Comparatives and Contrastiveness:
Semantics and Pragmatics of Japanese *Hoo* Comparatives
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1 Introduction

A familiar, classic kind of ambiguity:

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

Disambiguation by *hoo*:

(2) Watashi-no-*hoo*-ga John-yori neko-aishiteiru
    I-GEN-*hoo*-NOM John-than cats-ACC love.NONPAST
    a. I love cats more than John loves cats. (John=Subject)
    b. 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
    a. NOT: I love cats more than John loves cats. (John=Subject)
    b. I love cats more than I love John. (John=Object)

Question:
Why are the *hoo* comparatives (2)-(3) not ambiguous?
Are they structurally different from the *hoo*-less comparatives (1)?

Our claim:
- The ambiguity in (1) is a structural one, derived from the syntax and semantics of phrasal comparatives.
- But, it is not that *hoo* affects the syntactic structure of phrasal comparatives. The disambiguation is a pragmatic matter.
- Our hypothesis is empirically supported by re-emergence of ambiguity (Section 4), in which *hoo* comparatives do show ambiguity in an enriched discourse context.

Broader questions:
- What is the nature of *hoo*?
- What does the study of *hoo* comparatives tell us about comparatives in Japanese?
- Is this disambiguation phenomenon peculiar to Japanese? Do other languages have a different device that has the same effect?

2 Compositional semantics of Japanese comparatives

2.1 Basic cases

    John- TOP smart.NONPAST
    'John is smart.'

b. John-wa Mary-yori kashikoi.
    John- TOP Mary-than smart.NONPAST
    'John is smarter than Mary.'

The comparative morpheme *yori* (Kennedy 2007, Sawada 2009):

(5) \[ yori = \lambda y \lambda g(d,ct) \lambda x. \max \{ d | g(d)(x) = 1 \} \geq \max \{ d' | g(d')(y) = 1 \} \]
    In words: ‘x is more g than y is g.’

\[ An \text{ alternative would be to assume a null comparative morpheme equivalent to } -er/more \text{ in English and let } yori \text{ be vacuous just as } English \text{ than is assumed to be, e.g. Beck et al. (2004).} \]
• *yori* takes three arguments: two individual arguments (*x* and *y*) and a gradable predicate *g* of type *(d, et)* (the ‘direct’ analysis (Heim 1985, Bhatt & Takahashi 2008)).

• Semantically, it compares the degrees that the two individuals have on the scale associated with the gradable predicate.

\[(6) \ \ (4)b\]

\[
\begin{array}{c}
  e \\
  \langle (d, et), ct \rangle \\
  \langle (d, et) \rangle \\
  John-wa \\
  \langle (d, et) \rangle \\
  Mary-yori \\
  \langle (d, et) \rangle \\
  Mary-than \\
  \langle (d, et) \rangle \\
  kasiko \\
  \langle (d, et) \rangle \\
  smart \\
\end{array}
\]

\[(7) \quad [(4)b] = [yori][\langle Mary \rangle][\langle \text{smart} \rangle][\langle John \rangle]
= 1 \text{ iff } \max\{d | \text{John is } d\text{-smart}\} > \max\{d' | \text{Mary is } d'\text{-smart}\}
\]

‘John’s smartness is greater than Mary’s smartness.’

2.2 Deriving the ambiguity with Parasitic Scope

(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)

• Source of ambiguity:
  Two potential correlates for the *yori* phrase: subject and object.
  Thus, there are potentially two different LFs for (1).

• Technical implementation: parasitic scope\(^2\) (Barker 2007)

  [Step 1] Correlate movement: Abstraction over the position corresponding to the correlate (i.e., either subject or object) \(\rightarrow (8)b\)

  [Step 2] Yori phrase movement: Abstraction over the degree argument \(\rightarrow (8)c\)

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

\[(9) \quad [[(8)c]] = [yori][\langle John \rangle][\langle \lambda d \lambda x. x \text{ loves cats } d\text{-much} \rangle][\langle I \rangle]
= 1 \text{ iff } \max\{d | \text{I love cats } d\text{-much}\}
> \max\{d' | \text{John love cats } d'\text{-much}\}\]

• The landing site for the LF movement of the *yori* phrase 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.

- This movement mechanism is particularly crucial in deriving the other (John=Object) meaning.

(10) the structure for the meaning (1)ii:

(11) \[[10]\] = [yori][[John]](\lambda d \lambda x. \text{I love } x \text{ d-much})([[\text{cats}]])

   = 1 \text{ iff } \text{max}\{d | \text{I love cats d-much}\}

   \text{max}\{d' | \text{I love John d'-much}\}

Evidence for the correlate noun movement: locality.

(12) *Mary*-wa John-yori [[t\_j t\_j tsukutta] keeki\_j]-ga oishii.
Mary-TOP John-than [[made] cake]-NOM delicious
Intended: ‘The cake Mary made is more delicious than the one John made.’

3 Accounting for the disambiguation

(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)
3.1 Our proposal

- The two LFs are still possible in both (2) and (3), but hoo-phrases bear a particular presupposition that filters out one of the two meanings for a pragmatic reason.

- Hoo’s fundamental pragmatic function:
  To draw a distinction between two contextually salient objects in terms of some property under discussion.\(^3\)

(16) Q: Which of the two loves cats more, you or John?
   A: Watashi-no-hoo-ga John-yori neko-o aishiteiru (2)
      I-GEN-hoo-NOM John-than cats-ACC love.NONPAST
      ‘I love cats more than John.’

(17) \([\text{hoo}_C]\) = \(\lambda x : x \in C \land |C| = 2.x\)
   (Where \(C\) is a contextually salient comparison class)

- It is truth conditionally vacuous: \(\lambda x. x\)
- But it introduces the following presupposition: \(x \in C \land |C| = 2\)
  - The entity \(x\), the expression that hoo attaches to, is one of the members of the contextually salient comparison class \(C\)
  - The cardinality of \(C\) is two, i.e. \(C\) is a two membered set.

(18) The John=Subj reading for (2): OK
   a. LF: [I-hoo]_1 [John-than]_2 [t_1 t_2 cats-ACC love]
   b. -Assertion: \(\max\{d \mid \text{I love cats d-much}\}\)
      \(> \max\{d' \mid \text{John loves cats d'-much}\}\)
      \((C = \{I, John\})\)
      -Presupposition: \(I \in C \land |C| = 2\)
      Is there such \(C\) available? —Yes: \(C = \{I, John\}\)

(19) The John=Obj reading for (2): NG
   a. LF: [cats]_1 [John-than]_2 [I-hoo t_2 t_1 love]

b. -Assertion: \(\max\{d \mid \text{I love cats d-much}\}\)
   \(> \max\{d' \mid \text{John loves cats d'-much}\}\)
   \((C = \{\text{cats, John}\})\)
   -Presupposition: \(I \in C \land |C| = 2\)
   Is there such \(C\) available? —No: \(C = \{?, ?, ?\}\)

3.2 A conceivable alternative

In hoo sentences, one of the two LFs cannot be derived syntactically. In other word, hoo is a morpheme that marks the correlate that undergoes movement prior to the yori phrase movement in the parasitic scope procedure.

(20) The John=Subj reading for (2): OK
   a. LF: [I-hoo]_1 [John-than]_2 [t_1 t_2 cats-ACC love]
   b. -Assertion: max\{d | I love cats d-much\}
      > max\{d' | John loves cats d'-much\}
      \((C = \{I, John\})\)
      -Presupposition: \(I \in C \land |C| = 2\)
      Is there such \(C\) available? —Yes: \(C = \{I, John\}\)

(21) The John=Obj reading for (2): NG
   a. LF: [cats]_1 [John-than]_2 [I-hoo t_2 t_1 love]

\(^3\) For more evidence for the different pragmatic properties of ordinary comparatives and hoo-marked comparatives and detailed analyses of the pragmatic functions of the two, see Kubota & Matsui (2010).
The LF (21) is not available for (2) because the syntax does not allow it.
This predicts that hoo comparatives would never be ambiguous.
However, that is not the case (shown below).

4 Accounting for other cases

4.1 Re-emergence of ambiguity

The ambiguity re-emerges in the negative contrastive sentences:

(22)

Scenario 1: Someone said to you ‘Mary loves cats more than John, doesn’t she?’ (which is ambiguous itself). You believe that is false and correct the statement by saying...

a. (Mary-janakute) watashi-no-hoo-ga John-yori neko-o
   Mary-not. and I-GEN-hoo-NOM John-than cats-ACC
   aishiteiru
   love
   Scenario 2: Someone said to you ‘You love Mary more than John, don’t you?’ (which is ambiguous itself). You believe that is false and correct the statement by saying...

b. (Mary-janakute) neko-no-hoo-o watashi-wa John-yori
   Mary-not. and cats-GEN-hoo-ACC I-TOP John-than
   aishiteiru
   love

Recall that the meaning (ii) in (22)a was unavailable in the out-
of-blue context (19).

(19) The John=Obj reading for (2): NG

a. LF: [cats] [John-than] [I-hoo t2 t1 love]
   b. Assertion: \( \max\{d \mid I \text{ love cats } d\text{-much}\} \)
      \( > \max\{d' \mid I \text{ love John } d'\text{-much}\} \)
      \( (C = \{\text{cats, John}\}) \)
   -Presupposition: \( I \in C \land |C| = 2 \)

Is there such \( C \) available? —No: \( C = \{??, ??\} \)

However, we do need to retrieve the meaning (ii), if there is an enriched discourse context as in (22).

(23) The John=Obj reading for (22)a: OK

a. LF: [cats] [John-than] [I-hoo t2 t1 love]
   b. Assertion: \( \max\{d \mid I \text{ love cats } d\text{-much}\} \)
      \( > \max\{d' \mid I \text{ love John } d'\text{-much}\} \)
      \( (C = \{\text{cats, John}\}) \)
   -Presupposition: \( I \in C \land |C| = 2 \)

Is there such \( C \) available? —Yes: \( C = \{I, Mary\} \) (From the context ‘not Mary but’)

The presupposition cannot be satisfied just from the assertion (out-of-blue), but it can be accommodated by the discourse. In other word, pragmatics can override the presupposition failure.

If hoo-phrases are always supposed to mark the correlate noun phrase of the comparative construction, neither of (22)a-b should be ambiguous. Therefore, the conceivable alternative is not adequate.

4.2 Non-comparative sentences

Importantly, hoo can be used in sentences without a comparative construction.
(24) [Situation: Choosing either soup or salad as a side dish.]
    Watashi-wa salada-no-\textbf{hoo-o} onegaishimasu.
    I-TOP salad-GEN-hoo-ACC request.NONPAST
    ‘I will have salad, please.’ (Not the other, i.e. soup)

(25) [(24)] = Assertion: I request salad.
    Presupposition:
    \textit{salad} \in C \land |C| = 2, where C = \{salad, soup\}
    - It is implausible to assume a syntactic feature sensitive to degree
      head (e.g. [uDeg]) for \textit{hoo}-phrases, since there is no degree
      expression, thus no degree head, in (24) that can serve as a possible
      landing site for the \textit{hoo} phrase.
    - A distinct entry for \textit{hoo} needs to be posited for non-comparative
      sentences like (24). This is implausible since the function of \textit{hoo}
      i.e., to invoke a choice between two alternatives, is essentially
      the same in the comparative and non-comparative uses.

5 Closing Remarks

Facts:
- There are ambiguous phrasal comparatives.
- \textit{Hoo} can disambiguate such ambiguous comparatives.
- But in a richer discourse context, the ambiguity re-emerges even
  with \textit{hoo}.

Analysis:
- The ambiguity in phrasal comparatives can be derived by the
  mechanism \textit{parasitic scope} (Barker 2007), assuming the \textit{direct
    approach} (Heim 1985, Bhatt & Takahashi 2007) for phrasal
  comparatives.
- \textit{Hoo} imposes restriction to the comparison class:
  \begin{equation}
  [\text{hoo}_C] = \lambda x : x \in C \land |C| = 2.x.
  \end{equation}
  ‘\textit{x} is one of the two members of the comparison class.’
- Our semantic/pragmatic approach better accounts for further
  data (re-emergence of the ambiguity, non-comparative sentences)
  than a conceivable syntactic account.

Implications:
- Supports the \textit{parasitic scope} mechanism proposed elsewhere
- Gives further insights into the notion of \textit{comparison class}
  (semantics? pragmatics?) and the kinds of restriction that can be
  imposed on such comparison class (e.g. ‘it is two membered set’).
- Relationship between \textit{hoo} and focus??
  A similar disambiguation effect is attested not by a morphological
  marking like \textit{hoo}, but by focus in English (Rooth 1992).

(26) a. [She]$_F$ beats me more often than Sue
    (i) She beats me more often than Sue beats me
    (ii) *She beats me more often than she beats Sue

    b. She beats [me]$_F$ more often than Sue
    (i) *She beats me more often than Sue beats me
    (ii) She beats me more often than she beats Sue

    – Focus is know to evoke an alternative set in to the meaning
      (Rooth 1992).
    – The difference between focus and \textit{hoo}: whether $C$ is a two-
      membered set or not.
- Further implication to clausal comparatives??

(27) a. John-wa [watashi-ga yosoushita]-yori se-ga
    John-TOP [I-NOM predicted]-than hight-NOM
    high
    ‘John is taller than I expected.’

    b. *John-no-\textbf{hoo-ga} [watashi-ga yosoushita]-yori
    John-GEN-hoo-NOM [I-NOM predicted]-than
    se-ga takai.
    hight-NOM high
    Intended: ‘John is taller than I expected.’ (speaking of
    John’s light)

    c. (Mary-janakute) John-no-\textbf{hoo-ga} [watashi-ga
    (Mary-not-and) John-GEN-hoo-NOM [I-NOM
    yosoushita]-yori se-ga takai.
    predicted]-than hight-NOM high
    ‘(Not Mary but) John is taller than I expected.’
– The clausal comparative (27)b with hoo is not well formed sentence since the comparison set is \{John, the-hight-I-expected\}, which is not a relevant comparison class with respect to some property (assuming that the clausal yori ‘than’ phrase denotes degree, not individual, cf.(Sudo to appear)).

– If there is a relevant comparison class as in (27)c, \{John, Mary\}, the sentence is felicitous.

References


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