Implicature Unsuspendable

Japanese Contrastive wa

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Introduction

This paper

• analyzes Japanese Contrastive Topic along with the theory of compositionality of the scalar implicature computation (Chierchia 2001).
• argues that the contrastive meaning that emerges with Topic marking wa in Japanese is a conventional implicature.
Japanese Contrastive Topic

(1)  a. Dare-ga paatii- ni ki-ta-ka?
(Who came to the party?)

b. JOHN-wa ki-ta
John-Top come-Past
‘As for John, he came.’
(Implicature: I don’t know about others)

c. JOHN-ga ki-ta.
John-Nom come-Past
‘John came.’ (complete answer)
Hara 2004

Contrastive Topics always induce scalar implicatures that express the uncertainty of the alternatives (Hara To appear)

(2) \text{CONTRASTIVE}(\langle \text{B}, \text{T} \rangle) \iff
\begin{align*}
a. & \quad \text{B}(\text{T}) \text{ (assertion)} \\
\forall & \quad \text{T}'[[\text{T}' \in \text{ALT}_C(\text{T}) \& \text{B}(\text{T}') \text{ entails B(}\text{T}) \& \text{B}(\text{T}) \text{ doesn’t entail B}(\text{T}')]] \rightarrow \text{Poss}(\neg \text{B}(\text{T}'))]
\end{align*}
(implicature)

(5) \text{CONTRASTIVE}(\langle \text{B}, \text{T} \rangle)
\exists \text{T}'[[\text{T}' \in \text{ALT}_C(\text{T}) \& \text{B}(\text{T}') \text{ entails B(}\text{T}) \& \text{B}(\text{T}) \text{ doesn’t entail B}(\text{T}')]] \text{ (presupposition)}

This is similar to but not the quite same as Büring’s (1997) analysis of German Topic-Focus contour
Japanese Contrastive Topic

- The propositions that do not have the stronger alternatives are not compatible with Contrastive Topics.

(3) # Minna-**wa** kita.
    Everyone-CTop came
    (no implicature is possible)

- The asserted proposition ‘Everyone came’ is the strongest (most informative) among the alternatives (‘Some people came’, ‘Most people came’ etc.)

- There is no room to implicate.
- Not compatible with Contrastive **wa**.
Conventional Implicature

- In Grice (1975), implicatures are divided into two types:
  - Conversational
  - Conventional

Question: Is the scalar implicature that arises with *wa* conversational or conventional?

My answer: Conventional
Argument 1: Detachability

Grice (1975) says:

- Conversational implicature: undetachable
- Conventional implicature: detachable
Argument 1: Detachability

The implicature with *wa* is detachable since it depends on the particular lexical item *wa*.

(1)  
   a. Dare-ga paatii- ni ki-ta-ka?
       (Who came to the party?)

   b. JOHN-*wa* ki-ta
       John-Top come-Past
       ‘As for John, he came.’
       (Implicature: I don’t know about others)

   c. JOHN-*ga* ki-ta.
       John-Nom come-Past
       ‘John came.’ (complete answer)
Argument 2: Uncancellability

Grice (1975) also says

- Conversational implicature: cancellable
- Conventional implicature: uncancellable

The implicature with *wa* is non-cancellable as we have seen.

(3) # Minna-*wa* kita.
    Everyone-CTop came
    (no implicature is possible)
Argument 3: Wa in DE

- It is a well-observed fact that a conversational scalar implicature is suspended in a DE context.

(4)  a. ‘John read 3 books.’
    (Scalar Implicature: not 4)
    b. ‘If John reads 3 books, he passes.’
    (Local Scalar Implicature Lost →
    He will pass even if he reads 4.)
Chierchia 2001

- Scalar implicatures are compositionally computed
- The computation of the strong values (plain meaning + implicature) must be subject to the Strength Condition.

(5) **Strength Condition:**
The strong value cannot become weaker than the plain value
Chierchia 2001: Implicature and DE

(4b) ‘If John reads 3 books, he passes.’
(Natural interpretation: He will pass even if he reads 4.)

Chierchia says

• If we keep a locally computed implicature in a DE context, it would yield a weakening of information.
• Therefore, it must be removed in a DE context

Let us go through how the weakening takes place step by step.
the local conversational implicature
\[ |x : \text{read}(j)(x) \land \text{book}(x)| \not\geq 4 \]

if it were not removed, the strong value of the whole sentence would be
\[ [|x : \text{read}(j)(x) \land \text{book}(x)| \geq 3 \land |x : \text{read}(j)(x) \land \text{book}(x)| \not\geq 4] \rightarrow \text{pass}(j) \]

Now, let us compare this with the plain meaning of the whole sentence,
\[ |x : \text{read}(j)(x) \land \text{book}(x)| \geq 3 \rightarrow \text{pass}(j) \]
# Plain meaning

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<th>Local</th>
<th>Global</th>
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</thead>
<tbody>
<tr>
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<td>$x : \text{read}(j)(x) \land</td>
<td>book(x)</td>
</tr>
<tr>
<td>John read 2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>John read 2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>John read 3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>John read 3</td>
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<td>0</td>
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<tr>
<td>John read 4</td>
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<td>1</td>
</tr>
<tr>
<td>John read 4</td>
<td>1</td>
<td>0</td>
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</tbody>
</table>
## Strong meaning

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td></td>
<td>$</td>
<td>x: \text{read}(j)(x)$</td>
</tr>
<tr>
<td></td>
<td>$\land \text{book}(x)</td>
<td>\geq 3$</td>
</tr>
<tr>
<td></td>
<td>$\land</td>
<td>x: \text{read}(j)(x)$</td>
</tr>
<tr>
<td></td>
<td>$\land \text{book}(x)</td>
<td>\not\geq 4$</td>
</tr>
<tr>
<td></td>
<td>$\land \text{book}(x)</td>
<td>\not\geq 4$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\rightarrow \text{pass}(j)$</td>
</tr>
</tbody>
</table>

| John read 2 | 0 | 1 | 1 |
| John read 2 | 0 | 0 | 1 |
| John read 3 | 1 | 1 | 1 |
| John read 3 | 1 | 0 | 0 |
| John read 4 | 0 | 1 | 1 |
| John read 4 | 0 | 0 | 1 |
### Weakening

<table>
<thead>
<tr>
<th>plain</th>
<th>strong</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\exists x : \text{read}(j)(x)$ \land \text{book}(x) \geq 3 \rightarrow \text{pass}(j)$</td>
<td>$\exists x : \text{read}(j)(x)$ \land \text{book}(x) \geq 3 \rightarrow \text{pass}(j)$</td>
</tr>
<tr>
<td>John read 2</td>
<td>1</td>
</tr>
<tr>
<td>John read 2</td>
<td>1</td>
</tr>
<tr>
<td>John read 3</td>
<td>1</td>
</tr>
<tr>
<td>John read 3</td>
<td>0</td>
</tr>
<tr>
<td>John read 4</td>
<td>1</td>
</tr>
<tr>
<td>John read 4</td>
<td>0 (←Stronger!!)</td>
</tr>
</tbody>
</table>
Weakening

• The plain meaning is stronger than the strong meaning.
• This violates the Strength Condition
• Therefore the implicature must be removed.
• Consequently, in a DE context, only the plain meaning is retained for the subsequent computation.
Chierchia 2001

Two separate application rules for DE and non-DE contexts

(6) Strong Application

Suppose $\alpha = [\beta \gamma]$, where $\beta$ is of type $<a,b>$ and $\gamma$ of type $a$. Then:

$$[[[\beta \gamma]]]^S$$

$$\left\{ \begin{array}{ll}
[[\beta]]^S([\gamma]^S), & \text{if } [[\beta]]^S \text{ is not DE} \\
[[\beta]]^S([\gamma]) \land \neg([[[\beta]]^S(\gamma^{ALT}))], & \text{otherwise}
\end{array} \right.$$
**wa and implicature**

The implicature induced by *wa*, however, cannot be suspended in a DE context.

(7) * John-ga hon-o 3-satsu-wa
John-Nom book-Acc 3-Class-Top
yom-eba, goukaku-suru.
read-if, pass-do
‘If John reads [3]_{Topic} books, he passes.’
**wa and implicature**

- if the local implicature induced by *wa*,
  \[ \text{Poss}(\{x : \text{read}(j)(x) \land \text{book}(x)\} \not\in 4) \], were a conversational implicature

- it should be removed and only the plain meaning would be passed on to the subsequent computation

- If it is conventional, it will resist within a DE context

- This violates the Strength Condition, therefore it is predicted that (7) is unacceptable.

- In fact, (7) is unacceptable; therefore the implicature induced by *wa* must be conventional.
Global Implicature

How about the global implicature for (7)?

(7) * John-ga hon-o 3-satsu-wa
      John-Nom book-Acc 3-Class-Top
      yom-eba, goukaku-suru.
      read-if, pass-do

‘If John reads \([3]_{\text{Topic}}\) books, he passes.’

- the proposition
  \[ |x : \text{read}(j)(x) \land \text{book}(x)| \geq 3 \rightarrow \text{pass}(j) \]

- a stronger scalar alternative
  \[ |x : \text{read}(j)(x) \land \text{book}(x)| \geq 2 \rightarrow \text{pass}(j) \]

- \(Poss(\neg[|x : \text{read}(j)(x) \land \text{book}(x)| \geq 2 \rightarrow \text{pass}(j)])\)
  could be an implicature
Global Implicature should be possible

- Moreover, the global implicature is possible in other cases.
- *wa*-marked phrase in a complement clause.

(8) minna-wa kuru-to omowa-nakat-ta.
Everyone-Top come-Comp think-Neg-Past
‘I didn’t think [ everyone]_{\text{Topic}} \text{ would come.’}

“Everyone comes” does not have a stronger alternative.
The local implicature is impossible.
Global Implicature should be possible

Globally speaking,

- \( \neg \text{think}(\forall x[\text{person}(x)][\text{come}(x)]) \) indeed has a stronger scalar alternative
- \( \neg \text{think}(\exists x[\text{person}(x)][\text{come}(x)]) \)
- implicature \( \text{Poss}(\neg \neg \text{think}(\exists x[\text{person}(x)][\text{come}(x)])) \),
  “I thought some people would come”.

So here, we DO need a global implicature.
Movement of Implicature Operator

Proposal: An island-sensitive movement of an implicature operator, which is part of the lexical meaning of \textit{wa}.

- What does \textit{wa} do?
- At the base position, \textit{wa} generates scalar alternatives (e.g. \{one, some, most, every\}) and introduces an implicature operator.

\begin{equation}
(9) \quad [\text{CP} \ [\text{NegP} \ [\text{CP} \ [\text{XP Op} \ [\text{XP everyone} \ ]^{ALT} -wa \\
\text{ came Comp } \text{ think Neg} \text{ Past } ]]} \end{equation}
Movement of Implicature Operator

The implicature operator moves to the clause-initial position, and computes the implicature by picking an alternative stronger than the plain meaning.

\[(10) \quad \left[ \text{CP} \quad \text{Op} \quad \text{NegP} \quad \text{CP} \quad \text{XP} \quad t \quad \text{XP} \quad \text{everyone} \right] \quad \text{ALT}^-\text{wa} \quad \text{came} \]

\[\text{Comp} \quad \text{think Neg} \quad \text{Past} \quad \]
Island violation

This movement is blocked if *wa* is inside an adjunct clause.

\[(11) \quad \text{[CP Op [Adjunct John-Nom book-Acc [XP t [XP \text{3 [ALT} wa \text{] read if] pro passes}]}}\]

(7) becomes unacceptable for the following reasons:

1. a *wa*-marked sentence must induce an implicature
2. the local computation of implicature yields a weakening
3. the global computation of implicature is blocked due to the island violation
Conclusion

- *wa*-induced implicature is conventional implicature since...
- The implicature is detachable
- The implicature is uncancellable
- The implicature cannot be removed in a DE-context
- Further I have proposed that movement of implicature operator that correctly explains why *wa* cannot be used within an downward-entailing adjunct clause.
Reference


