On the Polarity Sensitivity Induced by the Contrastive Topic Marker *wa* in Japanese*

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1 Introduction

In this paper, I focus on the polarity sensitivity that arises when the contrastive topic marker *wa* is added to the focus particle *made* 'even'. As pointed out by Mogi (1999) and Ido (2017, 2018), among others, *made* has two interpretations in negative sentences:

(1) a. Odoroitakotoni, ano mazimena Taro-made konakkata.
surprisingly that earnest Taro-even didn't.come
'Surprisingly, even Taro, who is earnest, did not come.'

b. ⇝ It is unlikely that Taro, who is earnest, does not come. (*made* > ¬)

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c. Touzen, kodomo-no kenka-de keisatu-made konakkata.
naturally children-GEN fight-in police-even didn't.come
'Naturally, it is not the case that even the police came when a children's fight happened.' (based on Ido 2017)

d.$\rightsquigarrow$ It is unlikely that the police come when a children's fight happens. ($\neg > made$)

In the above examples, the scalar inferences in (1b) and (1d) are introduced by *made* and these inferences differ in whether or not they include negation. Mogi (1999) claims that this difference is due to the scope ambiguity between *made* and negation.

In addition, Mogi (1999) and Ido (2017, 2018) indicate that if *made* is combined with the contrastive topic marker *wa*, negation is required and *made* takes an obligatory narrow scope with respect to it:

(2) a. #Touzen, kodomo-no kenka-de keisatu-made-wa kita.
naturally children-GEN fight-in police-even-CT came
'Naturally, it is the case that even the police came when a children's fight happened.'

b. Touzen, kodomo-no kenka-de keisatu-made-wa konakkata.
naturally children-GEN fight-in police-even-CT didn't.come
'Naturally, it is not the case that even the police came when a children's fight happened.' (based on Ido 2017)

c.$\rightsquigarrow$ It is unlikely that the police come when a children's fight happens. ($^{\checkmark}\neg > made$)

d.$\not\rightsquigarrow$ It is unlikely that the police does not come when a children's fight happens. ($^{*}made > \neg$)

In this paper, I propose an analysis to explain why the addition of *wa* to *made* induces the polarity sensitivity. In particular, I claim that the combination of *made* and *wa* is a polarity sensitive item similar to but different from so-called concessive scalar particles (CSPs) in other languages and that these focus particles introduce two conflicting presuppositions that can be satisfied only when negation intervenes between them.

The structure of this paper is as follows. In Section 2, I introduce two important characteristics of CSPs and their two representative analyses. In Section 3, I propose the analysis of the polarity sensitivity of *made-wa* based on the conflicting presuppositions introduced by these particles. In Section 4, I conclude this paper with a few words on the anti-reconstruction effect of focus particles in Japanese.

2 Concessive Scalar Particles and Their Polarity Sensitivity

CSPs in various languages such as *magari* in Slovenian, *esto ke* in Greek and *siquiera* in Spanish have attracted much attention in the recent literature. The previous analyses (e.g. Giannakidou 2007, Crnič 2011a,b and Alonso-Ovalle 2016) point out that these particles are focus sensitive and have several interesting characteristics. In what follows, by using the Spanish CSP *siquiera*, I introduce the two of them, their polarity sensitivity and the restriction on their focus associates, which are crucial for the analysis of the polarity sensitivity of *made-wa*, and briefly review the analyses of Crnič (2011a, b) and Alonso-Ovalle (2016).

Suppose that in the current context, winning the bronze medal and winning the gold medal are the most likely and least likely propositions, respectively. As shown below, the Spanish CSP cannot be used in a positive episodic environment regardless of whether or not its focus associate is the most likely.

(3) a. *Pedro ganó siquiera la medalla de [oro]$_F$.
Pedro won:3S SIQUIERA the medal of gold
'Pedro even won the gold.'

b. *Pedro ganó siquiera la medalla de [bronze]$_F$.
Pedro won:3S SIQUIERA the medal of bronze
'Pedro even won the bronze.' (Alonso-Ovalle 2016: (1))

The following examples indicate that the CSP can be licensed in a downward entailing (DE) environment (e.g. within the scope of negation) if its focus associate is the most likely among its alternatives:

(4) a. #Pedro no ganó siquiera la medalla de [oro]$_F$.
Pedro not won:3S SIQUIERA the medal of gold
'Pedro did not even win the gold.'

b. Pedro no ganó siquiera la medalla de [bronze]$_F$.
Pedro not won:3S SIQUIERA the medal of bronze
'Pedro did not even win the bronze.' (Alonso-Ovalle 2016: (1))

Thus, CSPs are a polarity sensitive item with the restriction on the focus associate.

Based on the distribution of the Slovenian CSP *magari*, Crnič (2011a,b) proposes that CSPs are composed of two covert operators, EVEN and AT LEAST, and that their polarity sensitivity arises from two conflicting presup-

positions introduced by these two operators:[1]

(5) a. $[\![\text{EVEN}]\!] = \lambda C.\lambda p{:}\underbrace{\forall q \in C[q \neq p \rightarrow p \lhd_c q]}_{\text{presupposition}}.\lambda w.\ \underbrace{p(w)}_{\text{assertion}}$.
(based on Crnič 2011a, b)[2]

b. The prejacent p is the least likely proposition in its alternative set C. (Presupposition)

c. The prejacent p is true. (Assertion)

d. $[\![\text{AT LEAST}]\!] = \lambda C.\lambda p{:}\underbrace{\forall q{\in}C[q \neq p \rightarrow q \lhd_c p]}_{\text{presupposition}}.$
$\lambda w.\underbrace{\exists q{\in}C[\ q \trianglelefteq_c p\ \&\ q(w)]}_{\text{assertion}}$
(based on Crnič 2011a, b)

e. The prejacent p is the most likely proposition in its alternatives set C. (Presupposition)

f. The prejacent p or its less likely alternatives in C are true. (Assertion)

The existence of the covert operator AT LEAST, after it is associated with the most likely alternative, leads to disjunctive truth conditions:

(6) a. $[\text{AT LEAST}_{C1}\ \underbrace{[\ \text{Pedro won the } [\text{bronze}]_F \text{ medal }]}_{\textbf{most likely}}]$

b. $C_1 = \{$ bronze, silver, gold $\}$,
where "gold" $\lhd_{\text{likelihood}}$ "silver" $\lhd_{\text{likelihood}}$ "bronze".
(Alternative Set for AT LEAST)

c. ✓ The prejacent *Pedro won the bronze medal* is the most likely in the alternative set C_1. (Presupposition)

d. Pedro won the bronze or its less likely alternatives in C_1
$\Leftrightarrow$ Pedro won the bronze or silver or gold medal. (Assertion)

In non-DE environments, the two conflicting presuppositions introduced by EVEN and AT LEAST cannot be satisfied at the same time:

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[1] I adopt Heim and Kratzer's (1998) notation of definedness conditions/presuppositions: the materials between the colon and the period designate definedness conditions/presuppositions.

[2] Crnič (2011a) adopts the more weaker presupposition of EVEN (i.e., there must be at least one alternative that is more likely than the prejacent). According to Crnič (2011a), however, the same result cam be obtained regardless of this difference. For the sake of simplicity, I use the more familiar definition in (5a).

(7) a. *Pedro ganó siquiera la medalla de [bronze]$_F$. (=(3b))
Pedro won:3S SIQUIERA the medal of bronze

b. $[\boxed{B}\ \text{EVEN}_{C2}\ [\boxed{A}\ \text{AT LEAST}_{C1}\ \underbrace{[\ \text{Pedro won the [bronze]}_F\ \text{medal}\ ]}_{\textbf{most likely}}\ ]]$ (Simplified LF)

c. C_1 = { bronze, silver, gold },
where 'gold' $\lhd_{\text{likelihood}}$ 'silver' $\lhd_{\text{likelihood}}$ 'bronze'.
(Alternative Set for AT LEAST)

d. ✓ The prejacent *Pedro won the bronze medal* is the most likely in C_1.
(Presupposition of AT LEAST)

e. $[\![\boxed{A}]\!]$ = bronze ∨ silver ∨ gold (Prejacent of EVEN)

f. C_2
$= [\![\boxed{A}]\!]^{\text{ALT}}$
$= \left\{ \begin{array}{l} [\text{AT LEAST}[\text{ Pedro won the bronze medal}]], \\ [\text{AT LEAST}[\text{ Pedro won the silver medal}]], \\ [\text{AT LEAST}[\text{ Pedro won the gold medal}]] \end{array} \right\}$
= { bronze ∨ silver ∨ gold, silver ∨ gold, gold },
where 'gold' $\lhd_{\text{likelihood}}$ 'silver ∨ gold'
$\lhd_{\text{likelihood}}$ 'bronze ∨ silver ∨ gold'.
(Alternative Set for EVEN)[3]

g. *The prejacent 'bronze ∨ silver ∨ gold' is the least likely in C_2.
(Presupposition of EVEN)

The presupposition of AT LEAST is satisfied because its prejacent (i.e. 'bronze') is the most likely among its alternatives. However, the presupposition of EVEN cannot be satisfied because its prejacent (i.e. 'bronze ∨ silver ∨ gold') is entailed by all the other alternatives and it is not the least likely but the most likely proposition. Hence, the CSP is not acceptable in non-DE environments.

These two presuppositions, by contrast, can be satisfied at the same time if negation intervenes between the two covert operators:

(8) a. Pedro no ganó siquiera la medalla de [bronze]$_F$.(=(4b))
Pedro not won:3S SIQUIERA the medal of bronze

[3] Crnič (2011a,b) assumes that the alternative set for EVEN is computed without reference to the presupposition of AT LEAST. Hence, the alternative propositions other than the prejacent are included in the alternative set.

b. $[\boxed{C}\ \text{EVEN}_{C2}[\boxed{B}\ \neg[\underbrace{\boxed{A}\ \text{AT LEAST}_{C1}[\text{Pedro won the }[\text{bronze}]_{F}\text{ medal}]]}_{\textbf{most likely}}]]$ (Simplified LF)

$\underbrace{\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad}_{\textbf{least likely}}$

c. C_1 = { bronze, silver, gold },
where 'gold' $\lhd_{\text{likelihood}}$ 'silver' $\lhd_{\text{likelihood}}$ 'bronze'.
(Alternative Set for AT LEAST)

d. ✓ The prejacent *Pedro won the bronze medal* is the most likely in C_1.
(Presupposition of AT LEAST)

e. $[\![\boxed{A}]\!]$ = bronze ∨ silver ∨ gold

f. $[\![\boxed{B}]\!]$ = ¬[bronze ∨ silver ∨ gold] (Prejacent of EVEN)

g. C_2
= $[\![\boxed{B}]\!]^{\text{ALT}}$
= { ¬[bronze ∨ silver ∨ gold], ¬[silver ∨ gold], ¬gold },
where '¬[bronze ∨ silver ∨ gold]' $\lhd_{\text{likelihood}}$ '¬[silver ∨ gold]'
$\lhd_{\text{likelihood}}$ '¬gold'.
(Alternative Set for EVEN)

h. ✓ The prejacent '¬[bronze ∨ silver ∨ gold]' is the least likely in C_2.
(Presupposition of EVEN)

As in the previous example, the presupposition of AT LEAST is satisfied because its prejacent (i.e. 'bronze') is the most likely among its alternatives. The intervening negation reverses the likelihood relation and the prejacent of EVEN (i.e. '¬[bronze ∨ silver ∨ gold]') is the least likely among its alternatives because it entails all the other alternatives in C_2. Hence, the presupposition of EVEN can be satisfied, and the CSP is licensed in DE-environments.

However, not all CSPs exhibit the uniform behavior. Alonso-Ovalle (2016) points out that the Spanish CSP *siquiera* does not have the same distribution as that of the Slovenian CSP *magari*. Based on this fact, he claims that the Spanish CSP is composed of two operators, AT LEAST and EXH, the latter of which has the semantics similar to *only*, and that these two operators lead to contradictory truth conditions when there is no DE-operator between them. Thus, there are two types of polarity sensitive focus particles/CSPs, as summarized below:

(9) Two Types of Polarity Sensitive Focus Particles/CSPs

a. Type 1 : EVEN + AT LEAST (Slovenian CSP)
[EVEN [¬ [AT LEAST [… $\boxed{\text{most likely}}_{F}$ …]]]]

b. Type 2: EXH + AT LEAST (Spanish CSP)
[EXH [¬ [AT LEAST [. . . most likely $]_F$ . . .]]]

In the next section, I claim that the combination of *made-wa* constitutes a new type of polarity sensitive focus particle.

3 Proposal

Recall that *made-wa* shows the polarity sensitivity and *made* takes an obligatory narrow scope with respect to negation:

(10) a. Touzen, kodomo-no kenka-de keisatu-made-wa konakkata.
naturally children-GEN fight-in police-even-CT didn't.come
'Naturally, it is not the case that even the police came when a children's fight happened.' (based on Ido 2017)

b.⇝ It is unlikely that the police comes when a children's fight happens. (¬ > made)

I assume that *made*, like *even*, introduces the presupposition that its prejacent is the least likely among its alternatives. In addition, I adopt Sawada's (2007) analysis of the contrastive topice marker *wa*. He claims that the contrastive topic marker has the scalar contrastive usage, where it is presupposed that (i) one of its alternatives other than the prejacent is false and (ii) the prejacent must be **the most likely** among its alternatives. The following contrast serves as a piece of evidence for the existence of the scalar component:

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

a. Taro-wa sirooto-ni-wa ka-tta.
Taro-TOP amateur-DAT-CT win-past
'Taro beat the $[\text{amateur}]_{\text{cont}}$.' (Sawada 2007: (6))

b. ??Taro-wa pro-ni-wa ka-tta.
Taro-TOP amateur-DAT-CT win-past
'Taro beat the $[\text{professional}]_{\text{cont}}$.' (Sawada 2007: (7))

According to Sawada (2007), (11b) is infelicitous because the prejacent of *wa* denotes the least likely proposition among its alternatives and its scalar presupposition cannot be satisfied.

Based on these assumptions, I propose that *made-wa* constitutes the third type of polarity sensitive focus particle, where the order of EVEN and AT LEAST in the Slovenian CSP (=(12a)) is reversed, as shown in (12c):

(12) Proposal

a. Type 1 : EVEN + AT LEAST (Slovenian CSP)
[EVEN [¬ [AT LEAST [. . . $\boxed{\text{most likely}}_{F}$ . . .]]]]

b. Type 2: EXH + AT LEAST (Spanish CSP)
[EXH [¬ [AT LEAST [. . . $\boxed{\text{most likely}}_{F}$ . . .]]]

c. Type 3: AT LEAST + EVEN
[wa [¬ [made [. . . $\boxed{\text{least likely}}_{F}$ . . .]]]] (*made-wa*)

In what follow, I demonstrate that the polarity sensitivity of *made-wa* observed above arises due to the two conflicting presuppositions of *made* and *wa*.

3.1 Sketch of the Analysis

First, consider the case where negation is not present:[4]

(13) a. #[wa [$_{\boxed{B}}$ made [$_{\boxed{A}}$ $\underbrace{\underbrace{[\text{the police}]_{F}\ \text{came}}_{\textbf{least likely}}}_{\textbf{least likely}}$]]]

(Simplified LF)

b. $[\![\boxed{A}]\!]^{ALT} = [\![\boxed{B}]\!]^{ALT} = \left\{\begin{array}{l}\text{the police came (=}[\![\boxed{A}]\!]\text{, =least likely),}\\ \text{the principal came,}\\ \text{the teachers came,}\\ \text{the friends came (= most likely)}\end{array}\right\}$

To satisfy the presupposition of *made*, its prejacent, $[\![\boxed{A}]\!]$, should be the least likely among $[\![\boxed{A}]\!]^{ALT}$. However, if this is the case, the presupposition of *wa* cannot be satisfied, because this particle utilizes the same alternatives as *made* and its prejacent, $[\![\boxed{B}]\!]$, is the least likely among $[\![\boxed{B}]\!]^{ALT}$. Hence, *made-wa* cannot be used in non-DE environments.

Next, consider the case where negation exists but it does not intervene between *wa* and *made*:

(14) a. #[wa [$_{\boxed{B}}$ [made [$_{\boxed{A}}$ $\underbrace{\underbrace{\neg\ [\text{the police}]_{F}\ \text{came}}_{\textbf{least likely}}}_{\textbf{most likely}}$]]]]

(Simplified LF: *wa* > *made* > ¬)

[4] I assume that *made* and *wa* share the same alternative set. See Section 3.3 for the justification of this assumption.

b. $[\![\boxed{\text{A}}]\!]^{\text{ALT}}$

$= [\![\boxed{\text{B}}]\!]^{\text{ALT}} = \left\{ \begin{array}{l} \neg[\text{the friends came}], \\ \neg[\text{the teachers came}], \\ \neg[\text{the principal came}], \\ \neg[\text{the police came}](=[\![\boxed{\text{A}}]\!] \text{ and } [\![\boxed{\text{B}}]\!], \text{ most likely}) \end{array} \right\}$

To satisfy the presupposition of *made*, its prejacent, $[\![\boxed{\text{A}}]\!]$, should be the least likely among $[\![\boxed{\text{A}}]\!]^{\text{ALT}}$. However, due to the presence of negation within the scope of *made*, $[\![\boxed{\text{A}}]\!]$ is not the least likely but the most likely among $[\![\boxed{\text{A}}]\!]^{\text{ALT}}$. Hence, the presupposition of *made* cannot be satisfied, and this interpretation is excluded.

Lastly, consider the case where negation intervenes between these particles:

(15) a. [wa $\underbrace{[_{\boxed{\text{B}}} \neg [\text{ made } \underbrace{[_{\boxed{\text{A}}} [\text{the police}]_{\text{F}} \text{ came }]}_{\textbf{least likely}}]]}_{\textbf{most likely}}$

(Simplified LF: *wa* $>$ $\neg$ $>$ *made*)

b. $[\![\boxed{\text{A}}]\!]^{\text{ALT}} = \left\{ \begin{array}{l} \text{the police came}(=[\![\boxed{\text{A}}]\!], \text{ least likely}), \\ \text{the principal came}, \\ \text{the teachers came}, \\ \text{the friends came}(= \text{most likely}) \end{array} \right\}$

c. $[\![\boxed{\text{B}}]\!]^{\text{ALT}} = \left\{ \begin{array}{l} \neg[\text{the friends came}], \\ \neg[\text{the teachers came}], \\ \neg[\text{the principal came}], \\ \neg[\text{the police came}](=[\![\boxed{\text{B}}]\!], \text{ most likely}) \end{array} \right\}$

As in the first case, the prejacent of made, $[\![\boxed{\text{A}}]\!]$, is the least likely among $[\![\boxed{\text{A}}]\!]^{\text{ALT}}$. The existence of negation, however, reverses the likelihood relation, and the prejacent of *wa*, $[\![\boxed{\text{B}}]\!]$, is the most likely among $[\![\boxed{\text{B}}]\!]^{\text{ALT}}$. The two presuppositions, therefore, can be satisfied at the same time only when negation intervenes between the two focus particles, and the polarity sensitivity of *made-wa* is derived.

The current analysis correctly captures the distribution and interpretation of *made-wa* as summarized below:

(16) a. *[wa [made [… [least likely]$_F$ …]]]
⇒ The presupposition of *wa* cannot be satisfied.

b. *[wa [made [¬ [… [least likely]$_F$ …]]]] (wa > *made* > ¬)
⇒ The presupposition of *made* cannot be satisfied.

c. ✓[wa [¬ [made [… [least likely]$_F$ …]]]] (wa > ¬ > *made*)
⇒ The presuppositions of *made* and *wa* can be satisfied at the same time because of the intervening negation.

3.2 Implementation

As shown in (16c), the two focus particles, though they are adjacent to each other, take scope in different positions. To achieve this, I follow Tomioka's (2010a,b) analysis of the contrastive topic marker *wa*. Under this analysis, the contrastive topic marker itself does not have any semantic content, and its only function is to introduce alternatives that must be interpreted by an operator located in a higher position (i.e. the Speech Act Phrase). This analysis enables the OP associated with the alternatives introduced by the contrastive topic marker to take scope in a different position from *made*.

In addition, as the OP in a higher position, I adopt the contrastive topic operator CT in (17a), which has the same semantics as Sawada's (2007) analysis of the scalar contrastive usage of *wa* and introduces the two presuppositions:

(17) a. $[\![\text{CT}]\!] = \lambda p.\lambda w{:}\underbrace{\exists q[\, q \in \text{ALT}(p) \wedge p \neq q \wedge \neg q(w)]}_{\text{Anti-additive Presupposition}}$
$\wedge \underbrace{\forall q[\, q \in \text{ALT}(q) \wedge q \neq p \rightarrow q <_{\text{likelihood}} p]}_{\text{Scalar Presupposition}}. \underbrace{p(w)}_{\text{Assertion}}$.

b. There is an alternative proposition q other than the prejacent p such that it is false. (Anti-additive Presupposition)

c. The prejacent p is the most likely among its alternatives. (Scalar Presupposition)

d. The prejacent p is true. (Assertion)

As for *made*, I assume the semantics in (18a).

(18) a. $[\![\text{made}]\!]$
$= \lambda x.\lambda P.\lambda w{:}\underbrace{\forall y[y \in \text{ALT}(x) \wedge y \neq x \rightarrow P(x) <_{\text{likelihood}} P(y)]}_{\text{presupposition}}. \underbrace{P(x)(w)}_{\text{assertion}}$

b. The prejacent $P(x)$ is the least likely among its alternatives. (Presupposition)

c. The prejacent $P(x)$ is true. (Assertion)

Given these assumptions and the syntactic reconstruction of the subject DP into its base-generated position at LF, the same result as above is obtained.[5]

(19) a. Keisatu-made-wa ko-nakat-ta.
the.police-even-CT come-NEG-PAST
'It is not the case that even the police came.'

b. [**CT** [$_{TP}$ ~~[$_{DP/NP}$ [the police]$_F$ -made-wa]~~
[$_{T'}$ [$_{NegP}$ [$_{vP}$ [$_{DP/NP}$ [the police]$_F$-**made**-wa] come] Neg] Past]]]
(LF: CT $>$ $\neg$ $>$ *made*)

c. $[\![\text{vP}]\!] = \lambda w$. the police come in w

d. ✓ $\forall y[y \in \text{ALT}(\text{the police}) \wedge y \neq \text{the police} \rightarrow \text{come}(\text{the police}) <_{\text{likelihood}} \text{come}(y)]$
$\Leftrightarrow$ 'The police come' is the least likely among its alternatives.
(Presupposition of *made*)

e. $[\![\text{TP}]\!] = \lambda w$. it is not the case that the police came in w

f. ✓ $\exists q[\, q \in \text{ALT}([\![\text{TP}]\!]) \wedge q \neq [\![\text{TP}]\!] \wedge \neg q(w)]$
$\Leftrightarrow$ There is an alternative individual x other than the police such that x came in w. (Anti-Additive Presupposition of CT)

g. ✓ $\forall q[q \in \text{ALT}([\![\text{TP}]\!]) \wedge q \neq [\![\text{TP}]\!] \rightarrow q <_{\text{likelihood}} [\![\text{TP}]\!]\,]$
$\Leftrightarrow$ 'It is not the case that the police came' is the most likely among its alternatives. (Scalar Presupposition of CT)

h. (19a) is true in a world w iff it is not the case that the police came in w. (Truth Conditions)

3.3 Computation of Alternative Sets for the Contrastive Topic Operator

What is crucial for the proposed analysis is the assumption that the alternative propositions for the contrastive topic operator do not include the focus particle *made*.[6] Without this assumption, the alternative set would become a singleton set because the alternative propositions other than the prejacent cannot satisfy the presupposition of *made*.

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[5] Note that if the higher copy of the subject DP is interpreted at LF, the reading where *made* takes a wide scope over negation will be obtained. However, as shown in the previous section, this reading is excluded because the presupposition of *made* cannot be satisfied.

[6] I thank an anonymous reviewer of JK 30 for pointing out the potential problem of the proposed analysis.

(20) a. #[CT [$\boxed{\text{B}}$ made [$\boxed{\text{A}}$ $\underbrace{[\text{the police}]_{\text{F}}\ \text{came}}_{\textbf{least likely}}$]]]
$\underbrace{\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad}_{\textbf{least likely}}$

b. $[\![\boxed{\text{A}}]\!]^{\text{ALT}} = \left\{\begin{array}{l}\text{the police came (=}[\![\boxed{\text{A}}]\!]\text{, =least likely),}\\ \text{the principal came,}\\ \text{the teachers came,}\\ \text{the friends came (= most likely)}\end{array}\right\}$

c. $[\![\boxed{\text{B}}]\!]^{\text{ALT}}$
$= \left\{\begin{array}{l}\text{even [the police came] (=}[\![\boxed{\text{B}}]\!]\text{,}\\ \text{\#even [the principal came],}\\ \text{\#even [the teachers came],}\\ \text{\#even [the friends came]}\end{array}\right\}$
$= \{$ even [the police came](=$[\![\boxed{\text{B}}]\!]$) $\}$

As a result, the presupposition of the contrastive topic operator is vacuously satisfied, and it is wrongly predicted that *made-wa* is accepted in non-DE environments.

To exclude this possibility, I adopt Sauerland's (2013) analysis of presupposition projection. He points out that if a presupposition trigger (e.g. a pronoun) is within the scope of a focus sensitive operator (e.g. *only*), the alternative set can be computed without reference to the presupposition introduced by the presupposition trigger:

(21) a. Only I did my homework. (Sauerland 2013: (1))

b. Nobody other than the speaker did the speaker's homework.
(Referential Interpretation)

c. Nobody other than the speaker did his or her homework.
(Bound Variable Interpretation)

In the bound variable interpretation above, the presuppositions relevant to the ϕ-features of the pronouns are disregarded when computing the alterantive set for the focus sensitive operator *only*.[7] Sauerland (2013) calls this kind of projection *weakened projection*, and he claims that only purely presuppositional expressions (i.e. those which induce presuppositions but do not contribute to an at-issue content) exhibit this behavior.

Given this, the focus particle *made* is purely presuppositional because it just introduces the presupposition and does not change the at-issue content of

[7] Note that Sauerland (2013) adopts the presuppositional approach to ϕ-features (see e.g. Cooper 1983, Heim and Kratzer 1998, and Sudo 2012 a.o.).

its prejacent. Hence, the presupposition of *made* does not have to be considered in computing the alternative set for the contrastive topic operator and the vacuous satisfaction of its presupposition is avoided.[8]

In addition, even if the presupposition of *made* is not disregarded in the alternative set of the contrastive topic operator, the following principle proposed by Crnič (2011a,b) excludes the above possibility:

(22) The principle of non-vacuity (Crnič 2011b: (18))
The meaning of a lexical item used in the discourse must affect the meaning of its host sentence (either its truth-conditions or its presuppositions).

If the presupposition of CT is vacuously satisfied, the above principle is violated. Hence, the use of *made-wa* in non-DE environments is correctly ruled out.

4 Conclusion and Remaining Issues

In this paper, I claim that the combination of *made* and *wa* constitutes the third type of polarity sensitive focus particle and that the polarity sensitivity arises from the two conflicting presuppositions introduced by these particles. The proposed analysis, however, is incompatible with the anti-reconstruction effect of focus particles in Japanese.

As is well known, focus particles like *dake* 'only' and *mo* 'also' must take a wide scope over negation (see e.g. Shibata 2015):[9]

(23) a. Taro-dake konakatta.
Taro-only didn't.come
'Everyone except Taro came.' (*dake* $>$ ¬ / *¬ $>$ *dake*)

b. Taro-mo konakatta.
Taro-also didn't.come
'Taro and someone other than him didn't come.'
(*mo* $>$ ¬ /* ¬ $>$ *mo*)

Shibata (2015) derives the obligatory wide scope reading of focus particles in Japanese based on the copy theory of movement and the operation called Trace Conversion (Fox 2002), which targets a lower copy of a moved element

[8] Incidentally, Erlewine (2014) points out that if a purely presuppositional focus particle (e.g. *even*) is within the scope of another focus particle (e.g. *also*) and they share the same focus associate, the weakened projection happens. See Erlewine (2014: 107) for the relevant discussion.

[9] But see also Futagi (2004) for a more complicated behavior of *dake*.

and replaces a determiner with the covert definite article THE. However, because focus particles are not a determiner, they remain at lower copies after Trace Conversion and they are interpreted twice at higher and lower copies, which results in the semantic anomaly. To avoid this, they must be acyclically inserted into higher copies and the reconstruction under negation is blocked, which leads to the obligatory wide scope reading.

In this respect, the obligatory narrow scope reading of *zen'in-wa* (Hara 2006) seems puzzling.

(24) Zen'in-wa konakatta.
everyone-CT didn't.come
'It is not the case that everyone came.' ($\neg > \forall$)

Under the proposed analysis, the reconstruction of *zen'in-wa* under negation is possible. The focus particle *wa* does not have any semantic content and does no harm if it is interpreted twice, which enables *wa* to avoid the application of the late merger. In addition, the anti-additive presupposition of the CT operator is satisfied only when the universal quantifier takes a narrow scope with respect to negation (see Sawada 2007). Thus, the obligatory narrow scope reading of *zen'in-wa* can be derived as desired.

However, there is one problem to be resolved. As noted above, *made* and *made-wa* can take a narrow scope with respect to negation but *made* has a semantic content in the presuppositional domain unlike *wa*. Hence, this focus particle will lead to some problem if it is interpreted twice, and it is predicted that it will be acyclically inserted into a position higher than NegP and will obligatorily take a wide scope over negation. I leave for future work a possible way to deal with *made* and *made-wa* under Shibata's (2015) analysis.

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