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(Citation)
Journal of Linguistics,44(2):379-435

(Issue Date)
2008-06-19

(Resource Type)
journal article

(Version)
Version of Record

(URL)
https://hdl.handle.net/20.500.14094/90001026

J. Linguistics **44** (2008), 379–435. © 2008 Cambridge University Press
doi:10.1017/S0022226708005161 Printed in the United Kingdom

On the variability of negative scope in Japanese[1]

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(Received 13 June 2006; revised 13 September 2007)

This article shows how the Japanese negative expression *nai* 'not' changes its scope depending on whether it is overtly head-raised to T or not. In Japanese, overt Neg-head raising takes place when a negative head acts as a functional predicate, devoid of its lexical (i.e. adjectival) properties in an analogous way to the aspectual verbs *have* and *be* in English. When the negative head *nai* undergoes overt head raising, it takes scope over TP. In some cases, however, the scope of negation becomes narrower due to the absence of overt Neg-head raising. The data provide us with empirical evidence showing that overt head raising – the kind of functional predicate raising observed in English and elsewhere in Japanese – is instantiated at the level of syntax, rather than at PF.

1. Introduction

Languages vary widely in the way negation is expressed. Cross-linguistically, it has been observed that negation can be realized in various forms, such as affix, auxiliary, adverbial and adverbial-like particle (see e.g. Dahl 1979, Ouhalla 1990). In English, the most common negator *not* – derived from the Old English word *nawiht* 'nothing' – is an invariant form that shows no inflection (Mazzon 2004). In contrast, in Japanese, the negative expression *nai* 'not' displays adjectival inflection.[2] The morphological facts suggest that these negative expressions have origins of different kinds. Still, both share a fundamental commonality in that they serve as operators that create syntactic scope. Since they are the same type of functional category, this is not too surprising.

[1] Earlier versions of this paper were presented at the Fukuoka Gengogakkai (December 2005), the Morphology and Lexicon Forum 2006 (May 2006), and the Sendai Area Circle of Linguistics (June 2006). I am grateful to John Whitman, Masaki Sano, Yo Matsumoto, Taro Kageyama, Yoko Yumoto, Hiroaki Tada, Saeko Urushibara, Tadashi Eguchi, Yoko Sugioka, Nobuhiro Kaga, Hiroto Hoshi, Jun Abe, Nobuko Hasegawa, Yoshie Yamamori, Miho Mano, Kiyoko Eguchi, Takayuki Tono, and the audiences of the meetings for their comments and suggestions. I am indebted to Mark Campana for his suggestions on the style as well as the content of the present paper. I am also thankful to anonymous *JL* reviewers for providing detailed comments on the earlier versions of the paper. The author is solely responsible for any remaining inadequacies and errors in the article.

[2] The negative expression *nai* is comprised of a negative element plus tense, i.e. *na* + *i*. However, it is also a dictionary citation form, so it will be referred to as a negative head in this paper.

Despite this fundamental property shared by the negators in the two languages, there is one notable semantic/interpretive difference between them: while *not* in English does not extend its scope over an entire clause, the Japanese negative expression *nai* does. We submit that the clause-wide scope of the Japanese negator *nai* is attributable to the presence of overt Neg-head raising, which derives from an intrinsic property of the negative head. More specifically, we argue that the sentential negator *nai* in Japanese, unlike *not* in English, serves as a functional predicate that can undergo overt head raising into TP. As a consequence, *nai* extends its scope over the entire clause.

In Japanese, overt Neg-raising is triggered when the functional predicate *nai* – devoid of its original lexical properties – appears in head position just below T. In this respect, it behaves syntactically more like the English aspectual verbs *have* and *be* than the English negator *not*. Still, there are some cases in which the narrow scope of *nai* does obtain owing to the absence of overt Neg-head raising; this will be discussed at length below. The Japanese data show that the scope of negation varies depending on whether a negative head is overtly raised to a higher position or not.

Recently, it has been debated whether head raising should take place in PF or in the syntax (Chomsky 2001, 2004; Lechner 2005, 2006; Roberts 2005; Matushansky 2006). Since a negative head is a scope-bearing expression, and since its scope changes in parallel with head raising, the facts surrounding the Japanese negative expression *nai* can provide evidence that functional predicate raising – the kind of overt head raising observed in English and elsewhere in Japanese – is instantiated within the purview of syntax.

The organization of the article is as follows. Section 2 illustrates some of the parallelisms between English and Japanese functional predicates. Section 3 argues that if the negative head is not construed as an independent functional head, it will not undergo head raising. Section 4 focuses on one type of subject-raising construction, showing that in Japanese, negative polarity items are not licensed if they are extracted from the scope of negation via DP movement. Section 5 discusses some theoretical consequences derived from the proposed analysis. A conclusion is presented in section 6.

2. Functional predicate raising

In this section, it is argued that the negative element *nai* 'not' undergoes overt head raising, mainly because it is devoid of lexical characteristics, and that the clause-wide scope of negation in Japanese arises as a consequence of overt Neg-raising to TP.

2.1 *The limits of negative scope*

We begin by observing one simple fact about Japanese: that negative polarity items (NPIs), including *nani-mo* 'anything', *nani-hito-tu* 'a single', *-sika* 'only', and *kanarazusimo zen'in/zenbu* 'necessarily all', are licensed by

the negative head *nai*, irrespective of whether they occur in subject or object position.[3]

(1) (a) Ken-ga {nani-mo/is-satu-mo hon-o} yoma-nakat-ta.
Ken-NOM anything-Q/single-CL-Q book-ACC read-NEG-PAST
'Ken did not read {anything/a single book}.'
(b) {Dare-mo/Hito-ri-mo gakusei-ga} hon-o yoma-nakat-ta.
anyone-Q/single-CL-Q student-NOM book-ACC read-NEG-PAST
'{No one/Not a single student} read the book.'

These NPIs are licensed only in the scope of negation. Thus, the following examples are excluded due to the absence of licensing NPIs.

(2) (a) *{Dare-mo/Hito-ri-mo gakusei-ga} hon-o yon-da.
anyone-Q/single-CL-Q student-NOM book-ACC read-PAST
'{Anyone/A single student} read the book.'
(b) *{Dare-mo/Hito-ri-mo gakusei-ga} [Ken-ga ko-nakat-ta]
anyone-Q/single-CL-Q student-NOM Ken-NOM come-NEG-PAST
to it-ta.
that say-PAST
'{Anyone/A single student} said that Ken did not come.'

Since NPIs are legitimate in a negative context, the data in (1) illustrate that the subject as well as the object will fall under the scope of negation in Japanese. By contrast, English NPIs (like *anything*, *anyone*, etc.) are not allowed to occur in subject position, although they can appear in object position (see Klima 1964, Laka 1990, and many others).

(3) (a) John did not read any book.
(b) *Anyone did not read the book.

In English, passivization affects the possibility for NPI licensing, as shown in (4).

(4) (a) John did not read any book.
(b) *Any book was not read by John.

Again, this contrast in acceptability is not observed in Japanese.

(5) (a) John-ga is-satu-mo hon-o yoma-nakat-ta.
John-NOM single-CL-Q book-ACC read-NEG-PAST
'John did not read a single book.'

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[3] In this paper, the following abbreviations are used in the examples: ACC(usative), COP(ula), CL(assifier), DAT(itve), EMPH(atic) GEN(itive), HON(orific), IMP(erative), NEG(ative), NOM(ina)L(izer), NOM(inative), PASS(ive), PRES(ent), Q(uantificational particle), QU(estion particle), TOP(ic).

(b) Is-satu-mo hon-ga yom-are-nakat-ta.
single-CL-Q book-NOM read-PASS-NEG-PAST
'Not a single book was read.'

These data therefore illustrate a notable typological difference between English and Japanese: in the latter, negation extends its scope over the subject, whereas in the former, the scope of negation does not fall over the subject.[4] (Note that there are cases in which NPIs are not licensed by negation: for discussion of such cases, see appendix.)

In the literature, there have been a number of proposals that attempt to account for the observed differences in NPI licensing. Such proposals are divided into two types. One, advanced by researchers including Takahashi (1990), Kawashima & Kitahara (1992), Aoyagi & Ishii (1994), Kato (1994), and Sohn (1995), attributes the absence of subject–object asymmetry in Japanese to the lower position of subjects. The other, put forth by Kishimoto (2005, 2007), takes overt Neg-raising to be responsible for the wide-scope property of negation in Japanese.

On the first approach, the absence of subject–object asymmetry in NPI licensing follows from the assumption that Japanese has a clause structure such as shown in (6b), which minimally differs from that of English (6a) in terms of the position of overt subjects (abstracting away from word order).

(6) (a) English: $[_{TP}$ *Subj* T $[_{NegP}$ Neg $[_{VP}$ ~~Subj~~ V Obj]]]
(b) Japanese: $[_{TP}$ $[_{NegP}$ $[_{VP}$ *Subj* Obj V] Neg] T]

In Japanese the subject remains within VP, as in (6b). Thus, an NPI in subject position is located low enough to be licensed by a negative head, either via Spec-head agreement (Aoyagi & Ishii 1994, Watanabe 2004) or via c-command (Kato 1994). By contrast, the English subject position is outside the scopal domain of negation (6a). On this view, the position of a Neg-head is invariant between English and Japanese, and the difference in NPI licensing is reduced to the differing position of the subject in TP or VP.[5]

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[4] Unlike English NPIs, Japanese NPIs are generally constrained by a locality condition whereby licensing is not possible when CP intervenes between the NPI and *nai*.

(i) ?*John-wa [Mary-ga nani-hito-tu hon-o yom-u to] omowa-*nakat*-ta.
John-TOP Mary-NOM any-single-CL book-ACC read-PRES that think-NEG-PAST
'John did not think that Mary read a single book.'

This shows how an NPI and a negator must be clause-mates (see e.g. Muraki 1978, Kato 1985).

[5] In another analysis along these general lines, Kawashima & Kitahara (1992) claim that NPI subjects behave like adjuncts in not undergoing DP movement to TP – unlike ordinary subjects that come with overt case marking – so that they may be licensed by *nai* in NegP. This analysis is not sustainable, however, since case-marked NPI subjects behave in exactly the same way as NPIs with no overt case marking. We will return to this issue in section 4.

In the second analysis, the presence or absence of subject–object asymmetry in NPI licensing depends on the position of a Neg-head (see Kishimoto 2005, 2007). On this view, the typological difference between English and Japanese emerges from a difference in the overt position of a Neg-head, rather than that of the subject, as shown schematically in (7).

(7) (a) English: $[_{TP}$ Subj T $[_{NegP}$ *Neg* $[_{VP}$ ~~Subj~~ V Obj]]]
(b) Japanese: $[_{TP}$ Subj $[_{NegP}$ $[_{VP}$ ~~Subj~~ Obj V] ~~Neg~~] *Neg*-T]

Here the surface subject position is invariant; the difference in NPI licensing derives from the assumption that in Japanese, unlike English, there is a Neg-head located in a structural position high enough to license a subject NPI.

Given these analyses, the theoretical question that arises is which one is more appropriate for treating the differences in negative scope observed between English and Japanese. The two types of analysis make different predictions. The second takes the clause-wide scope of negation in Japanese to be generated by way of overt head raising of *nai* 'not'. This predicts that if overt Neg-raising does not occur, negative scope will not extend over subjects. On the other hand, the first analysis takes the lower subject located in Spec of VP to be responsible for the licensing of subject NPIs in Japanese. On this analysis, it is predicted that subject NPIs are legitimate regardless of whether a negative head is located in NegP or a higher projection, since VP is located below NegP. Here, we argue – pursuing the Neg-head raising analysis a little further – that the predictions made by this Neg-raising analysis are borne out: namely, the scope of negation changes in accordance with overt Neg-head raising to T.

Throughout this discussion, NPIs are used as a heuristic to measure the extent of negative scope in a clausal constituent. This follows because the legitimacy of NPIs is assessed with reference to their overt position (see e.g. Hornstein 1984, Laka 1990). Nevertheless, one might suspect that a different analysis is possible, given Scope Splitting theory – one prominent approach to negative scope – which claims that the surface and interpretative positions of negation are sometimes dissociated (see e.g. von Stechow 1992/93, Zeijlstra 2004), as illustrated in (8).

(8) (a) John can find her no job.
(b) [John [NOT [can find her [no job]]]]

In (8a), negation can take scope over the modal *can*, obtaining a 'neg > can > ∃' interpretation. Under the scope splitting view, this interpretation is derived by virtue of an invisible negative operator NOT which checks the feature of a negative determiner – hence, taking scope over the modal. If the same mechanism is applicable to NPI licensing in Japanese, the need for Neg-head raising might be obviated. It should be noted, however, that Japanese does not have negative determiners, which means that the

language does not have a scope splitting construction like (8). In addition, modal negation is always expressed by *nai* (or one of its variants, including *zu* and *masen*) placed to the right of the modal. These facts make it extremely difficult to determine whether there is any scope splitting construction in Japanese.

Even if the scope splitting view is appropriate for scope assignment in (8a), there is good reason to believe that an abstract operator NOT which takes scope over the modal does not serve to license an NPI, as shown by (9).

(9) *John can find anyone no job.

The unacceptability of (9) results from the NPI *anyone* not being c-commanded by the NPI *no job* (see Barss & Lasnik 1986). Given that an NPI needs to fall under the scope of negation associated with an overtly realized negative head, it is reasonable to assume that NPIs are licensed by an overtly realized negative head, rather than an abstract operator.

Furthermore, non-NPI quantifiers in English often fall within the scope of negation even when they appear in the subject position, where NPIs are not licensed. For example, (10a) can have a 'not > everyone' as well as an 'everyone > not' interpretation, despite the fact that *everyone* occupies the Spec of TP.

(10) (a) Everyone did not work.
(b) [$_{TP}$ everyone did [$_{NegP}$ not [$_{VP}$ ~~everyone~~ work]]]

These facts follow straightforwardly if the scope of *everyone* can be determined with reference to a VP-internal position as well as with reference to the head member of its chain, as advocated by some researchers (see e.g. Aoun & Li 1989, 1993; Hornstein 1995).[6] In English, the negator *not* stays in place throughout the derivation, since it does not count as a functional predicative head (see section 2.2). Nevertheless, in (10a) a 'not > everyone' interpretation is possible because the lower copy *everyone* in VP is c-commanded by *not*. On the other hand, the upper copy *everyone* in TP c-commands *not*, so the reverse 'everyone > not' interpretation is also obtained. This suggests that even if *everyone* is located outside the scope of negation, a 'not > everyone' interpretation is possible. This being the case, it turns out that it is NPIs – rather than non-NPI quantifiers – that can serve as useful diagnostics in measuring the extent of the scope of negation in syntax, since the head member of the chain must be located within the syntactic scope of negation in order to receive an appropriate interpretation.

[6] It is assumed here that quantifiers are not raised by QR at the LF level.

2.2 *Overt Neg-head raising and the genesis of functional predicates*

One major claim in the present paper is that the Neg-raising analysis, whereby a negative element undergoes head raising, makes a number of correct predictions about negative scope. Prior to this discussion, we first delineate some of the ingredients of the Neg-raising analysis of Kishimoto (2007) and the predictions that follow from it.

The analysis proposed by Kishimoto (2005, 2007) takes the negative head *nai*, expressing sentential negation, as a (light) functional predicate that undergoes overt head raising. Accordingly, head raising makes it possible to extend negative scope over TP. One piece of evidence in favor of this analysis comes from the distribution of adverbial particles.

To begin with, (11) shows how lexical predicates like the adjective *takumasii* 'sturdy' or the verb *yomu* 'read' can be suffixed with an adverbial particle *mo* 'also'.

(11) (a) John-wa {takumasi-i/takumasiku-**mo** ar-u}.
John-TOP sturdy-PRES/sturdy-also be-PRES
'John is {sturdy/also sturdy}.'
(b) John-ga hon-o {yom-u/yomi-**mo** su-ru}.
John-NOM book-ACC read-PRES/read-also do-PRES
'John {reads/also reads} books.'

The sentential negative marker *nai* inflects like an ordinary lexical adjective. As illustrated by (12b), however, *nai* cannot accept *mo* even if the dummy verb *aru* – which can support a stranded tense morpheme separated from a lexical adjective – is inserted.

(12) (a) John-ga hon-o yoma-na-i.
John-NOM book-ACC read-NEG-PRES
'John does not read books.'
(b) *John-ga hon-o yoma-naku-**mo** *ar*-u.
John-NOM book-ACC read-NEG-also be-PRES
'John also does not read books.'

This shows that *nai* does not behave as a full-fledged lexical adjective, notwithstanding its adjectival inflection. As seen in (11) and (12), acceptability varies depending on the type of host element to which the adverbial particle is attached.

We turn now to the details of the analysis. First, note that Japanese is an agglutinative language whereby bound predicative elements like tense attach to a lexical predicate to form a morphologically complex predicate. It is reasonable to assume that this requirement can be fulfilled either by morphological merger or by syntactic movement (see Halle & Marantz 1993; Bobaljik 1994, 1995). That the predicative elements in (11) and (12) behave the way they do is due to these two options.

Specifically, the sentential negative marker *nai* does not permit the suffixation of an adverbial particle, as shown in (12b). Assuming that the particle is head-adjoined to the negative head (cf. Aoyagi 1998, 1999), Kishimoto (2007) argues that (12b) is unacceptable because the negative *nai* suffixed with the adverbial particle undergoes overt head raising from its base Neg position to T, as shown in (13).[7]

(13) *[$_{TP}$ …. [$_{NegP}$ […. V] ~~Neg-mo~~] Neg-mo-*ar*-u]

Note that when a negative head with *mo* is head-raised, a complex head [$_{T}$ [$_{Neg}$ Neg-*mo*] *ar-u*] is derived. In Japanese, an adverbial particle has the property of marking the right boundary of a head [__#], which means that no X^0-element can be syntactically head-adjoined to the right of an adverbial particle. Structures in which an adverbial particle like *mo* intrudes inside a single lexical item are thus ill-formed, as represented in (14).

(14) (a) *[$_{N}$ kaigai-**mo**-ryokoo] 'overseas-also-travel'
(b) *[$_{P}$ ni-**mo**-tuite] 'about'

The noun *kaigai* 'overseas' in (14a) can be followed by *mo* when used independently, as in *kaigai-mo* 'overseas also', but the addition of the particle is not possible as part of a lexical compound, as in *[$_{N}$ [$_{N}$ *kaigai-**mo***]-[$_{N}$ *ryokoo*]]. (14b) represents a case in which a complex form *ni*+*tui-te* (to+attach-TE) has been reduced to a single lexical item *ni-tuite* 'about' by grammaticalization. Despite its morphological complexity, this expression constitutes a single syntactic unit. Hence, *mo* cannot be placed inside it.

Similarly, under the Neg-raising analysis, (12b) is ruled out by virtue of an illegitimate structure akin to those in (14); that is, (12b) has a structure like that in (13), which involves the illicit embedding of *mo* resulting from the overt raising of Neg-*mo*. If the Neg-head is raised to a higher position via overt head raising, it will naturally acquire wider scope than if it stayed in situ without undergoing movement.

Given the morphological constraint imposed on adverbial particles, it is easy to see that lexical adjectives and verbs are not raised to a higher head position. Nevertheless, tense is affixed to a main predicate (11) if no adverbial

[7] Since *dake* may be added to the right of a tense element, but not to the right of the negative *nai*, the negative-tense complex will remain in the T-head position without raising to the C-head position.

(i) Mary-wa [John-ga hon-o yoma-nakat-ta-**dake** to] kangae-ta.
Mary-TOP John-NOM book-ACC read-NEG-PAST-only that think-PAST
'Mary thought that it was only the case that John didn't read books.'

The behavior of the embedded verbal constituent with regard to the addition of an adverbial particle like *dake* shows that *nai* is raised to T, but not to C.

particle intervenes. In such a case, it can be reasonably assumed that morphological merger takes place between tense and the predicate via linear adjacency. This means that two heads residing in distinct syntactic head positions can be fused into a complex morphological form with no syntactic movement. When an adverbial particle intervenes between a main predicate and tense, however, linear adjacency is disrupted. In this case, a grammatical sentence can only be formed if a dummy verb is inserted to the left of the tense morpheme – an operation to save a stranded affix. (As seen in (11), the supportive verb used to yield a well-formed string for an adjectival predicate is *aru* 'be', while *suru* 'do' is used when the main predicate is a verb.)

If a negative head accompanies the intervening particle, as in (12b), tense is not linked to any predicative element via adjacency. In this case, dummy verb insertion is needed to save the stranded tense morpheme, but this syntactic operation is not applicable here. This is because the complex head formed via Neg-head raising to T does not provide any syntactic break into which a dummy verb can be placed. In theory, a dummy verb could be inserted to the right of tense before Neg-head raising (assuming this could take place before head raising), but once the negative head is raised, an illicit complex head would be formed (by virtue of the illegitimate embedding of an adverbial particle). Thus, a negative-tense sequence – containing a negative head with an adverbial particle that undergoes overt head raising to T – necessarily results in unacceptability. The present analysis also predicts that if Neg-*mo* is not raised to T, the sequence *naku-mo ar-u* – whereby dummy verb insertion takes place in support of the stranded tense – should be well-formed. This prediction is in fact borne out; we return to a discussion of it in section 3.

As illustrated above, the difference in acceptability in (11a–b) and (12) depends on whether or not overt head raising is induced. (12b) is excluded in the presence of overt Neg-raising: the negative word *nai* to which the adverbial particle is added undergoes overt head raising, resulting in a violation of the morphological constraint imposed on adverbial particles.[8]

[8] One reviewer suggests that a morphological constraint postulated for ruling out the Neg-*mo* sequence in (12b) can be avoided if it is assumed that *mo*-affixation renders the formal features of *nai* invisible. This idea is consistent with the standard assumption that the merger of α and β will allow the projection/percolation of the features of either α or β, but not both. This means that when *mo* is added to *nai*, only the features of *mo* will be projected, such that the features of *nai* do not project, hence remain invisible. This would cause a crash in the derivation of a clause with *naku-mo*, since the formal feature on T would be unchecked. Such an analysis implies that the complex Neg-*mo* never undergoes overt head raising, hence there is no convergent derivation. One problem with this suggestion is that there is no empirical reason why *mo* should block the percolation of features associated with *nai*. Note that *mo* behaves like an adjunct element, whereas *nai* acts as a negator regardless of whether it co-occurs with *mo*. This entails that *mo* should not block the projection of features associated with *nai*, contrary to the original suggestion. Furthermore, as argued in Kishimoto (2007), Neg-*mo* can be raised to T when T is not filled by an overtly realized tense element. Although we cannot go into the details of the analysis

The examples in (11) are well-formed because no overt head raising applies to the lexical predicates to which *mo* is suffixed. In (11), *mo* appears at the right periphery of a lexical unit without violating the morphological constraint. These data suggest that morphologically complex predicates can be formed with or without syntactic head raising, and that overt raising can be assessed according to whether an adverbial particle can be added to the right of a head.[9]

If *nai*, which lacks lexical content, undergoes head raising, a parallelism between English and Japanese emerges. In English, the aspectual verbs *have* and *be* – which can be assumed to serve as functional predicates lacking lexical content – undergo overt head raising (i.e. functional predicate raising) while lexical verbs do not (Emonds 1978, Pollock 1989, Roberts 1998, and others).[10] Technical details aside, it is generally assumed that aspectual verbs in English can undergo overt predicate raising owing to their semantic lightness (Pollock 1989; Chomsky 1991, 1993, 1995; Roberts 1993, 1998).[11] If, as is often suggested, semantic lightness is a prerequisite for the creation of functional predicates, the existence of overt predicate raising in Japanese is not surprising.

In English, the aspectual verb *have* is subject to overt head raising, but its lexical counterparts – experiential and causative *have* – are not (see Radford 1997, 2004). The relative order of *have* and *not* therefore differs between (15a) and (15b–c).

(15) (a) John ***has*** not finished his homework yet.
(b) John did not ***have*** his students take all the classes.
(c) John did not ***have*** his son examined by the doctor.

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here, the data suggest that overt raising of Neg-*mo* is allowed if it does not result in an ill-formed morphological complex. Such a distribution would be unexpected if the head raising of Neg-*mo* were impossible. For these reasons, the suggested alternative is not adopted here, athough it looks attractive.

[9] In the Japanese literature, there is a controversy surrounding overt verb raising. Some researchers such as Whitman (1991), Koizumi (1995, 2000), and Otani & Whitman (1991) argue that Japanese has overt verb raising, while others such as Sakai (1998) and Fukui & Sakai (2003) hold that it does not. Although this article does not go into this debate, it is worth mentioning that the facts of negative scope lend empirical support to the non-raising view.

[10] Needless to say, the copular verb *be* also falls into the category of functional predicates.

[11] There are a number of factors that affect the possibility of verb raising (see Vikner 1995, Rohrbacher 1999, and others), but it is widely held (see e.g. Roberts 1993, Radford 1997) that English has lost the option of main verb raising with the decline of rich verbal agreement. Note, however, that in British English, possessive *have* serves as a main verb, but nevertheless can undergo overt predicate raising. This peculiar behavior should be due to the possessive verb counting as semantically light (in much the same way as deverbal functional predicates), which presumably comes from a fairly transparent 'stative' meaning expressed by the verb (see Quirk et al. 1985).

Since the aspectual verb *have* in (15a) serves as a functional category specifying aspectual meaning, it is a grammatical element and as such does not possess the same properties as a lexical verb.

As often noted (e.g. Heine, Claudi & Hünnemeyer 1991, Hopper & Traugott 1993), contentful lexical words are often grammaticalized as function words; hence there is a cross-linguistic tendency for grammaticalized words to retain some of their original morphological properties. Given that aspectual *have* has the same inflection as lexical *have*, we can plausibly hypothesize that the former has been derived from the latter with the loss of its lexical property.

(16) [+lexical]→[−lexical]

This is tantamount to saying that aspectual *have* is amenable to overt head raising, as it has come to serve as a 'deverbal' functional predicate – a consequence of grammaticalization.[12]

Note that the Japanese negative *nai* inflects just like an ordinary adjective, suggesting that it probably originated as an adjective. However, *nai* functions as a sentential negator (i.e. a functor). The morphological fact suggests that *nai*'s status as a functional predicate is a consequence of having lost its original lexical property. If the analogy holds between English and Japanese, we can hypothesize that in Japanese, the negative element undergoes head raising because it serves as a 'deadjectival' predicate syntactically.

We assume here that a lexical predicate can take on the status of a 'functional predicate' as an intermediate stage of developing into a modal.[13] Historically, English modals (such as *shall*, *will*, *can*, and *may*) evolved from lexical verbs, but in modern English they do not inflect like verbs (see e.g. Roberts 1983). This suggests that modals no longer belong to a class of lexical or functional predicates – base-generated below TP – but are directly

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[12] Pollock (1989) claims that in a language like English, the functional predicate status of a head is determined according to whether it assigns a theta role or not (see also Chomsky 1993, 1995; Roberts 1998). While English aspectual verbs do not assign theta roles (see Radford 1997), the possessive verb *have* does. Nevertheless, British English allows possessive *have* to undergo head raising in the same way as aspectual *have* (see Quirk et al. 1985), thus posing a problem for Pollock's proposal.

(i) He has not any money.
(ii) Has he an appointment?

Moreover, Pollock does not provide an adequate treatment for functional predicate raising in general – i.e. the type of overt head raising observed in both Japanese and English. In Japanese, the negative head *nai* does not assign a theta role, but there are nonetheless cases in which head raising does not occur, to be discussed in the main text. Given this, we can continue to assume that the loss of lexical properties leads to the emergence of a functional predicate.

[13] Japanese also has the modal expression *ikenai* meaning 'must not', which has lost compositionality as a consequence of grammaticalization from *ike-nai* (go.can-NEG) 'cannot go' (see Martin 1975).

inserted into T-head positions rather than undergoing head raising to T from a lower functional predicate position.

In Japanese, it is relatively easy to see whether a given predicative head is a lexical or functional word, since Japanese has a grammatical distinction between verbal and adjectival clauses, determined by the properties of the lexical predicate serving as the head of the clause. If, as hypothesized above, a negative head is a functional category lacking lexical specification, it should not determine the category of the clause containing it, since a negated predicate is construed as having the structure *main lexical predicate + grammatical marker* (*nai*). If, on the other hand, a negative marker is a full lexical predicate, it should determine the class of the clause, which will then have the structure *complement predicate + lexical predicate* (*nai*). Consequently, we can readily discern whether a negative element acts as a functional or lexical head by checking the categorial status of the clause containing it.

As discussed by Kishimoto (2007), whether or not an ordinary negative head has the syntactic status of a lexical adjective can be ascertained by embedding the negative clause under *hosii* 'want' and *omou* 'think'. First, verbal clauses can be legitimately embedded under the desiderative predicate *hosii* 'want' when the embedded verb takes the *-te* form. On the other hand, adjectival clauses cannot be so embedded, even when the predicate takes the *-te* form. This is illustrated in (17).

(17) (a) John-wa [Mary-ga ki-te] hosikat-ta.
John-TOP Mary-NOM come-TE want-PAST
'John wanted Mary to come.'
(b) *John-wa [Mary-ga itumademo kawaiku-te] hosikat-ta.
John-TOP Mary-NOM forever cute-TE want-PAST
'John wanted Mary to be cute forever.'

Second, the grammatical status of a clause embedded under *hosii* does not change when the clause is negated, as illustrated in (18).

(18) (a) John-wa [Mary-ga ko-nai-de] hosikat-ta.
John-TOP Mary-NOM come-NEG-TE want-PAST
'John wanted Mary not to come.'
(b) *John-wa [Mary-ga kawaiku-naku-te] hosikat-ta.
John-TOP Mary-NOM cute-NEG-TE want-PAST
'John wanted Mary not to be cute.'

In (18), the categorial status of the negative clause is determined by the first lexical predicate embedded under *nai*, and not by *nai* itself. This fact indicates that *nai* is behaving as a functional rather than a lexical predicate. The data illustrate that a complement clause embedded under *hosii* 'want' is acceptable only if the lexical predicate locally c-commanded by *hosii* is a verb.

The categorial status of a clause can also be checked by embedding it under *omou* 'think'. When the complement of this verb is a small clause, only an adjective is allowed to occur in it irrespective of whether it is negated or not.[14]

(19) John-wa [Mary-o {kawaiku/kawaiku-naku}] omo-u
John-TOP Mary-ACC cute/cute-NEG think-PRES
(koto-ga ar-u).
fact-NOM be-PRES
(Lit.) '(There is a time when) John thinks Mary {to be cute/not to be cute}.'

If the small-clause complement of the verb *omou* contains a negated verb, the resultant sentence is unacceptable.

(20) ?*John-wa [hon-o ure-naku] omo-u (koto-ga ar-u).
John-TOP book-ACC sell.can-NEG think-PRES fact-NOM be-PRES
(Lit.) '(There is a time when) John thinks books not to sell well.'

The embedded predicate immediately preceding *omou* 'think' is required to have adjectival inflection. The negated verbal predicate in (20) indeed possesses adjectival inflection, owing to the presence of the adjectivally-inflecting *nai*. Nevertheless, the clause in (20) is excluded, because it is classified as verbal. The data show that the syntactic status of *nai* can be discerned by embedding the negated clause under *hosii* and *omou*.[15]

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[14] Adjectives that can appear in the small clause selected by *omou* 'think' are restricted to stage-level predicates, which designate a transitory state of affairs (see Mihara 2004). Some speakers, however, also allow negated stative verbs to occur in small clause complements to *omou*. Needless to say, these speakers are not sensitive to the kind of distinction that needs to be checked. The judgments reported in this paper come from a group of speakers who allow only adjectival clauses as small clause complements. In addition, a negated small clause needs to denote a transitory state, but is usually understood as denoting a permanent state unless this is explicitly stated. Thus, if a negated adjective appears as a small clause complement to *omou* 'think', a phrase like *koto-ga aru* 'there is a time when' – indicating a temporary state – is necessary for many speakers.

[15] Negative possessive and existential clauses drop the main verb *aru*, which is otherwise used when the nominative phrase represents an inanimate entity (see Kato 1985).

(i) Soko-ni hon-ga ar-u/ϕ-na-i.
there-in book-NOM be-PRES/ϕ-NEG-PRES
'There {are/are not} books there.'

In such negated clauses, accordingly, no main predicate occurs at all, so that the clause cannot be embedded under either *hosii* 'want' or *omou* 'think'.

(ii) *Watasi-wa [hon-o ϕ-naku] omot-ta.
I-TOP book-ACC ϕ-NEG think-PAST
(Lit.) 'I thought a book not to exist.'

(iii) *Watasi-wa [soko-ni hon-ga ϕ-nai-de] hosikat-ta.
I-TOP there-in book-NOM ϕ-NEG-TE want-PAST
(Lit.) 'I wanted books not to be there.'

Several remarks need to be made at this point. First, Japanese adjectives are stative, while verbs are generally non-stative, excluding a few cases like *aru* 'be', *dekiru* 'can do', and *iru* 'need' (see Kuno 1973). At first sight, then, it might look as though the semantic factor of 'stativity' plays a role in determining the difference in acceptability between (17a) and (17b). But this is not the case. This can be seen when a verb like *au* 'get right' is turned into a stative by adding *-te iru* (-TE be); nevertheless the verb can still be embedded under *hosii*.

(21) John-wa [sono-kotae-ga {at-te (i-te)/*tadasiku-te}]
John-TOP that-answer-NOM get.right-TE be-TE/right-TE
hosikat-ta.
want-PAST
'John wanted that answer to be correct.'

The verbal predicate *at-te iru* 'be correct' and the adjective *tadasii* 'correct' are both stative, describing cognitively identical states of affairs. Nevertheless, the contrast in acceptability persists. This shows that the crucial distinction is determined by lexical category rather than by a semantic factor like stativity.

Second, one might argue that the data regarding embedding under *hosii* and *omou* do not necessarily establish the status of negative *nai* as a functional element. In view of the fact that adverbial modifiers like *only* do not change the category to which they adjoin (e.g. both *John* and *only John* belong to the same DP category), it might be argued that the negative element *nai* serves as an adjunct (just like *only*) rather than a functional predicate. This alternative is not a plausible one, however, since a lexical negative head affects the status of a clause, as will be discussed below. Moreover, a functional negative head undergoes head raising to a higher position. It has generally been observed that such movement cannot take place from an adjunct position (cf. the Head Movement Constraint: see Baker 1988, Travis 1984). In order to undergo raising, then, the negative element must be in a head position selected by a higher head, rather than serving as an adjunct. In light of these considerations, it is fair to say that the diagnostics given above do indeed serve to distinguish the categorial status of a negative head.

The verb *aru* is not deleted, however, when it occurs in its potential form, i.e. *arie-nai* (be.can-NEG) 'cannot be'. A clause headed by *arie-nai* thus counts as verbal; hence it may be embedded under *hosii* 'want', but not *omou* 'think'.

(iv) Watasi-wa [sonna-koto-ga arie-nai-de] hosikat-ta.
I-TOP that-thing-NOM be.can-NEG-TE want-PAST
(Lit.) 'I wanted that such a thing could not happen.'

(v) *Watasi-wa [sonna-koto-o arie-naku] omot-ta.
I-TOP that-thing-ACC be.can-NEG think-PAST
'I thought that such a thing could not happen.'

Finally, it should be noted that even though semantic lightness can motivate the decategorization of a lexical head, it does not necessarily do so. For instance, a dummy verb arguably lacks semantic content, but nevertheless retains its lexical status (with no decategorization). This can be seen by the fact that an adjectival clause embedded under *hosii* 'want' is acceptable if the dummy verb *aru* is inserted between the adjective and *-te*.

(22) John-wa [Mary-ga itumademo kawaiku *at*-te] hosikat-ta.
John-TOP Mary-NOM forever cute be-TE want-PAST
'John wanted Mary to be cute forever.'

Here, the dummy verb *aru*, as its name implies, does not have contentful meaning. Nevertheless, the acceptability of (22) indicates that it can turn an adjectival clause into a verbal one, suggesting that *aru* is specified as [+lexical]. Since a bound tense morpheme needs a lexical predicate to ensure its morphological well-formedness, there is a sense in which a dummy verb must be lexical.

Given that the sentential negative form *nai* does not determine the type of clause in which it appears, it clearly does not behave like a true adjective, despite its adjectival inflection. The above data suggest that a functional predicate without lexical status will undergo overt head raising, and in Japanese the negative element *nai* serves as such a head.

Let us now proceed to consider briefly how overt head raising is motivated theoretically in the 'feature checking' system of syntactic movement (see Chomsky 1995, 2000, 2001; Lasnik 1995a, 1995b). Since a deadjectival negative head forms an inseparable lexical unit with a tense morpheme (12b), functional predicate raising must target T. With regard to the question of motivating overt Neg-raising, we assume following Kishimoto (2007) that in Japanese, when a negative head is generated in a context selected by tense, the two heads both appear in an initial array with [+T], which induces the raising of the functional predicative head. In other words, in a configuration where NegP is located immediately below TP, both the Neg-head and tense occur with the feature [+T]. (The assumption is that [+T] is an 'uninterpretable' feature that motivates head raising to T, which exists independently of semantic features (like [+past]) that determine a tense interpretation.) Once formal features are deleted under matching as a result of overt Neg-head raising (23a), the derivation of a 'negative-tense' sequence is rendered legitimate.

(23) (a) $[_{TP}$ $[_{NegP}$ ~~Neg~~] Neg-T]
~~[+T]~~ ~~[+T]~~

(b) $[_{TP}$ $[_{VP/AdjP}$ V/Adj] T]

On the other hand, main predicates are not functional, hence do not enter into the initial array with [+T]. As a consequence, they do not instantiate overt head raising, as in (23b).

The present analysis assumes that if *nai* is not selected by tense, no overt Neg-head raising will take place. This leads to the prediction that no Neg-head raising will occur if a negative head appears in a structural position that is non-adjacent to T. The following double negative clause confirms the correctness of this prediction.

(24) John-wa hon-o yoma-naku-**mo/wa** na-i.
John-TOP book-ACC read-NEG-also/TOP NEG-PRES
'It is not necessarily the case that John does not (also) read books.'

It is reasonable to suppose that the double negative construction in (24) contains two instances of NegP located above VP, as shown in (25).

(25) [$_{TP}$ [$_{NegP}$ [$_{NegP}$ [$_{VP}$ V] Neg] Neg] T]

The well-formedness of (24) – in which an adverbial particle occurs to the right of a lower negative marker – shows that this negative head is not moved to a higher one. This is because the lower negative head is not assigned [+T] since T does not select it. In (25), it is the higher of the two negative heads that is selected by tense. Thus, the higher head is assigned [+T], leading to the prediction that it should be head-raised. This prediction is borne out.

(26) *John-wa hon-o yoma-naku-wa naku-**mo**/**wa** *ar*-u.
John-TOP book-ACC read-NEG-TOP NEG-also/TOP be-PRES
(Lit.) 'It is (also) not necessarily the case that John does not read books.'

The sequence **yoma-naku-wa naku-mo/wa ar-u* is unacceptable, where a particle like *mo* or *wa* is added to the right of the higher negative head – even if *aru* is inserted to support the stranded tense. This suggests that the higher negative head – the one contiguous with tense – is head-raised. The non-raising of lower negation is comparable to the non-raising of the English aspectual verb *be* in (27).

(27) (a) John has not *been* studying English for a long time.
(b) *John has *been* not studying English for a long time.

As seen by the position of *not* relative to the aspectual verbs, only the higher aspectual *has* can be raised, whereas the lower aspectual *been* must remain in place. This also shows that only a functor head selected by T may undergo overt head raising.

Note that when an adverbial particle is added, a negative head takes the *naku* form irrespective of whether it is in an upper or a lower NegP in the double negative construction. This indicates that overt head raising is not contingent on the morphological form of *nai* – in this case, *naku* – and that

the negative head comes to bear [+T] when a NegP projected from it serves as a complement to T.

In most cases, the Japanese negative head *nai* counts as a [−lexical] functional category, but sometimes it can also function as a negative operator while retaining a [+lexical] specification, as will be discussed below. This suggests that the question of whether a negative word serves as an operator is independent of the 'lexical versus non-lexical' distinction. The very fact that *nai* can serve as a negative operator – regardless of whether it counts as a functional or a lexical head – provides crucial empirical evidence that the scope of negation extends over TP when the negative head undergoes overt functional predicate raising.

2.3 *The creation of negative scope*

As previously discussed, the negative head *nai* usually takes scope over TP; hence no subject–object asymmetry is observed in ordinary negative clauses with regard to the licensing of negative polarity items (NPIs). This raises the theoretical issue of how the scope of *nai* extends over subjects located in Spec of TP, which is not c-commanded by the negator *nai* adjoined to T. It is then necessary to address the question of how the negative element *nai* embedded under T can take scope over TP. We propose that a negative head in the T-head position undergoes LF raising to a higher Neg-head position, with the result that the ordinary negator *nai* comes to take scope over TP.

Let us first discuss the question of how syntactic scope is assigned in the present perspective. In general a word-internal unit is invisible to the syntax (see e.g. Chomsky 1995), and does not acquire scope (see e.g. Di Sciullo & Williams 1987). This is true in particular in Japanese, since derivational negative affixes do not license NPIs – including prefixes like *mu-* (e.g. *mu-imi* 'meaningless', *mu-kansin* 'indifference'), *mi-* (e.g. *mi-hattatu* 'undeveloped', *mi-keiken* 'unexperienced'), and *hi-* (e.g. *hi-kooritu* 'inefficiency'), as well as suffixes like *-nasi* (e.g. *dai-nasi* 'mess', *kata-nasi* 'spoil', *soko-nasi* 'limitless', *oto-nasi* 'silent').[16]

[16] Some intensifying words like *zenzen* 'at all', *mattaku* 'at all', and *hisasiku* 'long' typically behave like NPIs. They are not NPIs, however, since they can appear in some obviously positive contexts. The following examples illustrate this point.

(i) Sore-wa {zenzen/mattaku} tiga-u.
that-TOP at.all/at.all differ-PRES
'That differs completely.'

(ii) Watasi-tati-wa hisasiku onsin-hutuu dat-ta.
we-TOP long communication-out COP-PAST
'We were out of communication for a long time.'

Such quasi-NPI items are not appropriate for checking the availability of negative syntactic scope, hence they will be excluded from the discussion.

(28) (a) Sono-kokoromi-wa sukosimo
that-attempt-TOP in.the.least
{*mu-imi-da/mu-imi-de-na-i}.
no-meaning-COP/no-meaning-COP-NEG-PRES
'That attempt {is/is not} meaningless in the least.'

(b) Kare-wa sono-toki tittomo
he-TOP that-time at.all
{*oto-nasi-dat-ta/oto-nasi-de-wa-nakat-ta}.
sound-less-COP-PAST/sound-less-COP-TOP-NEG-PAST
'He {was/was not} silent at all at that time.'

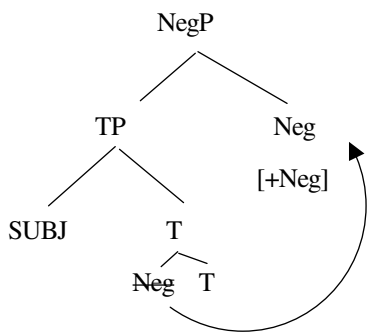
Such negative affixes are not capable of licensing NPIs, suggesting that they do not acquire syntactic scope. In contrast, a sentential negator adjoined to the tense morpheme via overt predicative head raising will take scope beyond the boundary of the derived complex tense form. The question then is why.

A number of researchers (e.g. Laka 1990, Ouhalla 1990, Zanuttini 1997) have argued that a higher NegP (i.e. higher negation) can be projected above TP. Given that NegP (the lower Neg) can also exist below TP (see e.g. Pollock 1989, Chomsky 1991), we can state that a single clause potentially has Neg projections in two different constituent positions, as represented in (29).

(29) [$_{\text{NegP}}$ [$_{\text{TP}}$ [$_{\text{NegP}}$ [$_{\text{VP}}$ V] Neg] T] Neg]

The premise is that both the higher and the lower NegPs are locations where a negative head with syntactic scope can be accommodated. We propose that when a negative head residing in the T-head position takes scope, it is excorporated covertly out of the tense morpheme and into the higher Neg-position, as illustrated in (30) (see Roberts 1991).

(30)



On this view, LF movement as indicated in (30) is an operation that moves a negative head to its legitimate scope position. In other words, the negator *nai* in T is not in a position where scope can be assigned, so covert excorporation

out of T is required. The hypothesis that a Neg-head must be located above TP in order to license a subject NPI receives some justification from the English examples in (31).

(31) (a) What did anyone *not* buy?
(b) What did*n't* anyone buy?

In (31a), *anyone* serves only as a 'free choice' item. By contrast, *anyone* in (31b) is licensed as an NPI because a negative element occurs in a position that c-commands it. This suggests that a Neg-head residing in an operator position above TP will extend its scope over subjects. In view of the fact that head raising is an instance of local movement (due to the Head Movement Constraint – see Baker 1988, Travis 1984), we postulate that, in Japanese, a negative head located in the T-head position (as a result of overt Neg-head raising) will be moved to the head position of the higher NegP at LF.

Arguably, NegP is licensed whenever it is hosted by a negative head in the LF output; otherwise, NegP might not even be projected in clause structure. Further, we postulate that a negative head with syntactic scope will be marked with a quantificational [+Neg] feature, and made legitimate by virtue of residing in the NegP head position at LF – i.e. in either the higher or the lower one. Since the LF Neg-head raising (excorporation) at issue should be semantically motivated, we can reasonably postulate that a NegP head position (unfilled in overt syntax) has a formal feature [+N], which by necessity must be checked against a negative head with the semantic feature [+Neg] at the LF level.[17]

(32) (a) $[_{NegP}$ $[_{TP}$ $[_{NegP}$ ~~Neg~~] ~~Neg-~~T] Neg-ϕ]
[+Neg][~~+N~~]
(b) *$[_{NegP}$ $[_{TP}$ $[_{NegP}$ ~~Neg~~] Neg-T] ϕ]
[+Neg] [+N]

As shown in (32a), once a negative head located in TP is head-raised into a higher NegP, sentential negation is made legitimate by deleting [+N]. As a consequence, negative scope – which can be defined in terms of c-command – is realized; that is, the Neg-head now takes scope over TP. If LF raising of the negative is not implemented, the derivation crashes (32b), with a failure to satisfy the requirement of a negative head having the [+N] feature.

The process of overt functional predicate raising plus subsequent LF excorporation provides an account of negative scope in Japanese. NPIs need to be included in the scope of *nai* for licensing. Recall that if the negative head

[17] Here, the feature [+N] motivates covert raising of a negative head, and bears a certain similarity to an EPP feature that triggers overt category movement, in that [+N] is deleted once a head position associated with it accommodates an appropriate head specified as [+Neg] (see Chomsky 2000, 2001, 2004; Radford 2004; and others).

nai is moved to the higher NegP in LF (33), both subject and object – which are contained within TP – will be c-commanded by *nai*, hence fall under its scope.[18]

(33) [$_{\text{NegP}}$ [$_{\text{TP}}$ SUBJ [$_{\text{NegP}}$ [$_{\text{VP}}$ OBJ V] ~~Neg~~] ~~Neg~~-T] Neg]

This explains why negative sentences in Japanese do not display a subject–object asymmetry in the licensing of NPIs. Theoretically, LF excorporation is possible even with a negator comprising *mo*, as in (34).

(34) *[$_{\text{NegP}}$ [$_{\text{TP}}$ SUBJ [$_{\text{NegP}}$ [$_{\text{VP}}$ OBJ V] ~~Neg-mo~~] ~~Neg~~-mo-T] Neg]

Still, the derivation does not converge in (34). This is due to the fact that the illicit embedding of *mo* occurs when Neg-*mo* is raised to T via overt Neg-raising, as discussed earlier. Thus, the derivation in (34) whereby overt Neg-raising applies to Neg-*mo* is not legitimate.

On the view held here, the scope of the negative head *nai* extends over TP only when it is raised to T via overt functional predicate raising and subsequent LF excorporation into the higher NegP head position. This analysis follows a line of inquiry pursued by Lechner (2005, 2006), who suggests that head raising creates a change in scope relations. By contrast, English *not* is not raised to a position above TP – even though the contracted form *n't* can occur in an operator position over TP in certain syntactic contexts (31b) (see Laka 1990).

(35) [$_{\text{TP}}$ SUBJ [$_{\text{NegP}}$ not [$_{\text{VP}}$ V OBJ]]]

As illustrated in (35), the subject is located in Spec of TP, and the object is within VP. In ordinary English declarative clauses, a subject–object asymmetry is thus observed with regard to NPI licensing.

Finally, under the present analysis, affixal negation can be taken as a case where a negative head does not possess the semantic feature [+Neg]. We submit that affixal negative markers (e.g. *mi-*, *mu-*, *-nasi*, etc.) do not possess the feature [+Neg], which in turn renders LF Neg-head excorporation impossible. Such constructions therefore lack the ability to generate syntactic scope (see also section 3.3).

[18] On the VP-internal subject hypothesis, the subject is generated within VP. This will not be represented from now on, since only the surface subject position – Spec of TP – is relevant. For arguments in favor of the view that the subject occupies Spec of TP, see Miyagawa 1989a, 1989b, Kishimoto 2001, and others.

3. THE NEGATIVE SCOPE OF IDIOMATIC PREDICATES

In the preceding section, it was seen that an ordinary negative head *nai* expressing sentential negation undergoes functional predicate raising to T (in an analogous way to the aspectual verbs *have* and *be*). The present analysis predicts that if *nai* does not undergo overt raising, the subject – which lies in Spec of TP – should fall outside its scope. Using data from idiomatic negative expressions where *nai* retains the ability to create syntactic scope, this prediction is seen to be correct: when *nai* does not undergo head raising, its scope does not extend over TP.

3.1 *Idiomatic negative predicates*

In Japanese, the negator *nai* often combines with various types of elements to derive idiomatic expressions, which can appear only in a negative form. Some idiomatic negative expressions comprised of verb + *nai* provide empirical evidence that functional predicate raising is responsible for the scope expansion of *nai* over TP.[19] A partial list of such negative predicates is given in (36).

(36) *A list of negative adjectives with the morphological form: verb* + nai
tamara-nai (bear-NEG) 'cannot stand', *yarikire-nai* (finish-NEG) 'cannot stand, unbearable', *doozi-nai* (upset-NEG) 'not upset', *niekira-nai* (decisive-NEG) 'indecisive', *warikire-nai* (satisfy-NEG) 'not satisfied', *kamawa-nai* (care-NEG) 'not care', *kudara-nai* (worth-NEG) 'worthless, uninteresting', *tumara-nai* (interest-NEG) 'boring, uninteresting', *kakase-nai* (lack-NEG) 'necessary', *kakasa-nai* (miss-NEG) 'never lack', *soguwa-nai* (fit-NEG) 'unsuitable', *yuruga-nai* (shake-NEG) 'firm, solid', *hakarisire-nai* (measure-NEG) 'immeasurable', *norikire-nai* (ride-NEG)

[19] Idiomatic negative predicates can be constructed in other ways as well, as exemplified by (i) and (ii).

(i) *nasake-nai* (mercy-NEG) 'woeful', *darasi-nai* (tidy-NEG) 'untidy', *tigai-nai* (difference-NEG) 'certain', *sikata-nai* (method-NEG) 'unavoidable', *menmoku-nai* (honor-NEG) 'disgraceful'
(ii) *katazike-nai* 'thankful', *adoke-nai* 'childlike', *setu-nai* 'sad', *sewasi-nai* 'restless'

In (i), *nai* combines with nouns. Thus a negative expression like *nasake-nai* behaves like a reduced form derived from *nasake-ga na-i* (mercy-NOM NEG-PRES) 'there is no mercy'. In (ii), there is no obvious source from which a complex negative expression like *katazike-nai* 'thankful' is derived, since the form *katazike* to which *nai* attaches cannot be a free morpheme. For our purposes, we need only consider compound negative expressions comprised of verb-plus-*nai*, since the syntactic configurations pertinent to our discussion are not formed with the types of negative predicates exemplified in (i) and (ii) above.

'not in full swing', *miatara-nai* (see-NEG) 'cannot find', *suma-nai* (end-NEG) 'sorry', *simara-nai* (close-NEG) 'loose', *anadore-nai* (despise-NEG) 'cannot despise', *itatamare-nai* (bear-NEG) 'unbearable', *aiire-nai* (tolerate-NEG) 'cannot be compared'

All the expressions in (36) are idiomatic and require the presence of a negative element, hence do not have corresponding affirmative forms.[20]

Before proceeding, note that some of the expressions in (36) can also be used in a literal sense. For instance, the negative predicate *yarikire-nai* 'unbearable', which contains the verb *yarikireru* 'can finish' and *nai*, could literally mean 'cannot finish'. When used in the literal sense, the expression turns out to be a simple negated predicate, so it can have an affirmative counterpart *yarikireru* 'can finish'. The negative expression *warikire-nai* 'not satisfied', which will play an important role in the discussion below, also has a literal use in the meaning 'not divisible' (in an 'arithmetic' sense). Needless to say, non-idiomatic predicates take regular negators, and are not relevant for testing the hypothesis advanced here. Thus, we are only concerned with the idiomatic usage of negative predicates.

Despite their surface similarity with the morphological form *verb* + *nai*, the idiomatic negative expressions in (36) are in fact divided into two distinct groups. Some of these negative predicates constitute simple lexical words, and do not generate negative scope. Others have a compositional syntactic structure, where *nai* functions as a negative operator that generates syntactic scope while standing as a syntactically independent element.

More specifically, negative predicates such as *kudara-nai* 'worthless' and *yarikire-nai* 'unbearable' are completely lexicalized expressions in which *nai* does not possess the ability to create syntactic scope. The examples in (37) are therefore unacceptable owing to their failure to license NPI adverbs.

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[20] The expression *tamara-nai* 'unbearable', for instance, is derived from the negative form of the verb *tamaru*, even though this verb in isolation is no longer used in its original sense. The affirmative form of *tamara-nai* is therefore non-existent, just as **tamaru* is unacceptable with the meaning of 'bear'. It goes without saying that *tamara-nai* does not have a compositional meaning based on the meanings of its components. Moreover, even though *tamaru* is no longer used to mean 'stand, bear' in an ordinary context, this meaning can be expressed in (i).

(i) Sonna-koto-o s-are-te tamar-u ka!
that-thing-ACC do-PASS-TE bear-PRES EMPH
'I cannot bear such a thing to be done!'

This is because here the sentence conveys a negative meaning even without an overtly realized negation.

(37) (a) *John-ni-wa {sukosimo/tittomo} sono-zyugyoo-ga
John-DAT-TOP in.the.least/at.all that-class-NOM
kudara-nakat-ta.
worth-NEG-PAST
'That class was worthless to John {in the least/at all}.'
(b) *John-wa {sukosimo/tittomo/ikkooni} yarikire-nakat-ta.
John-TOP in.the.least/at.all/at.all finish-NEG-PAST
'John was unbearable {in the least/at all/at all}.'

NPI adverbs including *sukosimo* 'in the least', *tittomo* 'at all', *ikkooni* 'at all', and *amari* 'much' are predicate modifiers used to intensify or weaken the extent or degree of an activity or state described by the predicate. If *nai* acquires syntactic scope, it should therefore be able to license these predicate modifiers. The data in (37) suggest instead that *kudara-nai* and *yarikire-nai* are unanalyzable adjectival expressions whose components are invisible to the syntax.

Negative predicates like *yuruga-nai* 'not be shaken, be firm' and *doozi-nai* 'not upset' behave differently from *kudara-nai* and *yarikire-nai* in that they can license NPI adverbs, as can be seen in (38).[21]

(38) (a) John-no zisin-wa {sukosimo/tittomo/ikkooni}
John-GEN confidence-TOP in.the.least/at.all/at.all
yuruga-na-i.
shake-NEG-PRES
'John's confidence is not shaken {in the least/at all/at all}.'
(b) John-wa {sukosimo/tittomo} sonna-koto-ni doozi-na-i.
John-TOP in.the.least/at.all that-matter-DAT upset-NEG-PRES
'John is not upset about that matter {in the least/at all}.'

In the present perspective, negative *nai*'s ability to license the NPI adverbs in (38) comes from the fact that it serves as a syntactic negative operator, specified for the [+Neg] feature. Since *nai* has syntactic scope in (38), the internal structure of the complex negative expression should be transparent to the syntax.

It is noteworthy that *nai* can be replaced with the complex negative form *nai-de iru* 'be not to', as seen in (39). This provides a good indication that the negative predicates *yuruga-nai* and *doozi-nai* do have analyzable internal structure.

[21] The particle *sika* affects the meaning of *nai*, creating a meaning close to 'only'. This makes it impossible to use *sika*-forms to check the scope of *nai* in idiomatic negative predicates, which require the presence of *nai* in its unchanged, original sense. Thus, NPIs in *sika*-forms will not be used as a heuristic for assessing the extent of negative scope.

(39) (a) John-no zisin-wa imadani yuruga-nai-de i-ru.
John-GEN confidence-TOP yet shake-NEG-TE be-PRES
'John's confidence has not been shaken yet.'
(b) John-wa imadani sonna-koto-ni doozi-nai-de i-ru.
John-TOP yet that-matter-DAT upset-NEG-TE be-PRES
'John has not been upset about that matter yet.'

According to Kuno (1973) and Masuoka & Takubo (1989), *-nai-de* is a special negative form that can only be attached to a verb.[22] The acceptability of the examples in (39) means that the verb stems *yuruga-* and *doozi-* are visible to the syntax, the complex negative expressions having a transparent *verb + negator* (*nai*) structure. By contrast, since *nai-de iru* replacement is not possible with *kudara-nai* 'worthless' and *yarikire-nai* 'unbearable', these predicates count as a 'single lexical form' with no internal structure analyzable in the syntax.

(40) (a) *Kono-kotoba-wa kudara-nai-de i-ru.
that-word-TOP worth-NEG-TE be-PRES
'This word has been worthless.'
(b) *John-wa imadani yarikire-nai-de i-ru.
John-TOP yet finish-NEG-TE be-PRES
'John has been unbearable.'

A comparison of the data above reveals that the negative element *nai* can encode scope syntactically if *nai-de iru* can be substituted for it.

If the negative head *nai* embedded in a complex predicate is visible to syntactic processes and can assign scope, its syntactic position will determine how far its scope extends within the clausal constituent. Taking advantage of this property of scope-taking negative words, we next show that the negative head *nai* does not expand its scope domain unless it undergoes overt functional predicate raising.

3.2 *Lexical negative adjectives*

Under an analysis whereby a functional predicate raises to T, we would expect that when the negative head *nai* is categorized as a lexical adjective, it

[22] A clause containing *V-nai-de iru* typically requires an animate subject, but the subject can sometimes be inanimate, as illustrated in (i).

(i) Sora-ga imadani hare-nai-de i-ru.
sky-NOM yet clear-NEG-TE be-PRES
'The sky has not cleared up yet.'

See Kinsui, Kudo & Numata (2000) for a discussion of the subject constraint.

should not be susceptible to overt head raising. While a negative head in most cases counts as a functional predicate, we can find cases in which *nai* retains its lexical status among the set of idiomatic negative predicates. The negative predicate *warikire-nai* 'not satisfied' provides a case in point.

(41) John-(ni)-wa sono-kettei-ga warikire-na-i.
John-DAT-TOP that-decision-NOM satisfy-NEG-PRES
'John is not satisfied with that decision.'

Here the negator *nai* counts as a lexical adjective which is capable of encoding scope, as noted by Kishimoto (2007). The fact that the clause headed by *warikire-nai* is adjectival can be confirmed by embedding it under *hosii* 'want' and *omou* 'think'. As shown in (42), a clause headed by *warikire-nai* cannot function as a complement to *hosii*, but the same clause can be legitimately embedded under *omou*.[23]

(42) (a) *John-wa [Mary-ni sono-kettei-ga warikire-nai-de]
John-TOP Mary-DAT that-decision-NOM satisfy-NEG-TE
hosikat-ta.
want-PAST
'John wanted Mary to be unsatisfied with that decision.'
(b) John-wa [sono-kettei-o warikire-naku] omot-ta.
John-TOP that-decision-ACC satisfy-NEG think-PAST
'John thought that decision to be unsatisfactory.'

In this respect, *warikire-nai* 'not satisfied' behaves like an adjective without internal structure like *tumara-nai* 'uninteresting, boring', as a clause headed by *tumara-nai* is construed as adjectival by the same diagnostics.

(43) (a) *John-wa [Mary-ni sono-bangumi-ga tumara-nai-de]
John-TOP Mary-DAT that-program-NOM interest-NEG-TE
hosikat-ta.
want-PAST
'John wanted Mary not to be interested in that program.'
(b) John-wa [sono-bangumi-o tumara-naku] omot-ta.
John-TOP that-program-ACC interest-NEG think-PAST
'John thought that program to be uninteresting.'

The predicates *warikire-nai* and *tumara-nai* differ in their syntactic structure, however. With the complex negative predicate *warikire-nai*, the negator *nai* can be detached from the verb.

[23] Negated adjectives generally cannot take *nai-de* forms, but *warikire-nai* can. The example shows that morphology is not a determining factor prohibiting negative adjectival clauses from occurring as complements to *hosii* 'want'.

(44) (a) Sore-wa watasi-ni-wa *warikire-na-i* mondai-da.
that-TOP I-DAT-TOP satisfy-NEG-PRES problem-COP
'That is a problem which I cannot be satisfied with.'
(b) Sore-wa watasi-ni *warikire-ru* mondai-de-wa *na-i*.
that-TOP I-DAT satisfy-PRES problem-COP-TOP NEG-PRES
'That is not a problem which I can be satisfied with.'

Example (44b) demonstrates that *nai* stands as an independent syntactic element, just like an ordinary negative expression. In contrast, *tumara-nai* never allows *nai* to be separated from the verb.

(45) (a) Sore-wa watasi-ni-wa *tumara-na-i* mondai-da.
that-TOP I-DAT-TOP interest-NEG-PRES problem-COP
'That is a problem which I am not interested in.'
(b) *Sore-wa watasi-ni *tumar-u* mondai-de-wa *na-i*.
that-TOP I-DAT interest-PRES problem-COP-TOP NEG-PRES
'That is not a problem which I am interested in.'

In addition, these predicates differ with regard to the availability of a *nai-de iru* form.

(46) (a) Watasi-ni-wa imadani sono-kettei-ga warikire-nai-de i-ru.
I-DAT-TOP yet that-decision-NOM satisfy-NEG-TE be-PRES
'I have not been satisfied with that decision yet.'
(b) *John-wa imadani tumara-nai-de i-ru.
John-TOP yet interest-NEG-TE be-PRES
'John has not been interested yet.'

As shown in (46), the negative predicate *warikire-nai* can be turned into *warikire-nai-de iru*, but **tumara-nai-de iru* is unacceptable. The data thus indicate that while *tumara-nai* is a single adjectival expression with no internal structure, *warikire-nai* is an adjectival predicate with an analyzable internal structure composed of a verb and *nai*.

(47)

	-hosii	*-omou*	Category	*nai-de iru*	Neg-detachment
warikire-nai 'not satisfied'	*	√	Adjective	√	√
tumara-nai 'boring'	*	√	Adjective	*	*

Since *warikire-nai* in its entirety counts as an adjectival expression, *nai* must be the lexical head that determines the categorial classification of the clause; that is, the predicate sequence has a *complement predicate + lexical negative* (*nai*) structure.

Turning now to Neg-raising, note that *warikire-nai* readily allows the addition of an adverbial particle to its right.

(48) John-ni-wa sono-kettei-ga warikire-naku-**mo** *ar*-u.
John-DAT-TOP that-decision-NOM satisfy-NEG-also be-PRES
'John is also not satisfied with that decision.'

Since it is the impossibility of adding an adverbial particle to the right of *nai* that signals overt Neg-head raising, (48) suggests that the negator *nai* appearing in *warikire-nai* does not undergo this process. If this is the case, the negative head should be expected to have narrower scope than an ordinary sentential negator that does undergo overt head raising. This expectation is indeed fulfilled.

(49) (a) ?*Dare-hito-ri gakusei-ni sono-kettei-ga
any-single-CL student-DAT that-decision-NOM
warikire-na-i (rasii).
satisfy-NEG-PRES seem
'(It seems that) a single student is not satisfied with that decision.'
(b) Karera(-ni)-wa nani-hito-tu sonna-kettei-ga
they-DAT-TOP any-single-CL that-decision-NOM
warikire-na-i (rasii).
satisfy-NEG-PRES seem
'(It seems that) they are satisfied with none of such decisions.'

The lexical negative in *warikire-nai* (49) stands in contrast with the ordinary negative expression *nai*, a functional predicate that undergoes overt head raising, in that negative scope does not extend over subjects.

The ordinary negator *nai*, by contrast, does not tolerate the addition of an emphatic adverbial particle to its right, as illustrated with the verb *wakaru* 'understand'.

(50) *John-ni-wa sono-imi-ga wakara-naku-**mo** *ar*-u.
John-DAT-TOP that-meaning-NOM understand-NEG-also be-PRES
'John also do not understand that meaning.'

Sentence (51), in which an NPI appears in the subject position, is acceptable.

(51) Dare-hito-ri gakusei-ni sono-imi-ga wakara-nakat-ta
any-single-CL student-DAT that-meaning-NOM understand-NEG-PAST
(rasii).
seem
'(It seems that) not a single student understood that meaning.'

The dyadic stative predicate *wakaru* 'understand' can take either a dative-nominative or a nominative-nominative case pattern, just like *warikire-nai* 'not satisfied'. With both predicates, the first dative/nominative phrase can

be bound by the reflexive *zibun* 'self', which has subject orientation (see Shibatani 1978, and others).

(52) (a) John$_i$(-ni)-wa zibun$_i$(-zisin)-ni-taisite das-are-ta hanketu-ga
John-DAT-TOP self-own-toward issue-PASS-PAST verdict-NOM
imadani warikire-na-i.
yet satisfy-NEG-PRES
'John is not satisfied yet with the decision that was issued to himself.'

(b) John$_i$(-ni)-wa zibun$_i$(-zisin)-ni-taisite das-are-ta situmon-no
John-DAT-TOP self-own-toward issue-PASS-PAST question-GEN
imi-ga imadani wakara-nakat-ta.
meaning-NOM yet understand-NEG-PRES
'John did not understand the meaning of the question directed to himself yet.'

It is often assumed that subjects located in TP can be the antecedent of the reflexive *zibun* 'self' (see Katada 1991). If so, the dative/nominative subject of a dyadic stative predicate should be located in the Spec of TP, and the nominative object within VP, as shown in (52) (see Kuno 1973, Shibatani 1978).

(53) [$_{TP}$ SUBJ-DAT/NOM [$_{VP}$ OBJ-NOM V] T]

The low degree of acceptability of (49a) indicates that the scope of negation with *warikire-nai* does not extend over TP, which contains the dative/nominative subject.[24] On the other hand, the acceptability of (49b), which has a nominative object NPI, shows that this object – located within VP – falls within the scope of *nai*. The scope facts suggest that the negative head *nai* in *warikire-nai* does not undergo overt Neg-head raising and has the structure in (54).[25]

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[24] Not surprisingly, if the subject is not an NPI, the sentence is fully acceptable, as shown in (i).

(i) Dono-hito-ni-mo sono-kettei-ga warikire-na-i.
every-person-DAT-Q that-decision-NOM satisfy-NEG-PRES
'Everyone is unsatisfied with that decision.'

[25] The analysis whereby no overt head raising takes place in *warikire-nai* 'not satisfied' gains support from the fact that *suru* is inserted if a particle (here *-wa*) is added to the verb, as shown in (i), whereas *aru* is needed if tense is stranded by a particle (the preceding *-wa*), as shown in (ii).

(i) ?John-ni-wa sono-kettei-ga warikire-wa *si*-na-i.
John-DAT-TOP that-decision-NOM satisfy-TOP do-NEG-PRES
'John is not satisfied with that decision.'

(ii) John-ni-wa sono-kettei-ga warikire-naku-wa *ar*-u.
John-DAT-TOP that-decision-NOM satisfy-NEG-TOP be-PRES
'John is not satisfied with that decision.'

If a *negator* + *tense* sequence is formed without head raising, it must be derived via morphological merger (see Halle & Marantz 1993; Bobaljik 1994, 1995).

(54) [TP … [NegP [VP … warikire] -na] -i]

On the analysis being outlined here, the absence of overt Neg-head raising in *warikire-nai* 'not satisfied' stems from the negative head serving as a lexical adjective with the feature [+lexical]. If so, *warikire-nai* 'not satisfied' must have a structure in which the lexical negative adjective *nai* embeds a verbal complement under it.

Here, we can reasonably postulate that the negator *nai* in *warikire-nai* is categorized as a full adjective because it does not submit to the process of decategorization – the grammaticalization of an adjective into a functional predicate. In effect, *nai* preserves its lexical status by entering into an idiomatic expression. It is instructive here to compare *warikire-nai* with the corresponding non-potential form *warikira-nai* 'not decide' with its compositional meaning, as the two have different properties.

(55) John-wa monogoto-o anna-huu-ni {warikira-nakat-ta/warikit-ta}.
John-TOP matter-ACC that-way-in decide-NEG-PAST/decide-PAST
'John {did not decide/decided} on matters in that way.'

Note that the negator *nai* in *warikira-nai* is an ordinary negative expression, so an affirmative form *warikiru* 'decide' does exist. A clause headed by *warikira-nai* counts as verbal, as can be seen by the examples in (56).

(56) (a) *John-wa [monogoto-o warikira-naku] omot-ta.
John-TOP matter-ACC decide-NEG think-PAST
(Lit.) 'John thought matters not to be decisive.'
(b) Mary-wa [John-ni monogoto-o anna-huu-ni warikira-nai-de]
Mary-TOP John-DAT matter-ACC that-way-in decide-NEG-TE
hosikat-ta.
want-PAST
'Mary wanted John to decide on matters in that way.'

If a clause headed by *warikira-nai* is verbal, *nai* must be a functional predicate devoid of its original adjectival property. With a non-stative predicate like *warikira-nai*, the negative head is expected to resist the suffixation of an adverbial particle, patterning with an ordinary negative head. This expectation is borne out, as illustrated by the unacceptability of (57).

(57) *Ken-wa monogoto-o anna-huu-ni warikira-naku-**mo** *ar*-u.
Ken-TOP matter-ACC that-way-in decide-NEG-also be-PRES
'Ken also does not decide on matters in that way.'

This, in turn, leads to the prediction that with *warikira-nai*, the negator will extend its scope over TP via functional predicate raising, and that there will be no subject–object asymmetry with regard to NPI licensing. This prediction is also fulfilled.

(58) (a) Dare-hito-ri gakusei-ga monogoto-o anna-huu-ni
any-single-CL student-NOM matter-ACC that-way-in
warikira-na-i (rasii).
decide-NEG-PRES seem
'(It seems that) not a single student decides on matters in that way.'

(b) Ken-wa nani-hito-tu monogoto-o anna-huu-ni warikira-na-i
Ken-TOP any-single-CL matter-ACC that-way-in decide-NEG-PRES
(rasii).
seem
'(It seems that) Ken does not decide on a single matter in that way.'

The data indicate that the subject of *warikira-nai* 'not decide' – which is morphologically related to *warikire-nai* – falls under the scope of negation. These facts suggest that the scope extension of *nai* over TP obtains in just those cases where particle-suffixation is not allowed for the negative head.

In Japanese, potential verb forms are productively derived by the addition of -(*r*)*e* or -(*r*)*are* to the base verb. In an ordinary potential form derivation, no categorial change takes place; for example, *kikeru* 'can hear' is derived from *kiku* 'hear' and both forms are categorized as verbs. Accordingly, it cannot be the case that the idiomatic predicate *warikire-nai* 'not satisfied' is derived from *warikira-nai* 'not decide' via regular morphological derivation, since the former is adjectival and the latter verbal.[26] In addition, *warikire-nai* and *warikira-nai* do not select the same kind of object, as evidenced by (59), where the object permitted by *warikire-nai* is not acceptable with *warikira-nai*.

(59) ?*Ken-wa sono-hanketu-o {wariki-ru/warikira-na-i}.
Ken-TOP that-verdict-ACC decide-PRES/decide-NEG-PRES
'Ken {decides/does not decide} on that verdict.'

This difference in selectional restrictions would not be expected if *warikire-nai* were derived from *warikira-nai* by normal means. In a nutshell, the two

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[26] It is possible to construct a regular potential form based on the verbal predicate *warikiru* 'decide' with the appropriate choice of nominative object.

(i) Ken-ni-wa sonna-huu-ni monogoto-ga warikire-na-i.
Ken-DAT-TOP that-way-in matter-NOM decide-NEG-PRES
'Ken cannot decide on matters in that way.'

In this case, the predicate is deemed verbal rather than adjectival. Thus, (i) cannot be embedded under *omou* 'think' as a small clause complement, although it can be embedded under *hosii* 'want'.

(ii) *Watasi-wa [sonna-huu-ni monogoto-o warikire-naku] omot-ta.
I-TOP that-way-in matter-ACC decide-NEG think-PAST
'I thought matters to be indecisive in that way.'

(iii) Watasi-wa [Ken-ni sonna-huu-ni monogoto-ga warikire-te] hosi-i.
I-TOP Ken-DAT that-way-in matter-NOM decide-TE want-PRES
'I want Ken to decide on matters in that way.'

negative predicates *warikire-nai* 'not satisfied' and *warikira-nai* 'not decide' display distinct properties, despite their morphological affinity.

(60)

	-hosii	*-omou*	Category	*nai-de iru*	Neg-detachment
warikire-nai 'not satisfied'	*	√	Adjective	√	√
warikira-nai 'not decide'	√	*	Verb	√	√

The data thus suggest that *warikire-nai* 'not satisfied' has become frozen as an idiom while retaining the original lexical property of *nai*, whereas *warikira-nai* 'not decide' (which is not an idiom) is associated with the regular grammaticalized negative marker that has undergone decategorization.

The most important observation is that the nominative object of *warikire-nai* 'not satisfied' falls under the scope of negation, while the dative/nominative subject does not. The subject–object asymmetry with regard to NPI licensing (49) thus indicates that *nai* in *warikire-nai* does not take scope over TP. In fact, if the negative head is indeed lexical, it would not be expected to undergo overt functional predicate raising, which in turn implies that it would not raise to the head position of the higher NegP (above TP) in LF either. Note that if the subject NPI were located below the lower NegP, as proposed by some researchers (e.g. Kawashima & Kitahara 1992, Kato 1994, Sohn 1995), this would come as a surprise. Under the proposed analysis, by contrast, it is naturally anticipated that the negative head *nai* in *warikire-nai* will not extend its scope over a subject located in TP if it is a lexical adjective that syntactically takes a verbal complement.

3.3 *Negative clitics*

In the preceding section, it was argued that the negative head *nai* in *warikire-nai* 'not satisfied' is a lexical predicate that does not undergo overt head raising. This is not the only type of negator found in idiomatic negative predicates, however. As discussed below, the negative *nai* appearing in other idiomatic predicates like *niekira-nai* 'be indecisive' and *norikire-nai* 'not in full swing' is not an independent head, even though it assigns negative scope syntactically. On the other hand, the negative expression *kamawa-nai* 'not care' contains a negator that counts as a functional predicate, indicating that an ordinary negator may also sometimes be associated with idiomatic negative expressions.

The negative element *nai* in the predicate *niekira-nai* 'be indecisive' is of particular interest in the present context, since it provides yet another case in which negative *nai* that does not undergo overt Neg-head raising

serves as a negative operator. In this section, it is suggested that the negative head in *niekira-nai* does not constitute an independent head in overt syntax, but rather behaves like a clitic attached to the verb. By comparing the forms *niekira-nai* 'not decisive' and *kamawa-nai* 'not care', it will be shown that the clitic variant of *nai* attached to the verb *niekira-* does not take scope over TP – owing to the absence of overt functional predicate raising.

The predicates *niekira-nai* 'not decisive' and *kamawa-nai* 'not care' can only be used in negative form, hence belong to the class of idiomatic negative predicates.[27] These predicates are both identified as verbal, since they pattern accordingly. Thus clauses headed by *niekira-nai* and *kamawa-nai* can be embedded under *hosii*, which only allows verbal complements.

(61) (a) Watasi-wa (doosenara) [Mary-ga saigo-made niekira-nai-de]
I-TOP if.possible Mary-NOM last-until decisive-NEG-TE
hosikat-ta.
want-PAST
'I wanted Mary to be indecisive until the last moment (if possible).'

(b) Watasi-wa [Mary-ga sonna-koto-ni kamawa-nai-de]
I-TOP Mary-NOM that-thing-DAT care-NEG-TE
hosikat-ta.
want-PAST
'I wanted Mary not to care about that thing.'

The same clauses cannot be embedded under *omou*, which does not permit verbal clauses as its complements.

(62) (a) ?*John-wa [Mary-o niekira-naku] omot-ta.
John-TOP Mary-ACC decisive-NEG think-PAST
'John thought Mary to be indecisive.'

(b) *John-wa [sonna-koto-o kamawa-naku] omot-ta.
John-TOP that-thing-ACC care-NEG think-PAST
(Lit.) 'John thought that thing not to be cared.'

Moreover, the components of both of these predicates are visible to the syntax, as confirmed by the fact that *nai-de iru* can replace *nai*.

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[27] The verb *kamau* 'care' usually requires the presence of *nai*. As noted by Martin (1975), however, an 'innovative use' has developed with this type of expression. We see this in the following sentence.

(i) Kono-akatyan-wa okaasan-ni kamat-te morai-ta-i.
this-baby-TOP mother-DAT care-TE get-want-PRES
'This baby wants to be cared for by her mother.'

(63) (a) John-wa imadani niekira-nai-de i-ru.
John-TOP yet decisive-NEG-TE be-PRES
'John has not been decisive yet.'
(b) John-wa imadani sonna-koto-ni kamawa-nai-de i-ru.
John-TOP yet that-matter-NOM care-NEG-TE be-PRES
'John has not been caring about that matter yet.'

The data thus indicate that the negator *nai* in both predicates should be classified as a functional deadjectival element with a [–lexical] feature.

Despite their similarities, however, there is good reason to believe that *niekira-nai* and *kamawa-nai* have different syntactic structures, as shown below. First, the negator in *niekira-nai* 'not decisive' cannot be detached from the verb.[28]

(64) (a) Sore-wa *niekira-na-i* taido-da.
that-TOP decisive-NEG-PRES attitude-COP
'That is an indecisive attitude.'
(b) *Sore-wa *niekiru* taido-de-wa *na-i*.
that-TOP decisive attitude-COP-TOP NEG-PRES
'That is not a decisive attitude.'

By contrast, the negative element *nai* in *kamawa-nai* is permitted to occur in a position separate from the verb, as shown in (65).

(65) (a) Sore-wa John-ga mattaku *kamawa-na-i* mondai-da.
that-TOP John-NOM at.all care-NEG-PRES problem-COP
'That is a problem which John does not care about at all.'
(b) Sore-wa John-ga *kama-u* (yoona) mondai-de-wa *na-i*.
that-TOP John-NOM care-PRES that problem-COP-TOP NEG-PRES
'That is not a problem that John cares about.'

Second, *niekira-nai* does not allow the negative head to be omitted – even in rhetorical questions that express a negative meaning without an overt negation marker.

(66) *Sonna-toki-ni John-no taido-ga niekire-ru daroo ka?
that-time-at John-GEN attitude-NOM decisive-PRES will QU
'Will John's attitude be decisive at that time?'

Normally, in rhetorical questions with negative implications, the negative element *nai* can be omitted, as exemplified in (67).

[28] The negative predicate *niekira-nai* requires that *nai* be contiguous with the verb, so it is not possible to replace *nai* with a complex negative modal expression, e.g.
**niekiru-hazu-ga-nai* (decisive-due-NOM-NEG) 'should not be decisive.'

(67) John-ni sono-hanketu-ga warikire-ru daroo ka?
John-DAT that-verdict-NOM satisfy-PRES will QU
'Will John be satisfied with the verdict?'

Note that, unlike *niekira-nai*, the negative predicate *kamawa-nai* can be used without *nai* in rhetorical questions, as shown in (68).

(68) John-ga sonna-koto-ni kama-u daroo ka?
John-NOM that-matter-DAT care-PRES will QU
'Will John care about that matter?'

These facts follow naturally if the negator *nai* in *kamawa-nai* is counted as an independent category, while *nai* in *niekira-nai* is analyzed as inseparable from the verb stem morphologically.[29]

Imperative formation provides us with further confirmation of the different syntactic statuses of these two predicates. In Japanese, a negated verb can be turned into an imperative form by replacing *nai* with the invariant particle *na* (the verb assuming the non-past conclusive form).

(69) (a) Sonna-huu-ni {yom-u/otikom-u} na!
that-way-in read-PRES/discourage-PRES NEG.IMP
'Do not {read/be discouraged} in that way!'
(b) Koko-ni i-ru na!
here-in be-PRES NEG.IMP
'Do not be here!'

The syntactic operation that derives negative imperative forms by replacing *nai* with *na* is category-sensitive, in that it is only possible with verbal predicates (and the imperative is addressed to a sentient entity). Negated adjectives, by contrast, cannot be turned into negative imperative forms by *na*-replacement.

(70) {*Kawaiku/*Kawai-i} na!
cute/cute-PRES NEG.IMP
'Do not be cute!'

Note that semantic 'stativity' is not a relevant factor here, since stative predicates can easily be turned into imperative forms so long as they are verbal, as exemplified in (69b). Negative imperatives cannot be derived from adjectives taking verbal complements, even though they have the *nai*-ending, as illustrated by the adjectival predicate *warikire-nai* 'not satisfied'.

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[29] In this respect, *niekira-nai* patterns with completely lexicalized negative predicates like *tumara-nai* 'boring'.

(i) *Sonna-toki-ni John-wa tuma-ru daroo ka?
that-time-at John-TOP interest-PRES will QU
'Will John be interested at that time?'

(71) *Sonna-kettei, warikire-ru na!
that-decision satisfy-PRES NEG.IMP
'Do not be satisfied with that decision!'

If *na*-replacement simply targeted *nai*, there would be no reason for the impossibility of *na*-substitution in (71). Rather, because *warikire-nai* forms an adjectival expression, a negative imperative cannot be derived via *na*-replacement.

Recall that *niekira-nai* 'not decisive' is a verbal predicate to which *na*-replacement could in principle be expected to apply. Nonetheless, a negative imperative form cannot be derived from it, as illustrated in (72).

(72) *Anna-huu-ni niekir-u na!
that-way-in decisive-PRES NEG.IMP
'Do not be decisive in that way!'

Given that the particle *na* cannot replace part of a lexical unit, it is to be expected that *niekira-nai* should not tolerate *na*-substitution. It goes without saying that it is possible to derive negative imperative forms from verbal negative predicates like *kamawa-nai* 'not care' and *warikira-nai* 'not decide'.

(73) (a) Sonna-koto-ni kama-u na!
that-matter-DAT care-PRES NEG.IMP
'Do not care about that matter!'
(b) Sonna-kantan-ni warikir-u na!
that-easily decide-PRES NEG.IMP
'Do not decide that easily!'

Since these predicates are verbal expressions accompanied by an ordinary negator (i.e. by *nai* as a decategorized functional predicate), they can be turned into negative imperative clauses.

Essentially, then, although the negative predicate *niekira-nai* belongs to the class of verbs in the same way as *kamawa-nai*, we can nevertheless observe a number of properties that distinguish the two. These are summarized in (74).

(74)

	-hosii	*-omou*	Category	Neg-detachment	Rhetorical-Q	Imp
niekira-nai 'not decisive'	√	*	Verb	*	*	*
kamawa-nai 'not care'	√	*	Verb	√	√	√

As shown here, there are a number of signs indicating that while *kamawa-nai* involves an ordinary negator (i.e. a decategorized functional predicate), the components of *niekira-nai* form a fairly tight unit in the syntax, resistant to syntactic operations like Neg-detachment.

Despite the fact that the negative element of *niekira-nai* is tightly connected to the verb stem, it still assigns syntactic scope by virtue of possessing the feature [+Neg]. Even though *niekira-nai* is an intransitive predicate that does not take an object, the potential for syntactic scope assignment can be confirmed with NPI adverbs, as in (75).

(75) John(-no taido)-wa {tittomo/sukosimo/amari} niekira-na-i.
John-GEN attitude-TOP at.all/in.the.least/much decisive-NEG-PRES
'John('s attitude) is not decisive {at all/in the least/much}.'

The NPIs in (75) are, accordingly, interpretable. More importantly, the unacceptability of (76), in which an NPI appears in the subject position, suggests that the scope of *nai* in *niekira-nai* does not extend to TP.[30]

(76) {?*Dare-mo/?*Hito-ri-mo gakusei-ga} niekira-nakat-ta.
anyone-Q/single-CL-Q student-NOM decisive-NEG-PAST
'{No one/Not a single student} was decisive.'

On the other hand, the well-formedness of (77) confirms that the negative head *nai* in *kamawa-nai* does take scope over TP.

(77) {Dare-mo/Hito-ri-mo gakusei-ga} sono-koto-ni kamawa-nakat-ta.
anyone-Q/single-CL-Q student-NOM that-thing-DAT care-NEG-PAST
'{No one/Not a single student} cared about that thing.'

The extent of the scope of a negative head in a clause correlates with the admissibility of an adverbial particle to the right of it. Whereas *niekira-nai* naturally allows the addition of a particle to its right, *kamawa-nai* does not, as illustrated in (78).

(78) (a) John-no taido-wa niekira-naku-**mo** ar-u.
John-GEN attitude-TOP decisive-NEG-also be-PRES
'John's attitude is also indecisive.'
(b) ?*John-wa sonna-koto-ni kamawa-naku-**mo** ar-u.
John-TOP that-thing-DAT care-NEG-also be-PRES
'John also does not care about that thing.'

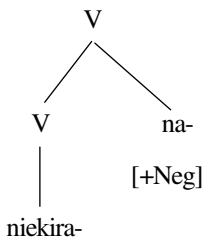
---

[30] It goes without saying that non-NPI elements can appear as the subject of the negative predicate *niekira-nai*.
(i) Dono-hito-no taido-mo niekira-nakat-ta.
every-person-GEN attitude-Q decisive-NEG-PAST
'Everyone's attitude was indecisive.'

Thus, the negative expression *kamawa-nai* contains a functional Neg-head *nai* that undergoes overt head raising.[31] By contrast, *niekira-nai* does not, since *nai* forms a single unit with the verb in the syntax, resisting syntactic operations like Neg-detachment which might otherwise apply to an independent negative head. Still, *nai* in *niekira-nai* serves as an operator that assigns syntactic scope. This peculiar behavior can be explained if the negator *nai* in *niekira-nai*, unlike *nai* in *kamawa-nai*, is analyzed as a clitic attached to the verb, rather than an independent functional head.

To lend concreteness to this proposal, we follow Keyser and Roeper (1992) in assuming that a verb can have an abstract clitic position inside its head projection. *Niekira-nai* 'not decisive' has such a syntactic structure, as shown in (79).

(79)



In (79), the negative clitic is head-adjoined to the verbal head, which results in a complex minimal structure consisting of a verb and clitic. Since *niekira-nai* has a highly idiomatic meaning, we suppose that it is moving toward becoming a single lexical head, and the negator is acquiring clitic status accompanied by lexicalization, which reduces an independent head to a clitic or an affix; see Brinton & Traugott (2005).

Despite the lexical integrity of *niekira-nai* in the syntax, the negative clitic *nai* is able to assign syntactic scope. Thus, a negative clitic with the

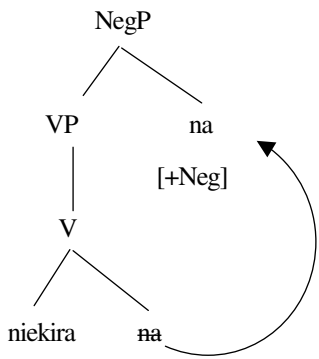
[31] Judgments on negative predicates like *kamawa-nai* can be subtle. This is particularly so for speakers who readily allow the affixal use of *nai*. One reviewer observes that the addition of an adverbial particle to the right of *nai* is fairly acceptable in the following context.

(i) Watasi-wa donna-koto-ga oki-te-mo heiki desu. John-ga ki-te-mo
I-TOP any-thing-NOM happen-TE-Q not.affected COP John-NOM come-TE-also
kamawa-naku-mo ari-masu.
care-NEG-also be-POLITE.PRES
'I am not affected by whatever may happen. I do not care even if John comes.'

In (i), *kamawa-nai* 'not care' is used synonymously with *heiki-da* 'unaffected', which contains no negation. In this case, some speakers can take the negative predicate to involve affixal negation (i.e. with a negative affix) rather than ordinary sentential negation (see section 2.3). The addition of *mo* to the right of *nai* is possible here, since *nai* counts as an affix.

specification [+Neg] must be excorporated out of the host verb and moved into the lower NegP in LF, as shown in (80).

(80)



The negative head at issue is not selected by tense, so *nai* and tense enter into an initial array without the [+T] feature motivating overt functional predicate raising to TP. Thus, a negative clitic adjoined to its host is never raised to the head position of the higher NegP, where it would take scope over TP. Now, given that the lower NegP can be projected with the formal feature [+N] in its head position, we can see how the negative clitic is excorporated and moved into the head position of NegP for the purpose of feature checking, as shown in (81)

(81) $[_{TP}$ NPI-NOM $[_{NegP}$ $[_{VP}$ NPI-Adv niekira-~~na~~] na] i]
[+Neg][~~+N~~]

The raising of *nai* here must be local, in that the clitic *nai* can only move into the lower NegP (located just above VP). Since *nai* cliticized onto a verb takes syntactic scope by virtue of appearing in the lower NegP at LF, its scope domain is limited to VP. Subject NPIs therefore fall outside the scope of *nai*, whereas adverbial NPIs are inside its scope.

By contrast, the negative head *nai* in *kamawa-nai*, which is less idiomatic than *niekira-nai*, is a well-behaved negator. This is a decategorized functional head which projects NegP. Since *nai* is a functional predicative head selected by tense, both *nai* and tense enter into an initial array with the formal feature [+T]. This entails that the negative head of *kamawa-nai* will undergo syntactic head raising to T, as well as subsequent LF raising into the higher NegP, giving the LF structure shown in (82).

(82) $[_{NegP}$ $[_{TP}$ NPI-NOM $[_{NegP}$ $[_{VP}$ kamawa] ~~na~~] ~~na~~ i] na]
[~~+T~~][~~+T~~] [+Neg][~~+N~~]

In (82), the scope of the negative head *nai* extends over TP, thereby licensing the subject NPI. Examples like (77) are thus well-formed.

Crucially, both *niekira-nai* and *kamawa-nai* contain decategorized negative elements, even though their syntactic status differs. Because the negative head of *niekira-nai* is cliticized to the verb, it is not raised to the higher NegP, hence its negative scope does not include TP. The subject therefore falls outside the scope of negation, and a subject NPI is not licensed by this negative predicate. *Kamawa-nai*, on the other hand, contains an ordinary functional negator that undergoes overt Neg-head raising. Here, the scope of *nai* extends over TP, and there is no asymmetry between subjects and objects with regard to NPI licensing.

Finally, it should be mentioned that even the 'regular' negator *nai* can sometimes be construed as a lexical affix – i.e. one which tolerates the addition of an adverbial particle to its right. The following example illustrates the point.

(83) ?Sono-ryoori-wa mibae-ga waru-i-dake-de-naku,
that-dish-TOP looking-NOM bad-PRES-only-COP-NEG
oisiku-naku-**mo** ar-u.
delicious-NEG-also be-PRES
'That dish not only looks bad, but is also not delicious.'

Sentence (83) represents a marked affixal use of negative *nai*. The addition of an adverbial particle to a certain type of negated predicate (most typically, a stative one) is allowed if a preceding linguistic context is furnished, as in (83). In this example, *oisiku-naku* serves as a single lexical predicate (with a negative affix) describing a 'bad-tasting' meal, by way of comparison with *mibae-ga warui* 'bad-looking' in the preceding sentence. Speakers can generally make sense out of this kind of affixal negation only if there is a linguistic context facilitating its use; otherwise the negative marker will be understood as an ordinary sentential negator.

That *nai* in (83) is not an ordinary negator can be ascertained by the fact that it does not project syntactic negative scope.

(84) *Sono-ryoori-wa mibae-ga waru-i-dake-de-naku,
that-dish-TOP looking-NOM bad-PRES-only-COP-NEG
{tittomo/sukosimo/amari} oisiku-naku-**mo** ar-u.
at.all/in.the.least/much delicious-NEG-also be-PRES
'That dish not only looks bad, but is also not delicious {at all/in the least/much}.'

NPI adverbs such as *tittomo* 'at all', *sukosimo* 'in the least', and *amari* 'much' function as verbal modifiers. They would be licensed if the negative *nai* in *oisiku-naku* projected syntactic scope. The unacceptability of (84) suggests that the negative expression *nai* here has been reduced to an affix (with no feature [+Neg]) that forms part of the predicate and behaves like

affixal negation generally – much like *un-* in *unhappy*, which does not license NPIs either.[32]

On the view held here, the affixal *nai* of *oisiku-naku* in (83) – conditioned by the presence of a context facilitating an affixal use – does not assign syntactic scope, owing to the unavailability of the feature [+Neg]. In addition, this *nai* does not serve as a functional predicate syntactically. Hence, it comes as no surprise that – with no overt head raising – the addition of an adverbial particle is permitted here to the right of *nai*. However, this type of affixal negation is not relevant for the present discussion, since it does not create syntactic scope. Note that *warikire-nai* and *niekira-nai*, discussed above, differ crucially from this affixal use of *nai* in that the negative element of these predicates assigns syntactic scope, and the addition of an adverbial particle to its right is readily permitted without a special context that facilitates the affixal use of *nai*.

The unique property of *niekira-nai* is that the negative head which cliticizes to the verb functions as an operator that can license NPI adverbs. This enables us to confirm the verb's structural position in overt syntax. The scope facts provide us with a clear indication that the main verb to which *nai* is attached does not undergo head raising into TP. This in turn is to be expected if overt head raising to T operates only on independent functional predicative heads in Japanese. If main verbs were head-raised to T, the scope of *nai* in *niekira-nai* would extend over TP. The fact is, however, that its negative scope does not spread over TP. Again, if the lack of subject–object asymmetry with regard to NPI licensing were attributed to the position of the subject, the facts surrounding *niekira-nai* would not be expected. Since subjects fall outside the scope of *nai* that is not head-raised to T, we can reasonably assume that they are located in Spec of TP.

4. Subject–object asymmetry in subject-raising constructions

Thus far, we have argued that the absence of subject–object asymmetry with regard to NPI licensing in ordinary clauses can be attributed to overt head raising that applies to functional predicates, on the assumption that subjects are located in TP. Even on this assumption, however, we would expect a subject–object asymmetry to arise in cases where subjects are extracted from within the scope of negation. In this section, we show that this is indeed the

[32] One reviewer finds (84) with an NPI adverb acceptable, while other speakers do not. It may be that one group of speakers only allows the use of affixal negation, whereas another allows the negator to function as a clitic bearing the feature [+Neg]. In either case, the addition of an adverbial particle to the right of *nai* will be tolerated because the negator will not be raised to T.

case by looking at subject-raising constructions that involve transitive adjectives.

One type of subject-raising construction that displays a subject–object asymmetry in NPI licensing is found in clauses where an adjectival clause is embedded under the verb *naru* 'become'. Consider first the following sentences, where negative clauses – both adjectival and verbal – are embedded under *naru*.

(85) (a) {?*Sono-rampu-sika/?*Nani-mo} akaruku-naku-nat-ta.
that-lamp-only/anything-Q bright-NEG-become-PAST
'It became the case that {only that lamp/nothing} was bright.'
(b) {Sono-kodomo-sika/Dare-mo} ko-naku-nat-ta.
that-child-only/anyone-Q come-become-NEG-PAST
'It became the case that {only that child/no one} came.'

In (85), the negative element occurs immediately before *naru*, rather than after it. It is suggested by Kishimoto (2007) that the difference in acceptability between (85a) and (85b) depends on whether the subject is moved out of the embedded clause.[33]

(86) (a) $[_{TP}$ $Subj_i$ $[[_{TP}$ t_i Pred Neg] become] T]
(b) $[_{TP}$ *pro* $[[_{TP}$ Subj Pred Neg] become] T]

Technical details aside, the subject is raised out of the embedded clause in (86a), but not in (86b). The structure of (86a) is similar to that which obtains in the English example $[_{TP}$ *John*$_i$ *seems* $[_{TP}$ t_i *to be honest*]]. In Japanese, this type of DP raising only operates on clauses headed by adjectives (including nominal adjectives). Verbal predicates, on the other hand, require that the subject remains in the embedded clause, in a way similar to the English example $[_{TP}$ *It seems that* $[_{TP}$ *John is honest*]]. Since in (85a) the subject of an adjectival predicate embedded under *naru* has been raised outside the scope of negation, (85a) – unlike (85b) – is unacceptable.

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[33] The following contrast in possible honorification suggests that the subject of an adjectival clause, but not a verbal clause, raises to an upper clause headed by *naru* 'become'.

(i) Abe-sensei-ga isogasiku o-nari-ni-nat-ta.
Abe-teacher-NOM busy become-HON-PAST
'Prof. Abe became busy.'
(ii) *Abe-sensei-ga ko-naku o-nari-ni-nat-ta.
Abe-teacher-NOM come-NEG become-HON-PAST
(Lit.) 'It became the case that Prof. Abe did not come.'

In (i), since the upper verb *naru* can be rendered as an honorific form (which is marked by the subject honorific marker *o-… ni-naru*), it must be that the DP *Abe-sensei* 'Prof. Abe' is located in the matrix clause headed by *naru*. By contrast, the honorific form of *naru* targeting the same DP is not acceptable in (ii). This suggests that in (ii) the DP *Abe-sensei* does not count as the subject of the matrix clause, hence must be located within the lower clause.

DP raising does not apply to objects. The present analysis thus leads us to expect that in the adjectival construction, subjects – but not objects – can escape from the scope domain of the negator *nai* preceding *naru* 'become', resulting in a subject–object asymmetry. This expectation is indeed fulfilled. In Japanese, adjectival predicates like *hosii* 'want', *hituyooda* 'necessary', and *sukida* 'fond' are construed as transitive adjectives taking two arguments. When clauses headed by these adjectives are embedded under *naru*, a subject–object asymmetry in NPI licensing emerges.[34]

(87) (a) {?*Dare-mo/?*Hito-ri-mo kodomo-ga} okane-ga
anyone-Q/single-CL-Q child-NOM money-NOM
hosiku-naku-nat-ta.
want-NEG-become-PAST
'It became the case that {no one/not a single child} wanted money.'

(b) Ken-wa {nani-mo/iti-en-mo okane-ga}
Ken-TOP anything-Q/single-yen-Q money-NOM
hosiku-naku-nat-ta.
want-NEG-become-PAST
'It became the case that Ken did not want {anything/a single yen}.'

The data indicate that the first argument of *hosii* is not in the scope of *nai*, but the second argument is. The examples in (88) confirm that the first argument of *hosii* is indeed a subject.

(88) (a) Ken$_i$-ga zibun$_i$-no zyosyu-ga hosi-i.
Ken-NOM self-GEN assistant-NOM want-PRES
'Ken wants his assistants.'

(b) *Zibun$_i$-no kenkyuusya-ga zyosyu$_i$-ga hosi-i.
self-GEN researcher-NOM assistant-NOM want-PRES
(Lit.) 'Self$_i$'s researcher wants an assistant$_i$.'

As shown in (88), the subject-oriented reflexive *zibun* 'self' can only be bound by the first argument; hence this argument serves as the subject of the clause, presumably located in Spec of the matrix TP.

In both examples in (87), the negative head is not contiguous with an overt tense marker, so it does not raise to the uppermost T. Here, the absence of Neg-head raising to the matrix T can be ascertained by the acceptability of (89).

[34] Some speakers do not seem to find much difference in acceptability between (87a) and (87b), as reported by one reviewer. Another group of speakers, however, finds a contrast in acceptability. Presumably, the absence of this contrast for the former group of speakers results from extending verbal-type embedding under *naru* 'become' to adjectival clauses, allowing the subjects to fall under the scope of negation. The discussion in this paper is based on judgments from speakers who strictly differentiate between adjectival and verbal embedding, since evidence for the analysis can only be adduced from the judgments of such speakers.

(89) Ken-wa okane-ga hosiku-naku-nari-**mo** si-ta.
Ken-TOP money-NOM want-NEG-become-also do-PAST
'It also became the case that Ken did not want money.'

Given that the subject NPI in (87a) is located in the uppermost TP, it is expected that the negative head *nai* positioned before *naru* cannot license it. On the other hand, an object NPI – which is not susceptible to DP movement – can be licensed, as seen in (87b).

It is important to keep in mind here that (87a) is deviant irrespective of whether the subject NPI has overt case marking or not. Some researchers (e.g. Kawashima & Kitahara 1992) suggest that NPI subjects like *dare-mo* 'anyone' which do not carry overt case marking behave like adjuncts in not undergoing DP movement to TP – as opposed to ordinary subjects that come with overt case marking. However, the data in (87) show that the possibility of subject raising (DP movement) is not affected by the absence of overt case marking; even if an NPI subject does not have overt case marking, it will undergo DP movement in the same way as an overtly case-marked subject.

Furthermore, note that both subject and object NPIs can be licensed when *nai* appears externally to *naru* 'become', as indicated in (90).

(90) (a) {Dare-mo/Hito-ri-mo kodomo-ga} okane-ga
anyone-Q/single-CL-Q child-NOM money-NOM
hosiku-nara-nakat-ta.
want-become-NEG-PAST
(Lit.) 'It did not become the case that {anyone/a single child} wanted money.'

(b) Ken-ga {nani-mo/iti-en-mo okane-ga}
Ken-NOM anything-Q/single-yen-Q money-NOM
hosiku-nara-nakat-ta.
want-become-NEG-PAST
(Lit.) 'It did not become the case that Ken wanted {anything/a single yen}.'

The absence of a subject–object asymmetry in (90) can be straightforwardly accounted for, since *nai* to the right of *naru* 'become' behaves as an ordinary negative operator raised into TP.

(91) *Ken-wa okane-ga hosiku-nara-naku-**mo** at-ta.
Ken-TOP money-NOM want-become-NEG-also be-PAST
'It also did not become the case that Ken wanted money.'

The unacceptability of (91) suggests that the negative head is raised to the matrix T, taking scope over the entire clause; hence the subject NPI as well as the object NPI can be licensed by *nai* in (90).

The data suggest that in simple clauses, the absence of a subject–object asymmetry with regard to NPI licensing obtains by way of overt functional predicate raising, which moves a negative head into TP. In the raising constructions with adjectival predicates embedded under *naru*, subjects are raised into the matrix TP. As a consequence, an asymmetry can be observed when *nai* is positioned in the lower clause (87), since subjects – but not objects – will move out of the scope of *nai* when it occurs to the left of *naru*. Licensing facts in subject-raising constructions thus provide empirical evidence that NPIs are susceptible to DP-movement regardless of whether they have overt case-marking or not.

5. Theoretical implications

The overall picture that has emerged from this discussion is: the scope of the negative head *nai* changes in parallel to its raising. In Japanese, the raising or non-raising of a negative head can be determined by looking at whether an adverbial particle appears to its right. It has been argued that the status of *nai* as a 'functional predicate' stems from the loss of its status as a true lexical adjective. The ordinary negative head *nai* is a functional predicate which is devoid of its lexical property, and as such, undergoes head raising when it is contiguous with tense; this in turn makes it possible for *nai* to extend its scope over TP.

A parallelism obtains between English and Japanese with respect to the status of functional predicates. The English aspectual verb *have*, which lacks specification as a lexical verb, is construed as a functional predicate, despite the fact that it inflects like its lexical counterpart. Likewise, in Japanese, the ordinary sentential negation marker *nai* inflects like an adjective, but is devoid of other adjectival characteristics. Consequently, it acts as a functional predicative head undergoing overt raising, rather than as a full lexical predicate. In view of this, it is reasonable to state that in both English and Japanese, functional predicative heads – derived by voiding the properties of their lexical counterparts – are susceptible to overt head raising.

In Japanese, there are also cases where the scope of negation does not extend to TP, due to the absence of overt Neg-raising (i.e. functional predicate raising). One case in which overt Neg-raising does not occur can be found with the negative head *nai* in *warikire-nai* 'not satisfied'. Here, the negative head serves as a full-fledged lexical adjective, so it is not subject to overt Neg-head raising. Another non-raising case is found with the negative element in *niekira-nai* 'not decisive', which counts as a clitic. The clitic negator takes syntactic scope, but is not amenable to overt raising, since it is not an independent syntactic head. Consequently, the negators associated with *warikire-nai* 'not satisfied' and *niekira-nai* 'not decisive' do not extend their scope to TP, and allow adverbial particles to be attached to their right.

One commonly held belief about head raising in the generative linguistic literature is that it does not trigger any semantic/interpretive effects. In most known cases, head raising is detectable only by linear word order, i.e. with no semantic changes. On the assumption that head movement has no interpretive consequences, Chomsky (2001, 2004) has even suggested that it should not be part of syntax, but should be relegated to the PF component. Despite this suggestion, there is still controversy over whether head raising takes place in the syntax or in PF (see e.g. Roberts 2005 and Matushansky 2006 for some arguments that it takes place in syntax, and Lechner 2005, 2006 for arguments that it has semantic consequences). The facts of functional predicate raising in Japanese shed some light on this issue. Owing to the fact that the negative head *nai* is a scope-assigning expression, some interpretive consequences follow upon functional predicate raising – that is, the scope of the negative head changes depending on whether or not it is overtly raised to a higher position. If head raising were induced in PF, it would not have any semantic effects, and no change in the scope of negation would be expected. The semantic effects associated with head raising in Japanese thus clearly show that it must take place in the syntax, rather than in PF.

6. Concluding remarks

In this article, we have argued that the scope of negation extends over TP when negative element *nai* is overtly head-raised into TP (with subsequent raising to the higher NegP at LF). The raising of *nai* in Japanese has been shown to display a syntactic behavior analogous to that of the aspectual verbs *have* and *be* in English. It has also been argued that a negative head does not always qualify as a functional predicate. In particular, when *nai* serves as a lexical head (*warikire-nai*) or a clitic (*niekira-nai*), overt raising does not occur. In this case, the scope of negation is limited to VP, hence the subject falls outside its scope. The Japanese data have revealed that negative head raising correlates with the scope of *nai* within a clause. The extension of negative scope over the entire clause via overt Neg-head raising into TP constitutes substantial empirical evidence that head raising – the kind observed in Japanese as well as English – takes place in the syntax rather than at PF.

APPENDIX

Two types of NPIs

In this appendix, we will discuss some cases in which NPIs behave in an unexpected way, given the assumption that they must be c-commanded by a negative element in order to receive their appropriate interpretation. In general, exceptional cases are found when NPIs are deeply embedded, e.g. under certain CPs, DPs and PPs. Drawing on data from Japanese, it is argued that in the exceptional cases, NPIs are licensed by an invisible polarity operator rather than a negative marker, and hence do not always fall under the scope of negation. When NPIs cannot be bound by a polarity operator, however, they must be licensed by falling under the scope of negation, as defined structurally in terms of c-command.

We begin by discussing cases which look as though an NPI does not stand in a syntactic c-command relation with its (apparent) licenser. One representative example can be seen in (92), in which the NPI *anything* is embedded in the subject DP (see Linebarger 1980).

(92) A doctor who knew anything about acupuncture was {not available/ *available}.

According to Uribe-Etxebarria (1994), (92) is acceptable only if the matrix predicate is negated. Notably in this case, the NPI *anything* is legitimate even though it appears inside the subject DP, which is located outside the scope of negation. Uribe-Etxebarria (1994) suggests that this kind of NPI licensing is generally possible with a stage-level predicate, but not with an individual predicate.

(93) *A doctor who knew anything about acupuncture was not intelligent.

In light of these data, Uribe-Etxebarria (1994) argues that the NPI *anything* can be licensed under the scope of *not* via reconstruction at LF, while assuming that the subjects of stage-level predicates – but not individual predicates – can be reconstructed into a VP-internal position. Nevertheless, pervasive counter-examples discussed by Hoeksema (2000) call into question a syntactic analysis whereby NPIs must be c-commanded by an overt negation marker. As we argue below, this type of syntactic analysis does indeed fall short of accounting for the facts of NPIs like *anything*.

In what follows, we suggest – in line with Progovac (1994) – that the exceptional behavior of *any*-NPIs stems from their sensitivity to an abstract polarity operator rather than overt negation. Moreover, by testing NPIs that are sensitive only to overt negation, we can easily ascertain that the exceptional cases emerge when NPIs are *not* directly associated with negation.

First, the acceptability of the following examples suggests that not all NPIs are sensitive to overt negation.

(94) (a) John denied that he eats anything.
(b) That he eats anything was denied.

Broadly speaking, NPIs involving *any* are licit without overt negation when they are embedded in complement clauses selected by an affective predicate denoting 'non-existence' or 'refusal'. Given that a meaning of 'non-existence' can be assigned to *not available* in (92), we can reasonably hypothesize that the licensing of the NPI *anything* in (92) is not contingent upon syntactic configuration, or that its well-formedness need not be evaluated in terms of syntactic negative scope defined in terms of c-command.

Japanese offers direct empirical evidence that the syntactic scope of negation is not the relevant factor for the licensing of such NPIs. The adverb *koreizyoo* 'anymore', used non-referentially in the same sense as *anymore*, behaves as an NPI, as shown in (95).[35]

(95) (a) John-ga sono-koto-o *koreizyoo*
John-NOM that-matter-ACC anymore
{kangae-nakat-ta/?*kangae-ta}.
think-NEG-PAST/think-PAST
'John {did not think/*thought} about that matter anymore.'
(b) John-ga sono-koto-o *sukosimo*
John-NOM that-matter-ACC at.all
{kangae-nakat-ta/*kangae-ta}.
think-NEG-PAST/think-PAST
'John {did not think/*thought} about that matter at all.'

The NPI *koreizyoo* patterns with *sukosimo* 'at all' in being licensed under the scope of negation. Note, however, that *koreizyoo* differs from other Japanese NPIs in that it can be licensed in the same contexts as *anymore*. More specifically, *koreizyoo* can be embedded in a complement clause headed by *i-nai* 'not exist', but not *iru* 'exist', as exemplified in (96).

(96) [Syuumatu-ni koreizyoo hatarak-u] hito-ga koko-ni
weekend-on anymore work-PRES person-NOM here-in
{i-nakat-ta/*i-ta}.
be-NEG-PAST/be-PAST
(Lit.) 'There {was not/*was} a person here [who worked on the weekend anymore].'

[35] It should be noted that the referential nominal counterpart of *koreizyoo*, as in *kore-izyoo-no kooken* (this-more.than-GEN contribution) 'a contribution more than this', does not behave as an NPI.

Furthermore, *koreizyoo* embedded within a subject DP cannot be licensed by the negated individual predicate *titeki-de nai* 'not intelligent', even though it co-occurs with *nai*.

(97) *[Syuumatu-ni koreizyoo hatarak-u] hito-ga titeki-de-nakat-ta.
weekend-on anymore work-PRES person-NOM intelligent-NEG-PAST
(Lit.) 'A person who worked on the weekend anymore was not intelligent.'

These facts indicate that *koreizyoo* parallels *anything* in its licensing conditions.

Note that Japanese differs from English in the extent of negative scope within a clause. In Japanese, the subject position falls under the scope of negation, since subject NPIs can be licensed, as shown in (98).

(98) {Dare-hito-ri gakusei-ga/Dare-mo} titeki-de-naka-ta.
any-single-CL student-NOM/anyone-Q intelligent-NEG-PAST
'{Not a single student/No one} was intelligent.'

Crucially, *koreizyoo* in (97) is not licensed even though the DP containing it falls under the scope of negation. If syntactic scope were truly relevant for the licensing of the NPI *koreizyoo*, we would not expect that the Japanese NPI *koreizyoo* should have a distribution identical to that of English NPIs. It is therefore plausible that in English examples like (92), the NPI *anything* is not licensed by way of reconstruction into a VP-internal position, which falls under the scope of negation.

The similar behavior of *koreizyoo* and *anything* must instead stem from the fact that they can be licensed without negation in certain contexts. Note, for instance, that English NPIs like *anyone* can appear in conditionals, *before*-clauses, yes/no-questions, and comparative clauses, which do not have overt negation.

(99) (a) If Mary sees anyone, she will cry.
(b) Before going any further, let us discuss this problem.
(c) Did she read any book?
(d) I would walk, rather than wait for any bus.

The NPI adverb *koreizyoo* can also appear in non-negative clauses in a similar way to *any*, as shown in (100).

(100) (a) [Sono-koto-o koreizyoo hanase-ba] Mary-wa kitto
that-matter-ACC anymore talk-if Mary-TOP surely
komar-u daroo.
trouble-PRES will
'If she talks about that matter anymore, Mary will surely be in trouble.'

(b) [Gohan-o koreizyoo tabe-ru mae-ni] undoo-o si-nasai.
rice-ACC anymore eat-PRES before exercise-ACC do-IMP.POLITE
'Before eating rice anymore, do some exercise.'

(c) Mary-wa sono-koto-ni-tuite koreizyoo kangae-ru desyoo ka?
Mary-TOP that-matter-about anymore think-PRES will-POLITE QU
'Will Mary think about that matter anymore?'

(d) [Koreizyoo hasir-u yori-mo] yasumu beki-da.
anymore run-PRES than-also rest should-COP
'You should take a rest rather than run anymore.'

On the other hand, NPIs involving *any* in non-negative clauses are not always licensed, since the following examples are not acceptable.

(101) (a) *I said that Mary liked anyone.
(b) *I left after Mary met anyone.

The same holds true for the Japanese NPI *koreizyoo*, as shown in (102).

(102) (a) ?*Mary-wa [John-ga koreizyoo kangae-ta to] it-ta.
Mary-TOP John-NOM anymore think-PAST that say-PAST
(Lit.) 'Mary said that John thought anymore.'

(b) *[Mary-ga koreizyoo hanasi-ta ato-de] John-wa uti-ni
Mary-NOM anymore talk-PAST after John-TOP home-to
kaet-ta.
return-PAST
(Lit.) 'John returned home after Mary talked anymore.'

To account for NPI facts such as these, Progovac (1994) proposes that in contexts where no overt negation is required for NPI licensing, there is an empty polarity operator that can bind an NPI, as represented in (103) (see also Laka 1990).

(103) … [OP_i … any_i …] …

When a null operator (provided by CP or PP) c-commands *any*, the structural licensing conditions for NPI well-formedness will be trivially satisfied. To support this analysis, Progovac discusses the contrast in acceptability between (104a) and (104b).

(104) (a) *John denied anything.
(b) John denied that Mary ate anything.

Sentence (104a) shows that *deny* is not a predicate capable of licensing the NPI *anything*. Nevertheless, *anything* is licit when embedded in the complement clause of this verb, as in (104b). Progovac concludes that NPIs like *anything* can be licensed by a polarity operator when they appear in certain non-negative contexts, including conditionals, *before*-clauses, yes/no-questions, and comparative clauses, as well as complement clauses

selected by predicates like *deny* and *refuse* which assert non-existence or refusal. We take this analysis to be essentially correct, since it readily captures the general fact that NPIs licensed without overt negation occur in contexts like those just mentioned.

The ordinary Japanese NPIs *dare-mo* 'anyone' and *sukosimo* 'at all' (unlike *koreizyoo*) are not sensitive to invisible polarity operators. Thus, these NPIs cannot occur in conditionals, *before*-clauses, yes/no-questions, or comparative clauses without overt negation, as illustrated by the unacceptability of the following examples.

(105) (a) *[Sono-koto-o sukosimo hanase-ba] Mary-wa kitto
that-matter-ACC at.all talk-if Mary-TOP surely
komar-u daroo.
trouble-PRES will
'If she talks about that matter at all, Mary will surely be in trouble.'

(b) *[Gohan-o sukosimo tabe-ru mae-ni] undoo-o
rice-ACC at.all eat-PRES before exercise-ACC
si-nasai.
do-IMP.POLITE
'Before eating rice at all, do some exercise.'

(c) *Mary-wa sono-koto-ni-tuite sukosimo kangae-ru
Mary-TOPQ that-matter-about at.all think-PRES
desyoo ka?
will-POLITE QU
'Will Mary think about that matter at all?'

(d) *[Sukosimo hasir-u yori-mo] yasumu beki-da.
at.all run-PRES than-also rest should-COP
'You should take a rest rather than run at all.'

The examples in (106) show how the NPI adverb *sukosimo* can be licensed by the overt negative marker *nai*, but not by a polarity operator in the complement clause of an affective predicate like *kyohi-suru* 'refuse'.

(106) (a) Mary-wa sono-koto-o sukosimo
Mary-TOP that-matter-ACC at.all
{hanasa-nakat-ta/*hanasi-ta}.
talk-NEG-PAST/talk-PAST
'Mary {did not talk/*talked} about that matter at all.'

(b) *Mary-wa [kono-koto-o sukosimo syoogen-su-ru] koto-o
Mary-TOP this-matter-ACC at.all testify-PRES fact-ACC
kyohi-si-ta.
refuse-PAST
'Mary refused [to testify on this matter at all].'

The examples in (105) and (106) thus show that *sukosimo*, which is not sensitive to a polarity operator, is well-formed only under the scope of negation.

Since ordinary Japanese NPIs can only be licensed by an overt negator, it is possible to test whether the NPI in (96) can be licensed by *nai* in the matrix clause by replacing *koreizyoo* with *sukosimo*, as in (107).

(107) *[Syuumatu-ni sukosimo hatarak-u] hito-ga koko-ni
weekend-on at.all work-PRES person-NOM here
{i-nakat-ta/i-ta}.
be-NEG-PAST/be-PAST
(Lit.) 'There {was not/was} a person here [who worked on the weekend at all].'

The unacceptability of (107) indicates clearly that an NPI contained within a subject DP is not licensed by way of association with *nai*. The English NPI *anyone* shows the same pattern as *koreizyoo* 'anymore', but not *sukosimo* 'at all'. We thus conclude that (92), analogously to (96), does not represent a case where an NPI is licensed by the negative marker *not* in the matrix clause.

Turning now to cases in which NPIs appear in simple declarative clauses, we can show that *koreizyoo* is licensed by an overt negator (rather than a polarity operator) on the grounds that it behaves in the same way as *sukosimo*, which is licensed only by overt negation. First, observe that embedding *koreizyoo* in a complement clause selected by *kyohi-suru* 'refuse' yields a well-formed sentence.

(108) Mary-wa [kono-koto-o koreizyoo syoogen-su-ru] koto-o
Mary-TOP this-matter-ACC anymore testify-PRES fact-ACC
kyohi-si-ta.
refuse-PAST
'Mary refused [to testify on this matter anymore].'

This indicates that *koreizyoo* can be embedded felicitously in a complement clause selected by the predicate which asserts a state of non-existence or refusal (even in the absence of an overt negation marker). Nevertheless, when *koreizyoo* occurs in the matrix clause, it behaves in the same way as *sukosimo*; (109) is therefore unacceptable irrespective of the choice of NPI.

(109) *Mary-wa syoogen-o {koreizyoo/sukosimo} kyohi-si-ta.
Mary-TOP testimony-ACC anymore/at.all refuse-PAST
'Mary refused testimony {anymore/at all}.'

When the predicate is negated, however, the sentence is acceptable, showing that *koreizyoo* is licensed under the scope of negation.

(110) Mary-wa syoogen-o {koreizyoo/sukosimo} kyohi-si-nakat-ta.
Mary-TOP testimony-ACC anymore/at.all refuse-NEG-PAST
'Mary did not refuse testimony {anymore/at all}.'

Since ordinary declarative clauses do not allow for polarity operators, we can reasonably assume that in the contexts where no polarity operator is permitted, the NPIs *anything* and *koreizyoo*, as well as ordinary NPIs like *sukosimo* 'at all' – must fall under the scope of negation to be well-formed.

Under the view that NPIs appearing in ordinary declarative clauses are sensitive to the scope of negation, the following contrast in acceptability is expected.

(111) (a) I did not see any student.
(b) *Any student, I did not see.

Example (111a) is well-formed because *any student* falls under the scope of negation; on the other hand, the unacceptability of (111b) results from topicalization, whereby the NPI *any student*, which would otherwise be licensed by *not*, is extracted from within the syntactic scope of negation. Observe, however, that when *any* is more deeply embedded, no such contrast is found, as shown in (112).

(112) (a) I have never met a painter with any knowledge of tax law.
(b) A painter with any knowledge of tax law, I have never met.

Example (112b) shows that the DP containing the NPI *any knowledge* can be legitimately moved out of the scope of negation. Because this NPI is presumably licensed by an invisible polarity operator located within the DP rather than by a negative, the acceptability of (112b) is not surprising.

Essentially the same effects obtain in Japanese. The examples in (113) show that the NPI *koreizyoo* cannot be extracted from the scope of negation via pseudo-clefting.[36]

(113) (a) John-ga koreizyoo hon-o yoma-nakat-ta.
John-NOM anymore book-ACC read-NEG-PAST
'John did not read the book anymore.'
(b) *[John-ga t_i hon-o yoma-nakat-ta] no-wa
John-NOM book-ACC read-NEG-PAST NOML-TOP
koreizyoo$_i$ da.
anymore COP
(Lit.) 'It was anymore that John did not read the book.'

NPIs like *dare-ni-mo* 'anyone' and *sukosimo* 'at all' – sensitive only to overt negation – cannot appear in focus position either, as shown by (114) and (115).

(114) (a) John-ga dare-ni-mo awa-nakat-ta.
John-NOM anyone-DAT-Q meet-NEG-PAST
'John did not meet anyone.'

[36] Pseudo-clefting rather than scrambling is used here to avoid LF radical reconstruction (see Saito 1989).

(b) *[John-ga t_i awa-nakat-ta] no-wa dare-ni-mo$_i$ da.
John-NOM meet-NEG-PAST NOML-TOP anyone-DAT-Q COP
'It was anyone that John did not meet.'

(115) (a) John-ga sukosimo hasira-nakat-ta.
John-NOM at.all run-NEG-PAST
'John did not run at all.'

(b) *[John-ga t_i hasira-nakat-ta] no-wa sukosimo$_i$ da.
John-NOM run-NEG-PAST NOML-TOP at.all COP
(Lit.) 'It was at all that John did not run.'

The data indicate that when *koreizyoo* is extracted via pseudo-clelfting, as in (113b), it behaves in the same way as other Japanese NPIs. Since the latter must be licensed under the scope of negation, it is reasonable to conclude that the former is too.

In contrast, if a DP containing *koreizyoo* is moved to focus position via pseudo-clefting, the sentence turns out to be acceptable, as indicated in (116).

(116) (a) Watasi-wa [zeikin-ni-tuite koreizyoo tisiki-ga
I-TOP tax-about anymore knowledge-NOM
ar-u] hito-ni at-ta koto-ga na-i.
have-PRES person-DAT meet-PAST fact-NOM NEG-PRES
(Lit.) 'I have never met a man [who has knowledge about tax anymore].'

(b) [Watasi-ga t_i at-ta koto-ga na-i] no-wa
I-NOM meet-PAST fact-NOM NEG-PRES NOML-TOP
[zeikin-ni-tuite koreizyoo tisiki-ga ar-u]
tax-about anymore knowledge-NOM have-PRES
hito(-ni)$_i$ da.
person-DAT COP
(Lit.) 'It is a man [who has knowledge about tax anymore] that I have never met.'

In the present analysis, the acceptability of (116b) is expected because the NPI *koreizyoo* deeply embedded in the DP can be bound by a polarity operator, which appears without a negator in some contexts.

The idiosyncratic facts of English NPIs involving *any* have led some researchers (see e.g. de Swart 1998, Hoeksema 2000) to advance semantic/pragmatic analyses. Given that the behavior of NPIs is not always constrained by the scope of negation, it is plausible to offer such treatment. However, when *anything* and *koreizyoo* appear in contexts where polarity operators are not permitted, they must be licensed syntactically by overt negation. As discussed above, deeply embedded NPIs are constrained by conditions different from those of non-embedded NPIs licensed by overt negation; thus they are expected to behave differently. Notice that the unacceptability of topicalization in (111b) is difficult to account for in purely

semantic/pragmatic terms, since (112b), which also undergoes this process, should have the semantic effect as (111b); yet (112b) is acceptable despite topicalization. In any case, the important point is that since the NPI *anything* which appears in a simple declarative clause can only be licensed syntactically by an overt negator, it cannot be extracted from the scope of negation, as shown by (111). In fact, the Japanese data in (113)–(116) suggest that in contexts where no polarity operator is permitted, NPIs like *anything* must appear within the scope of negation – even if they belong to a class where no overt negation would be required in certain non-negative clauses such as those in (99).

Given that NPIs appearing in a matrix declarative clause must be c-commanded by an overt negator to be licensed, it is clear that Japanese and English display a systematic difference with regard to the projection of negative scope in a clausal constituent. This is illustrated by the difference in acceptability between the examples in (117).

(117) (a) *Anyone did not read the book.
(b) Dare-mo sono-hon-o yoma-nakat-ta.
anyone-Q that-book-ACC read-NEG-PAST
'No one read the book.'

In both cases, an overt negative marker must license the NPI. Since an NPI cannot occur in subject position (117a), English does not allow the scope of negation to extend over TP. By contrast, the acceptability of (117b) shows that Japanese is a language which allows the ordinary negative head *nai* to project its scope over TP.

In this appendix, we have shown that NPIs are divided into two classes – one type of NPI (*dare-mo* 'anyone', *sukosimo* 'at all') which must be associated with an overt negative marker, and the other (*koreizyoo* 'anymore', *anything*) which can be licensed by an invisible polarity operator as well as an overt negative marker. The latter type displays a fairly complex distribution, owing to the fact that it can sometimes appear in contexts without overt negation. Still, the Japanese facts make it clear that even an NPI like *anything* must be licensed by falling under the scope of negation when it occurs in a context where an invisible polarity operator is not permitted. NPIs thus can be used to determine the extent of negative scope in a clausal constituent. The facts of NPIs indicate that negative scope projects over TP in Japanese, but not in English.

REFERENCES

Aoun, Joseph & Yen-hui Audrey Li. 1989. Scope and constituency. *Linguistic Inquiry* 20, 141–172.

Aoun, Joseph & Yen-hui Audrey Li. 1993. *Syntax of scope*. Cambridge, MA: MIT Press.

Aoyagi, Hiroshi. 1998. Particles as adjunct clitics. *North Eastern Linguistic Society* (*NELS*) 28, 17–31.

Aoyagi, Hiroshi. 1999. On association of quantifier-like particles with focus in Japanese. In Masatake Muraki & Enoch Iwamoto (eds.), *Linguistics: In search of the human mind – A Festschrift for Kazuko Inoue*, 24–56. Tokyo: Kenkyusha.
Aoyagi, Hiroshi & Toru Ishii. 1994. On NPI licensing in Japanese. In Noriko Akatsuka (ed.), *Japanese/Korean linguistics* 4, 295–311. Stanford, CA: CSLI Publications.
Baker, Mark. 1988. *Incorporation: A theory of grammatical function changing*. Chicago: University of Chicago Press.
Barss, Andrew & Howard Lasnik. 1986. A note on anaphora and double objects. *Linguistic Inquiry* 17, 347–354.
Bobaljik, Jonathan. 1994. What does adjacency do? In Heidi Harley & Colin Philips (eds.), *The morphology–syntax connection* (MIT working papers in linguistics 22), 1–31.
Bobaljik, Jonathan. 1995. *Morphosyntax: The syntax of verbal inflection*. Ph.D. dissertation, MIT.
Brinton, Laurel J. & Elizabeth Closs Traugott 2005. *Lexicalization and language change*. Cambridge: Cambridge University Press.
Chomsky, Noam. 1991. Some notes on economy of derivation and representation. In Robert Freidin (ed.), *Principles and parameters in comparative grammar*, 417–454. Cambridge, MA: MIT Press.
Chomsky, Noam. 1993. A Minimalist program for linguistic theory. In Kenneth Hale & Samuel Jay Keyser (eds.), 1–52. Cambridge, MA: MIT Press.
Chomsky, Noam. 1995. Categories and transformations. In *The Minimalist program*, 219–394. Cambridge, MA: MIT Press.
Chomsky, Noam. 2000. Minimalist inquiries: The framework. In Roger Martin, David Michaels & Juan Uriagereka (eds.), *Step by step: Essays on Minimalist syntax in honor of Howard Lasnik*, 89–155. Cambridge, MA: MIT Press.
Chomsky, Noam. 2001. Derivation by phase. In Michael Kenstowicz (ed.), *Ken Hale: A life in language*, 1–52. Cambridge, MA: MIT Press.
Chomsky, Noam. 2004. Beyond explanatory adequacy. In Adriana Belletti (ed.), *Structures and beyond: The cartography of syntactic structures*, vol. 3, 104–131. New York: Oxford University Press.
Dahl, Östen. 1979. Typology of negative sentences. *Linguistics* 17, 79–106.
de Swart, Henriëtte. 1998. Licensing of negative polarity items under inverse scope. *Lingua* 105, 175–200.
Di Sciullo, Anna-Maria & Edwin Williams. 1987. *On the definition of words*. Cambridge, MA: MIT Press.
Emonds, Joseph. 1978. The verbal complex V′–V in French. *Linguistic Inquiry* 9, 151–175.
Fukui, Naoki & Hiromu Sakai. 2003. The visibility guideline for functional categories: Verb raising in Japanese and related issues. *Lingua* 113, 321–375.
Halle, Morris & Alec Marantz. 1993. Distributed morphology and the pieces of inflection. In Kenneth Hale & Samuel Jay Keyser (eds.), 111–176. Cambridge, MA: MIT Press.
Heine, Bernd, Ulrike Claudi & Friederike Hünnemeyer. 1991. *Grammaticalization: A conceptual framework*. Chicago: University of Chicago Press.
Hoeksema, Jack. 2000. Negative polarity items: Triggering, scope and c-command. In Laurence R. Horn & Yasuhiko Kato (eds.), *Negation and polarity: Syntactic and semantic perspectives*, 113–146. New York: Oxford University Press.
Hopper, Paul J. & Elizabeth Closs Traugott. 1993. *Grammaticalization*. Cambridge: Cambridge University Press.
Hornstein, Norbert. 1984. *Logic as grammar*. Cambridge, MA: MIT Press.
Hornstein, Norbert. 1995. *Logical form*. Oxford: Blackwell.
Katada, Fusa. 1991. The LF representation of anaphors. *Linguistic Inquiry* 22, 287–314.
Kato, Yasuhiko. 1985. *Negative sentences in Japanese* (Sophia Linguistica Working Papers in Linguistics 19). Tokyo: Sophia University.
Kato, Yasuhiko 1994. Negative polarity and movement. In Masatoshi Koizumi & Hiroyuku Ura (eds.), *Formal approaches to Japanese linguistics 1* (MIT working Papers in Linguistics 24), 101–120. Cambridge, MA: MIT.
Kawashima, Ruriko & Hisatsugu Kitahara. 1992. Licensing of negative polarity items and checking theory. *The Third Annual Meeting of the Formal Linguistics Society of Midamerica* (*FLSM III*), 139–154. Bloomington, IN: Indiana University Linguistics Club.

Keyser, Samuel Jay & Thomas Roeper. 1992. *Re*: The abstract clitic hypothesis. *Linguistic Inquiry* 23, 89–125.
Kinsui, Satoshi, Mayumi Kudo & Yoshiko Numata. 2000. *Toki-hitei-to toritate* [Tense, negation, and focus]. Tokyo: Iwanami.
Kishimoto, Hideki. 2001. Binding of indeterminate pronouns and clause structure in Japanese. *Linguistic Inquiry* 32, 597–633.
Kishimoto, Hideki. 2005. *Toogokoozoo-to bunpoo-kankei* [Syntactic structure and grammatical relations]. Tokyo: Kurosio.
Kishimoto, Hideki. 2007. Negative scope and head raising in Japanese. *Lingua* 117, 247–288.
Klima, Edward. 1964. Negation in English. In Jerry Fodor & Jerrold J. Katz (eds.), *The structure of language: Readings in the philosophy of language*, 246–323. Englewood Cliffs, NJ: Prentice-Hall.
Koizumi, Masatoshi. 1995. *Phrase structure in Minimalist syntax*. Ph.D. dissertation, MIT.
Koizumi, Masatoshi. 2000. String vacuous overt verb raising. *Journal of East Asian Linguistics* 9, 227–285.
Kuno, Susumu. 1973. *The structure of the Japanese language*. Cambridge, MA: MIT Press.
Laka, Itziar. 1990. *Negation in syntax*. Ph.D. dissertation, MIT.
Lasnik, Howard. 1995a. Verbal morphology: *Syntactic structures* meets the Minimalist program. In Hector Campos & Paula Kempchinsky (eds.), *Evolution and revolution in linguistic theory: Essays in honor of Carlos Otero*, 251–275. Washington, DC: Georgetown University Press.
Lasnik, Howard. 1995b. Last resort. In Shosuke Haraguchi & Michio Funaki (eds.), *Minimalism and linguistic theory*, 1–32. Tokyo: Hituzi Shyobo.
Lechner, Winfried. 2005. Interpretive effects of head movement. http://ling.auf.net/lingBuzz/000178 (22 November 2006).
Lechner, Winfried. 2006. An interpretive effect of head movement. In Mara Frascarelli (ed.), *Phases of interpretation*, 45–70. Berlin: Mouton de Gruyter.
Linebarger, Marcia. 1980. *The grammar of negative polarity*. Ph.D. dissertation, MIT.
Martin, Samuel. 1975. *A reference grammar of Japanese*. New Haven: Yale University Press.
Masuoka, Takashi & Yukinori Takubo. 1989. *Kiso nihongo bunpoo* [Basic Japanese grammar]. Tokyo: Kurosio.
Matsushansky, Ora. 2006. Head movement in linguistic theory. *Linguistic Inquiry* 37, 69–109.
Mazzon, Gabriella. 2004. *A history of English negation*. London: Longman.
Mihara, Ken'ichi. 2004. *Asupekuto-kaisyaku-to toogo-gensyoo* [Aspectual interpretations and syntactic phenomena]. Tokyo: Shohakusha.
Miyagawa, Shigeru. 1989a. Light verbs and the ergative hypothesis. *Linguistic Inquiry* 20, 659–668.
Miyagawa, Shigeru. 1989b. *Structure and case marking in Japanese* (Syntax and Semantics 22). San Diego, CA: Academic Press.
Muraki, Masatake. 1978. The *sika nai* construction. In John Hinds & Irwin Howard (eds.), *Problems in Japanese syntax and semantics*, 155–177. Tokyo: Kaitakusha.
Otani, Kazuyo & John Whitman. 1991. V-raising and VP-ellipsis. *Linguistic Inquiry* 22, 345–358.
Ouhalla, Jamal. 1990. Sentential negation, relativized minimality, and the aspectual status of auxiliaries. *The Linguistic Review* 7, 183–231.
Pollock, Jean-Yves. 1989. Verb movement, Universal Grammar, and the structure of IP. *Linguistic Inquiry* 20, 365–424.
Progovac, Ljiljana. 1994. *Negative and positive polarity: A binding approach*. Cambridge: Cambridge University Press.
Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech & Jan Svartvik. 1985. *A comprehensive grammar of the English language*. London: Longman.
Radford, Andrew. 1997. *Syntactic theory and the structure of English: A Minimalist approach*. Cambridge: Cambridge University Press.
Radford, Andrew. 2004. *Minimalist syntax*. Cambridge: Cambridge University Press.
Roberts, Ian. 1983. Agreement parameters and the development of English modal auxiliaries. *Natural Language & Linguistic Theory* 3, 21–58.
Roberts, Ian. 1991. Excorporation and minimality. *Linguistic Inquiry* 22, 209–218.
Roberts, Ian. 1993. *Verbs and diachronic syntax*. Dordrecht: Kluwer.
Roberts, Ian. 1998. *Have/be* raising, move F, and procrastinate. *Linguistic Inquiry* 29, 113–125.

Roberts, Ian. 2005. *Principles and parameters in a VSO language: A case study in Welsh*. Oxford: Oxford University Press.
Rohrbacher, Bernhard. 1999. *Morphologically-driven syntax: A theory of V-to-I raising and* pro-*drop*. Amsterdam: John Benjamins.
Saito, Mamoru. 1989. Scrambling as semantically vacuous A′-movement. In Mark Baltin & Anthony Kroch (eds.), *Alternative conceptions of phrase structure*, 182–200. Chicago: University of Chicago Press.
Sakai, Hiromu. 1998. Feature checking and morphological merger. In David J. Silva (ed.), *Japanese/Korean linguistics* 8, 189–201. Stanford, CA: CSLI Publications.
Shibatani, Masayoshi. 1978. *Nihongo-no bunseki* [An analysis of Japanese]. Tokyo: Taishukan.
Sohn, Keun-Won. 1995. *Negative polarity items, scope, and economy*. Ph.D. dissertation, University of Connecticut, Storrs.
Takahashi, Daiko. 1990. Negative polarity, phrase structure, and the ECP. *English Linguistics* 7, 129–146.
Travis, Lisa. 1984. *Parameters and effects of word order variation*. Ph.D. dissertation, MIT.
Uribe-Etxebarria, María. 1994. *Interface licensing conditions on NPIs: A theory of polarity and tense interactions*. Ph.D. dissertation, University of Connecticut, Storrs.
von Stechow, Arnim. 1992/93. Die Aufgaben der Syntax. In Joachim Jacobs, Arnim von Stechow, Wolfgang Sternefeld & Theo Vennemann (eds.), *Syntax: An international handbook of contemporary research*, 1–88. Berlin: Walter de Gruyter.
Vikner, Sten. 1995. *Verb movement and expletive subjects in the Germanic languages*. New York: Oxford University Press.
Watanabe, Akira. 2004. The genesis of negative concord: Syntax and morphology of negative doubling. *Linguistic Inquiry* 35, 559–612.
Whitman, John. 1991. String vacuous V to Comp. Ms., Cornell University.
Zanuttini, Rafaella. 1997. *Negation and clause structure*. New York: Oxford University Press.
Zeijlstra, Hedde. 2004. *Sentential negation and negative concord*. Ph.D. dissertation, University of Amsterdam.

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