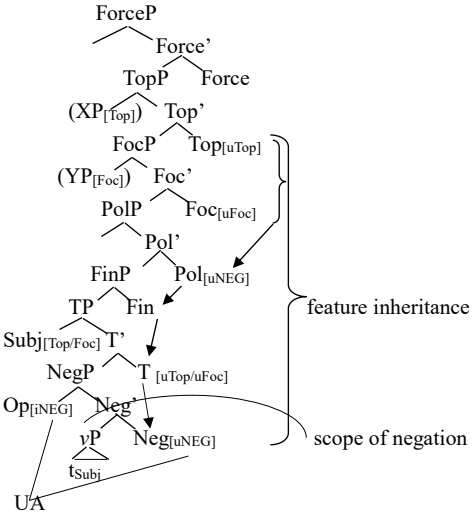
(76) a. In matrix clauses, if there is an overt or implicit topic phrase, or an overt focus phrase in front of the nominative subject, then the scope of negation is wide enough to include Spec-TP.
b. In other cases of matrix clauses, the nominative subject is located outside the scope of negation.
c. In subordinate clauses, the scope of negation is wide enough to include Spec-TP.

(77) The scope of negation in Japanese is associated with the activation of topic/focus and the elements involved in the activation is always outside the scope of negation.

(78) a.



b.



The activation of topic or focus is achieved through an overt or implicit topic phrase in Spec-TopP (XP) or an overt focus phrase in Spec-FocP (YP), via agreement with the respective heads shown in (78a), as exemplified in (79).

(79) a. Ano mise-de(-wa) zen'in-ga susi-o tabe-nakat-ta. (= (45a))
that restaurant-in (-TOP) all-NOM sushi-ACC eat-NEG-PAST
'In that restaurant all didn't eat sushi.' (not > all, all > not)

b. Hora, zen'in-ga utat -tei-na-i. (= (59a)) (not > all, all > not)
look, all-NOM sing-PROG-NEG-PRES
'Look, all are not singing.'

c. Siken-o zen'in-ga uke-nakat-ta. (= (56b)) (not > all, all > not)
exam-ACC all-NOM take-NEG-PAST
'The exam, all did not take.'

The initial phrase of (79a) functions as a topic phrase (XP in (78a)) when *-wa* is attached, and as a topic or focus phrase (XP or YP in (78a)) when *-wa* is not attached. The scrambled phrase in (79c) can similarly function as a topic or focus phrase (XP or YP in (78a)).[24] Example (79b) is a case that involves an implicit stage topic (XP in (78a)). In all of these, the subject in Spec-TP falls under the scope of negation, which is established via (Upward) Agree between [uNEG] of Pol and [iNEG] of the null operator ($Op_{[iNEG]}$) in Spec-PolP. This is how the partial negation in (79) is achieved. The mechanism in (78b) can also be applied in (79) where optional focus-feature inheritance can occur, as in the total negation of subordinate clauses in (81), illustrated below.

Example (78b) also represents the case of (76b). This is exemplified in (80).

(80) a. Zen'in-ga siken-o uke-nakat-ta. (= (56a)) (*not > all, all > not)
all-NOM exam-ACC take-NEG-PAST
'All did not take the exam.'

b. Zen'in-ga susi-o ano mise-de tabe-nakat-ta. (*not > all, all >not)
all-NOM sushi-ACC that restaurant-in eat-NEG-PAST
'All didn't eat sushi in that restaurant.'

Here, there is no overt or implicit element in the CP area. The activation of the topic or focus feature is achieved through obligatory feature inheritance from C to T, along with the agreement in the [TOP/FOC] feature between the subject in Spec-TP and T.[25] I argue that the [uTOP/uFOC] feature inheritance from Top/Foc to T drops in at Pol, bringing along its [uNEG] feature, which then descends to Neg. As a result, (Upward) Agree applies between [uNEG] and the [iNEG] feature of $Op_{[iNEG]}$ in Spec-NegP. This establishes the scope of negation as the c-command domain of Spec-NegP, excluding Spec-TP. This is why the partial negation is impossible in (80). In subordinate clauses such as (42), which are repeated here in (81), the activation of topic or focus is not required ((27)). The structure of subordinate clauses without activation lacks the TopP and FocP projections shown in (78a). Here, Agree applies between the [uNEG] feature of Pol and the [iNEG] feature of Op at Spec-PolP and the scope of negation is established as the c-command domain of $Op_{[iNEG]}$, producing the partial negation of the quantified subject in (81).

(81) a. Zen'in-ga siken-o uke -na-i nara koma-ru. (not > all, all > not)
all-NOM exam-ACC take-NEG-PRES if be embarrassed- PRES
'If all don't take the exam, I will be embarrassed.'

b. Zen'in-ga sono tesuto-o uke-nakat-ta kara raigetu mata
all-NOM that test-ACC take-NEG-PAST because next month again
sore-o su-ru. (not > all, all > not)
it-ACC do-PRES
'Because all didn't take that test, we will have another one next month.'

If focus is optionally present in subordinate clauses without an overt focus phrase preceding the nominative subject, the structure follows (78b), but without the TopP projection. Here, the feature-inheritance of [uFOC] occurs from Foc to T via Pol,

carrying [uNEG] with it, which then descends to Neg. Consequently, the scope of negation encompasses the c-command domain of Spec-NegP, resulting in total negation of the quantified subject in Spec-TP. These two mechanisms can accommodate the contrast in (60) (repeated here as (82)), for which Saito's proposal (2010) faces difficulty.

(82) a. Taroo-ga itumo heya-ni i-na-i. (always > not, *not > always)
Taroo-NOM always room-in be-NEG-PRES
'Taroo is always not in the room.'

b. Taroo-ga itumo heya-ni i-na-i kara koma-ru.
Taroo-NOM always room-in be-NEG-PRES because in trouble-PRES
(always > not, not >always)
'Since Taro is always not/not always in the room, we are in trouble.'

Since (82a) is a matrix sentence without a topic or focus phrase preceding the subject, the feature inheritance in (78b) should apply, as with (80), resulting in total negation of the quantified subject. If a frequency adverb attaches to the T projection (cf. Koizumi's (1993) IP adverbs), it occupies a position outside the scope of negation, accurately capturing the interpretation (*always* > *not*, **not* > *always*). In (82b), the same clause appears as a subordinate clause, making [uFOC] inheritance optional as shown in (81). If inheritance occurs, the adverb remains outside the scope of negation, similarly to (82a), as represented in (78b). If it does not occur, the scope of negation is the c-command domain of Spec-PolP, encompassing the TP projection, as argued for in (81) with the structure shown in (78a) without TopP/FocP. This explains how the sentence in (82b) allows for two possible scope interpretations.

5.3. On the difference of the scope of negation between Japanese and English

Let us consider the difference between Japanese and English observed in (83) in more detail.

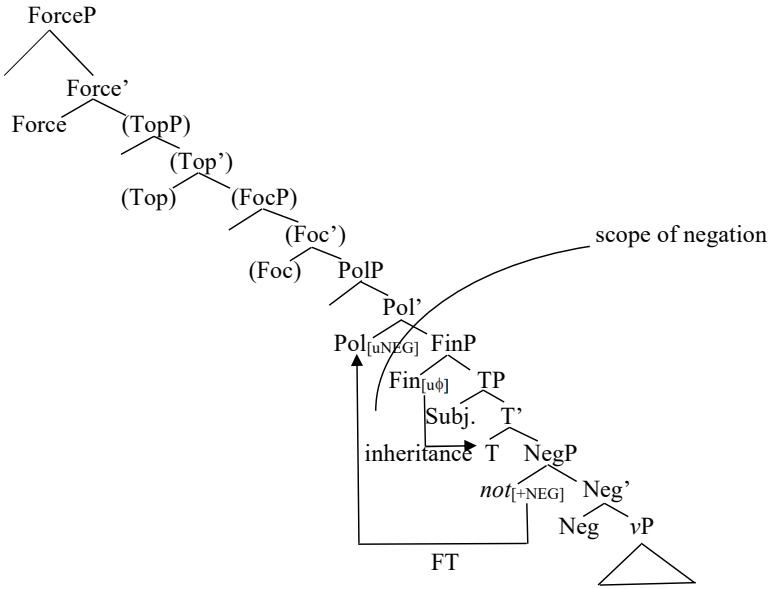
(83) a. Zen'in-ga siken-o uke-nakat-ta. (= (80a)) (*not > all, all > not)
all-NOM exam-ACC take-NEG-PAST
'All did not take the exam.'
b. Everyone didn't attend the meeting. (not > every, every > not)

The initial subject in Japanese matrix clauses is outside the scope of negation due to the [topic/focus] feature-inheritance mechanism, as illustrated in (78b). It is assumed that the [uNEG] feature of Pol is descends to T with [uTOP/uFOCUS] when [uTOP/uFOCUS] feature-inheritance from Top/Foc to T occurs, because Pol is on its way. The [uNEG] feature then further descends to Neg, and Upward Agree applies in NegP between [uNEG] at Neg and [iNEG] of $Op_{[iNEG]}$ at Spec-NegP, establishing the scope of negation as the c-command domain of Spec-NegP. So, what happens in (83b) in English? Recall Miyagawa's (2010) argument in 4.1 that Japanese, as a discourse-configurational language, has an Agree system based on the [topic/focus] feature with the feature-inheritance mechanism from C to T, while English, as a φ-feature agreement language, has φ-feature Agree system based on φ-feature inheritance from C to T, as proposed by Chomsky (2007, 2008). This was represented in (49a, b), respectively. Suppose that both Japanese and English have the same articulated CP structure as represented in (84) (= (75)) (ignoring the directionality of heads).

(84) $[_{ForceP}$ Force $[_{TopP}$ Top $[_{FocP}$ Foc $[_{PolP}$ Pol $[_{FinP}$ Fin $[_{TP}$ T… Neg…]]]]]]

It is not unreasonable to assume that the source of the φ-features is Fin, as suggested by (84), given that nonfinite clauses in English do not exhibit φ-feature agreement between the element in Spec-TP and T. In this case, φ-feature inheritance occurs from Fin to T, and since Pol is not involved, [uNEG] remains at Pol, triggering Agree and feature transfer (FT) between [uNEG] and the [+NEG] feature of *not* in TP. This establishes the scope of negation as the c-command domain of Pol, as argued in section 5.1. Consequently, Spec-TP in English falls within the scope of negation, allowing for partial negation in (83b).[26] This mechanism for English is schematically represented in (85).

(85)



This is compatible with the facts that Topicalized/Focalized elements, if they themselves do not incorporate negation, are outside the scope of negation in English.

(86) a. All the guests of the party, John didn't talk to. (*not > all, all > not)
b. All, not some of the guest, John didn't talk to. (*not > all, all > not)

Unlike in Japanese, the existence or activation of topic or focus is not required in English matrix clauses, although it can occur when Topicalization/Focalization occurs. In (86a, b) universally quantified elements are located in Spec-TopP and Spec-FocP, respectively. The impossibility of partial negation in these cases is well-predicted, as they are out of the scope of negation as shown in (85).

6 Conclusion

The paradox of the scope of negation in Japanese has been addressed in terms of the interpretation of the quantified subject. This explanation is based on the idea that, in order to obtain an interpretation of partial negation for such subjects, the subject must be in the scope of negation. It is then necessary to identify the positions of the subject in clause structures. While the position of the subject is established at Spec-TP in English, its position in Japanese has been controversial. The notion of topic/focus plays a crucial role in Japanese syntactic structures, as it is a discourse-configurational language. Specifically, I have argued that the activation of topic/focus is required in matrix clauses (as seen in (27)) and this is key to resolving the paradox. Kumamoto Japanese (KJ) exhibits sensitivity to topic/focus (as shown in (28)), revealing the positions of the subject (illustrated in (9)) through the use of different case-markers (*-ga* and *-no*). Using KJ, I have demonstrated that the scope of negation in Japanese is twofold. One scope is the c-command domain of Spec-PolP, above TP (wide NEG scope), when overt or implicit topics, or overt focus elements, reside in the CP area. This structure is elaborated as an articulated structure following Rizzi (1997) and Haegeman (2000). The other scope is the c-command domain of Spec-NegP (narrow NEG scope). The

choice between these two possibilities is linked with the activation of topic/focus, and both are allowed except when overt or implicit topics, or overt focus elements preceding the nominative subject are missing in matrix clauses. Subordinate structures also allow both possibilities because the activation of topic/focus is not forced. Based on empirical data, I have argued that both upward movement and downward feature-inheritance are necessary to realize topic/focus activation, incorporating insights and mechanisms from Saito (2010) and Miyagawa (2010), as represented in (78). Finally, I have speculated on why Japanese allows two negative scope possibilities that are sensitive to the topic/focus activation, comparing this with English, where the scope of negation is the c-command domain of Pol. The difference arises because English is a φ-feature agreement language that incorporates φ-feature inheritance from Fin to T (as shown in (85)). In sum, this paper serves as a case study demonstrating that (non)discourse-configurationality of the languages is a crucial factor underlying intriguing linguistic phenomena.

Notes

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[1] See Shibata (2015) and Nishioka (2017) for brief survey on the issue.

[2] The upper case is used to indicate the location of a high-pitch tone in wh-MO. If a high-pitch tone is placed on a wh-stem such as *DAre-mo(ga)* 'everyone (NOM),' the expression functions as a universally quantified expression.

[3] See Nishioka (2007: 635) for the list of NPIs.

[4] Wh-one-CLF such as *dare-hito-ri* (who-one person) 'no one', *nani-hito-tu* (what-one thing) 'nothing' is the same type of NPI as wh-MO.

[5] The following contrast might suggest the dubious status of XP-*sika* as an NCI.

(i) A: Dareka ki-ta?
anyone come-PAST
'Did anyone come?'

B: daRE-MO / *Taroo-sika
who-MO / Taroo-sika
'No one / only Taroo'

However, MNZ (2016) argue that the difference between (3B) and (iB) stems from the distinction between adjuncts and arguments, deducing the ungrammaticality of (iB) with XP-*sika* from an independent focus licensing mechanism that argument XP-*sika* must undergo. An acceptable fragment answer of adjunct XP-*sika* was first proposed by Kuno (1995).

[6] Japanese examples without designation of KJ are all SJ.

[7] Accusative case is represented by -*ba* in KJ, unlike -*o* in SJ.

[8] Careful examination of the data reveals that although -*no* subjects cannot undergo the interpretation of total negation (all > not), -*ga* subjects have both total and partial negation (not > all) interpretations. This last point is also a problem for Miyagawa's analysis based on (12). We return to this point in 3.3.

[9] A similar example to (17) is presented in Saito (2009) as problematic for Miyagawa (2001, 2003). Miyagawa (2001, 2003) also notes the availability of the partial negation of the quantified subject in *koto*-embedding and suggests that subjunctive tense may be the cause for it.

[10] The same result holds if we replace the universal QP subject with other QPs such as *more than numeral* (e.g., 5 nin izyo 'more than 5 persons'). Therefore, the universal QP is used as representative examples of the analysis.

[11] If the matrix predicate is transparent enough to allow the subordinate clauses to be interpreted as asserted in the sense of Hooper and Thompson (1973), then the thematic topic can occur in subordinate clauses such as in (i), as pointed out by Miyagawa (2017). These cases are excluded from the current discussion.

(i) (Watasi-wa) [Taroo-wa kasiko-i to] omo-u.
I-TOP Taroo-TOP clever-be that think-PRES
'I think that Taroo is clever.'

[12] Fukuda (2009) independently argues explicitly for the focus property of genitive -*ga* and implicitly for non-focus property of -*no* in DP of KJ.

[13] I follow Miyagawa (2010) and Nishioka (2018) in that other phrases than a -*wa* marked phrase can express the topic of the sentence. See Miyagawa (2017) for further elaboration.

[14] As for -*no* subjects in Hichiku dialects, including KJ, Moriyama et al. (2022) argue that it should be located in Spec-AspP above *v*P. This analysis is compatible with (34), which involves aspectual predicates. However, it is not clear how their analysis accommodates (32) and (33b). Moreover, their empirical evidence based on *v*P-cleft for the argument in (ia) is

not persuasive in that the ungrammaticality is independently accounted for in terms of (28). Example (ia) should involve *pro* which functions as the topic and is co-referential with Taroo. Thus, (ia) is ungrammatical due to the anti-topic property of *-no* nominative subjects in KJ. In addition, the ungrammaticality of (iib) suggests the invalidity of their analysis. Example (iib) is a case of AspP-cleft but the use of *-no* nominative subject is still ungrammatical.

(i) a.*[Kinoo si-ta] to-wa [$_{vP}$ Taroo-no kootei-de hasiru] koto bai. (KJ)
yesterday do-PAST COMP-TOP Taroo-NOM schoolyard-in run thing PRT
'What Taroo did yesterday was to run in the schoolyard.' (Moriyama et al 2022: 47)
b. [kinoo *pro*$_i$ si-ta]to-wa [$_{vP}$ Taroo$_i$-no kootei-de hasiru] koto bai
(ii) a. [Kinoo-no kaigi-de Hanako-ga/-no si-ta] to-wa [$_{AspP}$ zuuto warotoru] koto tai. (KJ)
yesterday's meeting-in Hanako-NOM do-PAST COMP-TOP all the time laughing thing PRT
'What Hanako did in yesterday's meeting was to be laughing all the time.'
b.*[Kinoo-no kaigi-de si-ta] to-wa [$_{AspP}$ Hanako-no zuuto warotoru] koto tai. (KJ)
yesterday's meeting-in do-PAST COMP-TOP Hanako-NOM all the time laughing thing PRT
'What Hanako did in yesterday's meeting was to be laughing all the time.'

[15] See Nishioka (2022) for an attempt to derive (37) from the labeling consideration.

[16] Although Nishioka (2017, 2018) reports that the partial negation is impossible here, many speakers allow it, especially when the focus is placed on the object. Thus, I will present an analysis to accommodate this observation.

[17] Saito (2010) does not specify how the element in Spec-TP is within the scope of negation.

[18] Saito (2010) also assumes the categorical feature [cat] in addition to [arg] and [phon]. However, it is omitted here because it is not relevant to the current discussion.

[19] This issue might be resolved if we assume, as we do here, that implicit stage topics are involved and that they suspend the attraction of the subject.

[20] Holmberg (2016) independently proposes a similar idea, in which PolP between CP and TP is assumed, but the subject resides within Spec-PolP, rather than Spec-TP in English, which fails to explain (70b) as well as (63).

[21] Rising intonation without a break after the subject is necessary for the universally quantified subject to take a narrow scope with respect to negation (i.e., partial negation) (Jackendoff 1972, Lasnik 1972). However, existentially quantified subjects cannot achieve this, even with rising intonation.

[22] This will be grammatical in *if* or *before* clauses because these clauses can license NPIs independently.

[23] Haegeman (2000: 49), in a different framework, suggests a possible extension of Rizzi (1997) as shown in (75), adding Pol to Rizzi's (1997) original split CP analysis.

[24] I also assume that the scrambled element can move to Spec-TP to fulfill the [topic/focus] requirement, as proposed by Miyagawa (2010) based on the mechanism shown in (78b), as illustrated in (51b). This is a case of A-scrambling.

[25] The crucial assumption here is that nominative subjects cannot move out of TP into the CP area in Japanese contra Saito (2010). See also Kishimoto (2009) and Moritake and Nishioka (to appear) for independent evidence for the argument that nominative subjects do not move into the CP area.

[26] I assume that total negation is produced by an optional focus movement of the quantified subject in (83b).

Abbreviations

ACC = accusative, ASP = aspect, CL = classifier, GEN = genitive, NEG = negation, NOM = nominative, PAST = past, PRES = present, PERF = perfective, PROG = progressive, PRT = particle, TOP = topic

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