

In this paper I argue that the semantics of contrastive topic (CT), which is commonly treated as a discourse related notion on a par with topic and focus, can be assimilated to that of a paradigm of focus particles, showing evidence from CT related phenomena, namely, reversed polarity presupposition, partiality (disputability) requirement, and scope inversion.

How CT is realized varies among languages: in many languages CT is marked by a specific intonation pattern (e.g. B-accent or (L+)H*L-H% pattern for English), whereas in languages like Japanese and Korean, it is indicated by "CT marker" morpheme (e.g. *wa* in Japanese) (cf. Lee 1999a,b).

- (1) a. A: Well, what about FRED? What did HE eat?
B: [FRED]_{CT} ate the [BEANS]_F.
b. A: Well, what about the BEANS? Who ate THEM?
B: [FRED]_F ate the [BEANS]_{CT}.
- (2) a. [Fred-**wa**]_{CT} [mame-wo]_F tabe-ta. (= (1aB))
Fred beans-Acc eat-Past
b. [Mame-**wa**]_{CT} [Fred-ga]_F tabe-ta. / [Fred-ga]_F [mame-**wa**]_{CT} tabe-ta. (= (1bB))
beans Fred-Nom eat-Past Fred-Nom beans eat-Past

Although the form *wa* has a use as a topic marker (or is homophonous to the topic marker), there is a host of syntactic/semantic differences that divide its two uses: namely thematic and contrastive (cf. Kuno 1972, Miyagawa 1987). The contrastive use of *wa* has a set of properties common with focus particles, and has been treated as a focus particle in traditional literature on a par with *sae* 'even', *mo* 'also', *dake* 'only' etc. (cf. Numata 1986): recently formal analyses of the contrastive *wa* have been proposed by Harada and Noguchi (1996) (in passing) and Komagata (2000). They claim that the contrastive *wa* is a dual of *mo* 'also' and induces the presupposition similar to that induced by *mo*, but with the opposite polarity, as is represented in (3) and (4) (the notation is mine).

- (3) $\beta(\mathbf{mo}(\gamma), \alpha_i, \alpha_{ii}, \dots)$ presupposes $\exists x : x \neq \gamma. [\beta(x, \alpha_i, \alpha_{ii}, \dots)]$
- (4) $\beta(\mathbf{wa}(\gamma), \alpha_i, \alpha_{ii}, \dots)$ presupposes $\exists x : x \neq \gamma. [\neg\beta(x, \alpha_i, \alpha_{ii}, \dots)]$

This analysis seems to be on the right track, providing a straightforward account of the so-called reversed polarity implicature (roughly phrased as: "[X]_{CT} **pred**" indicates that "alternatives of X not **pred**") characteristic to CT (Lee 1999a,b, Büring 2000). However, it fails to explain the contrast of *wa* and *mo* illustrated below (Observation 1).

- (5) (To answer the question "Who passed the exam?")
a. Charles-**wa** ukat-ta ga, hoka-no hito-ni-kansite-wa sir-ana-i.
Charles-CT pass-Past but other people-as to know-Neg-Pres
'Charles passed the exam, but I don't know about the others.'
b. #Charles-**mo** ukat-ta ga, hoka-no hito-ni-kansite-wa sir-ana-i.
Charles-also pass-Past but other people-as to know-Neg-Pres
'Charles passed the exam too, but I don't know about the others.'

Although in past studies examples like (5a) were taken to support the claim that the reversed polarity indication induced by CT is an implicature, two observations strongly suggest that the contrastive *wa* induces a presupposition: (i) the negative polarity indication is not cancelable when all of the alternative propositions are explicitly stated to have the same polarity as the core proposition (Observation 2):

- (6) (To answer the question "Among Charles, Patrick and Ginevra, who passed the exam?")
#Charles-**wa** ukat-ta-si, Patrick-to Ginevra-mo ukat-ta.
Charles-CT pass-Past-and Patrick-and Ginevra-also pass-Past
'Charles did, and so did Patrick and Ginevra.'

and (ii) it survives under negation (Observation 3) (cf.(3')).

I propose that the presupposition induced by the contrastive *wa* involves a “weak” negation in Kleene’s (strong) three-valued logic (see Table 1; the weak negation of P ($\neg P$) is true iff P does not hold or is not known whether to hold), as illustrated below.

- (7) $\beta(\mathbf{wa}(\gamma), \alpha_i, \alpha_{ii}, \dots)$ presupposes $\exists x : x \neq \gamma. [\neg\beta(x, \alpha_i, \alpha_{ii}, \dots)]$

This move makes it possible to explain the contrast between (5a) and (5b) (and (5a) and (6)), maintaining the intuition that *wa* and *mo* stand in dual relation (which could be demonstrated, for example, by the fact that wrapping a sentence involving contrastive *wa* with two (verbal and sentential) negations makes it quasi-equivalent to an affirmative sentence involving *mo* ‘also’, and vice versa (Observation 4).

- (8) a. [Charles-wa ko-nakat-ta] to-iu-koto-wa-nai.
Charles-CT come-Neg-past it is not the case that
 $\simeq$ Charles-mo kita. ‘Charles came too.’
b. [Charles-mo ko-nakat-ta] to-iu-koto-wa-nai.
Charles-also come-Neg-past it is not the case that
 $\simeq$ Charles-wa kita. ‘[Charles]_{CT} came.’

This modified analysis of the contrastive *wa* can be extended to CT in general (though there are several interesting differences between the possible CT marking patterns between English and Japanese, arguably because of the different modes of CT-marking (morphology vs. intonation). For example, the observations 1-4 on the contrastive *wa* hold for English B-contour, as demonstrated in (1’)-(4’). In addition, it has three advantages over previous formal (yet pragmatic) accounts of CT, recently developed by Büring (2000) and Kadmon (2001), which build on Roberts’ (1996) theory of information structure and focus. First, as is mentioned above, the proposed analysis provides a more appropriate treatment of the reversed polarity indication, which is regarded as a mere implicature in the pragmatic account (see Büring 2000, p.9). Second, the proposed analysis makes empirically more adequate predictions, while it doesn’t necessitate to postulate additional discourse principles like the preference principle and the principle of highest attachment (ibid., p.10-1). The preference principle (“when both CT- and F- markings are possible, CT-marking is preferred”), which is motivated to explain the contrast demonstrated in (9), faces a serious problem with examples like (10) where several CT- and F-marking configurations are equally felicitous (in a single context).

- (9) What did the pop stars wear?
a. The [female]_{CT} pop stars wore [caftans]_F.
b. #The [female]_F pop stars wore [caftans]_F.
c. #The female pop stars wore [caftans]_F.
(10) A: Among Charles, Patrick and Ginevra, Who passed the exam?
B: [Charles]_{CT} did, but [Patrick and Ginevra]_{CT} didn’t.
B’: [Charles]_F did, but [Patrick and Ginevra]_F didn’t.
B’’: [Charles]_F did, but [Patrick and Ginevra]_{CT} didn’t.

I propose that F-marking (by A-accent) in (9) is due to the inference based on Levinsonian I-implicature (i.e. ‘an unmarked answer is a complete answer’). The principle of highest attachment that dictates that a complete answer (to the question formed by substituting all F- and CT- marked constituents with *wh*-phrases) cannot involve CT-marking, can be obviated under the present account as utterances like (11) are straightforwardly precluded by the induced presupposition.

- (11) # [All]_{CT} students came.

Third, the present analysis gives a direct account of the scope inversion phenomenon (i.e. without additional postulates like the principle of highest attachment or the disputability requirement (Büring 1997)). The fact that utterances like:

- (12) [All]_{CT} students didn’t come.

allow only the reading with the inverted scope ($\neg\forall$) directly follows, because the other reading ($\forall\neg$) results in presupposition failure: the assertion part of the $\forall\neg$ reading (“For all students, they didn’t come”) entails all of the alternative propositions where the CT-marked quantifier is substituted by other members in the scale of quantifiers à la Horn and is incompatible with the presupposed part (“For some Q: $Q \in \{\text{all but one, most, ..., one}\}$, it is not the case that or it is not known whether Q students did not come”).

Appendix

Table 1 Variants of negation in the strong Kleene three-valued logic (cf. Rescher 1969)

P	¬P	⇒P	¬P
T	F	F	F
I	I	F	T
F	T	T	T

- (1') A: Among Charles, Patrick and Ginevra, who passed the exam?
 B: $[\text{Charles}]_{\text{CT}}$ passed the exam. But I don't know about Patrick and Ginevra.
 $H^*L-H\% \quad (L+)H^* \quad L- \quad L\%$
 B: $\sharp[\text{Charles}]$ passed the exam too. But I don't know about Patrick and Ginevra.
- (2') A: Who passed the exam?
 B: $\sharp[\text{Charles}]_{\text{CT}}$ passed. (In fact) so did Patrick and Ginevra.
 $H^*L-H\% \quad H^*L-L\%$
- (3') a. A: $[\text{Charles}]_{\text{CT}}$ passed the exam.
 B: I don't think so. (Charles didn't pass it, either.)
 b. A: $[\text{Charles}]_{\text{F}}$ passed the exam.
 B: I don't think so. (It is Patrick who passed the exam.)
- (4') a. I don't think $[\text{Charles}]_{\text{CT}}$ didn't come. $\simeq$ (I think) Charles came too.
 b. I don't think Charles didn't come either. $\simeq$ (I think) $[\text{Charles}]_{\text{CT}}$ came.

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