SCOPE OF NEGATION
AND NEGATIVE POLARITY ITEMS IN JAPANESE

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It is commonly believed that Negative Polarity Items (NPIs) in Japanese must be c-commanded by a sentential negation marker in the same local domain. The book under review challenges this common belief, taking up three kinds of NPIs (rokuna-, sika- and wh-mo-NPIs), and claims that the latter two must occur outside the scope of negation. The present paper reviews this claim and points out a couple of problems from the viewpoint of where negation is expressed in a sentence with an NPI. It will be shown that rokuna- and sika-NPIs, unlike wh-mo-NPIs, constitute a semantic locus of negation, hence a different grouping emerges. A solution will be suggested to reconcile this apparent contradiction.*

Keywords: negative polarity items, negation, scope, ellipsis

1. Introduction

It is widely held that Negative Polarity Items (NPIs) must be c-commanded by a sentential negation marker to be licensed in a given structure. This view goes back to Klima (1964), much earlier than the invention of the notion of c-command by Reinhart (1976). Until then, the licensing condition on NPIs had been expressed in terms of the notion of “in construction with,” which requires NPIs to be “in construction with” (= c-commanded by) their licensors, one of which is a sentential negation marker. While appreciating the innovative monumental work by Klima (1964), I will adopt the standard c-command condition for the ease of exposition.

* I would like to thank two anonymous reviewers for helpful comments and suggestions. Needless to say, I am solely responsible for all remaining errors.
Let us begin with the basic paradigm exemplifying the c-command requirement on NPIs.

(1)  a. He didn’t invite anybody.
     b. *Anybody didn’t invite him.

(1a) is grammatical because the NPI anybody in object position is c-commanded and licensed by the sentential negation marker n’t under the standard conception of clausal architecture. By contrast, (1b) is ungrammatical since the NPI in subject position is higher than and therefore fails to be c-commanded by the licensing negation.

The licensing condition on NPIs is so simple that it was only natural that the focus of research soon shifted toward identifying some deeper principles of grammar from which the c-command requirement falls out as well as enriching the inventory of NPIs and their licensors. Among the important contributors in this endeavor, two of the most influential in the early age are Fauconnier (1975) and Ladusaw (1979). Their main claim is that NPIs bear a lexical property such that they have to appear in the scope of downward entailing operators, including a sentential negation marker. In the meantime, the inventory of NPIs was enriched so as to include expressions such as yet, ever, until, a bit, lift a finger and their equivalents in other languages (Kato (1985), Progovac (1988), Laka (1990), Zanuttini (1991), Haegeman (1995), van der Wouden (1997) and many others).

In the studies of NPIs in Japanese, the common strategy is to apply the c-command condition test to NPI-looking items in the language and see if they pass it or not. The common view that has been formed through this attempt is that Japanese also has NPIs, which have to be c-commanded by a sentential negation marker in the same local domain at LF (Kato (1985, 2000, 2002)), where the local domain can be understood as the minimal clause that dominates both NPI and a sentential negation marker. This by now familiar view is not without its challengers, however. One is Watanabe (2004), who convincingly argues that the items that consist of a wh-indefinite and mo, a typical instance of what has been treated as NPIs in Japanese, should be analyzed as Negative Concord Items rather than Negative Polarity Items. His argument is based on the observation that the relevant items pattern in more respects with what has been independently known as Negative Concord Items attested in many of the Romance and Slavic languages, West Flemish, Modern Greek, and so on than with Negative Polarity Items in English. Although I vote for Watanabe (2004) in the characterization of the items in question, I will refer to them as NPIs in accordance with the tradition of Japanese syntax.
The other challenger is Kataoka (2006), whose book is under review here. She challenges the traditional view by making the two following points. First, there is a region in the left periphery of the Japanese clause structure that is outside the scope of a sentential negation marker. Second, this region can be occupied by certain types of NPIs. (Note that what have been traditionally called NPIs are referred to as Neg-sensitive Elements in her book, I will use the traditional term NPI in this review.) Thus, taken together, these two points constitute the counterargument against the common belief that NPIs in Japanese must be c-commanded by a sentential negation marker in the same local domain.

The book is organized as follows. Chapter 1 summarizes the previous studies on NPIs and related phenomena to lay the foundations. Chapters 2 and 3 and chapters 4–6 are respectively devoted to establishing the two points above. Chapter 7 discusses consequences of the proposal on Japanese syntax, especially on scrambling.

This paper mainly reviews chapters 2 and 3 and chapters 4–6 of the book with the following structure. (The content of chapters 1 and 7 is touched upon where relevant.) First, section 2 goes over chapters 2 and 3, and section 3 briefly summarizes chapters 4–6. Then, section 4 points out a couple of issues problematic and/or unexplained and presents an alternative, followed by concluding section where a possible solution to reconcile the two competing analyses is submitted.

2. Setting the Background

To show that NPIs in Japanese can occur outside the scope of a sentential negation marker is no easy task. To do so, it is needed to locate a sentential negation marker relative to other elements in the clause structure. Kataoka (2006) achieves this by observing relative scopal relations between subject and negation and between object and negation both in canonical and scrambled sentences. (2) exemplifies sentences with canonical word order.

(2) a. [QP Jugo nin-ijo-no gakusei]-ga tabako-o suwa-nakat-ta.
15 Cl-more.than-Gen student-Nom tobacco-Acc
‘More than 15 students did not smoke.’

(more than 15 > Neg, Neg > more than 15)
b. Monbusyo-ga \[QP \text{jugo nin-ijo-no} \] Ministry.of.Education-Nom \[15 \text{ Cl-more.than-Gen gakusei]-ni syogakukin-o dasa-nakat-ta.} \] students-to fellowship-Acc offer-Neg-Past

‘The Ministry of Education did not offer fellowship to more than 15 students.’

(more than 15 > Neg, Neg > more than 15)

((a) from Kataoka (2006: 35); (b) from Kataoka (2006: 41))

(2a) illustrates the case where the quantified subject shows up in the negated sentence. This example exhibits scope ambiguity. Narrow scope reading for negation is that there are more than 15 students who do not smoke, and wide scope reading is that the number of students who smoke is less than 15. Similarly, (2b) involves scope ambiguity between quantified object and negation. Narrow scope reading for negation is that there are more than 15 students who did not receive a fellowship from the Ministry of Education, whereas wide scope reading is that the number of students who received a fellowship from the Ministry of Education is less than 15.

Taking the observed scope ambiguity as a reflection of the hierarchical relation between a sentential negation marker and the scope bearing elements, Kataoka (2006) proposes that negation is located between TP and VP and that subject and object appear either inside or outside VP, thereby altering relative scope while maintaining the linear order. Thus, the sentence with canonical word order can be analyzed in three ways, as shown in (3).

(3) a. \[TP [NegP [VP Subj Obj V] Neg] T] \ (Neg > Subj, Neg > Obj)

b. \[TP Subj [NegP [VP tSubj Obj V] Neg] T] \ (Subj > Neg)

c. \[TP Subj Obj [NegP [VP tSubj tObj V] Neg] T] \ (Obj > Neg)

(3a) produces wide scope reading for negation over subject and object, as seen in (2a) and (2b), (3b) narrow scope under subject, as observed in (2a), and (3c) narrow reading under object, as illustrated in (2b).¹

She then goes on to discuss scrambled structures that contain a scrambled quantified object and a sentential negation marker like the one in (4).

(4) \[QP \text{Ju ijo-no koko]-o} \] Tokyo-to

\[10 \text{ more.than-Gen high.school-Acc} \] Tokyo

¹ Kataoka (2006) assumes that when object occurs in non-theta position, as in (3c), it is base-generated in the surface position, instead of being moved thereto. So putting a trace of object in (3c) is not an accurate representation of Kataoka’s analysis, but since it is orthogonal to the point of this review, I will employ the familiar trace notation.
kyoiku-iinkai-ga kondo-no purojekuto-ni education-board-Nom next-Gen project-Dat suisensi-\textit{nakat}-ta.
recommend-Neg-Past
(more than 10 > Neg, Neg>more than)
‘The Tokyo Board of Education did not recommend more than
ten high schools for the next project.’ (Kataoka (2006: 81))

Just like the non-scrambled structures, the scrambled one yields scope ambiguity. For the case of narrow reading of negation, the structure in (5) is proposed, where the object finds itself above NegP. (The subject position does not matter; it can reside either within VP or above VP but beneath the object.)

\begin{equation}
\text{(5) } [\text{TP Obj } [\text{NegP } [\text{VP Subj tObj V} \text{ Neg} ] \text{ T} ] (\text{Obj} > \text{Neg})
\end{equation}

Incidentally, Kataoka (2006) assumes that the wide reading of negation obtains when there is a discrepancy between surface phonological form and logical form. More concretely, it is when the object occurs in front of the subject at the level of phonological representation, but occupies its theta-position within VP in the logical form (or more precisely, throughout the syntactic derivation). She refers to the structure with this sort of discrepancy as Surface OS (viz. Object-Subject order) after Ueyama (1998). But I will abstract away this part of the analysis, a rather minor point of the book upon which apparently nothing crucial hinges, and simply assume that the wide reading of negation obtains by reconstruction of the object to its trace position.

So far we have seen that the clause structure of Japanese allows for a position outside the scope of a sentential negation maker and that both subject and object can appear there. Then, if one succeeds in showing that this position can also be occupied by an NPI, it means that NPIs do not necessarily occur inside the scope of negation. The matter is not so straightforward, however, because a quantified expression that takes scope over negation is always able to take narrow scope too, as seen in (2) and (4), which makes it hard to tell whether an NPI is taking scope over or under negation. This indeed constitutes large part of the reason why the structural relation between NPIs and negation has eluded serious scrutiny in the study of Japanese syntax.

To overcome the difficulty, Kataoka (2006) makes use of the factual observations that a scrambled object does not reconstruct in the three environments in (6). (See Kataoka (2006) for the references.)

\begin{equation}
\text{(6) } \text{A scrambled object does not reconstruct when}
\end{equation}
a. it takes scope over the subject,
b. it binds a pronoun contained within the subject, or
c. it licenses a resumptive pronoun.

Kataoka (2006) shows that the anti-reconstruction effect can be seen in negated sentences as well, as shown in (7), (8) and (9).

(7) \[[QP_1 \text{Gojugo pasento ijo-no purojekuto]-ni}\]
\[55 \text{ percent more.than-Gen project-to}\]
\[[QP_2 \text{sanjusan pasento ijo-no ginko]-ga Mitubisi-o}\]
\[33 \text{ percent more.than-Gen bank-Nom Mitubisi-Acc}\]
suisensi\text{-nakat}-ta.

recommend-Neg-Past

‘More than 33 percent of the banks did not recommend Mitsubi-
shi to more than 55 percent of the projects.’

(When QP1 > QP2, QP1 > Neg, but *Neg > QP1)

(Kataoka (2006: 85))

(8) \[[QP \text{Ju ijo-no koko]-o soko,-no sensei-ga}\]
\[10 \text{ more.than-Gen high.school-Acc it-Gen teacher-Nom}\]
kondo-no purojekuto-ni suisensi\text{-nakat}-ta
next-Gen project-Dat recommend-Neg-Past.

(more than 10 > Neg, *Neg > more than)

‘More than ten high school\text{,} its\text{,} teachers did not recommend to
the next project.’

(Kataoka (2006: 81))

(9) \[[QP \text{Jidosya gaisya-o yot-tsu]-mo Yamada-kyouju-ga}\]
\[automobile company-Acc 4-Cl-also Yamada-Prof.-Nom\]
gakusei-ni soko-o syokaisi\text{-nakat}-ta.

students-to it-Acc introduce-Neg-Past

‘As many as 4 automobile companies Prof. Yamada did not in-
troduce them to his students.’

(4 > Neg, *Neg > 4)

(Kataoka (2006: 91))

(7) shows that when the quantified object scopes over the quantified sub-
ject in a negated sentence, the former must scope over negation. What
(8) illustrates is the case where the scrambled quantified object is forced to
stay at the surface position so as to bind the pronoun \text{soko} ‘it’ contained in
the subject. The binding requirement deprives the scrambled object of its
freedom of reconstruction, hence there is only a narrow reading for nega-
tion. Likewise, in (9), the need to license resumptive pronoun \text{soko} ‘it’
blocks reconstruction and limits the otherwise ambiguous interpretation to
narrow scope reading for negation.

These environments provide the controlled testing grounds on which to
see whether NPIs in Japanese need to occur in the scope of a sentential negation marker. The result will be shown in the next section.

3. NPIs in Japanese

We are now ready to test the validity of the traditional view that NPIs in Japanese must occur in the scope of a sentential negation marker in the same local domain. All we have to do is replace the scrambled object in (7), (8) and (9) with an NPI and check the grammaticality of the resulting structures under the intended interpretation. Japanese has a variety of items that require the presence of a sentential negation marker, among which Kataoka (2006) examines three kinds, *rokuna* ‘good, nice,’ *sika* ‘(with negation) only, except’ and wh-*mo*. The representative examples are cited below.

(10) a. *[Rokuna ginko]-o soko-no bengosi-ga Mitubisi-ni
good bank Acc it-Gen lawyer-Nom Mitsubishi-to
introduce Neg Past

‘No good banks itsi lawyer introduced to Mitsubishi.’

b. *[Rokuna hon]-o Taro-ga sore-o yoma-nakat-ta.
good book Acc Taro-Nom it Acc read Neg Past

‘Taro did not read any good book.’

((a) adapted from Kataoka (2006: 103), (b) adapted from Kataoka (2006: 104))

(11) a. Mosi [Tokyo ginko]-ni-sika soko-no torihikisaki-ga
If Tokyo bank to SIKA it Gen customers Nom
syotaijo-o okura-nakat-ta-nara, …
invitation Acc send Neg Past Condi
‘If it is only to Tokyo bank itsi customers sent an invitation, …’

b. [Kyusyu-daigaku]-ni-sika Toyota-ga soko-ni
Kyusyu Univ to SIKA Toyota-Nom it to
sinnyusyain-bosyu-annai-o okura-nakat-ta.
recruitment information Acc send Neg Past
‘Only to Kyusyu University did Toyota send recruitment information to it.’

((a) adapted from Kataoka (2006: 119), (b) adapted from Kataoka (2006: 120))
(12) a. [Kono yotien-no kodomo-o dare-mo]_{i}^{j}
this preschool-Gen children-Acc who-MO
soitu_{u}^{u}-no tanto-no hobo-ga
his-Gen charge-Gen nursery.school.teacher-Nom
sikara-nakat-ta.
scold-Neg-Past

‘[No children in this preschool]_{i}^{j}, did the nursery school
teacher in charge of them, scold.’

b. [Hitei-no ronbun-o nani-mo nani-mo]_{i}^{j} gengo.gakkai-ga
negation-Gen article-Acc what-MO linguistic.society-NOM
sore-o kongetu-no gakkaisi-ni nose-nakat-ta.
it-Acc this.month-Gen journal-to carry-Neg-Past

‘No article on negation did the linguistic society carry it on
the journal of this month.’

((a) adapted from Kataoka (2006: 206), (b) adapted from
Kataoka (2006: 207))

Witness that among the three, *rokuna* ‘good, nice’ cannot occur outside
the scope of negation as indicated by the ungrammaticality of examples
(10).\(^2\)

By contrast, the other two can survive outside the roof of negation
while successfully binding the bound pronoun, as in (11a) and (12a), or
licensing the resumptive pronoun, as in (11b) and (12b). This set of data
shows that NPIs in Japanese divide into two types, one that has to occur in

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\(^2\) One may think that the ungrammaticality of examples (10) is due to the lack of the
ability of this particular NPI to bind variables and license resumptive pronouns. As far
as the variable binding is concerned, Kataoka (2006) precludes the possibility by (i),
where the NPI in question successfully establishes the binding relation with the variable
contained in the object.

(i) [Rokuna ginko]-ga soko,-no bengosi-o Mitubisi-ni syokaisi-nakat-ta.
good bank-Nom it-Gen lawyer-Acc Mitsubishi-to introduce-Neg-Past
‘No good banks, introduced its, lawyer to Mitsubishi.’

The above concern about the licensing of resumptive pronouns, untouch in Kataoka
(2006), remains as a potential loophole. To put a patch on it, we need to consider a case
like (ii), which unfortunately does not sound as good as she would hope, thus weakening
the point that (10b) is supposed to make.

(ii)?* Hanako-ga [rokuna-otoko]-o [Hiromi-ga soitu-o sukini naru to]
*Hanako-Nom good-man-Acc Hiromi-Nom he-Acc like become Comp
omowa-nakat-ta.
think-Neg-Past

‘Hanako thought about no man that Hiromi came to like him.’

Note that (ii) is perfectly grammatical if the resumptive pronoun is omitted.
the scope of negation, as dictated by the common assumption, and more in-
terestingly, the other that can occur outside the scope of negation contra the
traditional view.

At this point, it is natural to ask whether the second type of NPIs, name-
ly, *sika*-NPIs and *wh-mo*-NPIs, always occur outside the scope of negation,
and if so, exactly where on the clause structure. Kataoka (2006) argues
that they both move outside the scope of Neg head at LF but toward a dif-
ferent destination, i.e., *sika*-NPIs move into Spec-NegP whereas *wh-mo*-NPIs
move to a position higher than NegP. Let us see this step by step, starting
from the observation of the relative scope relation between negation and the
quantified phrase in (13) and (14).

(13) a. [*QP Niju nin-ijo-no gakusei]-ga
   20 Cl-more.than-Gen student-Nom
   gakusei-syokudo-de ramen-*sika* tabe-*nai.
   student-dining.hall-at noodle-SIKA eat-Neg
   ‘More than twenty students eat nothing except noodles at the
   student dining hall.’
   (more than 20 > Neg, *Neg > more than 20)

b. Hanako-*sika* [*QP sanju satu-ijo-no hon]-o
   Hanako-SIKA 30 Cl-more.than-Gen book-Acc
tosyokan-kara karidasa-*nakat*-ta.
   library-from check.out-Neg-Past
   ‘Nobody except Hanako checked out more than 30 books from
   the library.’ (*more than 30 > Neg, Neg > more than 30)
   ((a) adapted from Kataoka (2006: 157), (b) adapted from
   Kataoka (2006: 159))

(14) a. [*QP Niju nin-ijo-no gakusei]-ga *dare-mo
   20 Cl-more.than-Gen student-Nom who-MO
   sinyosi-*nakat*-ta.
   believe-Neg-Past
   ‘There are more than 20 students who believed no one.’
   (more than 20 > Neg, *Neg > more than 20)

b. *Dare-mo* [*QP niju nin-ijo-no gakusei]-o
   who-MO 20 Cl-more.than-Gen student-Acc
   sinyosi-*nakat*-ta.
   believe-Neg-Past
   ‘There is no one who more than 20 students believed.’
   (*more than 20 > Neg, Neg > more than 20)

Notice that none of these examples manifest scope ambiguity. Thus, the
only available reading of (13a) is: there are more than 20 students who eat only noodles at the student cafeteria, which remains true even if there are other foods that more than 20 students eat. Under this situation, the other unavailable reading is false: there is nothing except noodles that more than 20 students eat at the student cafeteria. On the other hand, the unique reading of (13b) is: Hanako is the only person who checked out more than 30 books from the library, which differs from the narrow scope reading of negation: there are more than 30 books that only Hanako checked out from the library. The difference between the examples in (14) should be clear from the translation.

From this observation, we can see that both sika-NPIs and wh-mo-NPIs occupy a position as high as or higher than Neg head, with the proviso that negative force is expressed by the Neg head, not by the whole NegP. This ensures that the c-command relation between the NPI and a quantified phrase is isomorphic to the relative scope between negation and the quantified phrase. Then, how can we tell their final landing sites? Kataoka (2006) argues that the sika-NPI must occupy Spec-NegP because it cannot occur multiply, as shown in (15).

(15) *Taro-wa gengo.gakkai-de-sika hitei-no ronbun-sika
Taro-Top linguistic.society-at-SIKA negation-Gen article-SIKA
happyosi-nakat-ta.
publish-Neg-Past
‘Taro published only an article on negation only at the linguistic society.’

The idea is that the impossibility of multiple occurrences of sika-NPIs can be attributed to the rigidity of the X-bar theory that allows at most one Spec for each maximal projection. By contrast, wh-mo-NPIs permit multiple occurrence, as shown in (16).

(16) Dare-mo nani-mo mi-nakat-ta.
Who-MO what-MO see-Neg-Past
‘No one saw anything.’

Together with the scope facts seen in (14), this suggests that wh-mo-NPIs occur somewhere higher than NegP, whence they c-command the Neg head.

To sum up, Kataoka (2006) demonstrates that Japanese clause structure has a region in the left periphery that does not fall under the scope of a sentential negation marker and this region can be taken up by two kinds of NPIs, sika-NPIs and wh-mo-NPIs, but not by rokuna-NPIs, and that while sika-NPIs occupy the Spec-NegP, wh-mo-NPIs show up higher than NegP.
4. Issues

The first part of this section discusses a couple of issues left open in Kataoka (2006), those concerning the interpretation of *rokuna* ‘good, nice’ and *sika* ‘(with negation) only, except’ and the semantic locus of negative force (i.e., where negative is expressed and interpreted). Specifically, I will propose that in those structures containing these NPIs, the negative force is not expressed by the sentential negation marker, but by the NPIs themselves. This will be supported by new data involving scope and ellipsis, and to the extent that the proposal prevails, it requires a reconsideration of Kataoka’s (2006) analysis of the data in (13). In the second part, I will lend support to her analysis of wh-*mo*-NPIs by refining it along the line of Giannakidou’s (2000, 2001, 2006) treatment of emphatic NPIs in Modern Greek and by the ellipsis test conducted in the first part.

4.1. Rokuna and Sika

Let us begin with a sketch of the semantics of *rokuna*. This item is usually glossed as ‘good,’ ‘nice’ or ‘decent,’ but since it occurs with a sentential negation marker, it effectively means ‘bad’ in the translation, as shown in (17).

(17) Taro-wa saikin *rokuna*-mono-o tabete-nai.
Taro-Top recently good-stuff-Acc eat-Neg
‘Taro recently has eaten (only) bad stuff.’

This suggests that the scope of negation in (17) is confined to the NPI itself, rather than over the whole sentence. For support to this suggestion, consider (18).

(18) [Rokuna-gakusei]-ga [QP jugo satu-ijo-no hon]-o
good-student-Nom 15 Cl-more.than-Gen book-Acc
yoma-nakat-ta.
read-Neg-Past
‘(Only) bad students read more than 15 books.’

According to Kataoka’s (2006) analysis of *rokuna*-NPIs, they have to occur under the scope of a sentential negation marker. If so, we expect that the quantified object in (18) that appears lower than the NPI would also take scope under negation, thereby yielding the reading: the number of books read by good students is less than 15. Does it correctly capture the meaning of (18)? The answer is no because it is merely one of the implicatures that obtain from the right meaning, which is: (only) bad students read more than 15 books. Notice that under this reading, the quantified object no
longer falls under the scope of negation, contrary to the prediction made under Kataoka’s analysis. How do we get the right interpretation? A straightforward way is to confine the scope of negation to the NPI, so as to interpret it as ‘bad,’ without having negation scoping over the lower object. In what follows, let us use the term “semantic locus of negation” to refer to a particular syntactic constituent that expresses negative force at the level of semantic interpretation, just like the *rokuna*-NPI does.

This point can be further sharpened by considering (19).

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QP [op]jugo  nin-iyo-no  gakusei]-ga [rokuna-repoto]-o
15  Cl-more.than-Gen  student-Nom  good-paper-Acc
kaka-nakat-ta.
write-Neg-Past
'More than 15 student wrote a bad paper.'
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This example hosts a *rokuna*-NPI in object position, above which a quantified subject shows up. Thus, Kataoka’s analysis would lead us to expect there to be scope ambiguity between subject and negation. The fact is, however, that no scope ambiguity is observed. The only available reading is: the number of students who wrote a bad paper is more than 15. The wide reading of negation does not arise by any means including implications: the number of students who wrote a good paper is less than 15. This therefore gives further support to the present claim that the scope of negation is confined to the *rokuna*-NPI, which constitutes the semantic locus of negation, not over the whole sentence.

Let us now turn to *sika*-NPIs, which will be shown to be similar to *rokuna*-NPIs in that they also constitute the semantic locus of negation and get interpreted in the sense of ‘only.’ One of the advantages of this is that

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3 One might wonder what is negated by the negative force of *sika*. I cannot offer a full account here, but as a first approximation, I would like to mention the illuminating behavior of exceptive *but* in English used in cases like (ia), synonymous with (ib).

(i)  a. There is no rule *but* has an exception.
    b. There is no rule that does *not* have an exception.

The paraphrase shows that *but* bears a hidden negation, which negates the modifier of the restriction of a (decreasing) quantifier. (Note also that both *but* and *sika* need to occur in downward entailing contexts although *but*, unlike *sika*, can occur in the restriction of a universal quantifier as in ‘Everybody but me was tired.’) Based on this parallelism, I would like to treat *sika* as a Japanese equivalent of *but*. Along this line, we can take a sentence like (iia), assuming that there is a covert quantified phrase associated with the *sika*-NPI, and interpret it as in (iib), paraphrasable (though awkwardly) as in (iic), and much more naturally with ‘only’ as in (iid).
we can avoid a problem with Kataoka’s (2006) analysis of relative scope in cases like (13), repeated in (20).

(20) a. \[QP \text{Niju nin-ijyo-no gakusei]-ga} \]
\[20 \text{Cl-more.than-Gen student-Nom} \]
\[gakusei-syokudo-de ramen-sika tabe-nai. \]
student-dining.hall-at noodle-SIKA eat-Neg
‘More than twenty students eat nothing except noodles at the student dining hall.’

(b) Hanako-sika \[QP \text{sanju satu-ijyo-no hon]-o} \]
\[Hanako-SIKA 30 \text{Cl-more.than-Gen book-Acc} \]
tosyokan-kara karidasa-nakat-ta.
library-from check.out-Neg-Past
‘Nobody except Hanako checked out more than 30 books from the library.’

Remember that concerning these data Kataoka (2006) focuses on the relative scope between the quantified phrase and negation, drawing the conclusion that sika-NPIs move to Spec-NegP at LF so that anything above them takes wide scope over negation while anything below them takes narrow scope under negation. Is this tenable? I will show that it is not.

Consider the LF representations for the examples in (20) along the line of Kataoka’s (2006) analysis.

(21) a. \[[TP \text{Subj [NegP Obj-sika [VP tSubj … tObj … V] Neg] T}] \]
\[(\text{Subj} > \text{Neg}) \]

b. \[[TP [NegP Subj-sika [VP tSubj … Obj … V] Neg] T] \]
\[(\text{Neg} > \text{Obj}) \]
(21b), which is an LF representation of (20b), is unproblematic, where the sika-NPI covertly moves into Spec-NegP and the quantified object stays in situ. Hence we get the wide reading of negation. Problematic is (21a), an LF representation of (20a). In this representation, the sika-NPI covertly moves into Spec-NegP, and in addition the quantified subject moves to

Taro-SIKA come-Neg-Past
b. Nobody but Taro came.
c. Nobody who is not Taro came.
d. Only Taro came.

This shows that sika negates the modifier of the restriction of a (covert) quantified phrase. For a detailed semantic analysis of sika in comparison with only, see Yoshimura (2007) and the works cited therein, and for the semantics of exceptive constructions in English, see Moltmann (1995, 1996).
somewhere higher than the NPI, say, Spec-TP. With this LF representation, we would get narrow scope reading for negation. But the question is what triggers the subject quantifier to move over the NPI, in spite of the fact that the quantified subject can in fact remain within VP, as we saw in (2a). Here is where Kataoka’s (2006) analysis gets into a trouble.

To accommodate the LF movement of the subject quantifier, Kataoka (2006) resorts to the scope rigidity generalization proposed by Huang (1982), Hoji (1985) and Reinhart (1983). In a nutshell, the generalization states to the effect that LF operations do not alter the surface c-command relations between quantifiers, as illustrated by the lack of an inverse scope reading in cases like (22).

(22) \[ \text{Subj Dare-ka]-ga } [\text{Obj dare-mo]-o aisiteiru.} \]

\[ \text{someone-Nom everyone-Acc love} \]

‘Someone loves everyone.’

(some > every, *every > some)

However, taking the scope rigidity generalization, in a distorted manner that is apparently intentional, as an independent grammatical principle, Kataoka (2006) argues that it triggers the quantified subject to raise covertly in tandem with the LF-movement of the Vector-NPI, so that the surface hierarchical relation between the two phrases will be restored, as in (21a). An obvious problem with this account, as one can readily see, lies in the way in which she interprets the scope rigidity generalization as a trigger that recovers the surface scope relations between quantifiers by otherwise unmotivated LF movement. Though several attempts have been made to derive this generalization from the mechanism of grammar then available, notably by Aoun and Li (1993), Kasai (2002), and Watanabe (2000), it has never been shown to work in the way she interprets it. Hence her analysis has no theoretical grounds to rely on and is hard to maintain.

One might propose to modify Kataoka’s (2006) proposal by assuming that a Vector-NPI must move to Spec-NegP at overt syntax, rather than at LF. Under this modified proposal, the examples in (20) are analyzed as having the structures in (21) at overt syntax, which makes it possible to maintain the generalization that the surface hierarchical relation between a Vector-NPI and a quantifier is isomorphic to the relative scope relation between negation and the quantifier. However, the modified analysis is not tenable either because it fails to account for the scope ambiguity observed in the case where a Vector-NPI shows up above another quantifier as a result of scrambling.
(23) Ramen-sika\textsubscript{1} \textsubscript{QP} niju nin-ijo-no gakusei]-ga noodle-SIKA 20 Cl-more.than-Gen student-Nom gakusei-syokudo-de \textsubscript{t1} tabe-nai. student-dining.hall-at eat-Neg

‘More than twenty students eat nothing except noodles at the student dining hall.’

(more than 20 > Neg, Neg > more than 20)

Under the modified proposal, the structure of (23) will be analyzed as in (24).

(24) \([TP [NegP Obj-sika\textsubscript{1} [VP Subj \ldots t\textsubscript{1} \ldots V] Neg] T] \) (Neg > Subj)

This representation would produce a wide scope reading for negation, but not a narrow reading, hence the failure to capture the scope ambiguity.

To circumvent the problem involved in Kataoka’s (2006) analysis, I would like to propose that sika-NPIs constitute a semantic locus of negation. Given this proposal, the scope facts observed in (20) and (23) receive a straightforward account. The lack of scope ambiguity in (20) can be treated on a par with (22); in both examples the quantifiers get interpreted on their surface positions, yielding surface reading alone, a pure instantiation of the scope rigidity generalization. The scope ambiguity of (23) can also be easily accounted for by assuming that the scrambled NPI can optionally undergo reconstruction, just like scrambled phrases in general (Hoji (1985), Saito (1989, 1992)), as exemplified by (25).

(25) \([Obj Dare-ka]-o [Subj dare-mo]-ga to\textsubscript{Obj} aisiteiru.\]

\begin{itemize}
  \item someone-Acc everyone-Nom love
\end{itemize}

‘Everyone loves someone.’

(some > every, every > some)

So far I have argued that the rokuna- and sika-NPIs constitute the semantic locus of negation, the first evidence of which is based on the scope facts. Let us now take a look at the second evidence, which comes from ellipsis data, based on the argument made by Kuno (2007). As a licensing condition on ellipsis, I will adopt the minimal assumption, which requires that elided material have a linguistic antecedent that is semantically identical to it.\textsuperscript{4} I will apply this antecedent-seeking nature of ellipsis to a pair of

\textsuperscript{4} A reviewer is concerned with the possibility that the ellipsis resolution might be blocked due to the lack of structural parallelism in the test schematized in (26), where only the antecedent contains a sentential negation marker. I would like to suggest, however, that the very fact that ellipsis is possible here, as we will see, will relieve this qualm. Thus, to the extent that it succeeds, the present discussion endorses the condition on ellipsis based on semantic identity, rather than syntactic parallelism, such as the one
sentences such as the one schematized in (26).

\begin{enumerate}
\item \textbf{(26)}
\begin{enumerate}
\item \textbf{a.} … \[\text{[NPI}_{i} \text{[XP-A} \ldots \text{t}_{i} \ldots \text{V-Neg}\text{]]} \ldots \text{ (Antecedent)}\]
\item \textbf{b.} … \[\text{[wh}_{i} \text{[XP-E} \ldots \text{t}_{i} \ldots \forall \ldots \text{]}\text{]} \ldots \text{ (Ellipsis site)}\]
\end{enumerate}
\end{enumerate}

(26a) is the form of an antecedent sentence that contains a relevant NPI and its licensing negation. (26b) hosts an ellipsis site, which is labeled as XP-E, out of which wh-extraction has taken place. Since the wh-phrase corresponds to the NPI, I assume that the latter has also moved out of XP-A so that XP-A and XP-E are syntactically parallel to each other. The idea of this test is that the semantic locus of negation in (26a) can be located by examining the interpretation of the (26b), that is to say, if XP-E gets a negative interpretation, it would mean that negative force lies in the sentential negation in XP-A whereas if XP-E gets a non-negative (i.e. affirmative) reading, it can be taken as an indication that the sentential negation marker in XP-A does not count as the locus of negative force,\footnote{A reviewer points out that the logic here is not valid due the violation of the law of contraposition because p→q does not entail ¬p→¬q. What this means in the present context is this: that the XP-E does not get a non-negative interpretation does not entail that the sentential negation marker in the XP-A does not carry negative meaning. The critique, though logically correct, is not directly pertinent to the discussion because what we are concerned with is a stronger condition on ellipsis resolution: ellipsis of X is licensed if and only if the semantic content of X can be recovered by a semantically identical antecedent (with a certain amount of syntactic parallelism). Thus, p is equivalent to q in terms of negativity, which means in the current context that the non-negative interpretation of the XP-E is licensed only by the non-negative XP-A, an indication of the lack of the semantic locus of negation therein, as desired. Hence, there is no loophole in the logic of argument.} instead something else should be. A very likely candidate is the NPI.

With this background in mind, consider (27) and (28).

\begin{enumerate}
\item \textbf{(27)}
\begin{enumerate}
\item \textbf{a.} Taro-wa saikin \[\text{[rokuna-mono]-o}_{i} \text{[XP-A t}_{i} \text{tabete-nai]}\]
Taro-Top recently good-stuff-Acc ate-Neg soda,
I.heard.
‘I heard that Taro recently has eaten (only) bad stuff.’
\item \textbf{b.} \[?[\text{CP Tatoeba nani-o}_{i} \text{[XP-E (karo-ga) t}_{i} \text{tabeta}]}\text{ ka]}\]
\text{for.example what-Acc he-Nom ate Q}
\text{wakari-masu-ka?}
\text{know-Pol-Q}
‘Do you know what (he ate), for example?’
\end{enumerate}
\end{enumerate}

proposed by Merchant (2001), though I do not intend to neglect the relevance of syntactic parallelism.
(28) a. John-wa [kudamono-\text{sika}\_i [XP-A \text{t}_i \text{tabe-tagara-nai}]] soda.
   John-Top fruit-SIKA eat-want-Neg I.heard
   ‘I heard that John wants to eat nothing except fruits.’

b. \text{?[\text{CP Tatoeba nani-o}\_i [XP-E (kare-ga) \text{t}_i \text{tabe-tagatteiru}]]}
   for.example what-Acc he-Nom eat-want
   \text{ka] wakari-masu-ka?}
   Q know-Pol-Q
   ‘Do you know what (he wants to eat), for example?’

(27a) is the antecedent sentence, where the \text{rokuna}-NPI shows up and is licensed by the sentential negation marker. (27b) involves ellipsis by which the embedded clause taken by the matrix verb \text{wakar} ‘know’ gets elided apart from the wh-phrase \text{nani-o} ‘what-Acc’ and an interrogative particle \text{ka} ‘Q.’ Unfortunately, the resulting sentence is less than perfect, but let us concentrate on the interpretation of the elided part. Witness that (27b) allows only non-negative interpretation, as indicated by the translation. The obligatory non-negative interpretation suggests that the XP-A in (27a) lacks negative force despite the presence of a sentential negation marker and therefore is unable to recover negative interpretation. The same analysis applies to (28). This is just as predicted under the present proposal, according to which the structures containing \text{rokuna-} and \text{sika-}NPIs express negative force on the NPIs rather than on the sentential negation marker that licenses them.\textsuperscript{6}

\textsuperscript{6} A reviewer raises two related questions about the conclusion that \text{rokuna-} and \text{sika-}NPIs constitute the semantic locus of negation. One is whether this conclusion implies that there is any negation-expressing formal feature such as Neg-feature involved in these kinds of NPIs. The other is, if the answer to the first question is yes, as I would say, how we get a correct reading in a structure containing the two types of NPIs, as exemplified below, avoiding a wrong double negation reading.

(i) Kino-wa \text{rokuna-situmon-sika de-nakat-ta}.
   yesterday-Top good-question-SIKA come.out-Neg-Past
   ‘Yesterday, only bad questions were raised.’

(ii) Kino-kara \text{rokuna-mono-sika tabete-nai}.
   yesterday-since good-stuff-SIKA eat-Neg
   ‘(I) have eaten only bad stuff since yesterday.’

For the sake of discussion let us assume that \text{rokuna} and \text{sika} both bear a Neg-feature. Then, we can see from the interpretation of the examples that both NPIs do their job in their own local domain without affecting the Neg-feature of the other. The Neg-feature of \text{rokuna} negates its inherent meaning of ‘good’ and yields the meaning of ‘bad’ while the Neg-feature of \text{sika} takes (but not affects) \text{rokuna-NP ‘bad NP’} in its scope and produces the meaning of ‘only bad NP.’ (See note 3 for the semantics of \text{sika}.) These
4.2. Wh-\textit{mo}

Let us now turn to the wh-\textit{mo}-NPI. For its syntax, as we saw above, Kataoka (2006) argues that this NPI must occur higher than NegP. For its semantics, she regards it as a universal quantifier taking scope over negation, rather than an existential quantifier falling under the scope of negation, as is held under the traditional approach to NPIs. This is essentially the same as Giannakidou’s (1999, 2000, 2006) analysis of what she calls emphatic NPIs in Modern Greek. (29) represents the logical formula that Giannakidou proposes that the sentence with an emphatic NPI will be mapped into.

\begin{equation}
\forall x. \neg P(x)
\end{equation}

The mapping is as follows: an NPI is mapped into the universal quantifier, a sentential negation marker into the logical negation, and the nuclear scope into P, with the variable x created as a result of LF movement of the NPI. This perfectly applies to wh-\textit{mo}-NPIs as well.

Given this analysis, it is predicted that the sentence containing a wh-\textit{mo} NPI will differ from the one containing a \textit{rokuna} and \textit{sika}-NPI in the semantic locus of negation. More concretely, the sentence containing a wh-\textit{mo}-NPI expresses negation on the sentential negation marker, rather than on the NPI. This is confirmed by the ellipsis test employed above. Consider (30).

\begin{enumerate}
\item \textit{a.} John-wa [\textit{nani-mo} \text{[XP-A} \text{t}_{\text{i}} \text{tabe-tagara-nai]}] soda.
   \begin{quote}
   John-Top what-MO eat-want-Neg I.heard
   ‘I heard that John does not want to eat anything.’
   \end{quote}

\item \textit{b.} \text{[CP Tokuni} \textit{nani-o}_{\text{i}} \text{[XP-E} (\textit{kare-ga}) \text{t}_{\text{i}} \text{tabe-tagara-nai]} \text{ka]} wakari-masu-ka?
   \begin{quote}
   especially what-Acc he-Nom eat-want-Neg ka
   Q know-Pol-Q
   ‘Do you know especially what he does not want to eat?’
   \end{quote}
\end{enumerate}

(30a) has a wh-\textit{mo}-NPI and a sentential negation marker that licenses it. (30b) involves an ellipsis by which the embedded clause gets elided, leaving behind an interrogative particle \textit{ka} ‘Q.’ Recall the lesson of this test: we can locate where negation is interpreted in the XP-A by examining the meaning of the XP-E in light of the condition on ellipsis resolution. Notice that the XP-E must receive a negative interpretation, as shown examples are illustrative in a very clear way of the point that \textit{rokuna} and \textit{sika}-NPIs constitute the semantic locus of negation by their own Neg-feature.
in the translation. Thus, (30b) sharply contrasts with the otherwise parallel (27b) and (28b). This gives us good reason to believe that negation is expressed on the sentential negation marker in the structure that contains a wh-mo NPI and its licensing sentential negation marker. Consequently, we are led to draw a dividing line between wh-mo NPIs on the one hand and rokuna- and sika-NPIs on the other.

5. Concluding Remarks

Kataoka (2006) is an elaborate work that has greatly contributed to the description of NPIs in connection with the clause architecture in Japanese. This is the first systematic attempt ever made that distinguishes different kinds of NPIs and captures their different syntactic distribution. The result shows that among the three kinds of NPIs discussed (rokuna-, sika- and wh-mo-NPIs), the first one falls under the run-of-the-mill NPIs, showing up under the scope of a sentential negation marker, whereas quite surprisingly, the latter two can (in fact must) occur outside of it. Thus, under her proposal, sika- and wh-mo-NPIs group together to the exclusion of rokuna-NPIs. However, as we saw in the previous section, a different grouping

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7 (30b) is intended to ask, among all the things that are relevant in the utterance context, what is ranked top or near the top in terms of John’s unwillingness to eat.

8 The conclusion drawn here is incompatible with that in Watanabe (2004), which, in our terms, takes wh-mo-NPIs as the semantic locus of negation in the relevant structure, in view of the fact that they can be used as an elliptical answer to express the meaning of a full-fledged negative proposition.

(i) a. Nani-o tabe-ta-no?
   What-Acc eat-Past-Q
   ‘What did you eat?’

   b. Nani-mo.
   what-MO
   ‘Nothing.’

In response to Watanabe’s analysis, Giannakidou (2006) argues that elliptical answers like (ib) indeed involve deleted material that contains a sentential negation marker that not only licenses the NPI but also negates the proposition. Thus, (ib) can be analyzed as having a structure such as the one in (ii).

(ii) Nani-mo tabe-nakat-ta
    what-MO eat-Neg-Past
    ‘I ate nothing.’

Here I will adopt Giannakidou’s analysis though it should be noted that Watanabe (2004) points out some problems with her approach too. I will leave the final verdict to future research.
emerges when the NPIs are examined in terms of whether they constitute a semantic locus of negation or not. Here our result indicates that *rokuna*- and *sika*-NPIs form a class with the ability to constitute a semantic locus of negation, excluding *wh-mo*-NPIs. The question is whether and how these different results can be reconciled if this is possible at all. Before closing the paper, let us consider a solution to this problem.

It should be noticed that the two ways of grouping are along different dimensions (i.e., whether a given NPI occurs inside or outside the c-command domain of a sentential negation marker at the endpoint of syntactic derivation, and whether a given NPI constitutes a semantic locus of negation), hence logically independent from each other. So I would like to propose that all NPIs are first generated within the c-command domain of a sentential negation marker to be licensed, and then they either stay there or move to their designated position, possibly outside the scope of negation, with or without negative force. This proposal enables us to characterize four different types of NPIs, as illustrated in (31).

(31) a. NPI inside the scope of negation, with negative force.
   b. NPI outside the scope of negation, with negative force.
   c. NPI outside the scope of negation, without negative force.
   d. NPI inside the scope of negation, without negative force.

For each of the characterizations, the property before the comma is Kataoka’s (2006) main concern and the one after it is this paper’s. Given the discussion so far, it should be clear that type (31a) is exemplified by *rokuna*-NPIs, type (31b) by *sika*-NPIs, and type (31c) by *wh-mo*-NPIs. What about type (31d)? I would like to suggest that this option is realized by the standard NPIs such as *any* in English, which we know has to occur inside the scope of negation and does not carry negative force of its own.

If the above solution is correct, it not only disentangles the apparent contradiction between Kataoka’s result and ours but makes it possible to incorporate *any*-type NPIs into the picture. Furthermore, it is expected to lead us to rethink and redefine what have been termed NPIs in the mounting literature on this topic. Hopefully, this paper will be of help for this task.

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