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The Japanese Contrastive *Wa*: A Mirror Image of EVEN¹

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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. motorcycle)

- (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 contras-

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Osamu Sawada

tive *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 (\forall) in some contexts, while in other cases it can be epistemically **weakened** to become existential (\exists) with a possibility operator (\diamond). (c) 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.² 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*

In languages like Japanese and Korean, contrast is marked **morphologically**, while in a language like English it is marked **phonologically**. Two theories have

² 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.

The Japanese Contrastive Wa

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 cancelability test, the implicature is not cancelable:

- (5) [Cancelability test: non-cancelable]
- #Hanako-wa jitensya-**wa** mo- ttei - ru-si, ootobai
Hanako-TOP bicycle-CONT have-STATE-PRES-and motorcycle
-mo mot- tei-ru.
also/even have-STATE-PRES
‘Hanako has [a bicycle]_{cont} and she {also/even} has a motorcycle.’

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?

Osamu Sawada

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: Taro participated in an unofficial tennis tournament (=round robin). He competed with an amateur, a semi-professional and a professional.)

- (6) Taro-wa sirooto -ni {-*wa* / ??-*sae*} ka -tta.
Taro-TOP amateur-DAT -CONT / -even win-past
'Taro beat the [amateur]_{cont.} / ??Taro even beat the amateur.'
- (7) Taro-wa puro -ni {??-*wa* / -*sae*} ka -tta.
Taro-TOP professional-DAT -CONT / -even win-past
'??Taro beat the [professional]_{cont.} / Taro beat even the 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):
- $\exists x [C(x) \wedge x \neq \text{the amateur} \wedge \neg \text{beat}(\text{Taro}, x)]$
 - $\forall x [C(x) \wedge x \neq \text{the amateur} \rightarrow \text{unlikelihood}(\text{Taro beat } x) > \text{unlikelihood}(\text{Taro beat the amateur})]$

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.'³ 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):
- $\exists x [C(x) \wedge x \neq \text{the professional} \wedge \text{beat}(\text{Taro}, x)]$
 - $\forall x [C(x) \wedge x \neq \text{the professional} \rightarrow \text{unlikelihood}(\text{Taro beat the professional}) > \text{unlikelihood}(\text{Taro beat } x)]$

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

³ 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 (See also Kay 1990). In these cases, it seems that the speaker is assuming that there is only one alternative element other than the 'semi-professional.'

The Japanese Contrastive Wa

3.2. Negative Case

Contrastive *wa* and *sae* can also appear in a negative environment, where the scalar values are reversed: (Context: Taro competed with an amateur, a semi-professional and a professional.)

- (10) Taro-wa sirooto -ni {??-*wa* / -*sae*} kata-na-katta. (cf. (6))
Taro-TOP amateur-DAT -CONT / -even win-NEG-PAST
'??Taro didn't beat the [amateur]_{cont./}Taro didn't even beat the amateur.'
- (11) Taro- wa puro -ni {-*wa* / ??-*sae*} kata-na-katta. (cf. (7))
Taro- TOP professional-DAT -CONT / -even win-NEG-PAST
'Taro didn't beat the [professional]_{cont./} ??Taro didn't even beat the 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:⁴

- (12) *Sae* (neg):
- a. $\exists x [C(x) \wedge x \neq \text{the amateur} \wedge \neg \text{beat}(\text{Taro}, x)]$
 - b. $\forall x [C(x) \wedge x \neq \text{the amateur} \rightarrow \text{unlikelihood}(\text{Taro beat } x) > \text{unlikelihood}(\text{Taro beat the amateur})]$
- (13) Scalar contrastive *wa* (neg):
- a. $\exists x [C(x) \wedge x \neq \text{the professional} \wedge \text{beat}(\text{Taro}, x)]$
 - b. $\forall x [C(x) \wedge x \neq \text{the professional} \rightarrow \text{unlikelihood}(\text{Taro beat the professional}) > \text{unlikelihood}(\text{Taro beat } x)]$

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-na-katta.
John-TOP everyone -ACC help- NEG-PAST
'John didn't help anyone.' ($\forall > \neg$)
'?? It is not the case that John helped everyone.' ($\neg > \forall$)
- b. John-wa zen-nin -*wa* tasuke-na-katta.
John-TOP everyone -CONT help- NEG-PAST
'*John didn't help anyone.' ($\forall > \neg$)
'It is not the case that John helped everyone.' ($\neg > \forall$)

⁴ 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).

Osamu Sawada

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

- (15) Scalar contrastive *wa* (neg): (QP=quantifier phrase)
- a. \exists QP [C(QP) \wedge QP \neq everyone \wedge helped (John, QP)]
 - b. \forall QP [C(QP) \wedge QP \neq everyone \rightarrow unlikely (John helped everyone) $>$ unlikely (John helped QP)]

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

4. Additional Empirical Evidence for the Existence of Scalar Type

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

4.1. Comparative *Yori* plus Contrastive *Wa*

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

- (16) a. Taro-wa Ziro-yori se- ga takai.
Taro-TOP Ziro-than height- NOM tall
‘Taro is taller than Ziro.’
- b. Taro-wa Ziro *yori-wa* se -ga takai.
Taro-TOP Ziro than-CONT height-NOM tall
‘Compared to Ziro, Taro is tall.’
 \rightarrow Ziro is short. (Implicature from the standard of comparison)
 \rightarrow Taro is not definitely tall. (Implicature from the main clause)

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.}’
 \rightarrow (Implicature): It didn’t rain a lot. (low amount)

The Japanese Contrastive Wa

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 pass-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*:

		Emphatic	Understating
Unlikelihood	Positive P: high	1 <i>even</i> (PPI)	3 ?? (NPI)
	Positive P: low	2 <i>even</i> (NPI)	4 <i>at least</i> (PPI)

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:

- (22) Mirror image of *sae* and scalar contrastive *wa*:

		Emphatic	Understating
Unlikelihood	Positive P: high	<i>sae</i> (PPI)	scalar contrastive <i>wa</i> (NPI)
	Positive P: low	<i>sae</i> (NPI)	scalar contrastive <i>wa</i> (PPI)

Osamu Sawada

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.

6. Polarity Contrastive *Wa*

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

- (23) Taro-*wa* ki-ta.
Taro-CONT come-past
'[Taro]_{cont} came.'
→ There is someone other than Taro who didn't come.
- (24) Watasi-*wa* moku-yoobi-*wa* ai-teiru.
I -TOP Thursday -CONT free-TEIRU.STATE
'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.'

7. 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):

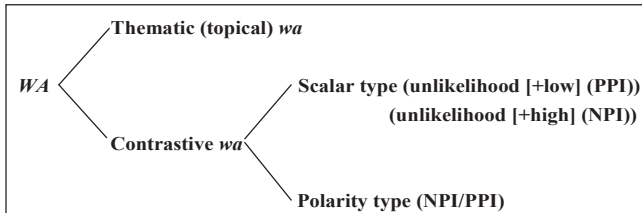
- (25) a. $\exists x [C(x) \wedge x \neq \text{Taro} \wedge \neg \text{came}(x)]$
b. $\forall x [C(x) \wedge x \neq \text{Taro} \rightarrow \text{unlikelihood}(x \text{ came}) > \text{unlikelihood}(\text{Taro came})]$ (optional)

If there is not enough information to posit a scale, one can ignore the scalar presupposition and construe contrastive *wa* as polarity contrastive *wa*.⁵ The following figure shows the landscape of *wa*:

⁵ 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.'

The Japanese Contrastive Wa

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



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]_{cont.}’

- (28) → (scalar): I cannot lift boxes that are heavier than 10 kilos.
 → (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*
- $\exists x [C(x) \wedge x \neq \text{Ziro} \wedge \text{passed}(x, \text{the exam})]$
 - $\forall x [C(x) \wedge x \neq \text{Ziro} \rightarrow \text{unlikely}(\text{Ziro passed the exam}) > \text{unlikely}(x \text{ passed the exam})]$ ← optional

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

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 (\forall), but in other contexts, it can be epistemically **weakened** to become an existential (\exists) force with a possibility operator (\diamond). Let us consider an example of polarity contrastive *wa*:

Osamu Sawada

- (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.⁶

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

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.'

⁶ 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-NEG-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-NEG-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.

The Japanese Contrastive Wa

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) {*Sukunaku-tomo/ saitei(-demo)*} hito-ri ki ta.
 Little CONC/ lowest CONC one-CL (person) come-past
 ‘At least one person came.’ (No negative implicature.)
- (36) Hito-ri -wa ki-ta.
 One-CL (person) -CONT come-PAST
 ‘[One people]_{CONT} came.’
 (Implicature: I am not sure whether more than one person came.)

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

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Osamu Sawada

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