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1 Introduction

In this paper I argue that head movement occurs in Japanese in terms of licensing of negative polarity items (NPIs). In Japanese, which is well known as a head-final language, it is not clear at which level verbal complexes are formed because morphemes following a verb are all affixes and they apparently constitute one word. Concerning the problem, at least two analyses have been proposed so far: first, verbal complexes are formed by head movement in syntax (Otani and Whitman 1991, Koizumi 2000, Miyagawa 2001), and second, formation occurs by morphological merger at PF (Sakai 2000, Fukui and Sakai 2003). I claim that the head movement analysis must be assumed from the fact that Neg moves to T. The evidence is mainly found in phenomena related to licensing of the NPI *–sika* 'only'. NPI occurrence depends highly on the structural relationship with the Neg *–nai*, which always appears in final verbal complexes, so that the observation on the NPI occurrence can provide beneficial clues to the issue mentioned above.

In section 2, the domain of NPI licensing is examined in terms of the assumption proposed in the literature, and it is indicated that the scope of Neg covers the TP domain. In section 3, I argue that head movement is essential to NPI licensing from the fact that the licensing should be done not by Neg alone but by the V-Neg-T complex. Based on the previous observation, in section 4, how to define the scope of Neg is discussed. Moreover, in section 5, I demonstrate that head movement is attributed to the morphological property of items following V, and finally it is shown that the analysis here can successfully accommodate the cross-linguistic phenomenon, namely the asymmetry between English and Japanese regarding NPI licensing.

2 The Domain of NPI Licensing

In this section, I demonstrate that contrary to the general assumption, the

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scope of Neg extends above NegP. More concretely, it extends up to the TP domain which strongly supports the head movement analysis. In section 2.1, I address the general assumption in the literature on NPI licensing in Japanese. In section 2.2, I point out some data illustrating that the TP domain is contained within the scope of Neg.

2.1 The General C-command Analysis

Cross-linguistically it has been unanimously recognized that the scope of Neg corresponds to the domain where NPIs can appear. This assumption is taken from the fact that NPIs cannot appear in affirmative sentences. Therefore, it is assumed that the domain in which an NPI occurs corresponds to the one that Neg can affect, that is, the scope of Neg. Thus far it has been commonly assumed that Neg has its own maximal projection NegP (Pollock 1989) located between VP and TP in both Japanese and English. Based on the NegP assumption, it has been widely accepted that an NPI can only appear in the c-command domain of Neg which is realized as head of NegP (Takahashi 1990, Aoyagi and Ishii 1994, Kawashima and Kitahara 1992, Kato 2000).[1]

The general assumption, however, has some serious problems: first, the asymmetry between English and Japanese, namely, (non-)occurrence of NPIs in subject position, and second, NPIs can appear in TP-adjunct position. Unlike in English, the NPI –*sika* can appear in subject position in Japanese as shown below:

(1) a. *Anyone* did not see John.
    b. John did not see *anyone*.
(2) a. John(-*ga)-*sika*   ringo-o   tabe-nakat-ta.
        John(-*Nom)-NPI   apple-Acc   eat-Neg-Past
        'Only John ate apples.'
    b. John-ga   ringo(-*o)-*sika*   tabe-nakat-ta.
        John-Nom   apple(-*Acc)-NPI   eat-Neg-Past
        'John ate only apples.'

To account for the difference, at least two analyses have been proposed so far. First, nominative subject occupies [Spec,TP] in English while it stays in [Spec,VP] in Japanese (Takahashi 1990, Aoyagi and Ishii 1994). The analysis, however, is in conflict with the observation that the nominative subject is in [Spec,TP] also in Japanese (Takezawa 1987, Ura 1996). Second,

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[1]Here, the following c-command definition is assumed: A c-commands B iff the first branching node dominating A dominates B (cf. Reinhart 1976).

in Japanese an NPI as subject does not move to [Spec,TP] unlike *anyone* in English. The analysis is based on the fact shown in (3), which demonstrates that the NPI phrase is not a nominative subject in itself but a modifier such as floating quantifier to which Case does not need to be assigned (Kawashima and Kitahara 1992, Kato 2000).[2]

(3) a. *gakusei-ga   daremo* kuruma-o kawa-nakat-ta.
      student-Nom anyone   car-Acc   uy-Neg-Past
      '(lit.) Any students didn't buy a car.'
  b. John-ga   *namamono-o nanimo*   kawa-nakat-ta.
      John-Nom   raw food-Acc anything   buy-Neg-Past
      'John didn't buy any raw food.'

                                   (Kawashima and Kitahara 1992:144)

According to the analysis, the NPIs in (2) should be reanalyzed as modifiers for a null subject/object as shown in (4); therefore, the NPI in (2a) results in staying in the VP domain.

(4) a. *pro John-sika* ringo-o tabe-nakat-ta.
  b. John-ga *o ringo-sika* tabe-nakat-ta.

These two analyses share the idea that an NPI appearing as a subject stays in VP without moving up to [Spec,TP]. Following the analysis, apparently the difference between English in (1a) and Japanese in (2a) could be accounted for. Under the assumption that the scope of Neg covers the c-command domain of Neg^0 in both languages, the asymmetry comes out due to whether an NPI as subject stays in TP or VP. In English, an NPI cannot appear as a nominative subject in [Spec,TP], which is outside the scope of Neg. On the other hand, in Japanese an NPI as subject, whether a nominative subject or a modifier, stays in VP, which is inside the scope.

2.2 The Domain of NPI Occurrence

In this section, contrary to the general analysis shown above, I demonstrate that the scope of Neg in Japanese is not limited to VP but extends up to TP. This proposal is supported by the observation that NPIs can also appear in TP-adjunct positions, which are not c-commanded by Neg^0.

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[2]In Japanese, besides *-sika*, there are other types of NPIs: "wh-*mo*" such as, *dare-mo* 'anyone', *nani-mo* 'anything', and some adverbials. In this paper, however, I focus on *-sika* because it seems to require the most strict relationship with Neg in its licensing.

Following Koizumi (1993), the Japanese clause structure can be depicted as in (5) and that clausal adjuncts can be divided into three groups: VP-adjuncts, TP-adjuncts and MP-adjuncts.

(5) [CP [M(odal)P³ [TP [VP]]]]
(6) Clausal adjuncts in Japanese
    a. VP-adjuncts: *-nagara* 'while'; *-tutu* 'while'; *-mae-ni* 'before';
       -aida-ni 'while'; *-toki-ni* 'when'; *-ato-de* 'after'
    b. TP-adjuncts: *-kagiri* 'as long as'; *-to* 'if'; *-node* 'because'; *-mae*
       'before'; *-aida* 'while'; *-toki* 'when'; *-ato* 'after'; *-sai* 'when'
    c. MP-adjuncts: *-kara* 'because' (circumstantial); *-ga* 'but'; *-kedo*
       'but'   (Koizumi 1993:410)

What is crucial here is that the three types of clausal adjuncts show the difference regarding the attachment of the NPI *–sika* as shown in (7)–(9).

(7) VP-adjuncts
    a. John-wa [TV-o   mi-nagara]-*sika*   benkyoosi-na-i.
       John-Top TV-Acc   watch-while-NPI study-Neg-Pres
       'John watches TV only when he studies.'
    b. John-wa [TV-o   miru-tokini]-*sika* megane-o   kake-na-i.
       John-Top TV-Acc watch-when-NPI glasses-Acc wear-Neg-Pres
       'John wears glasses only when he watches TV.'
(8) TP-adjuncts
    a. John-wa [Mary-ga   kuru-mae]-*sika*   heya-o   katazuke-na-i.
       John-Top Mary-Nom come-before-NPI room-Acc cleanNeg=Pres
       'John cleans his room only before Mary comes.'
    b. John-wa [uta-o   utatta-ato]-*sika* tabako-o   suwa-na-i.
       John-Top song-Acc sing-after-NPI   cigar-Acc smoke-Neg-Pres
       'John smokes only after singing a song.'
(9) MP-adjuncts
   · a. *John-wa [denki-ga   tuiteiru-kara]-*sika* Mary-ga   iru   to
       John-Top light-Nom on-because-NPI   Mary-Nom stay Comp
       kangae-nakat-ta.
       think-Neg-Past
       '(lit.) John thought Mary stayed there only because the light was
       on.'

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³Koizumi (1993:410) remarks that Modal Phrase is a category headed by modal elements such as *-daroo* 'probable/seem', *-desyoo* 'probable/seem', *-mai* (negative volition).

b. *[Mary-wa John-no goukaku-o   inot-ta-ga]-*sika*   John-wa
   Mary-Top John-Gen success-Acc hope-Past-but-NPI John-Top
   goukakusi-nakat-ta.
   pass-Neg-Past
   '(lit.) Though Mary hoped for John to succeed, he passed the
   exam.'

As already referred to in section 2.1, according to the general c-command analysis, the NPI –*sika* could limitedly appear in VP domain, that is, the c-command domain of Neg^0. As shown in (7)–(9), in fact, –*sika* can be attached to TP-adjuncts as well as VP-adjuncts.[4,5] On the other hand, it cannot be attached to MP-adjuncts. Under the assumption that NPIs can only appear in the VP domain, it is wrongly predicted that the examples in which –*sika* is attached to TP-adjuncts are ungrammatical. Therefore, from (7)–(9), I conclude that the domain of NPI occurrence, in other words, the scope of Neg, is not limited to VP domain but extends up to TP domain. This fact is incompatible with the general c-command analysis that assumes Neg remains in NegP. To account for this fact, Neg movement to the position where it can affect TP domain must be assumed.

3 Neg Movement

In this section I mainly discuss Neg movement to T. To account for the fact that the NPI –*sika* can be attached to TP-adjuncts shown in section 2.2, it should be assumed that the scope of Neg is determined by Neg only after it

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[4]There are, however, some clausal adjuncts to which –*sika* cannot be attached among those that Koizumi (1993) assumes to be TP-adjuncts or VP-adjuncts:
(i) VP-adjunct
     *John-wa [biiru-o   nomi-tutu]-sika yakyuu-o   mi-na-i.
     John-Top   beer-Acc drink-while-NPI baseball.game-Acc watch-Neg-Pres
(ii) TP-adjuncts
     *[John-ga   kita-node]-sika   Mary-wa   kaera-nakat-ta.
      John-Nom came-because-NPI Mary-Top   go.back-Neg-Past
The facts seem to show that besides the condition on domain, there is the possibility that the -*sika* attachment is somehow constrained by lexical or semantic properties of the clausal adjuncts.
[5]Notice that following Hasegawa (1991), Koizumi (1993) assumes that Neg is contained in INFL without projecting NegP. In Koizumi's approach, TP-adjunct position is excluded from the scope of Neg, which is the same result gotten from the general analysis assuming NegP. Therefore, my claim here differs from Koizumi's analysis in that TP-adjunct position can be inside the scope of Neg.

has moved to the position above NegP. In section 3.1, I argue that an NPI must be licensed not only by Neg but also by T, that is, Neg-T complex, based on the data in which NPIs cannot appear in small clauses. Furthermore, in section 3.2, I claim that Neg-T complex is still not enough for successful NPI licensing but V-Neg-T complex is in need. This fact can be further evidence for the head movement analysis on verbal complex formation.

3.1 NPI Licensing and Tense

This section is a further discussion about Neg movement to T. Whether an NPI can be licensed in small clauses or not is mainly discussed. Finally, it is clearly shown that not only Neg but also T is essential to NPI licensing from the fact that it cannot be licensed in such tenseless clauses.

In the examples (10a) and (11a), which have CP complements headed by -to 'that' or -yooni 'that', which are generally assumed to be accompanied with T, –sika in the embedded CP is successfully licensed. On the other hand, in (10b) and (11b), where the embedded clause is a tenseless small clause, –sika cannot be licensed even though it is obviously c-commanded by Neg^0.

(10) a. John-wa   [$_{CP}$ Mary-*sika*   kireija-*na-i*   to]   omotteiru.
         John-Top   Mary-NPI   beautiful-Neg-T Comp   think
         'John thinks that only Mary is beautiful.'
     b. ?*John-wa   [$_{SC}$ Mary-*sika*   kireija-*naku*]   omotteiru.
           John-Top   Mary-NPI   beautiful-Neg(Inf)   think
(11) a. Sono-ensyutuka-wa [$_{CP}$ syujinkoo-*sika*   medata-*na-i*
         that-director-Top   main.character-NPI   stand.out-Neg-T
         yooni]   sita.
         Comp]   did
         'The director made only the main character stand out.'
     b. ?*Sono-ensyutuka-wa [$_{SC}$ syujinkoo-*sika*   medata-*naku*]   sita.
           that-director-Top   main.character-NPI stand.out-Neg(Inf) did

It is interesting here to refer to the occurrence of the nominative marker –ga in such embedded clauses. The examples (12a)/(13a) and (12b)/(13b) correspond to (10a)/(11a) and (10b)/(11b) respectively. In the case of tensed CPs, –ga can appear in the embedded clauses (12a)/(13a), while in the case of tenseless small clauses, it cannot appear, (12b)/(13b).

(12) a. John-wa   [$_{CP}$ Mary-*o/ga*   kireija-*na-i*   to]   omotteiru.
         John-Top   Mary-Acc/Nom beautiful-Neg-T Comp   think
         'John thinks that Mary is not beautiful.'

   b. John-wa   [SC Mary- *o/*ga*   kireija-*naku*]   omotteiru.
      John-Top   Mary- Acc/*Nom   beautiful-Neg(Inf) think

(13) a. Sono-ensyutuka-wa [CP syujinkoo-*o/ga*   medata-*na-i*
        that-director-Top   main.character-Acc/Nom stand.out-Neg-T
        yooni]   sita.
        Comp]   did
        'The director didn't make the main character stand out.'

   b. Sono-ensyutuka-wa [SC syujinkoo-*o/*ga*
      that-director-Top   main.character-Acc/*Nom
      medata-*naku*]   sita.
      stand.out-Neg(Inf)   did

The data (10)-(13) show the striking parallelism between –*sika* and –*ga*. On par with the assumption that the occurrence of –*ga* depends on T (Takezawa 1987, Ura 1996), I conclude that the NPI –*sika* licensing depends on T as well. The facts in (10) and (11) are inconsistent with the analysis that NPI occurrence is limited to the c-command domain of Neg^0 because NPIs are obviously c-commanded by Neg in small clauses. Therefore, the general c-command analysis wrongly predicts the sentences to be grammatical. It is undoubtedly demonstrated that NPI must be licensed by Neg together with T.

In this section, I indicated that NPIs are licensed not only by Neg but also by T. Moreover, it has already shown in section 2 that the scope of Neg extends up to the TP domain. Considering all these facts, a reasonable solution is that NPIs are licensed not by Neg alone but by Neg-T complex which is formed as a result of Neg movement to T.

3.2 NPI Licensing and Verb Movement

In addition to the analysis in section 3.1, in this section, it is indicated that V is also required for NPI licensing. In other words, it is licensed by V-Neg-T complex formed through V-to-Neg-to-T movement.

Let us examine the effect of focus particles in verbal complexes. In the case where focus particles such as –*mo* 'also' and –*wa* (contrast) intervene between V and T in a verbal complex, NPI cannot be licensed in spite of its occurrence in the c-command domain of Neg^0 as shown below:

(14) a. John-*ga/*sika*   ringo-o   tabe-**mo/wa** si-nakat-ta.
        John-Nom/*NPI apple-Acc   eat-FPart   do-Neg-Past
   b. John-ga   ringo-*o/*sika*   tabe-**mo/wa** si-nakat-ta.
      John-Nom   apple-Acc/*NPI eat-FPart   do-Neg-Past

In (14), it is commonly assumed that focus particles are directly attached

to V (putting aside the way of their attachment to V). Therefore, the unacceptability of the sentences cannot be accounted for by the general c-command analysis. Under the assumption that the scope of Neg is equivalent to the c-command domain of Neg^0, at least the NPI in object position in (14b) must be licensed. Furthermore, under the analysis that an NPI in subject position remains in VP in Japanese as mentioned in section 2.1, it is predicted that the NPI in subject position in (14a) should be licensed as well.

Contrary to (14), in the case where V, Neg and T are adjacent without any focus particles intervening, the sentences are acceptable.

(15) a. John-ga   ringo-*sika* tabe-nakat-ta (-koto-**wa**-na-i).
        John-Nom   apple-NPI   eat-Neg-Past   (-Nomin-FPart-Neg-Pres)
     b. John-*sika* ringo-o   tabe-nakat-ta (-koto-**wa**-na-i)
        John-NPI   apple-Acc   eat-Neg-Past   (-Nomin-FPart-Neg-Pres)

In (14) and (15), the occurrence of focus particles should be noted. In the previous sections, I concluded that not only Neg but also T is needed in NPI licensing. In fact, T does appear in (14). Why are these sentences unacceptable? It is nothing but a case in which focus particles occur between V and T. It seems plausible to assume that their unacceptability is attributed to the effect of the focus particle intervening between V and T, namely, the focus particle interrupts V-to-Neg-to-T movement. What it means is that V-to-Neg-to-T movement plays a key role for NPI licensing. In addition, it is observed that V must also move to T along with Neg from the data in (16).[6]

(16) a. John-ga   ringo-*o/*sika*   tabe-naku-**mo/wa** nakat-ta.
        John-Nom apple-Acc/*NPI   eat-Neg-FPart   Neg-Past
        'It is not the case that John ate only apples.'

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[6]In (16) the second negation *nai* follows the focus particle without *do*-support. It is because *nai* preceding the focus particle is categorized as an adjective. As shown in (i), when an adjective is followed by a focus particle, *do*-support is not forced.

(i)   utukusiku-wa   (*si-)na-i
       beautiful-FPart   (*do-)Neg-T(Pres)

Notice that *nai*, which is followed by T in (i) differs from Neg affix in that the former is the negative form of the verb *aru* 'be'. It is realized not by attachment of -*nai* to its stem "*ara-nai*", but by the adjective *nai* alone, which is completely the same as Neg affix in its morphological appearance. Therefore, the adjective *nai* is not an affix but a free morpheme, so that T in these sentences can be supported by the adjective *nai*.

(ii) John-nitotte   sono omoide-wa   utukusiku-mo   at-ta/nakat-ta.
     John-for   that memory-Top beautiful-FPart   be-Past/Neg-Past
     'The memory was/was not beautiful for John.'

b. John-*ga/*sika*   ringo-o   tabe-naku-**mo/wa** nakat-ta.
John-Nom/*NPI   apple-Acc eat-Neg-FPart   Neg-Past
'It is not the case that only John ate apples.'

These sentences have two Neg elements appearing between V and T. However, NPIs cannot be licensed. The most remarkable point here is that V-Neg-T complex is not formed though both V-Neg and Neg-T complex are made up in the same sentence. In these cases, V is assumed not to move to T. Therefore, the fact leads us to the conclusion that V-Neg-T complex as a result of V-to-Neg-to-T movement is indispensable to NPI licensing.

4 The Scope of Neg

In this section, how the scope of Neg can be defined is discussed. Contrary to the general assumption that the scope of Neg covers only the c-command domain of Neg^0, it has been made clear through the previous sections that Neg takes its scope over the whole domain dominated by TP including TP-adjunct position, and it results from V-to-Neg-to-T movement in order to form a verbal complex as shown below:

(17)
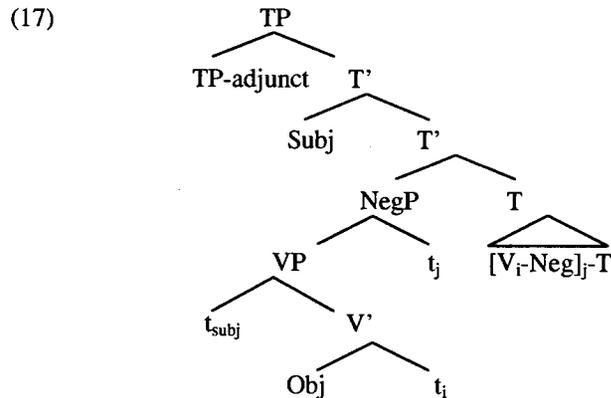
The scope of Neg can be captured as (18) by means of the m-command definition (18a) (cf. Chomsky 1986) instead of the general c-command analysis shown in section 2.

(18) a. α m-commands β iff α does not dominate β and every maximal
projection that dominates α dominates β.
b. Neg takes its scope over the domain where it m-commands.

It is worth noticing that the scope of Neg is not the only case that (18) can explain. The phenomenon of indeterminate pronoun binding pointed out in Kishimoto (2001) could be also accounted for by (18).[7] Indeterminate pronouns such as *nani* 'what', *dare* 'who', and *dokode* 'where' are allowed to function as NPIs *nani-mo* 'anything', *dare-mo* 'anyone', and *dokode-mo* 'anywhere' respectively when they are bound by the focus particle *–mo*,[8] even though an indeterminate pronoun and *–mo* appear separately.[9] In order to be bound by *–mo*, an indeterminate pronoun must be in its scope. As shown in (19), *nani* as an object (19a) and *dokode* as a locative adjunct in VP (19b) can be bound by *–mo*, whereas *dare* as a subject outside VP cannot (19c). In this case, *–mo* is directly attached to V, so that *–mo* is assumed to be located in V^0. These facts demonstrate that *–mo* in V^0 takes its scope over VP domain, namely its m-command domain.

(19) a. John-wa   **nani-o**   kai-**mo**   si-nakat-ta.
         John-Top   what-Acc   buy-FPart   do-Neg-Past
         'John did not buy anything.'
     b. John-wa   **doko**-de hasiri-**mo**   si-nakat-ta.
         John-Top   where-at run-FPart   do-Neg-Past
         'John did not run anywhere.'
     c. ***Dare-ga**   ringo-o   kai-**mo**   si-nakat-ta.
         who-Nom   apple-Acc   buy-FPart   do-Neg-Past
         '(lit.) Anyone did not buy an apple.'
                              (Kishimoto 2001:600 slightly modified)

It has been also pointed out that another focus particle *–sae* 'even' takes scope over VP from the same position as *–mo* in (19) (see Kishimoto 2001, Koizumi 1993). Therefore the definition (18) seems applicable to scope-related elements appearing in verbal complexes, which is a desirable consequence for the analysis on the scope of Neg here.

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[7]See Kishimoto (2001) for the details of his definition of indeterminate pronoun binding.

[8]See footnote 1 for *nanimo* and *daremo*.

[9]Note that, contrary to the analysis here, Kishimoto claims that the focus particle does not block verb movement. He analyses that *–mo* in (21) as merged with V and [V-mo] is moved to v, so that *–mo* can bind the vP-internal elements like an object or a locative adjunct. However, it is still not clear why [[V-mo]v] cannot be moved up to T, if *–mo* does not block the movement.

5 Head Movement and Morphological Properties

Considering all the facts in the previous sections, it has been demonstrated that the Neg *–nai* can be raised up to T together with V, whereas the focus particles *–mo/wa* block the verb movement.[10] Finally, this section is a discussion about the motivation of head movement, specifically about what makes Neg move up to T. It is indicated that the morphological property [+verbal] is crucial for head movement.

For the purpose of seeking the motivation of head. movement, the contrast between Neg and focus particles is examined. Let us focus on their difference with respect to *do*-support. As shown in (20), Neg can be immediately followed by T (20a), whereas focus particles cannot (20b).

(20) a. tabe-nakat-(*si)-ta
          V(eat)-Neg-(*do)-T(Past)
      b. tabe-mo/wa-*(si)-ta
          V(eat)-FPart-*(do)-T(Past)

When a focus particle appears in a verbal complex, the verb *si* (an inflected form of the verb *suru* 'do') must be inserted between the focus particle and T, which is generally assumed to correspond to *do*-support in English. Contrarily, *do*-support is not applied in the case of Neg. This fact reveals that Neg undergoes head movement to T while focus particles do not. The difference between them could be accounted for by (21) along the line of Ouhalla (1991), which focuses on the difference in morphological property.

(21) V can move to an element X which is adjacent to V and subsequently V-X complex moves to T when X is [+verbal].

The observation in (21) is based on the assumption that T can be supported only by [+verbal] morphemes. When V-X cannot move to T, as in the case of focus particles, *do*-support is forced. Morphologically, the Neg *–nai* is inflected in the same way as adjectives, so that it can be marked with [+verbal]. On the other hand, focus particles are never inflected, which means they are assumed to be [-verbal].[11]

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[10]Following the Head Movement Constraint (Travis 1984, Baker 1988), since only head categories can interrupt head movement focus particles must be assumed to be a head. However, it is not clear whether a focus particle projects its own maximal projection. I leave this issue open for future research. See Aoyagi (1998) and Sakai (2000) for the analysis of focus particles as non-heads.

[11]Ouhalla (1991) observes that Aspect, which is located between V and T, can

Finally, it is worth mentioning that (21) can accommodate the cases of other affixes appearing between V and T in the verbal complex: the potential/passive *–rare* and the causative *–sase*. They are inflected in the same way as verbs, so that they can be marked with [+verbal] like Neg. When they appear in a verbal complex, *do*-support does not occur as shown in (22).

(22) tabe-rare/sase-(*si)-ta
     V(eat)-Poten/Caus-(*do)-T(Past)

As shown in (14) and (16), when a focus particle appears between V and T, an NPI cannot be licensed, so I concluded that it interrupts V-to-Neg-to-T movement. Contrarily, when *–rare* and *–sase* appear in the same position as a focus particle, it is successfully licensed, as in (23), which demonstrates that they do not interrupt V-to-Neg-to-T movement which is essential to NPI licensing.

(23) a. John-ga   ringo-*sika*   tabe-**rare**-nakat-ta.
         John-Nom   apple-NPI   eat-Poten-Neg-Past
         'John cannot eat anything but an apple.'
    b. John-ga   Mary-ni   ringo-*sika*   tabe-**sase**-nakat-ta.
         John-Nom   Mary-Dat   apple-only   eat-Caus-Neg-Past
         'John made Mary eat only an apple.'

Furthermore, (21) also accommodates the asymmetry as to the NPI (non-)occurrence in subject position between English and Japanese as mentioned in (1) and (2). In Japanese an NPI is licensed by V-Neg-T complex as a result of head movement, thereby Neg can extend its scope up to the TP domain. On the other hand, in English the negative element *not/never* can be marked with [–verbal]. The examples in (1) (repeated here as (24)) and (25) demonstrate that NPI licensing has nothing to do with Neg-movement to T in English (cf. Pollock 1989, Chomsky 1995:chap. 2). In addition, the scope of Neg is relative to the position where Neg element overtly appears.

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be marked [+verbal] or [+nominal]. The [+verbal] Asp can move to T, whereas the [+nominal] Asp cannot. However, Japanese data here seems to show that only [±verbal] is relevant to the movement. In general, Neg in Japanese is categorized as an adjective in terms of its morphological form, so that it can be marked with [+nominal] as well as [+verbal]. In addition, the focus particles are categorized as postpositions like the nominative marker *-ga* or the accusative marker *-o*, so that they should not be marked with [+nominal]. Instead, they may be marked with [–verbal]. Therefore, from the data in Japanese here, what is crucial for the movement is the distinction [±verbal].

(24) a. John did **not** see *anyone*.

    b. *Anyone did **not** see John.

(25) a. **Never** has *anyone* seen such beauty.[12]

    b. *Anyone has **never** seen such beauty.

Consequently, it is no longer necessary to explain that the asymmetry is due to their subject position: [Spec,VP] in Japanese, versus [Spec,TP] in English. Now the asymmetry can be accounted for by whether Neg undergoes head movement to T or not, which results from the morphological distinction of Neg.

6 Conclusion

Through examining NPI licensing I have argued that head movement occurs in verbal complexes in Japanese. This assumption has become clear from the fact that NPIs must be licensed, not by Neg alone, but by a V-Neg-T complex as a result of V-to-Neg-to-T movement. Moreover, it has been also shown that the head movement is motivated by the morphological property [+verbal]. From this analysis, the asymmetry in NPI occurrence between English and Japanese can be well accounted for, hence the analysis has the possibility to accommodate cross-linguistic NPI phenomenon.

Finally, the phenomena of NPI licensing should be reanalyzed from the viewpoint of a requirement of T and that head movement should be assumed to occur in verbal complexes in Japanese. As long as NPI licensing depends on verbal complex formation, the formation should be done at least at LF. So, the morphological merger analysis is not enough to account for the facts. Furthermore, the analysis here that the morphological property motivates the syntactic operation can help us question the role of agglutination once again.

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