COMPARATIVES AND CONTRASTIVENESS: THE SEMANTICS AND PRAGMATICS OF JAPANESE Hoo COMPARATIVES*

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1 Introduction

The interpretation of phrasal comparatives appears to be sometimes ambiguous and sometimes not. This paper investigates the interaction between the semantics and pragmatics of phrasal comparatives, based on an observation and analysis of a disambiguation effect found in Japanese phrasal comparatives. The disambiguation involves the morpheme hoo, whose formal analysis, to our knowledge, has not yet been proposed. This study not only sheds light on the meaning and function of comparatives in Japanese, but also gives insights into the notion of comparison class (Klein, 1980) and a possible restriction imposed on it.

Both in Japanese and in the English equivalent, comparative sentences like the following can be interpreted in two different ways (as indicated in the English translations):

(1) Watashi-wa John-yori neko-o aishiteiru
    I-TOP John-than cats-ACC love.NONPAST
    i. ‘I love cats more than John loves cats.’ (John=Subject)
    ii. ‘I love cats more than I love John.’ (John=Object)

Japanese has the morpheme hoo, a formal noun (keeshiki meeshi) whose original meaning is ‘way’, ‘direction’ or ‘side’, that can disambiguate the interpretation by attaching to either the subject watashi ‘I’ (= (2)), or the object neko ‘cats’ (= (3)):

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Japanese Hoo Comparatives

(2) Watashi-no-hoo-ga John-yori neko-o aishiteiru
   I-GEN-hoo-NOM John-than cats-ACC love.NONPAST
   i. ‘I love cats more than John loves cats.’ (John=Subject)
   ii. NOT: ‘I love cats more than I love John.’ (John=Object)

(3) Watashi-wa John-yori neko-no-hoo-o aishiteiru
   I-TOP John-than cats-GEN-hoo-ACC love.NONPAST
   i. NOT: ‘I love cats more than John loves cats.’ (John=Subject)
   ii. ‘I love cats more than I love John.’ (John=Object)

The disambiguation effect of hoo is quite robust: when sentences (2) and (3) are uttered in out-of-blue contexts, they unambiguously mean what they mean. But why? That is, what is the meaning and function of this morpheme and how exactly is it that it disambiguates phrasal comparatives? Does the disambiguation arise because hoo affects the syntax of phrasal comparatives, or is it purely a pragmatic phenomenon? In this paper, we first show how the ambiguity in phrasal comparatives can be captured in a compositional way, using the mechanism of parasitic scope (Barker, 2007), which is independently motivated elsewhere for different purposes. Then, we propose hoo’s meaning to explain the disambiguation effect shown in (2) and (3). We will argue for the conclusion that the disambiguation occurs not because hoo directly affects the syntactic structure of phrasal comparatives, but because of the pragmatic property lexically encoded in hoo. This idea is empirically supported by further data that show that the ambiguity re-emerges in hoo comparatives within an enriched discourse context.

2 Compositional semantics of Japanese comparatives

2.1 Basic cases

In deriving the meaning of comparatives, we assume the semantics of gradable predicates such as ‘smart’ to be a relationship between an individual and a degree (Cresswell, 1977), as in (4):

(4) $\llbracket \text{kashikoi} \rrbracket = \llbracket \text{smart} \rrbracket = \lambda x. \lambda d. \text{x is d-smart}$

As can be seen in (5), Japanese is one of those languages that do not have overt comparative morphemes such as -er or more, but it is shown by Kennedy (2009) and Sawada (2009) that sentences with yori phrases such as (5b) are a case of explicit comparison (which has the ordinary semantics of comparatives). We thus assume, following Kennedy (2009) and Sawada (2009), that the morpheme yori, whose meaning is given in (6), introduces the comparative meaning in sentences like (5b).

    John-TOP smart.NONPAST
    ‘John is smart.’

An alternative would be to assume a null comparative morpheme equivalent to -er/more in English and let yori be vacuous just as English than is assumed to be (cf., e.g., Beck et al. (2004)). The choice between these alternatives would not affect the main part of the analysis in this paper.
b. John-wa Mary-yori kashikoi.
   John-TOP Mary-than-smart
   ‘John is smarter than Mary.’

(6) \[ [\text{yori}] = \lambda y \lambda g_{\langle d, et \rangle} \lambda x. \max\{d \mid g(d)(x) = 1\} > \max\{d' \mid g(d')(y) = 1\} \]
   ‘The maximum degree of x’s g-ness is greater than that of y’s.’

The comparative morpheme \text{yori} takes three arguments, i.e. two individual arguments (x and y) and a gradable predicate \( g \) of type \( \langle d, et \rangle \), to yield the meaning ‘x is more \( g \) than y is \( g \)’ (cf. the ‘direct’ analysis of comparatives (Heim, 1985, Bhatt and Takahashi, 2008) as opposed to the ‘ellipsis/reduction’ analysis). Semantically, it compares the degrees that the two individuals have on the scale associated with the gradable predicate. For a non-ambiguous case like (5b), the meaning can be derived directly from the structure in (7) as in (8).

(7) Structure for (5b)

(8) \[ (5b) \iff \max\{d \mid \text{John is } d \text{-smart}\} > \max\{d' \mid \text{Mary is } d' \text{-smart}\} \]
   ‘The maximum degree of John’s smartness is greater than that of Mary’s.’

However, in order to deal with the ambiguity observed in sentences like (1), we will need some additional mechanism as shown in the next section.

2.2 Deriving the ambiguity with Parasitic Scope

Sentences like (1) are ambiguous because there are potentially two different Logical Forms (LFs) for this kind of phrasal comparative. Specifically, the ambiguity is due to the fact that there is more than one possible correlate (the ‘correlate’ is the expression that denotes the object whose degree is compared with the degree introduced by the \text{yori} phrase; for example, for reading (1i), the correlate is the subject \text{watashi} ‘I’, whereas for reading (1ii), the correlate is the object \text{neko} ‘cats’):

(1) Watashi-wa John-yori neko-o aishiteiru
   I-TOP John-than cats-ACC love
   i. ‘I love cats more than John loves cats.’ (John=Subject)
   ii. ‘I love cats more than I love John.’ (John=Object)

Technically, we implement this idea by adopting the so-called \textit{parasitic scope} mechanism proposed by Barker (2007).\footnote{An independently motivated mechanism to account for the syntax and semantics of the expressions \textit{same} (Barker, 2007) and \textit{average} (Kennedy and Stanley, 2008).} Parasitic scope involves the following two-step movement: (i) the
correlate movement, and (ii) the yori ‘than’ phrase movement. First, we abstract over the correlate noun via movement, leaving behind a trace of type $e$ as in (9b). Then, we abstract over the degree argument via movement of the yori phrase, leaving behind a trace of type $d$ as in (9c).

(9) Deriving the structure for the meaning (1i):

<table>
<thead>
<tr>
<th>Diagram a</th>
<th>Diagram b</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>I</td>
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<tr>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>John-yori</td>
<td>John-yori</td>
</tr>
<tr>
<td>John-than</td>
<td>John-than</td>
</tr>
<tr>
<td>neko-o aishiteiru cats love</td>
<td>neko-o aishiteiru cats love</td>
</tr>
</tbody>
</table>

The derived structure in (9c) is then interpreted as in (10). Here, the gradable predicate is ‘$\lambda d \lambda x. x$ loves cats $d$-much’, which measures the degree of one’s love of cats.

(10) $\begin{cases} \text{[(9c)]} = \text{[yori][][John]](\lambda d \lambda x. x$ loves cats $d$-much)([I]) \\ = 1 \text{ iff } \max\{d \mid I \text{ love cats } d \text{-much}\} > \max\{d' \mid \text{John love cats } d' \text{-much}\} \end{cases}$

Note crucially that the landing site for the LF movement of the yori phrase is right underneath the first moved correlate, and that it becomes available only after the correlate takes scope. In other words, the scope-taking behavior of the yori phrase is parasitic on the scope-taking behavior of its correlate (hence the name ‘parasitic scope’).

This movement mechanism might seem vacuous when one considers only the John=Subject reading. However, as shown below, it is needed for the other (i.e., John=Object) reading. Otherwise, we will not be able to derive the ambiguity. For the John=Object reading, it is now neko ‘cats’ that undergoes the correlate movement. Then, as above, the yori phrase movement
occurs. This creates the gradable predicate ‘$\lambda d \lambda x. I$ love $x$ $d$-much’ that measures the degree of the speaker’s love of the object.\(^3\)

(11) The structure for the meaning (1ii):

\[
\begin{align*}
\text{neko-o} & \quad \text{cats} \\
\langle(d,et),et & \rangle \\
\langle(d,et) & \rangle \\
\lambda d & \langle e,t \rangle \\
\lambda x & \\
\text{John-yori} & \text{John-than} \\
\langle(d,et) & \rangle \\
\langle(e,t) & \rangle \\
\text{watashi-wa} & \text{I} \\
\langle(d,et) & \rangle \\
\langle(e,d,et) & \rangle \\
\lambda & \langle e \rangle \\
\text{aishiteiru} & \text{love} \\
\end{align*}
\]

(12) \[\llbracket (11) \rrbracket = \llbracket \text{yori} \rrbracket (\llbracket \text{John} \rrbracket \langle \lambda d \lambda x. I$ love $x$ $d$-much \rangle \llbracket \text{cats} \rrbracket ) = 1 \text{ iff } \max \{d \mid I$ love $\text{cats } d$-much \} > \max \{d' \mid I$ love $\text{John } d'$-much \}

The correlate movement seems to be subject to locality restrictions, which suggests that the movement is indeed a syntactic phenomenon. Consider, for example, the LF (14) for (13), which is a case of the Complex NP Constraint violation for the correlate movement:\(^4\)

(13) # [[Mary-ga tsukutta] keeki]-wa John-yori oishii.

Mary-NOM made cake-TOP John-than delicious

Intended: ‘The cake Mary made is more delicious than the one John made.’

(14) Mary\(_i\)-ga John-yori\(_k\) [[\(t_i, t_j\) tsukutta] keeki\(_j\)]-wa \(t_k\) oishii.

If there is no restriction on the movement, for (13), it should in theory be possible to form a gradable predicate (of type $\langle d,et \rangle$) ‘$\lambda d \lambda x. \text{the cake } x \text{ made is } d$-delicious’ by having the correlate moved out of the relative clause as in (14). This gradable predicate, together with the $\text{yori}$ phrase in the matrix clause, should then be able to produce a comparative meaning ‘the degree of deliciousness of the cake Mary made is greater than that of the cake John made’ for the whole sentence. However, the sentence is unacceptable on this intended reading, which suggests that the correlate movement has to obey syntactic locality restrictions.

\(^3\)Here, following Carlson (1977) (among others), we assume that the domain of individuals includes not only entities like John and Mary but also kinds such as (the kind) cats.

\(^4\)(13) is of course fully acceptable on the (pragmatically less plausible) interpretation that asserts that the degree to which Mary’s cake is delicious exceeds the degree to which John (and not John’s cake) is delicious.
3 Accounting for the disambiguation with hoo

3.1 Pragmatic account of the disambiguation

Having derived the two meanings for the hoo-less ambiguous comparative sentence, we will now move on to explain why the addition of the morpheme hoo, depending on where it appears, contributes to the disambiguation. The relevant data are repeated below:

(2) Watashi-no-hoo-ga John-yori neko-o aishiteiru  
   I-GEN-hoo-NOM John-than cats-ACC love.NONPAST  
   i. ‘I love cats more than John loves cats.’  
      (John=Subject)  
   ii. NOT: ‘I love cats more than I love John.’  
       (John=Object)

(3) Watashi-wa John-yori neko-no-hoo-o aishiteiru  
   I-TOP John-than cats-GEN-hoo-ACC love.NONPAST  
   i. NOT: ‘I love cats more than John loves cats.’  
      (John=Subject)  
   ii. ‘I love cats more than I love John.’  
       (John=Object)

If hoo is attached to the subject noun watashi ‘I’ as in (2), the only possible reading is (i); if hoo is attached to the object noun neko ‘cats’ as in (3), the interpretation is unambiguously (ii).

There are at least two alternative accounts of this disambiguation effect of hoo: a purely syntactic one (sketched in section 3.2 below) and a semantic/pragmatic one. We argue below for the latter. The gist of our proposal is that the two LFs are still possible in both (2) and (3), but because hoo-phrases bear a particular presupposition, it filters out one of the two interpretations for a pragmatic reason. The idea behind this comes from the fact that hoo’s fundamental pragmatic function is to draw a distinction between two contextually salient objects in terms of some property under discussion. This becomes clearer if we think about to what kind of questions hoo comparatives can be used as a felicitous answer. For example, among the questions in (15), the only possible situation where the hoo comparative (16a) counts as a felicitous answer is when the question is (15a). In contrast, other types of comparatives without hoo (16b-c) serve as felicitous answers to the other questions.5

(15) a. Q1: Which is taller, John or Mary? —A1/#A2/#A3  
    c. Q3: How tall is John? —#A1/#A2/A3

(16) a. A1: John-no-hoo-ga Mary-yori se-ga takai  
   John-GEN-hoo-NOM Mary-than height-NOM high  
   ‘John is taller than Mary.’ (‘John is the taller of the two.’)  
   b. A2: John-wa Mary-ni kurabetara se-ga takai  
   John-TOP Mary-DAT compared-if height-NOM high  
   ‘ Compared to Mary, John is tall.’

5For more evidence for the different pragmatic properties of hoo-marked comparatives and other types of comparatives and detailed analyses of their pragmatic functions, see Kubota and Matsui (2011).
Based on this fact, we propose the following denotation for *hoo*:

\[
\llbracket hoo_C \rrbracket = \lambda x : x \in C \land |C| = 2. x
\]

(where \( C \) is a contextually salient *comparison class*)

*Hoo* takes an individual \( x \) as its argument. Truth conditionally, it is vacuous (\( \lambda x. x \)), i.e., it introduces no change in the meaning of \( x \) itself nor in the argument structure of the comparative construction. Crucially, however, *hoo* introduces the following presupposition: (i) the entity \( x \), the expression that *hoo* attaches to, is one of the members of the contextually salient *comparison class* \( C (x \in C) \), and (ii) the cardinality of \( C \) is two, i.e., \( C \) is a two membered set (\(|C| = 2\)).

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Some remarks are in order regarding the notion of ‘comparison class’ here. First, calling, as we have done in (17), that the set of contrasted objects invoked by *hoo* the ‘comparison class’ (i.e., set of objects salient in the discourse for which a comparison along the same scalar dimension is taken to be appropriate) is actually a simplification. We will ultimately abandon this simplification when we consider a wider range of data in the next section in which *hoo* invokes a contrast between discourse-salient entities that does not involve any scalar dimension; however, for the sake of exposition, we keep this simplifying assumption throughout this section.

Second, the notion of comparison class and the set of entities salient in the discourse need to be kept separate. Examples like the following suggest that the actual number of entities that are under discussion for the relevant comparison does not need to be restricted to two:

(i) *John-no-hoo-ga hoka-no hito-tachi-yori se-ga takai*
    
    *John-GEN-hoo-NOM other-GEN people-PLU-than height-NOM high*
    
    ‘John is taller than the other people.’

We assume that, in this example, the expression *hoka-no hito-tachi* denotes a plural individual. Thus, the comparison class is still a two-membered set, consisting of the (singular) individual John and a plural individual which is the sum of ‘the other people’.

Support for this analysis of (i) comes from the fact that (i) is felicitous only in contexts in which the heights of the people denoted by the plural expression *hoka-no hito-tachi* are about the same. This is naturally expected under the proposed analysis. For a set of people with substantially different heights, it does not make sense to talk about the ‘height’ of the plural individual consisting of them all (for example, would that height be the maximum height of the set of individuals involved, or would it be the average height?), whereas if the set of people involved all have about the same height, the height shared among all of the members can simply be regarded as the ‘height’ of that plural individual.

Finally, the denotation of *hoo* given in the main text is simplified in yet another respect in that the value of the comparison class variable \( C \) is assumed to be determined purely contextually. Examples like the following suggest that we need to allow for the comparison class to covery with a quantifier that binds into it:

(ii) *Hoka-no dare-yori-mo John-no-hoo-ga se-ga takai*
    
    *other-GEN who-than-mo John-GEN-hoo-NOM height-NOM high*
    
    ‘John is taller than anybody else.’

Note that this is just an instance of a more general phenomenon. As discussed by Kennedy (2007) with examples such as *Everyone in my family is tall*, the comparison class parameter can in general covery with a quantifier. Technically, we can handle such binding relations between quantifiers and the comparison class by relativizing the comparison class parameter to bound variables, following a suggestion made in Kennedy (2007). On this analysis, the denotation of *hoo* can be revised as follows:
Below, we show how the disambiguation effect found in *hoo* comparatives can be explained in terms of the filtering out effect by the semantics and pragmatics of *hoo*. Let us first consider example (2), where *hoo* is attached to the subject noun *watashi* ‘I’. As we have seen, the interpretation is unambiguously John=Subject. In order to derive that meaning, the LF should be the one in (18b). This is then interpreted as (18c).

\[(18)\]
\begin{enumerate}
\item Watashi-no-hoo-ga John-yori neko-o aishiteiru = (2)
\begin{align*}
I & \text{-hoo-} \text{NOM} \quad \text{John-than cats-ACC love.NONPAST}
\end{align*}
\begin{quote}
‘I love cats more than John.’
\end{quote}
\item LF: [I-hoo]_1 [John-than]_2 [t_1 t_2 cats-ACC love]
\item Assertion: \(\max\{d \mid I\text{ love cats }d\text{-much}\} > \max\{d' \mid \underline{\text{John}}\text{ loves cats }d'\text{-much}\}\)
\begin{align*}(I, & \text{John} \in \mathcal{C}) \end{align*}
\item Presupposition: \(I \in \mathcal{C} \land |\mathcal{C}| = 2\)
Is there such \(\mathcal{C}\) available? —Yes: \(\mathcal{C} = \{I, \text{John}\}\)
\end{enumerate}

With respect to the truth conditions, the sentence expresses ‘I love cats more than John loves cats’, i.e. the speaker and John are compared to each other in terms of how much they love cats. For the presuppositional meaning, since *hoo* is attached to *watashi* ‘I’, the speaker should be one of the members of the comparison class. This is consistent with what is said in the assertion: the comparison is made between the speaker and John.

What about the other, unavailable reading? Why is it unavailable? In order to derive the other (i.e., John=Object) reading, the LF should be the one in (19b). With this structure, the assertion and presupposition of the John=Object reading should be as in (19c).

\[(19)\]
\begin{enumerate}
\item Watashi-no-hoo-ga John-yori neko-o aishiteiru = (2)
\begin{align*}
I & \text{-hoo-} \text{NOM} \quad \text{John-than cats-ACC love.NONPAST}
\end{align*}
\begin{quote}
‘I love cats more than John.’
\end{quote}
\item LF: [cats]_1 [John-than]_2 [I-hoo t_2 t_1 love]
\item Assertion: \(\max\{d \mid I\text{ love cats }d\text{-much}\} > \max\{d' \mid \underline{\text{John}}\text{ loves cats }d'\text{-much}\}\)
\begin{align*}( & \text{cats, John} \in \mathcal{C}) \end{align*}
\item Presupposition: \(I \in \mathcal{C} \land |\mathcal{C}| = 2\)
Is there such \(\mathcal{C}\) available? —No: \(\mathcal{C} = \{?, ?, ?\}\)
\end{enumerate}

As above, since *hoo* is attached to *watashi* ‘I’, the presupposition of *hoo* requires that the speaker be one of the two members of the comparison class, as in (19c ii). However, there is no such \(\mathcal{C}\) available from the assertion, since, in the assertion, the comparison is made between cats and John in terms of how much the speaker loves them. This mismatch between the assertion and the

\[\text{(iii) } \llbracket \text{hoo}_{\mathcal{C}_y} \rrbracket = \lambda x : x \in \mathcal{C}_y \land |\mathcal{C}_y| = 2. x\]

\(\mathcal{C}_y\) here designates the ‘comparison class relativized to the individual \(y\)’. Thus, if the correlate is a quantifier as in (ii) above, it can bind the variable \(y\) tied to the comparison class parameter so that different comparison classes can be assigned for each individual that the quantifier ranges over. (Note further that unlike (i), (ii) does not come with the restriction that ‘the other people’ that John is compared with have about the same height. This is consistent with our analysis: for the quantifier case, for each of the individuals that the quantifier ranges over, the comparison class is reset to a two-membered set containing two *singular* individuals).
presupposition is the reason that the John=Object reading is filtered out in the *hoo* sentence (2). Crucially, it is not that the syntactic structure or the semantic interpretation is anomalous. Rather, it is the unsatisfied presupposition introduced by *hoo* that leads to the disambiguation. The same explanation holds for the disambiguation in (3).

### 3.2 A conceivable syntactic alternative

In the previous subsection, we offered an explanation for the *hoo* disambiguation in terms of a semantics-pragmatics interaction. There is a conceivable alternative approach, a more syntax-based one, to this disambiguation phenomenon along the following lines. Note first that, in the disambiguated *hoo* sentences, the *hoo*-marked phrase corresponds to the correlate of the comparative construction. From this, one might hypothesize that, in *hoo* sentences, one of the two LFs is ruled out for a syntactic reason, that is, that *hoo* is a morpheme that marks the correlate that undergoes movement prior to the *yori* phrase movement in the parasitic scope procedure. Thus, when *hoo* is attached to the subject *watashi* ‘I’, the only possible LF would be (20a), and the other one (20b) would not be derived syntactically.

\[
(20) \quad \begin{align*}
\text{a.} & \quad \begin{array}{c}
\text{DegP} \\
\text{HooP} \quad \text{Deg'} \\
\text{watashi-hoo} \\
\text{I-hoo} \\
\text{John-yori} \\
\text{John-than} \\
\text{Deg} \\
\text{VP} \\
\text{t}_1 \\
\text{t}_2 \\
\text{V'} \\
\text{aishiteiru} \\
\text{love} \\
\text{cats}
\end{array} \\
\text{b.} & \quad \begin{array}{c}
\text{DegP} \\
\text{NP} \quad \text{Deg'} \\
\text{neko} \\
\text{cats} \\
\text{Deg} \\
\text{PP} \\
\text{John-yori} \\
\text{John-than} \\
\text{Deg} \\
\text{VP} \\
\text{t}_2 \\
\text{t}_1 \\
\text{V'} \\
\text{aishiteiru} \\
\text{love}
\end{array}
\end{align*}
\]

One way of implementing this idea would be to assume a syntactic feature lexically encoded in *hoo* that is sensitive to the degree head so that it can ensure the scope dependency relationship between the correlate and the *yori* phrase, in such a way that the former always takes scope over the latter.
In this view, the disambiguation occurs purely at the level of syntax. The prediction would then be that *hoo* comparatives are never ambiguous, no matter what the discourse context is. In the next section, we will show that this prediction is incorrect, and show that our pragmatic approach better accounts for a wider range of data.

4 Extending the analysis

In this section, we will consider two cases that show that *hoo*’s pragmatic function is not merely to disambiguate an ambiguous comparative sentence. We will argue that our pragmatic account, in which *hoo* is assigned a general meaning and pragmatic function, extends straightforwardly to these cases once we abandon one simplifying assumption that we introduced in the previous section, whereas the syntactic alternative sketched at the end of the previous section fails to accommodate these additional data.

4.1 Re-emergence of ambiguity

First, the ambiguity of comparative sentences that is normally suppressed with the presence of *hoo* re-emerges when the *hoo* sentences are used in special contexts in which the set of individuals being contrasted with one another is already given (rather than being retrieved from the assertion of the sentence). Consider, for example, (21b), uttered in a context specified in (21a):

\[ (21) \]
\[ a. \text{Someone says to you ‘Mary loves cats more than John, doesn’t she?’ (which is ambiguous itself). You believe that that is false and correct the statement by saying:} \]

\[ b. (\text{Mary-janakute}) \text{watashi-no-hoo-ga John-yori neko-o aishiteiru} \]
\[ \text{Mary-not.and I-GEN-hoo-NOM John-than cats-ACC love.NONPAST} \]
\[ i. ‘It’s not Mary but me who loves cats more than John loves cats.’ (John=Subject) \]
\[ ii. ‘It’s not Mary but me who loves cats more than John.’ (John=Object) \]

The re-emergence of ambiguity is also possible with the other *hoo* sentence, where *hoo* is attached to the object *neko* ‘cats’:

\[ (22) \]
\[ a. \text{Someone says to you ‘You love Mary more than John, don’t you?’ (which is ambiguous itself). You believe that that is false and correct the statement by saying:} \]

\[ b. (\text{Mary-janakute}) \text{neko-no-hoo-o watashi-wa John-yori aishiteiru} \]
\[ \text{Mary-not.and cats-GEN-hoo-ACC I-TOP John-than love.NONPAST} \]
\[ i. ‘It’s not Mary but cats that I love more than John does.’ (John=Subject) \]
\[ ii. ‘It’s not Mary but cats that I love more than John.’ (John=Object) \]

The re-emergence of ambiguity in contexts such as the above is precisely what is expected in the pragmatic account of the disambiguation like ours. The crucial difference between the

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7 The re-emergence of ambiguity also seems to occur in implicit comparison (‘compared to Mary’) and metalinguistic comparison (‘rather than Mary’) (Sawada, 2007).

\[ i) \{\text{Mary-ni kurabete/Mary-(to-iu)-yori}\} \text{watashi-no-hoo-ga John-yori neko-o aishiteiru} \]
\[ \{\text{Mary-to compared/Mary-(that-say)-than I-GEN-hoo-NOM John-than cats-ACC love.NONPAST} \]
\[ ‘\{\text{Compared to Mary/Rather than Mary}, I love cats more than John.’ (Ambiguous) \]
out-of-blue context and the enriched discourse context of the kind given in (21) and (22) is that the presupposition failure for the unavailable reading (which is due to the fact that the value of the ‘comparison class’ variable \(C\) cannot be resolved satisfactorily) for the former is rescued in the latter with the help of the enriched discourse context. Specifically, in contexts such as that given in (21), the discourse already sets up a contrast between Mary and the speaker, and hence the comparison of the two can be made either in terms of whether they like cats more than John does or whether they like cats more than they like John (i.e., the ambiguous two readings of the comparative sentence).

It should now be clear that the assumption that the two-membered set of salient objects \(C\) in the denotation of hoo in (17) corresponds to the comparison class for the semantics of comparatives is too simple. Rather, \(C\) in (17) should be thought of as a special kind of ‘contrastive’ alternative set (where the notion of ‘alternative set’ should be understood in the standard sense, cf., e.g., Rooth (1985, 1992)) whose cardinality is restricted to two. The identification of the contrastive alternative set invoked by hoo and the semantic comparison class of the comparative construction, then, is only an overridable default process (see section 5 for some discussion on how this identification comes about).

(23) shows how the assertion and the presupposition of the John=Object reading for (21) are determined:

\[
(23) \quad \text{LF: } [\text{cats}_1, [\text{John-than}_2 [\text{1-hoo}_2 \text{t}_1 \text{love}]}
\]
\[
a. \quad \text{Assertion: } \max\{d \mid I \text{ love cats}_d \text{-much}\} > \max\{d' \mid I \text{ love John}_d' \text{-much}\}
\]
\[
\quad (\text{cats}_c, \text{John} \in C)
\]
\[
b. \quad \text{Presupposition: } I \in C \land |C| = 2
\]
\[
\quad \text{Is there such } C \text{ available (in the situation (21a))?}
\]
\[
\quad -\text{Yes: } C = \{I, \text{Mary}\}
\]

Note that the LF in (23) leads to presupposition failure in the out-of-the-blue context, due to the fact that the constraint imposed on the alternative set/comparison class by the assertion of the sentence \((\text{cats}_c, \text{John} \in C)\) is inconsistent with the requirement that hoo imposes on it \((I \in C)\). The crucial difference between the out-of-blue context and the enriched discourse context in (23) is that, in the latter, the context provides an alternative value for the alternative set invoked by the presupposition of hoo that does not correspond to the comparison class tied to the assertion of the sentence. This in turn means that the semantic comparison class of the comparative is free from any restriction from the presupposition of hoo and thus the ambiguity re-emerges. The fact that the ambiguity re-emerges precisely in contexts like this strongly suggests that the disambiguation effect observed in hoo sentences like (2) and (3) is fundamentally pragmatic. If we instead adopted the syntactic approach sketched in section 3.2 above, that is, if hoo-phrases were always to mark the correlate noun phrase of the comparative construction, neither (21) nor (22) should be ambiguous, failing to account for the observed re-emergence of ambiguity.

### 4.2 Hoo in non-comparative sentences

The re-emergence of ambiguity observed in the previous section suggests that the contrastive function of hoo is in principle independent of the semantics of comparatives. This leads one to expect that hoo should be able to appear in non-comparative sentences as well, as long as its presupposition is satisfied. This is indeed the case. For example, suppose the speaker is at a
restaurant, choosing either soup or salad as a side dish. In that situation, one can utter (24) to express one’s choice between the two alternatives:

(24) Watashi-wa sarada-no-hoo-o onegaishimasu.
   I-TOP salad-GEN-hoo-ACC request.NONPAST
   ‘I will have salad, please.’ (Not the other, i.e. soup)

From this example, it should be clear that hoo does not bear any syntactic feature specifically sensitive to the degree head or comparative construction. The function of hoo here is essentially the same as in the comparative construction: In both cases, hoo invokes the presupposition that two entities are being contrasted with one another in terms of some contextually relevant property. The distribution of hoo in sentences like (24) and its pragmatic function in such examples is exactly what is expected given the semantics and pragmatics of hoo in (17) (with the refinement that we have introduced in the previous subsection that there is only an indirect association between its alternative set and the comparison class of comparatives).

In sum, the above facts show that hoo’s main property is a pragmatic one, i.e. to impose some restriction on the set of alternatives salient in the discourse, and not something that forces movement or restriction on the available syntactic structure of the comparative sentence.

5 Closing Remarks

In this paper, we have argued that the disambiguation effect of hoo in comparative sentences arises from the interactions between the compositional semantics of comparatives (wherein a comparison of two objects with respect to some gradable property is explicitly made by the assertion of the sentence) and the pragmatic property of the morpheme hoo, whose essential function, we have argued, is to invoke some kind of contrast between two contextually salient objects. As should be clear from the discussion in the previous section, one assumption that this analysis crucially rests on is that, by default, the comparison class associated with the semantics of comparative sentences and the two-membered alternative set introduced by hoo are identified with one another. There is good reason to believe that this identification is only a default: the two cases we have considered in the previous section are precisely cases in which this identification fails to obtain.

But if this identification is only an overridable default, why is it so strong as to invoke disambiguation in out-of-the-blue contexts so robustly? We cannot answer this question fully in this short paper, as it relates to a much larger question at the interface of semantics and pragmatics of how the more general and inherently pragmatic notions such as alternative set and the more construction-specific and semantically-oriented notions such as comparison class relate to each other. But here are some speculations, which we believe can ultimately be fleshed out as a more adequate explanation. When the assertion of the sentence expresses degree comparison of two objects on the same scalar dimension, other things being equal, it is most natural to assume that the two objects being compared are at the same time salient entities that are contrasted with one another in terms of some pragmatically relevant property. Conversely, in a context in which some kind of contrast between two objects is relevant, the most natural way in which an assertion of a comparative sentence pertains to that discourse is if the objects explicitly being compared with one another in the comparative sentence are the objects under discussion and if the scalar properties by which the comparison is made somehow relates to the pragmatic property under discussion. Thus,
there is a natural connection between the pragmatic notion of contrast and the semantic notion of comparison that supports the default identification of the two notions.

We would like to close this paper by briefly discussing two larger implications of our proposal. First, if the disambiguation effect by *hoo* is due to an interaction between the compositional semantics of the comparative construction and the alternative-invoking pragmatic function of *hoo*, we expect that similar effects should arise with other alternative-invoking expressions such as prosodic focus, both in Japanese and cross-linguistically. This is indeed the case. In fact, it is long known in the literature (cf., e.g., Rooth (1992)) that prosodic focus in English has a disambiguation effect that is strikingly similar to the effect observed with *hoo*, as exemplified by the following data from Rooth (1992):

\[(25)\]  
\[\textbf{a.} \quad \text{[She]} \text{\_} \text{beats me more often than Sue} \]  
\[\text{i. She beats me more often than Sue beats me} \quad \text{(Sue=Subject)} \]  
\[\text{ii. NOT: She beats me more often than she beats Sue} \quad \text{(Sue=Object)} \]  
\[\textbf{b.} \quad \text{She beats [me\_] more often than Sue} \]  
\[\text{i. NOT: She beats me more often than Sue beats me} \quad \text{(Sue=Subject)} \]  
\[\text{ii. She beats me more often than she beats Sue} \quad \text{(Sue=Object)} \]  

Focus is different from the contrastive marker *hoo* in that it does not restrict the cardinality of the alternative set to be two, but we believe that our pragmatic account of the disambiguation effect of *hoo* can be extended to cases involving focus exemplified by data like the above.

Finally, the properties of *hoo* comparatives that we have considered in this paper might have some implication to what has been called ‘clausal comparatives’ (as opposed to ‘phrasal comparatives’) in Japanese, in which the constituent introduced by *yori* clearly has a clausal structure. An example of a clausal comparative is given in (26):

\[(26)\]  
\[\text{John-wa \ [watashi-ga yosooshita]-yori se-ga takai.} \]  
\[\text{John-TOP \ [I-NOM predicted]-than height-NOM high} \]  
\[\text{‘John is taller than I predicted.’} \]  

Unlike phrasal comparatives, clausal comparatives resist *hoo*-marking of the correlate:

\[(27)\]  
\[\# \text{John-no-} \text{hoo-ga \ [watashi-ga yosooshita]-yori se-ga takai.} \]  
\[\text{John-GEN-hoo-NOM \ [I-NOM predicted]-than height-NOM high} \]  
\[\text{Intended: ‘John is taller than I expected.’} \]  

If we assume, following Sudo (2009), that the *yori*-marked clause in sentences like (26) denotes degrees, this fact is straightforwardly predicted. The two-membered set \{John, the degree \(d\) such that I expected John to be \(d\)-tall\} is not a well-formed alternative set to be associated with *hoo*: It simply does not make sense to contrast two entities belonging to different semantic types in terms of any property. By contrast, the unacceptability of (27) does not seem to be so straightforward in the more widely held view about clausal comparatives (cf., e.g., Beck et al. (2004), Kennedy (2009)) wherein the *yori*-clause in sentences like (26) is taken to be a relative clause whose head is an individual (and not a degree). Under such an analysis, the alternative set for *hoo* in (27) should be something like \{John, the person that I expected John to be\}. But then, there should in principle be nothing that prevents this alternative set to satisfy the presupposition of *hoo*. The
proper analysis of the compositional semantics for clausal comparatives in Japanese is still under an on-going debate (cf., e.g., Sudo (2009) and references therein), but the above data seem to provide one piece of evidence for an analysis like the one advocated by Sudo (2009) which takes the yori-clause to be a degree-denoting expression.

References

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