Negation, focus, and negative concord in Japanese

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This paper attempts to derive the syntactic distribution and the semantic interpretation of negative concord items in Japanese through morphosyntactic decomposition of them and semantic examination of each ingredient. In search for morphological makeup of negative concord items in Japanese, this investigation looks into the corresponding items in other languages that have transparent morphology such as Serbo-Croatian and Hungarian as well as negative polarity items in Hindi. It will be shown that while negative polarity items consist of a focus element and an indefinite viewed as a cardinality predicate one (Lahiri 1998), negative concord items minimally differ from negative polarity items in that they carry a negative element, which requires the presence of clausemate sentential negation to ensure interpretability at LF. When a negative concord item occurs with clausemate sentential negation, the Neg-feature of the former will get deleted, and the resultant object will become equivalent to negative polarity items.

1. Introduction

Japanese is known for its extensive use of indeterminates, a term coined by Kuroda (1965). Indeterminates produce a variety of quantifiers in combination with designated particles. Table 1 illustrates a partial paradigm of the indeterminate system in Japanese.

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Table 1: *Japanese indeterminates*

<table>
<thead>
<tr>
<th></th>
<th>Interrogative pronouns</th>
<th>Negative concord items</th>
<th>Universal quantifiers</th>
<th>Existential quantifiers</th>
<th>Free choice items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person</td>
<td>dare</td>
<td>dare-mo(^1)</td>
<td>dare-mo</td>
<td>dare-ka</td>
<td>dare-demo</td>
</tr>
<tr>
<td>Thing</td>
<td>nani</td>
<td>nani-mo</td>
<td>nani-mo</td>
<td>nani-ka</td>
<td>nani-demo</td>
</tr>
<tr>
<td>Place</td>
<td>doko</td>
<td>doko-mo</td>
<td>doko-mo</td>
<td>doko-ka</td>
<td>doko-demo</td>
</tr>
<tr>
<td>Time</td>
<td>itsu</td>
<td>----</td>
<td>itsu-mo</td>
<td>itsu-ka</td>
<td>itsu-demo</td>
</tr>
</tbody>
</table>

Among the indeterminate-based quantifiers, this paper looks into the syntactic distribution and semantic interpretation of what is labeled negative concord items (NCIs). The syntactic distribution of NCIs is quite straightforward: they have to co-occur with a clausal mate sentential negation, period, as shown by the contrasts in (1) and (2).

(1) a. **Dare-mo** ko-nakat-ta.
    who-MO come-Neg-Past
    ‘Nobody came.’

    b. * **Dare-mo** ki-ta.
    who-MO come-Past

(2) a. Taro-wa **nani-mo** tabe-nakat-ta.
    Taro-Top what-MO eat-Neg-Past
    ‘Taro did not eat anything.’

    Taro-Top what-MO eat-Past

The traditional approach to the relevant items is to analyze them as negative polarity items (NPIs) on a par with their English counterparts such as *anybody* and *anything*. However, a scarce look at the following data shows that they should be distinguished from NPIs because they cannot be licensed under those contexts where NPIs would be used in English.

(3) a. * **Dare-mo** ki-ta-no?
    who-MO come-Past-Q
    ‘Did anyone come?’

    b. *Watashi-no inai-aidani **dare-mo** kita-ra…
    I-Gen absent-during who-MO come-Cond
    ‘If anyone comes during my absence, …’

\(^1\) NCIs and universal quantifiers are orthographically identical but phonologically distinct in that the former bear a high pitch accent on the second mora of the indeterminate while the latter carry a high pitch on the second mora thereof. Since this paper focuses on NCIs, this difference will be ignored in the text.
I-Top Taro-Nom what-MO eat-Past Comp think-Neg
‘I didn’t think that Taro ate anything.’

This confirms that NCIs can be licensed only by clausemate sentential negation, which means that the syntactic distribution of NCIs is much narrower and hence easier to capture than NPIs.

Despite, or perhaps due to, this simplicity of distribution, no principled account has been presented that goes beyond a theoretical restatement of the distributional fact more or less to the effect that NCIs carry a certain feature that needs to be licensed by clausemate sentential negation, where the relevant feature and the manner of licensing vary from an “anaphoric Negative Polarity” feature in need of binding by clausemate sentential negation, an uninterpretable Neg-feature that needs to be checked off by clausemate sentential negation to an uninterpretable focus feature to be deleted by sentential negation (see Watanabe 2004).

This paper attempts to derive the syntactic distribution and the semantic value/denotation of NCIs in Japanese. The syntactic analysis will be developed through comparison with the corresponding expressions in Serbo-Croatian and Hungarian as well as NPIs in Hindi, in terms of their morphosyntactic structure. The proposal about the interpretation of NCIs will be made on the basis of semantic examination of the ingredients that make up NCIs and NPIs. This paper is organized as follows. Section 2 shows that NCIs consist of three ingredients, namely, an indeterminate base, a focus morpheme and a negation morpheme. Section 3 reviews Lahiri’s analysis of NPIs in Hindi so as to set up a basis for the semantic analysis of NCIs. Section 4 demonstrates that the syntactic distribution of NCIs will follow from their morphosyntactic makeup and the mechanism of Agree. Section 5 takes up an alternative approach by Watanabe (2004) and argues that the present approach is preferable. Section 6 discusses implications of the proposed analysis. Section 7 concludes the paper.

2. Morphosyntax of NCIs

In this section, I will explore the morphosyntactic structure of NCIs and show what elements make them up. As we saw in Table 1, NCIs in Japanese consist of an indeterminate and \( \text{mo} \), which is a focus particle meaning ‘also’ or ‘even.’ Just in view of NCIs in Japanese, one might hypothesize that an indeterminate and a focus particle are necessary and sufficient elements to compose NCIs. For ease of reference, let us state this hypothesis as Hypothesis 1.

(4) Hypothesis 1:
NCIs consist of an indeterminate and a focus element.

It will be shown, however, that this hypothesis cannot be maintained, as the two ingredients are neither sufficient nor necessary.

Let me first demonstrate that an indeterminate and a focus particle are not sufficient to construct NCIs, based on the indeterminate system of Serbo-Croatian, whose partial paradigm is shown in Table 2.
Table 2: Serbo-Croation indeterminates

<table>
<thead>
<tr>
<th>Person</th>
<th>Interrogative pronouns</th>
<th>Bipolar items</th>
<th>Negative concord items</th>
</tr>
</thead>
<tbody>
<tr>
<td>(t)ko</td>
<td>i-(t)ko</td>
<td>ni-(t)ko</td>
<td></td>
</tr>
<tr>
<td>što, šta</td>
<td>i- što, i-šta</td>
<td>ni-što, ni-šta</td>
<td></td>
</tr>
<tr>
<td>gdje</td>
<td>i-gdje</td>
<td>ni-gdje</td>
<td></td>
</tr>
<tr>
<td>kad(a)</td>
<td>i-kad(a)</td>
<td>ni-kad(a)</td>
<td></td>
</tr>
</tbody>
</table>

(Hasepmath 1997)

In this language, *i* is used as a scalar focus particle meaning ‘even’, but combining this particle with indeterminates yields bipolar items (BPIs), which, as the name suggests, have the polar sensitivity of both NPIs and positive polarity items (PPIs). Thus, they cannot occur either in an affirmative episodic sentence like (5a), due to the NPI property, or under the scope of clausemate negation, as in (5b), because of the PPI property. By contrast, other contexts such as questions, conditionals and embedded clauses with a higher negation license BPIs, as shown in (5c-e).

(5)  

a. *Milan voli i-(t)koga.
   Milan loves Foc-who
   (lit) ‘Milan loves anyone.’

b. *Milan ne voli i-(t)koga.
   Milan Neg loves Foc-who
   ‘Milan doesn’t love anybody.’

c. Da li Milan voli i-(t)koga?
   that Q Milan loves Foc-who
   ‘Does Milan love anyone?’

d. Ako Milan povredi i-(t)koga,…
   if Milan hurts Foc-who
   ‘If Milan hurts anyone…’

e. Milan ne tvrdi [ da Marija poznaje i-(t)koga]
   Milan Neg claims that Mary knows Foc-who
   ‘Milan does not claim that Mary knows anyone.’
   (van der Wouden 1997)

In order to create NCIs, indeterminates must be prefixed by *ni*, which stems from *ne* ‘not’ and *i* ‘even’, according to Haspelmath (1997). A relevant example is given in (6).

(6)  

Milan *(ne) voli ni-koga
Milan Neg loves Neg-Foc-who
‘Milan does not love anyone.’
If this is taken at face value, we are led to a new hypothesis regarding the ingredients of NCIs.

(7) Hypothesis 2:
NCIs consist of an indeterminate, a focus element and a negative element.

This hypothesis gains support from NCIs in Hungarian.

<table>
<thead>
<tr>
<th>Table 3: Hungarian NCIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interrogative/Indefinite pronouns</td>
</tr>
<tr>
<td>Person</td>
</tr>
<tr>
<td>Place</td>
</tr>
<tr>
<td>Thing</td>
</tr>
</tbody>
</table>

(Tóth 1999)

In Hungarian, NCIs consist of an indeterminate and a prefix seN (where N stands for a nasal consonant whose phonological realization is contingent upon the place of articulation of the following segment). According to Surányi (2006), seN consists of a focus element s and eN, where s is the reduced form of is ‘also’ or ‘even’ and eN stems from nem ‘not’. This buttresses Hypothesis 2.

To reconcile Hypothesis 2 with NCIs in Japanese, we need to suppose that they contain a null negative element. I am not aware of any morphological evidence to verify the existence of the null element, but the parallel syntactic distribution of NCIs in Japanese, Serbo-Croatian, and Hungarian lends support to this conjecture. In this connection, it is worth while to note that indeterminates do not always combine with an overt particle. This is typically the case when they are used as an interrogative pronoun, in which case a null interrogative particle is assumed to be attached to indeterminates (Watanabe 1992). The postulation of a null negative element is not so ad hoc as it may first seem under this line of reasoning. Furthermore, the strategy adopted here is quite general in generative grammar, for example, in the realm of the Case theory, which is supposed to be a universal principle that regulates the distribution of argument DPs, whether Case is morphologically realized or not. The absence of a negative morpheme in NCIs in Japanese can be viewed as a morphological accident.

3. NPIs in Hindi

Given the above hypothesis regarding the ingredients of NCIs, what is needed next is an explanation as to why the triple of an indeterminate, focus and negation makes their bears behave the way they do. To set up a backbone for the explanation, this section reviews Lahiri’s (1998) analysis of NPIs in Hindi, whose relevance will become clear shortly.

According to Lahiri (1998), NPIs in Hindi are composed of an indefinite or a weak predicate indicating a small amount and a scalar focus particle bhii meaning ‘even.’ The representative examples are listed in Table 4.
The NPI-hood of the indefinite+*bhii* expressions is verified by the examples below. They can occur in monotone decreasing contexts, as in (8), but not in upward entailing contexts, as in (9).

(8) a. tumheN kuch bhii pasand aayii kyaa
   you someone even like Q
   ‘Did you like anything?’

   b. agar tum kisii-ko bhii dekho to mujhe bataao
      if you someone-Acc even see (subj) then me tell
      ‘If you see anyone, inform me.’

   c. aisaa har chaatr jinse ek bhii kitaab paRhii, paas ho gayaa
      such every student who one even book read passed
      ‘Every student who read any book passes’

   d. maiN-ne ek bhii aadmii-ko nahiiN dekhaa
      I-Erg anyone man Neg saw
      ‘I did not see any man.’

   e. Koii bhii nahiiN aayaa
      someone even Neg come
      ‘No one came.’

   (Lahiri 1998: 60-74)

(9) a. *Koii bhii aayaa
   someone even came
   (lit) ‘Even somebody came.’

   b. *maiN-ne ek bhii aadmii-ko dekhaa
      I-Erg one even man saw
      (li) ‘I saw even one man.’

   (Lahiri 1998: 60-61)

Lahiri (1998) aims at deriving the polarity sensitivity of the expressions in question from the compositional semantics of indefinites and a focus particle. Specifically, he argues
that indefinites should be viewed as a cardinality predicate that he calls one, a predicate that is true of everything that contains at least one atomic part. Furthermore, he contends that indefinites are associated with the focus particle bhii, which induces focus-alternatives. The alternatives consist of the union of an original proposition and its alternatives where one is replaced by other cardinality predicates, such as two, three etc.

Lahiri (1998) claims that these assumptions predict that indefinite+bhii expressions will be licensed in monotone decreasing contexts, but not in monotone increasing contexts. For an illustration of the working of the focus particle, let us start with a simple sentence in (10), where the proper name Raam is focused by bhii. (Subscript F indicates that the element marked with it is focused.)

(10) RAAM_F bhii aayaa
    Raam   even came
    ‘Even Raam came.’

The proposition asserted by this sentence is ‘that Raam came.’ Given that the proper name is focused, its alternatives will be a set of contextually determined proper names such as {Raam, Siitaa, Mohan}. Thus, the focus-induced alternatives to the proposition are a set {'that Raam came', 'that Siitaa came', 'that Mohan came'}, which consists of the proposition itself and its alternatives that obtain by replacing the focused proper name with its alternatives. Under the assumption that sentences with a scalar focus particle induce the two implicatures given in (11), sentence (10) implicates (12).

(11) a. ∃p[C(p) ∧ ∃p ∧ p ≠ ^a]
b. p[[C(p) ∧ p ≠ ^a] → likelihood(p) > likelihood(\ni a)],
    where a is the assertion and C is the set of the focus-induced alternatives to a.

(12) a. Someone else other than Raam came.
    b. For every individual x other than Raam, if x came, then the likelihood that x came is higher than the likelihood that Raam came.

With this in mind, let us now consider why (9a), repeated in (13), is unacceptable.

(13) *Koi bhii aayaa
    someone   even came
    (lit) ‘Even somebody came.’

Given that indefinites express cardinality predicate one, (14) obtains as the proposition asserted by (13).²³

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² I put aside the mechanism that introduces the existential operator as nothing hinges on it. An existential operator could come from the operation of Existential Closure or the lexical meaning of the indefinite itself.

³ Restrictions of quantifiers such as ‘person(x)’ or ‘thing(x)’ are abstracted away from the logical representation of the proposition.
Since the indefinite is focused, the set of focus-induced alternatives to the proposition will be \( \{ \exists x[\text{one}(x) \land x \text{ came}], \exists x[\text{two}(x) \land x \text{ came}], \exists x[\text{three}(x) \land x \text{ came}] \ldots \} \). The resulting implicatures will therefore be the ones in (15).

(15) a. For some cardinality predicate other than \text{one}, say \text{Z}, \exists x[\text{Z}(x) \land x \text{ came}]

b. For every cardinality predicate other than \text{one}, say, \text{U}, if \exists x[\text{U}(x) \land x \text{ came}], then likelihood(\exists x[\text{U}(x) \land x \text{ came}]) > likelihood(\exists x[\text{one}(x) \land x \text{ came}])

These implicatures are contradictory, which can be proved as follows.

First, witness that (16) is entailed by combining (15a) with (15b).

(16) likelihood(\exists x[\text{Z}(x) \land x \text{ came}]) > likelihood(\exists x[\text{one}(x) \land x \text{ came}])

Given the nature of the alternatives to \text{one}, which is the smallest cardinal number (the weakest possible predicate), (17) holds.

(17) \exists x[\text{Z}(x) \land x \text{ came}] \rightarrow \exists x[\text{one}(x) \land x \text{ came}]

From (17), (18) follows.

(18) likelihood(\exists x[\text{Z}(x) \land x \text{ came}]) \leq likelihood(\exists x[\text{one}(x) \land x \text{ came}])

(18) contradicts (16). This shows that indefinite+\text{bhii} phrases systematically produce contradictory implicatures in upward entailing contexts in general, hence the unacceptability of structures such as (13).

By contrast, the expression in question can occur in monotone decreasing contexts as they have a scale-reversal property. To see the point, consider (8e), here repeated as (19).

(19) Koii \text{ bhii} nahiiN aayaa
someone even Neg come
‘No one came.’

The proposition asserted by (19) is (20).

(20) \neg \exists x[\text{one}(x) \land x \text{ came}]

This proposition implicates (21).

(21) a. For some cardinality predicate other than \text{one}, say \text{Z}, \neg \exists x[\text{Z}(x) \land x \text{ came}]

b. For every cardinality predicate other than \text{one}, say, \text{U}, if \neg \exists x[\text{U}(x) \land x \text{ came}], then likelihood(\neg \exists x[\text{U}(x) \land x \text{ came}]) > likelihood(\neg \exists x[\text{one}(x) \land x \text{ came}])

These implicatures are not contradictory as is proved below.
(22) is entailed from (21a) and (21b).

\[(22) \quad \text{likelihood}(\neg \exists x[Z(x) \land x \text{ came}]) > \text{likelihood}(\neg \exists x[\text{one}(x) \land x \text{ came}])\]

By the law of contradiction, (23) obtains from (17).

\[(23) \quad \neg \exists x[\text{one}(x) \land x \text{ came}] \rightarrow \neg \exists x[Z(x) \land x \text{ came}]\]

From (23), (24) follows and it does not contradict (22).

\[(24) \quad \text{likelihood}(\neg \exists x[\text{one}(x) \land x \text{ came}]) \leq \text{likelihood}(\neg \exists x[Z(x) \land x \text{ came}])\]

Lahiri (1998) argues that this point carries over to all other downward entailing contexts. This can be verified by replacing the negative operator in (20) through (24) with another downward entailing operator. This way, the polar sensitivity of indefinite+*bhii* phrases in Hindi is successfully derived from the semantics of indefinites and focus. In the next section, I will apply Lahiri’s analysis of NPIs to NCIs.

4. Proposal

4.1. Indefinites and indeterminates

Returning now to NCIs, let us consider why they must co-occur with clausemate sentential negation in light of Lahiri’s analysis of NPIs. Remember that NCIs consist of an indeterminate, a focus element and a negative element. Among the three ingredients, the focus element is common to both NPIs and NCIs whereas the negative element is unique to NCIs. Then, what is the role of an indeterminate, in place of which NPIs in Hindi contain an indefinite? Suppose that the indeterminate can be identified with an indefinite that expresses a weak cardinality predicate ‘one.’ Then we can conclude that NCIs and NPIs in Hindi differ solely in one point, i.e., the former contain a negative element while the latter do not, and thus, we can hypothesize that it is the presence of the negative element in NCIs that forces them to occur together with clausemate sentential negation.

This hypothesis crucially depends on the assumption that the indeterminate in NCIs is a kind of indefinite meaning ‘one’. This assumption does not sound so bizarre but is difficult to confirm. In order to avoid a loophole in the line of reasoning, we need evidence for this assumption. What counts as evidence? We can confirm the assumption if there is an expression that expresses a predicate ‘one,’ a focus element and a negative portion and that must occur in the presence of clausemate sentential negation in a parallel fashion to NCIs.

Minimizers in Russian and Spanish provide a good illustration for this assumption. First consider the case drawn from Russian.

\[(25) \quad \text{he \ Neg drop-PAST NI tear-Singulative-Deminutive-Gen} \quad \text{‘He did not shed even (the tiniest unit of) tear.’}\]
Minimizers in this language comprise *ni* ‘not even’ and a numeral part that shows up in the form of either singulative inflection or cardinal number, and they have to occur in the presence of clausemate sentential negation, in conformity to the above assumption.

Minimizers in Spanish also illustrate the same point.

(26) No dijo (ni) una palabra.
     Neg  said-3sg  NI  a  word
     ‘She/He didn’t say a word.’
     (Vallduví 1994)

In Spanish minimizers may occur with a particle *ni*, which Haspelmath (1997) analyzes as consisting of *n*- coming from *no* ‘not’ and *-i* a focus particle meaning ‘even.’ Important to the present discussion is the fact that *ni*-minimizers can only occur in the presence of clausemate sentential negation, as shown by the unavailability of the *ni*-version in (27).

(27) a. Le tocaste (*ni) un pelo?
     Dat-3sg  touched-2sg  NI  a  hair
     ‘Did you touch her/him at all?’

b. Si le toca (*ni) un pelo, avísame.
    if  Dat-3sg  touch-3sg  NI  a  hair  warn-2sg-Imp.me
    ‘If she/he touches him/her at all, let me know.’
    (Vallduví 1994)

Since minimizers in Spanish clearly contain a numeral ‘one’ in the form of an indefinite article, a version with *ni* ‘not even’ can be regarded as essentially the same thing as an NPI in Hindi plus a negative import. The fact that the distribution of minimizers in Russian and Spanish is parallel to that of NCIs validates the assumption that the latter contains the same ingredients, namely, a focus element, a negative portion and a numeral ‘one,’ which is expressed by an indeterminate.

There are three more pieces of evidence that suggest the similarity between indeterminates and indefinites. First, they both lack inherent quantificational force and thus display quantificational variability effects. As seen in Tables 1-4, indeterminates acquire quantificational force in combination with a designated particle. Likewise, indefinites are said to be a free variable and as such do not bear any inherent quantificational force so that they need to be bound by quantificational operators or existentially closed. The quantificational variability effect is exemplified in (28), where the quantificational force of the indefinite is shown to be fixed by the concurrent quantificational adverb.

\begin{table}
\centering
\begin{tabular}{|c|c|c|}
\hline
\textbf{Indeterminate} & \textbf{Quantificational Force} & \textbf{Examples} \\
\hline
\textit{ili} & + & I love you. \\
\textit{ek} & + & I hate you. \\
\hline
\end{tabular}
\caption{Indeterminates in Hindi}
\end{table}

\begin{table}
\centering
\begin{tabular}{|c|c|c|}
\hline
\textbf{Indefinite} & \textbf{Quantificational Force} & \textbf{Examples} \\
\hline
\textit{yesterday} & + & I visited yesterday. \\
\textit{tomorrow} & + & I will return tomorrow. \\
\hline
\end{tabular}
\caption{Indefinites in English}
\end{table}
NEGATION, FOCUS, AND NEGATIVE CONCORD IN JAPANESE

(28)  
   a. A Texan is always tall (= Every Texan is tall)
   b. A Texan is usually tall (= Most Texans are tall)
   c. A Texan is rarely tall (= Few Texans are tall)
   d. A Texan is never tall (= No Texan is tall)

Second, both indefinites and indeterminates allow a pronoun to be interpreted as if it were bound by them without there being a syntactic binding relationship. Consider (29) and (30).

(29)  
   a. Every professor that met [a student] will soon meet him again
   b. Every farmer who owns [a donkey] beats it

(30)  
   [[Dono fune-o], eraNda] hito-mo sono1 nedaN-ni odoroita
       which boat-Acc chose person-MO its price-at was.surprised
       ‘For every person y who chose some boat, y was surprised at the price of the boat y chose.’

In (29), the interpretation of pronouns, him and it, co-vary with that of the indefinite with which it is co-indexed though there is no syntactic binding relationship between them. Similarly, in (30), the pronoun sono ‘its’ establishes an anaphoric relation with dono hune ... mo ‘which boat ... MO’ in (30). Both cases fall under what is called an E-type pronoun (Evans 1980).

Third, Chinese presents an extremely interesting case where indeterminates such as shei ‘who’ and shenme ‘what’ can be used not only as interrogative pronouns but also as narrow scope indefinites without any additional particle. Thus, when an indeterminate occurs in a structure that licenses both usages, the structure exhibits semantic ambiguity.

(31)  
   a. Ta bu xiang chi shenme(?)
       he not what eat what
       ‘What didn’t he want to eat?’
       ‘He didn’t want to eat anything.’

   b. Zhangsan bu renwei ni hui xihuan shei(?)
       Zhangsan not think you will like who
       ‘Who didn’t Zhangsan think you will like?’
       ‘Zhangsan didn’t think that you will like anyone.’

   c. Ruguo ta xiang chi shenme, ta hui gen ni shuo(?)
       if he want eat what he will with you say
       ‘What is the x such that if he wants to eat x, he will let you know.’
       ‘If he wants to eat anything, he will let you know.’
       (Huang 1982)

This way, Chinese wh-indeterminates and indefinites are fused completely. For the purpose of the present discussion these commonalities are enough to collapse indefinites and indeterminate. (See Nishigauchi 1990, Shimoyama 2006 for relevant discussion.)
4.2. NCI – [Neg] = NPI

We are now ready to explain the contrast in (1), repeated in (32).

(32) a. **Dare-mo** ko-nakat-ta.
    who-Foc come-Neg-Past
    ‘Nobody came.’

    b. *Dare-mo** ki-ta
    who-MO come-Past

Given that NCI *dare-mo* by assumption contains a negative element and a covert numeral ‘one,’ the proposition asserted by (32b) should be represented as in (33).

(33) \(~\exists x[one (x) \land x called]\)

This would be a Logical Form for an English sentence ‘Nobody called,’ but in the case of (32a) this is not the end of the story because the NCI contains a focus element. The focus-alternatives must be taken into consideration. What will they be like? Here I will not elucidate the exact details for reasons of space. For the present discussion, however, it is sufficient to show that negative quantifiers cannot be modified by a focus-inducing element.

(34) a. *Even nobody came.
    b. *Nobody also came.

I suggest that whatever may turn out to be the correct reason for the ungrammaticality of examples (34) will carry over to NCIs in general.

Then, how does clausemate sentential negation save the structure? As we just saw, the ungrammaticality of (32b) is due to the presence of a negative element associated with a focus. Thus, the structure can be rescued by deleting the negative import contained in the NCI. How is the deletion carried out? I would like to propose that an Agree operation takes place between the Neg-feature of an NCI and clausemate sentential negation so that the former gets deleted as illustrated in (35).

(35) \[
\begin{array}{c}
\text{Neg} \ldots \text{NCI} \rightarrow \text{Neg} \ldots \text{NCI} \\
[\text{Neg}] [\text{Foc}[\text{Neg}][\text{one}]] [\text{Neg}] [\text{Foc}][\text{Neg}][\text{one}] \\
\text{Agree}
\end{array}
\]

Since the deletion of Neg-feature is executed by via Agree, only sentential negation can be a licensor for NCIs by the definition of Agree (Chomsky (2000: 5)). Other decreasing operators do not qualify. The clausemate condition also follows from the locality condition on Agree (e.g., Phase Impenetrability Condition of Chomsky (2001)). Once the Neg-feature is deleted from an NCI, it becomes equivalent to NPIs in Hindi at the level of semantic interpretation. This way, the semantic interpretation of NCIs can be reduced to the independently proposed analysis of NPIs in Hindi.

In the previous section, we reached the conclusion that it is due to the presence of a negative element in NCIs that forces them, unlike NPIs, to occur in the presence of clausal sentential negation. At first, this conclusion may seem to be effectively the same as the one drawn by Watanabe (2004), according to which NCIs in Japanese (as well as their counterparts in other languages) bear an interpretable Neg-feature and an uninterpretable focus feature and that the latter needs to be checked off by clausal sentential negation while the former is copied onto sentential negation, thereby canceling the negative meaning of sentential negation and rendering the NCI the sole locus of negation, as illustrated in (36).

\[
\text{(36) } \text{Neg} \ldots \text{NCI} \rightarrow \text{Neg} \ldots \text{NCI} \quad \text{[Neg]} \quad \text{[Foc]}\text{[Neg]} \quad \text{[Neg]}\text{[Neg]} \quad \text{[Foc]}\text{[Neg]}
\]

Putting aside for now the question on the (un)interpretability of a focus feature, deleting a focus feature by clausal sentential negation could be another way of saving the structure such as (32b), reproduced below.

\[
\text{(37) *Dare-mo kí-ta} \\
\text{who-MO come-Past (int.)'Nobody came.'}
\]

Recall that the proposition asserted by (38), shown in (39), is an impeccable logical form and that what makes the structure unacceptable is the presence of a negative morpheme associated with focus.

\[
\text{(38) } \neg \exists x \\text{[one (x) } \land x \text{ called]}
\]

It should be noticed that the structure in (38) could in principle be redeemed by deleting the focus feature, instead of the Neg-feature, thereby preempting the focus-alternatives. Under this alternative, even if the focus feature is interpretable (contra Watanabe), the necessity of clausal sentential negation could be derived by assuming that the focus feature can only be deleted through checking with sentential negation.

This revised version of Watanabe’s analysis could be a vital alternative to the present proposal as far as semantics is concerned. However, there remains an unresolved question, whether Watanabe’s original or the revised version. That is, it is not clear why only clausal sentential negation can delete an (un)interpretable focus feature. Under the present approach, the necessity of clausal sentential negation straightforwardly follows from the definition of Agree. Admittedly, this is merely a theory-internal argument. It is thus desirable to find empirical evidence for the present approach.

Note that the two proposals differ with respect to where the negative import is expressed at the level of LF. It is on the clausal sentential negation under the present
proposal whereas it is on the NCI under Watanabe’s. There is a case where the two proposals make a different prediction. In order to set up a basis on which to examine the crucial case, let us start with Watanabe’s analysis of short answers with NCIs.

Watanabe (2004) defends his analysis by demonstrating that it can account for how a question like (39a) can be answered by a fragment like (39b), without violating the well known identity condition on ellipsis, an issue arising from the fact that the antecedent lacks sentential negation whereas the elided part is supposed to contain it.

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

   What-Foc eat-Neg-Past
   ‘Nothing.’

   This issue does not arise under Watanabe’s analysis because after the Neg-feature is copied onto clausemate sentential negation, it is logically equivalent to affirmative, with its negative meaning canceled out, so that the identity condition is satisfied.

   In spite of its elegance, this analysis is falsified when it is tested with the interpretation of the elided material that takes as its antecedent the structure containing an NCI and sentential negation that licenses it. Consider (40).

(40) a. John-wa [kyoo-wa dare-ni-mo ai-taku-nai to] itte-i-masu
   John-Top today-Top who-Dat-MO meet-want-Neg Comp say-be-Pol
   ‘John says that he does not want to meet anybody today.’

   b. [Tokuni dare-ni [u-ai taku nai to itte iru]-ka] wakari-masu-ka
   especially who-Dat meet-want-Neg Comp say-be Q know-Pol-Q
   ‘(Lit) Do you know especially who (he says that he does not want to
   meet)?’

   Under Watanabe’s analysis, the negative import of the embedded sentence in (40a) is expressed by the NCI, not by the sentential negation. (40b) involves an ellipsis of IP that is sanctioned under the identity with the preceding sentence. If Watanabe’s analysis were correct, the elided IP would have to be interpreted as an affirmative open sentence because the sentential negation in the IP of (40a) has been voided via Agree with the NCI. To put it more concretely, the interpretation of the IP of (40a) that would obtain under Watanabe’s analysis would be (41).

(41) \( \lambda x. \) John says that he wants to meet \( x \)

   The identity condition on ellipsis would then compel the elided material to be interpreted as an affirmative open sentence. However, this is not the case, as indicated by the translation. The elided part is interpreted as a negative open sentence. This shows that the locus of negation is located within the IP, more specifically on the sentential negation, as is predicted.
by the present analysis. The failure to capture the correct interpretation of a case like (40b) is fatal enough to abandon Watanabe’s analysis.

Then how should we treat a short answer with an NCI such as (39b)? Giannakidou (2006) suggests an alternative analysis of elliptical answer, which does not necessitate that the NCI constitute the locus of negation. Adopting Hamblin (1973) and Karttunen’s (1977) semantics of questions, according to which questions denote the set of their true answers, she suggests that an elliptical answer with an NCI can be derived from its non-elided counterpart, which is surely a member of the answer set. Thus, question (39a) denotes the set of answers given in (42) under the postulated domain of quantification.

(42) Domain of quantification: \{pizza, sushi\}

\[
\begin{align*}
\text{Pizza-o tabe-ta,} & \quad \text{Sushi-o tabe-ta,} & \quad \text{Nani-mo tabe-nak-atta} \\
\text{pizza-Acc eat-Past} & \quad \text{sushi-Acc eat-Past} & \quad \text{what-Foc eat-Neg-Past} \\
\text{‘I ate pizza’} & \quad \text{‘I ate sushi.’} & \quad \text{‘I didn’t eat anything.’}
\end{align*}
\]

The answer set contains a negative proposition ‘I didn’t eat anything’. The elliptical answer in (40b) is derived from this answer by moving the NCI to the left periphery of the sentence followed by deletion, as illustrated in (43).\(^4\)

(43) \[
\begin{array}{c}
\text{Nani-mo} \\
\text{what-Foc}
\end{array}
\begin{array}{c}
\text{tabe
} \quad \text{nak-atta}
\end{array}
\begin{array}{c}
\text{eat-Neg-Past}
\end{array}
\]

To the extent that Giannakidou’s proposal is tenable, it is unnecessary to suppose that the negative import of sentential negation must be canceled to explain the availability of elliptical answers with an NCI.

6. Implications

One of the implications that the proposed analysis has is that it is possible to delete a Neg-feature even though it is semantically interpretable. This is contrary to the standard view that only uninterpretable/unvalued features can be deleted/valued. In order for the present proposal to find a natural place in the current Minimalist theory of syntax, this deviation has to be properly handled.

Two points that might normalize the deviation have occurred to my mind. First, Pesetsky and Torrego (2001) and their subsequent works argue that all the features are inherently interpretable but they become uninterpretable when they are misplaced in a

---

\(^4\) One might think that Giannakidou’s analysis would mistakenly allow NPIs to occur in fragments.

(i) a. Who did John meet?
    b. *Anybody.

However, (i-b) can be ruled out for an independent reason. That is, in order for an NPI to become a fragment, it must move out of the to-be-elided constituent so that it will end up outside the c-command domain of sentential negation, in violation of the constraint that dictates that NPIs occur (and remain) within the scope of monotone decreasing operators.
position where they cannot be suitably interpreted, their case being that the allegedly uninterpretable Case feature is an instance of interpretable tense feature misplaced on D, which is not the canonical position for the interpretation of tense. If this conception of feature (un)interpretability is correct, then we can regard the Neg-feature associated with focus within an NCI as an instance of an inherently interpretable feature that happens to get uninterpretable due to its position and hence needs to be deleted. Under this view, the deletion of an interpretable Neg-feature ceases to be a problem.

Second, the deletion of a negative feature seems to be necessary to treat NCIs in Romance languages such as Spanish and Italian. Take a look at the Spanish cases given in (44).

(44) a. Nadie vino.
    nobody came
    ‘Nobody came.’

b. No vino nadie.
    Neg came nobody
    ‘Nobody came.’

(44a) shows that the NCI in Spanish bears the negative import of its own. However, as (44b) demonstrates, the same item occurs in postverbal position together with sentential negation without inducing double negation. This phenomenon is called Negative Concord, and a number of proposals have been made to handle it. One of the major analyses utilizes an operation called Negative Absorption, by which multiple occurrences of negation are rendered into one (See Haegeman (1995) and Haegeman and Zanuttini (1996)). Due to its non-compositionality and stipulative nature, it has often been criticized. (See Giannakidou (2000)). However, the Absorption approach makes more sense in light of the present proposal that motivates the deletion of Neg-feature. For reasons of space, I will leave the exact implementation open, but it seems that deletion of Neg-feature is needed anyway in the analysis of NCI.

7. Conclusion

This paper has shown that the distribution of NCIs in Japanese can be derived by morphological decomposition of their structure and semantic consideration of each component. In doing so, it was demonstrated that the difference between NCIs and NPIs is reducible to the presence of a negative portion in the former, which forces them to occur in the presence of clausemate sentential negation. This attempt was made feasible only through a cross-linguistic morphological and semantic analysis of NCIs and NPIs.

References

NEGATION, FOCUS, AND NEGATIVE CONCORD IN JAPANESE