The Japanese Contrastive Wa: A Mirror Image of EVEN*

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0. Introduction
Many studies have been made of the Japanese contrastive wa (Kuno 1973a, b, Teramura 1991, Noda 1996, Nakanishi 2001, Hara 2006, Oshima to appear, among others). However, they have analyzed the semantics/pragmatics of contrastive wa without considering (i) the scalar value and (ii) the possibility that contrastive wa has multiple meanings (conventional implicatures).

The purpose of this paper is to argue that there are two types of contrastive wa—scalar contrastive wa and polarity contrastive wa—and that the scalar type has conventional implicatures that are a ‘mirror image’ of those of sae/mo ‘even’.

(1) is an example of the scalar type and (2) is an example of the polarity type:

(1.) (Do you have a vehicle?)
Jitensya wa mot-tei-masu.
Bicycle Cont have-State-polite
‘I have [a bicycle]Cont.’
→I don’t have more expensive vehicles than a bicycle (e.g. a motor cycle)

(2.) (Have all of the members (e.g. Taro, Hanako, Ziro) arrived at Chicago?)
Taro wa tuki masi-ta.
Taro Cont arrive polite-perfect
‘[Taro] Cont has arrived.’
→There is someone other than Taro who has not arrived at Chicago.

This paper proposes the following points: (a) The conventional implicatures/presuppositions (Karttunen and Peters 1979) of contrastive wa can be a ‘mirror image’ of those of sae/mo. This fact naturally explains why contrastive

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wa, but not sae/mo, can induce a conventional quantity (scalar) implicature. (b) There is, however, a case in which contrastive wa seems not to induce a conventional Q implicature. In contrast to the case of sae, the scalar presupposition is ‘optional’ for contrastive wa, and this optionality induces a different type of implicature, a ‘polarity reversed conventional implicature/presupposition’ (Lee 2006, Oshima to appear). The quantificational force of the implicature in polarity contrastive wa can be pragmatically strengthened to become universal ( koji) in some contexts, while in other cases it can be epistemically weakened to become existential ( b) with a possibility operator (c). (d) The precise mirror image of contrastive wa is expressed by mo, which is semantically ambiguous between ‘even’ and ‘also.’ (d) If we posit the existence of two types of contrastive wa, we can unify two seemingly incompatible approaches to this particle: the ‘reversed polarity approach’ (Kuno 1973a, b, Teramura 1991, Noda 1996, Oshima to appear) and the ‘scalar alternative approach’ (Hara 2006, to appear).

1. Background: Thematic Wa vs. Contrastive Wa

It is well known that the particle wa in Japanese has two kinds of uses, thematic and contrastive (Kuno 1973a, b, Teramura 1991, Noda 1996, Nakanishi 2001, Oshima to appear, among many others).

(3.) Taro wa hasi-ttei-ru.
Taro run -Prog-pres
a. Thematic wa: ‘Speaking of Taro, he is running.’
b. Contrastive wa: ‘Taro is running (but Hanako is not running.)’

(Kuno 1973a: 207)

In (3a), wa marks a constituent that stands for a theme, as opposed to a comment. According to Kuno (1973a, b), such themes must be either generic or anaphoric (i.e. previously mentioned). By contrast, in (3b), wa marks the contrasted element of the sentence, and conventionally implies that there is an element that is alternative to it. Notice that the element marked by contrastive wa can be generic, anaphoric or neither (Kuno 1973a, b). That is, the element does not always have to be topical.1 We should also notice that thematic wa is phonologically different from contrastive wa (Nakanishi 2001, Oshima to appear). If we put a stress on wa, it is interpreted as contrastive. This paper focuses solely on contrastive wa.

2. Previous Analyses of Contrastive Wa

1 Since contrastive wa always posits an alternative element or elements other than the one it marks and induces an ‘anti-additive’ implicature, it is safe to consider it a kind of focus-sensitive operator (Oshima to appear). Notice, however, that the element marked by contrastive wa can be either given or new information. This suggests that the concept of contrastiveness is independent from the distinction between given and new information.
In languages like Japanese and Korean, contrast is marked morphologically, while in a language like English it is marked phonologically. Two theories have been proposed to explain the implicature of contrastive wa; these may be termed the reversed polarity approach and the scalar alternative approach. The reversed polarity approach says that the implicature induced by contrastive wa has a meaning opposite to the stated one: ‘X wa…’ implies ‘but it not the case that y wa…’ (Kuno 1973a, b, Teramura 1991, Noda 1996, Oshima to appear, among others). Some researchers call this the ‘polarity reversed conventional implicature/presupposition’ (Lee 2006, Oshima to appear).

The scalar alternative approach, on the other hand, says that contrastive wa always induces a conventional scalar implicature (Hara 2006, to appear). Hara (2006, to appear) claims that “a contrastive topic presupposes a particular set of scalar alternatives, namely stronger propositions than the asserted one and the implicature induced by the contrastive wa is a conventional Q implicature.” Notice that Hara (2006, to appear) does not say that the contrastive wa has a scalar value. I will argue that the ‘scalar type’ of contrastive wa has a scalar value that is a mirror image of sae/mo ‘even’.

Both approaches consider an implicature induced by contrastive wa conventional, but not conversational. Applying the detachability test, we find that the implicature in (4a) is detachable because (4b), which has the same semantic content as (4a), does not normally induce the implicature:

(4.) [Detachability test: detachable]
   a. Hanako wa  jitensya  wa  mot-tei-ru.
      Hanako Top bicycle Cont have-state-pres
      ‘Hanako has [a bicycle] cont.’
      →Hanako doesn’t have more expensive vehicles than a bicycle.
   b. Hanako wa  jitensya  o  mot-tei-ru.
      Hanako Top bicycle  ACC  have-state-pres
      ‘Hanako has a bicycle.’ (The implicature is not obligatory)

According the cancellability test, the implicature is not cancelable:

(5.) [Cancelability test: non-cancelable]
   #Hanako wa  jitensya  wa  mo-ttei-ru-si,  ootobai  mo
   Hanako Top bicycle  Cont have-state-pres-and motor cycle also/even
   mot-tei-ru
   Have-state-pres
   ‘Hanako has [a bicycle] cont and she {also/even} has a motor cycle.’

Both the reversed polarity approach and the scalar alternative approach consider the implicature induced by contrastive wa conventional, but not conversational. However, their explanations of this fact are different. The reversed polarity
approach does not posit a scale, while the scalar alternative approach does. Can we unify these accounts?

I will argue that there are two kinds of contrastive wa, scalar contrastive wa and polarity contrastive wa. This theory makes it possible to unify the two seemingly different approaches.

3. Scalar Contrastive Wa: A Mirror Image of EVEN

3.1. Positive Case

Let us observe the following examples: (Context: Amateurs, semi-professionals, and professionals are participating in a tennis tournament.)

(6.) Taro wa sirooto ni {wa / ??sae} ka- tta.
Taro Top amateur Dat cont / even win-past
‘(lit.) Taro beat an [amateur]cont. /??Taro even beat an amateur.’

(7.) Taro wa puro ni {??wa / sae} ka -tta.
Taro Top professional Dat cont / even win-past
‘(lit.) ??Taro beat a [professional]cont / Taro beat even a professional.’

There is a clear difference in acceptability between contrastive wa and sae in each of above sentences. The conventional implicatures of (6) with contrastive wa are as follows:

(8.) Scalar contrastive wa (positive):
    a. $\exists x \left[ C(x) \land x \neq \text{amateur} \land \neg \text{beat (Taro, x)} \right]$
    b. $\forall x \left[ C(x) \land x \neq \text{amateur} \rightarrow \text{unlikelihood (Taro beat x)} \right] \rightarrow \text{unlikelihood (Taro beat an amateur)}$

The combination of (8a) and (8b) produces the conventional quantity implicature that ‘Taro could not beat a tennis player who is stronger than an amateur.’ On the other hand, in (7) sae has a positive existential presupposition and forces us to construe the proposition as high on this scale, as shown in (9b):

(9.) Sae ‘even’ (positive):
    a. $\exists x \left[ C(x) \land x \neq \text{professional} \land \text{beat (Taro, x)} \right]$
    b. $\forall x \left[ C(x) \land x \neq \text{professional} \rightarrow \text{unlikelihood (Taro beat a professional)} \right] \rightarrow \text{unlikelihood (Taro beat x)}$

Note that (7) with sae does not induce a conventional quantity implicature.

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2 If ‘semi-professional’ is substituted here, the sentences with contrastive wa and sae both become acceptable. This is because the element can be construed as ‘low’ relative to a professional but ‘high’ relative to an amateur (cf. Kay 1990).
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3.2. Negative Case
Contrastive \( wa \) and \( sae \) can also appear in a negative environment, where the scalar values are reversed:

(Context: Amateurs, semi-professionals and professionals are participating in a tennis tournament.)

(10.) Taro wa sirooto ni {\(? wa \ / \ sae \)} kata-na-katta. (cf. (6))
- Taro Top amateur Dat cont / even win-not past
  ‘(lit.) Taro didn’t beat an [amateur]cont. / Taro didn’t even beat an amateur.’

(11.) Taro wa puro ni {wa / ??sae} kata-na-katta. (cf. (7))
- Taro Top professional Dat cont / even win-not past
  ‘Taro didn’t beat a [professional]cont. / ??Taro didn’t even beat a professional.’

When contrastive \( wa \) is used in a negative context, the proposition without a negative operator is construed as high on the scale of ‘unlikelihood’, whereas with \( sae \), the proposition without a negative operator is construed as low on this scale. The conventional implicatures of (10) with \( sae \) and (11) with contrastive \( wa \) can be represented as (12) and (13), respectively:

(12.) Scalar contrastive \( wa \) (neg):
   a. \( \exists x \ [C(x) \land x \not=} \text{professional} \land \text{beat (Taro, x)}] \)
   b. \( \forall x \ [C(x) \land x \not=} \text{professional} \rightarrow \text{unlikelihood (Taro beat professional)}] > \text{unlikelihood (Taro beat x)}] \)

(13.) \( sae \) (neg):
   a. \( \exists x \ [C(x) \land x \not=} \text{amateur} \land \neg \text{beat (Taro, x)}] \)
   b. \( \forall x \ [C(x) \land x \not=} \text{amateur} \rightarrow \text{unlikelihood (Taro beat x)}] > \text{unlikelihood (Taro beat an amateur)}] \)

3.3. Scope Inversion
In Japanese, there is a phenomenon of scope inversion using contrastive marking (Hara to appear, Oshima to appear, Lee 2000).

(14.) a. John wa zen-in o tasuke-nakat-ta.
- John bp everyone Acc help Neg Past
  ‘John didn’t help anyone.’ (\( \forall \rightarrow \neg \))
  ‘?? It is not the case that John helped everyone.’ (\( \neg \rightarrow \forall \))

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3 The conventional implicatures of the negative sentences with contrastive \( wa \) and \( sae \) are represented based on the framework of polarity theory (Rooth 1985, Rullmann 1997, Giannakidou 2007, Yoshimura (to appear)). There is also a framework of scope theory (Karttunen and Peters 1979).
b. John wa zen-nin wa tasuke-nakat-ta.

John Cont help everyone Neg Past

‘*John didn’t help anyone.’ (\(\forall >\sim\))

‘It is not the case that John helped everyone.’ (\(\sim >\forall\))

The reading of \(\forall >\sim\) in (14b) is not acceptable because it does not satisfy the existential presupposition of contrastive \textit{wa}. In the negative context, contrastive \textit{wa} has to have a \textbf{positive existential} conventional implicature, as in (15):

\begin{align*}
\text{(15.) Scalar contrastive } \textit{wa (neg): (QP=quantifier phrase)} \\
\text{a. } & \exists \text{QP } [\text{C(QP)} \land \text{QP} \neq \text{everyone} \land \text{helped (John, QP)}] \\
\text{b. } & \forall \text{QP } [\text{C(QP)} \land \text{QP} \neq \text{everyone} \rightarrow \text{unlikelihood (John helped everyone)} > \text{unlikelihood (John helped QP)}]
\end{align*}

The reading of \(\sim >\forall\) in (14b) is acceptable because the sentence has a positive existential presupposition.

4. \textbf{Additional Empirical Evidence for the Existence of Scalar Type}

Teramura (1991: 40) and Noda (1996: 224) point out that contrastive \textit{wa} is interpreted as \textit{sukunaku-tomo} ‘at least’, if combined with numerals. Does this use of contrastive \textit{wa} only occur with numerals? The answer is no. I argue that scalar contrastive \textit{wa} is not an ad hoc usage. It ‘inherently’ has a scalar value that \textbf{forces} the addressee to interpret the proposition as \textbf{low} on the scale of unlikelihood in the positive case and \textbf{high} on this scale in the negative case.

4.1. \textbf{Comparative \textit{Yori} plus Contrastive \textit{Wa}}

If contrastive \textit{wa} is attached to \textit{yori}, the standard of comparison is construed as low on a given scale, as shown in (16b):

\begin{align*}
\text{(16.) a. Taro wa Ziro yori se ga takai.} \\
\text{Taro Top Ziro than height Nom tall} \\
\text{‘Taro is taller than Ziro.’} \\
\text{b. Taro wa Ziro } \textit{yori-wa} \text{ se ga takai.} \\
\text{Taro Top Ziro than-cont height Nom tall} \\
\text{‘Compared to Ziro, Taro is tall.’} \\
\rightarrow \text{Ziro is short.} \quad \text{(Implicature from the standard of comparison)} \quad \rightarrow \text{Taro is not definitely tall.} \quad \text{(Implicature from the main clause)}
\end{align*}

Notice that there is another implication as well: that ‘Taro is not definitely tall’ (Sawada 2007).
4.2. **Predicate with Contrastive *Wa***
A scalar value also arises when contrastive *wa* is attached to the predicate of a sentence (i.e. adjective, verb):

(17.) Ame wa furi *wa* si-ta.
Rain Top fall Cont do-past
‘It [rained]cont.’
→ (Implicature): It didn’t rain a lot. (low amount)

4.3. **Polar Question (Negative Bias)**
Positive questions with minimizers can express a negative bias (Borkin 1971, Ladusaw 1979, Giannakidou 2007, among others):

(18.) Did Tom *lift a finger* to help?
(Bias: No, he didn’t.)

Contrastive *wa* can also be used in a positive question with a negative bias.

(19.) X daigaku ni *wa* ukari-masi-ta-ka. (X university is easy to enter.)
X university Dat Cont pas-polite-past-Q
‘Were you accepted by [X university]cont?’
(Bias: No you weren’t.)

This fact supports the idea that scalar contrastive *wa* has a low scalar value.

5. **The Mirror Image in Rullmann’s Typology of Even-Items**
Rullmann (2006) proposes a four-way typology of *even*-items, which is analogous to Israel’s (1996) typology of polarity items. Israel (1996) proposes two kinds of parameters for the typology of polarity items:

(20.) **Quantitative Value (Q):** high or low relative to norm
**Informative Value (I):** understating or emphatic relative to norm

Based on these parameters, Rullmann (2006) proposes the following typology of *even*-items:

(21.) **Rullmann’s four-way typology of *even***

<table>
<thead>
<tr>
<th>Unlikelihood</th>
<th>Positive P: <strong>high</strong></th>
<th><strong>Emphatic</strong></th>
<th>Understating</th>
</tr>
</thead>
<tbody>
<tr>
<td>380</td>
<td>1 even (PPI)</td>
<td>3 ?? (NPI)</td>
<td></td>
</tr>
<tr>
<td>4 at least</td>
<td>2 even (NPI)</td>
<td>4 at least</td>
<td></td>
</tr>
</tbody>
</table>

Rullmann (2006) assumes that there may be no items that would fit into the ‘top, understating’ zone in his four-way typology of *even*-items. This study, however, shows that the Japanese contrastive *wa* does fit into that zone:
The Japanese scalar contrastive *wa* supports Rullmann's (2006) typology of *even* items. Giannakidou (2007) proposes a different typology of *even* items, which is compatible with Rullmann’s typology. Her typology has two parameters: scalar value (high/low) on the likelihood scale and the presence or absence of the negative operator in the existential presupposition/conventional implicature. One of the advantages of this typology is that it can capture the fact that *sae* (NPI) and contrastive *wa* (PPI) have the same kind of existential conventional implicature.

### Polarity Contrastive *Wa*

Let us now turn our attention to the polarity type of contrastive *wa*:

(23.) **Taro-**<em>wa</em>  ki-ta.  
    Taro-cont come-past  
    ‘[Taro] cont came.’  
    → There is someone other than Taro who didn’t come.

(24.) **Watasi**<em> wa</em>  moku-yoobi<em> wa</em>  ai-teiru.  
    I  Top Thursday cont free-TEIRU (stative)  
    ‘I am free on [Thursday] cont.’  
    → There are some days other than Thursday that I am not free.

The implicatures in (23) and (24) do not posit a scale. Contrary to Hara’s (2006, to appear) claim, it seems that contrastive *wa* does not always induce a Q implicature. If contrastive *wa* is attached to non-scalar nouns or predicates, it is difficult, though not impossible, to posit an (un)likelihood scale. Oshima (to appear) argues that the semantic contribution of a contrastive morpheme is antonymous to that of the additive particle ‘also.’

### The Difference between the Polarity Type and the Scalar Type

Given the above analysis, how can we account for the difference between the polarity and scalar types of contrastive *wa*? I argue that the difference can be explained by the **optionality** of the scalar presupposition. The conventional implicature of polarity contrastive *wa* in (23) is shown in (25a):

(25.) a. \( \exists x [C(x) \land x \neq \text{Taro} \land \neg \text{came}(x)] \)

    b. \( \forall x [C(x) \land x \neq \text{Taro} \rightarrow \text{unlikelihood}(\text{came})] \land \neg \text{unlikelihood}(\text{Taro came}) \)  
    (optional)
If there is not enough information to posit a scale, one can ignore the scalar presupposition and construe contrastive wa as polarity contrastive wa.\(^4\) The following figure shows the landscape of wa:

(26.) **The landscape of WA**

\[
\begin{array}{c}
\text{WA} \\
\leftarrow \text{Thematic (topical) wa} \\
\downarrow \\
\text{Scalar type (unlikelihood [+low] (PPI))} \\
\text{(unlikelihood [+high] (NPI))} \\
\downarrow \\
\text{Contrastive wa} \\
\downarrow \\
\text{Polarity type (NPI/PPI)} \\
\end{array}
\]

8. **Ambiguity Between the Scalar and the Polarity Types**

The instance of contrastive wa in the following sentence is ambiguous; it could be read as either scalar contrastive wa or polarity contrastive wa:

(27.) Watasi wa ju-kiro no hako wa mot-eru.

I Top 10-kilo Gen box cont lift-can
‘I can lift the [10 kilo box]\(^{\text{cont.}}\.’

(28.) \(\rightarrow\) (scalar): I cannot lift boxes that are heavier than 10 kilos.
\(\rightarrow\) (polar): There are some boxes other than the 10 kilo box that I cannot lift (e.g., there are dangerous chemicals inside the boxes).

9. **Mo as the Precise Mirror Image of Contrastive Wa**

The particle mo is semantically ambiguous between a scalar additive meaning ‘even’ and a simple inclusive meaning ‘also’, as in (29). This ambiguity can also be accounted for in a unified way, based on the concept of the **optionality** of the scalar presupposition, as in (30b).

(29.) Ziro mo siken ni uka-ta.
Ziro also/even exam to pass-past
‘Even Ziro passed the exam. /Ziro also passed the exam.’

(30.) Conventional implicature of mo
a.\(\exists x [C(x) \land x \neq \text{Ziro} \land \text{passed} (x, \text{the exam})]\)
b.\(\forall x [C(x) \land x \neq \text{Ziro} \rightarrow \text{unlikelihood (Ziro passed the exam)} \land \text{unlikelihood} (x \text{passed the exam})]\)
\(\leftarrow\) optional

This suggests that the semantics of mo and contrastive wa are **precise** mirror opposites.

\(^4\) Another approach is to consider that contrastive wa is lexically ambiguous between scalar contrastive wa and polarity contrastive wa. Notice, however, that this ambiguity is not like the ambiguity between bank meaning ‘a financial institute’ and bank meaning ‘the side of a river.’
10. The Quantificational Variability of Contrastive *Wa*

In some contexts, the quantificational force of the existential presupposition in contrastive *wa* can be (pragmatically) **strengthened** to become universal (∀), but in other contexts, it can be epistemically **weakened** to become an existential (∃) force with a possibility operator (◊). Let us consider an example of polarity contrastive *wa*:

(31.) 
A: Did Taro, Hanako and Ziro come to the party?
B: Taro wa ki-ta.
   Taro Cont come-past
   ‘[Taro]Cont came.’

There are at least three possible implicatures here, according to the context:

(32.) **Context A**: Speaker B **knows** that Taro came to the party and Hanako didn’t come, but does not know whether or not Ziro came.

In this context (31B) implies that ‘there is someone other than Taro who didn’t come.’ This implicature has existential force.

(33.) **Context B**: Speaker B knows that Taro came to the party, and that Hanako and Ziro didn’t.

In this context, (31B) implies that ‘no one other than Taro came to the party.’ This implicature has universal force. That is to say, the existential presupposition of contrastive *wa* is pragmatically strengthened. Context B is a situation in which **only** is used.\(^5\)

(34.) **Context C**: Speaker B **knows** that Taro came to the party but **is not sure** whether Hanako or Ziro came.

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\(^5\) There is still a semantic difference between *dake* ‘only’ and contrastive *wa* in context B, as regards contrastiveness:

(i ) Taro wa ki-ta. Sikasi Hanako to Ziro wa ko-naka-ta.
   Taro Cont come-past but Hanako and Ziro Cont come-not-past
   ‘[Taro]Cont came but [Hanako and Ziro]Cont didn’t.’

(ii ) #Taro dake ki-ta. Sikasi Hanako to Ziro wa ko-naka-ta.
   Taro only come-past but Hanako and Ziro Cont come-not-past
   ‘#Only Taro came but [Hanako and Ziro]Cont didn’t.’

Sentence (i ) with contrastive *wa* can explicitly contrast Taro with partygoers Hanako and Ziro, but sentence (ii ) cannot make this contrast explicitly.
In this context, (31B) implies that ‘it is possible that there is someone other than Taro who didn’t come.’ The possibility operator is attached to the existential presupposition in this case.

The implicature generated by scalar contrastive wa also has quantificational variability. Thus, the conventional scalar implicature that ‘a stronger proposition is not true’ may become the weaker implicature that ‘a stronger proposition may not be true.’

11. Conclusion
This paper has argued that there are two types of contrastive wa, a scalar type and a polarity type. The conventional implicatures of scalar contrastive wa are a mirror image of those generated by sae ‘even’, whereas the conventional implicature of polarity contrastive wa appears because of the optionality of the scalar presupposition in scalar contrastive wa. Positing the existence of two types of contrastive wa reconciles seemingly incompatible approaches, the reversed polarity approach and the scalar alternative approach. I hope this paper sheds new light on the study of contrastiveness. It may be possible to consider that the same analyses can apply to the Korean contrastive marker -nun.

In a future study, I would like to consider the semantic/pragmatic difference between scalar contrastive wa and adverbs such as sukunaku-tomo ‘(lit) little-even if’ and saitei-demo ‘(lit) the least-even if’:

\[(35.) \{\text{sukunaku-tomo/ saitei-(demo)}\} \text{ juu-nin ki-ta.} \]
\[\text{Little lowest ten (person) come past} \]
\[\text{‘At least ten people came.’ (No negative implicature.)} \]

\[(36.) \text{ Juu-nin wa ki-ta.} \]
\[\text{Three (person) cont come past} \]
\[\text{‘[Ten people] cont came.’} \]
\[\text{(Implicature: I am not sure whether more than ten people came.)} \]

It seems that sukunaku-tomo and saitei(-demo), block a Q implicature but scalar contrastive wa does not.

References


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