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Conditionals with/without Obligatory Particles

Shun Ihara

1. Introduction

Mandelkern & Romoli (2018) have an intuition that (1) is bad and (2) is good.

(1) **BAD**: #If John is not in Tokyo, he is in Japan.

(2) **GOOD**: If John is in Japan, he is not in Tokyo.

This is puzzling, because both **BAD** and **GOOD** have the same underlying structure at a certain logical abstraction: in both cases, the negation of the antecedent entails the consequent. In other words, at a certain level of abstraction, both have the structure in (3), where $p^+$ is a sentence which asymmetrically entails $p$.

(3) If $¬p^+$, then $p$.

where $p^+$ is a sentence which asymmetrically entails $p$.

To see that **BAD** has this structure, let $p^+ = \text{John is in Tokyo}$ and $p = \text{John is in Japan}$. To see that **GOOD** has this structure, let $p^+ = \text{John is not in Japan}$ and $p = \text{John is not in Tokyo}$.

Mandelkern & Romoli call this form of conditionals *Hurford conditionals*. They argue that existing

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*They call the conditionals ‘Hurford’ because the conditionals are closely related to *Hurford Disjunctions* (Hurford 1974) in which one disjunct entails the other; that is, disjunctions with the form $p \lor p^+$ or $p^+ \lor p$. **BAD** and **GOOD** correspond to (i) and (ii) respectively in that each is constructed from (i) and (ii) by way of an ‘or-to-if’ inference (Stalnaker 1974). These observations that Hurford disjunctions are generally infelicitous is known as *Hurford’s constraint* (Chierchia et al. 2012).*

(i) #Either John is in Paris or he is in France.
(ii) #Either John is not in France or he is not in Paris.
theories of informational oddness, namely redundancy-based theories and triviality-based theories, do not distinguish between BAD and GOOD. Although they have not been able to find a satisfying explanation of the contrast, they note that one possible direction would be to focus on obligatory particles like still. As in (4), the insertion of still makes BAD quite felicitous.

(4) If John is not in Tokyo, he is still in Japan.

cf. #If John is not in Tokyo, he is in Japan. (= BAD)

A hypothesis could therefore be that these sort of particles are obligatory in contexts like the consequent of BAD, and it is their omission which leads to oddness (Mandelkern & Romoli 2018: 365).

Focusing on obligatory discourse particles, in this paper I attempt to find a satisfying explanation of the contrast found in Hurford conditionals. The upshot of this paper is as follows. I argue that a logical triviality makes the BAD strange (§2), but an insertion of certain obligatory discourse particles can disrupt it by turning BAD into a non-trivial conditional. As for GOOD, I claim that it is entirely natural, because it is already a non-trivial conditional (§3). However, the obligatory particles cannot be added to the GOOD case with impunity: the insertion of obligatory particles requires certain Question under Discussion (QuD, Roberts 1996) to be defined (§4).

2. Explaining BAD

As observed in Hurford disjunctions (Hurford 1974), categorial relations seem to be the core of the problem in Hurford conditionals. Hurford points to the following well-known generalization: a sentence that contains a disjunctive phrase of the form ‘S or T’ is infelicitous if S entails T or T entails S. This constraint is illustrated by the infelicity of the following sentences:

(5) a. #Mary saw a dog or an animal.

b. #Mary saw an animal or a dog.

c. #Every girl who saw an animal or a dog talked to Jack.

The subtype/type relation functions in (5): ‘dog’ is a subset of ‘animal,’ and ‘animal’ is a superset of ‘dog.’ The examples in (5) are all bad since ‘being a dog’ entails ‘being an animal’ but ‘being an animal’ does not entail ‘being a dog.’ (Note that subset (sub) \(\subseteq\) entail a superset (super) whereas super \(\not\subseteq\) sub.)

As redundancy-based theories, a material implication (\(\neg p \rightarrow q\)) analysis and a strict implication (\(\square p \rightarrow q\), von Fintel (2001)) analysis predict both BAD and GOOD to be infelicitous, and a variably strict semantics (\(\neg\square p \rightarrow q\)), a material implication is analyzed relative to a contextual parameter, Kratzer (1986) does not predict that BAD and GOOD are infelicitous (See Mandelkern & Romoli (2018: 360–362). As triviality-based theories, both a dynamic theory (Heim 1983, a.o.) and an incremental parsing-based theories (Schlenker 2009) predict BAD and GOOD to be felicitous, and a symmetric algorithm predicts the both to be infelicitous (See Mandelkern & Romoli (2018: 362–363).

As is well-known, Chierchia et al. (2012) have a counterexample to Hurford’s Constraint. See Chierchia et al. (2012: 2–3) for the relevant discussion.
Bearing this basic fact in mind, let us see what happens in Hurford conditionals. See Table 1 below, which I label “Hurford Square.”

<table>
<thead>
<tr>
<th>Negation in consequent</th>
<th>Negation in antecedent</th>
</tr>
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<tbody>
<tr>
<td>( \neg \text{super} \rightarrow \neg \text{sub} )</td>
<td>( \neg \text{super} \rightarrow \neg \text{sub} ) (GOOD)</td>
</tr>
<tr>
<td>( \neg \text{super} \rightarrow \neg \text{sub} )</td>
<td>( \neg \text{super} \rightarrow \neg \text{sub} ) (BAD)</td>
</tr>
</tbody>
</table>

For example, let sub be ‘Shun drinks Premium Malt’s’ and super be ‘Shun drinks a beer,’ where ‘Shun drinks Premium Malt’s’ \( \models \) ‘Shun drinks a beer.’ Then, \( \mathfrak{a} \) is translated to ‘If Shun drinks a beer, he does not drink a Premium Malt’s,’ which corresponds to the GOOD case. \( \mathfrak{a} \) and \( \mathfrak{e} \) are translated to ‘If Shun does not drink a beer, he drinks a Premium Malt’s’ and ‘If Shun drinks a Premium Malt’s, he does not drink a beer,’ respectively, which both lead to contradiction. \( \mathfrak{e} \) corresponds to the BAD case which is translated to ‘If Shun does not drink a Premium Malt’s, he drinks a beer.’

Recall that the question here is why \( \mathfrak{e} \), namely BAD, is infelicitous. I argue that the infelicity of BAD comes from tautology (or triviality) generated by following steps:

(6) If Shun does not drink a Premium Malt’s, he drinks a beer. (= \( \mathfrak{e} \), BAD)

i. ‘Shun drinks a Premium Malt’s’ entails ‘Shun drinks a beer.’

ii. The antecedent part of the conditional in \( \mathfrak{e} \) ‘If Shun does not drink a Premium Malt’s’ does not entail ‘Shun drinks a beer.’

iii. However, ‘If Shun does not drink a Premium Malt’s’ presupposes ‘Shun drinks (something);’ in this case, ‘If Shun does not drink a Premium Malt’s’ presupposes ‘Shun drinks a beer, just not a Premium Malt’s.’

iv. The subsequent part of the conditional in \( \mathfrak{e} \) ‘he drinks a beer’ simply asserts ‘Shun drinks a beer.’

v. Thus, in \( \mathfrak{e} \), the presupposition of the antecedent and the assertion of the subsequent make the same statement ‘Shun drinks a beer,’ which leads to tautology.

It is worth noting that a continuity of ‘a presuppositional content \( p_A \) to an assertive content \( p_B \)’ generally leads to this sort of redundancy if \( p_A = p_B \). For instance, van der Sandt (1992) claims that if the speaker first conveys \( p \) as a presupposition using a factive verb know which presupposes the truth of its sentential complement, and he then conveys the same \( p \) by asserting \( p \), the assertion feels odd because of a triviality, cf. (7), (8).

(7) John knows that it’s raining.

a. \( \text{know}(J,p) \): John knows that it’s raining.
b. \( p \gg_{\text{pres}} \): it’s raining. (presupposition)

(8) a. \( \langle p_{\text{assert}} \rangle \rightarrow \neg p \gg_{\text{pres}} \)
   It’s raining. John knows that it’s raining.

   b. \( \neg p \gg_{\text{pres}} \rightarrow p_{\text{assert}} \)
   John knows that it’s raining. "It’s raining."

One may wonder if the antecedent part of (6) ‘(If) Shun does not drink a Premium Malt’s’ really conveys the presupposition ‘Shun drinks (something).’ This can be examined by introducing the notion of a presupposition hole: a semantic operator that allows presuppositions to slip through it, even as that operator targets the at-issue content, e.g., negations, conditional antecedents, and interrogative operators (Karttunen 1973). Assume that (6) has the at-issue content that ‘Shun does not drink a Premium Malt’s’ (\( \varphi \)) and the presupposition that ‘Shun drinks something’ (\( p \)). Then, the translations on the right (the right of the arrow ‘\( \rightarrow \)’) in (9a–c) have \( \varphi \) (subscript \( p \)) in the scope of negation, a conditional operator, and an interrogative operator, respectively. And yet, whereas \( \varphi \) is modified by these semantic operators, the presupposition \( p \) remains, in some sense, an entailment of all of these sentences.

(9) Shun does not drink a Premium Malt’s. \( \rightarrow \varphi_p \)
   a. If Shun does not drink a Premium Malt’s, (then...) \( \rightarrow \text{Implies: Does Shun drink something? } \rightarrow \text{YES.} \)
   b. Does Shun not drink a Premium Malt’s? \( \rightarrow \text{Implies: Does Shun drink something? } \rightarrow \text{YES.} \)
   c. It is not the case that Shun does not drink a Premium Malt’s. \( \rightarrow \text{Implies: Does Shun drink something? } \rightarrow \text{YES.} \)

This section argues that it is a logical triviality (namely, tautology) that makes the BAD conditional strange. However, as we have already seen in Section 1, an insertion of certain discourse particles can disrupt it by turning BAD into a natural conditional. I will attempt to give an account for this fact in the next section.

3. Still and concessives

3.1. Still in BAD

Mandelkern & Romoli (2018) observe that an insertion of the obligatory discourse particle still makes BAD a felicitous sentence, as exemplified in (4) (repeated in (10)).

(10) If John is not in Tokyo, he is still in Japan.
   cf. #If John is not in Tokyo, he is in Japan. (= BAD)

I suggest that this is because when still is inserted in BAD, the sentence is no longer BAD; still can turn BAD into a non-tautological conditional.
To see why *still* can play such a role, let me now introduce the semantics of *still* proposed by Ippolito (2004). She argues that *still* has three uses:

(11)  

a. Aspectual use: *John is still cooking.*

b. Marginal use: *Compared to Premium Malt’s, Super Dry is still good.*

c. Concessive use:

   *John studied all night and still failed the test.*

   ≈ *Despite the fact that John studied all night, he failed the test.*

   ≈ *John studied all night, even so, he failed the test.*

Here, we focus on the concessive use of *still* in (11c). In (11c), *still* conveys that John’s failing the test after having studied all night is somewhat ‘unexpected,’ as the translations ‘despite the fact’/’even so’ suggest. Ippolito proposes that the concessive *still* is a scalar particle, where the relevant ordering is the order of worlds according to their likelihood with respect to a certain proposition:

(12)  

a. 

\[ \text{\{ still con \} }^{g,c} = \lambda_{pst}.\max_{\leq,w} \{ w : w \in p \land w \in q \} \prec_{\text{likely}} \max_{\leq,w} \{ w : w \in p \land w \in \neg q \} \]

where *q* is a contextually salient proposition, i.e. the proposition that the particle associates with, and ‘\( \prec_{\text{likely}} \)’ intuitively means “*less likely.*” (Ippolito 2004: 138)

b. For any proposition *p*, any similarity relation \( \leq \), and any world *w*:

\[ \max_{\leq,w}(p) = \{ w' : p(w') = 1 \land \forall w'' : p(w'') = 1 \rightarrow w' \leq w \} \]

(c. Example:

\[ \text{\{ John still failed the test \} }^{g,c} = 1 \text{ iff } w \in \{ w : \text{John failed the test in } w \} ; \]

defined only if \( \max_{\leq,w} \{ w : \text{John studied all night in } w \text{ and failed the test in } w \} \prec_{\text{likely}} \max_{\leq,w} \{ w' : \text{John did not study all night in } w' \text{ and failed the test in } w' \} \]

Technically, in (12c), worlds where John failed the exam are ordered according to how likely they are given our actual assumptions. Then, the sentence asserts that John studied all night and failed the test in the actual world with the presupposition that the worlds maximally similar to the actual world in which John studies all night and fails the test are less likely than the maximally similar worlds where he does not study all night and fails the test. Ippolito argues that from this semantics of *still*, we can obtain an ‘unexpectedness’; there’s a ‘despite the fact’ or ‘even so’ reading (cf. (11c)).

Following Ippolito’s analysis of *still*, I propose that the insertion of *still* turns a tautological conditional into a concessive conditional.

(13)  

a. If Shun does not drink a Premium Malt’s, he drinks a beer. (BAD)

b. If Shun does not drink a Premium Malt’s, he *still* drinks a beer. (BAD + *still*)

≈ *Despite the fact that Shun does not drink a Premium Malt’s, he drinks a beer.*

≈ *Shun does not drink a Premium Malt’s, even so, he drinks a beer.*
In (13), although BAD (without still) causes a tautology as I have analyzed in Section 2, the insertion of still to the subsequent part makes the conditional completely natural since the conditional is no longer a BAD conditional but the concessive conditional.

3.2. Explaining GOOD

How should we explain the GOOD case in (1) (repeated in (14))? We already know that the discourse particles like still is not demanded in GOOD. In (14), an insertion of still seems to be optional.

(14) If Shun drinks a beer, he (still) does not drink a Premium Malt’s. (GOOD)

As for the GOOD case, I argue that it is a concessive conditional already as in (15); without inserting still, it might be the case that all conditionals of the form \( \text{SUPER} \rightarrow \neg \text{SUB} \) convey concessive readings.

(15) If Shun drinks a beer, he does not drink a Premium Malt’s.

\[ \Rightarrow \text{Despite the fact that} \text{ Shun drinks a beer, he does not drink a Premium Malt’s.} \]

\[ \Rightarrow \text{Shun drinks a beer, even so, he does not drink a Premium Malt’s.} \]

3.3. Interim summary

Let me briefly summarize my findings so far. I have argued that the two different judgements about Hurford conditionals depend on whether they are tautology or concessive conditionals: BAD is tautology, but the insertion of still can disrupt it by turning it into a concessive conditional; on the other hand, GOOD is a concessive conditional already.

3.4. Alternative account: Maximize Presupposition

Before moving on to the next section, I would like to provide an alternative explanation that would explain the contrast between BAD and GOOD. Although in Section 2, I have proposed that it is a tautology that makes BAD so odd, I should note that there may also be another mechanism working, which is based on the general pragmatic principle called Maximize Presupposition initiated by Heim (1991).

(16) Maximize Presupposition! (Heim 1991):

Make your contribution presuppose as much as possible.

Recently, Maximize Presupposition has been reformulated and extended to explain all kinds of presupposition triggers (Percus 2006, Sauerland 2008, Chemla 2008, a.o.). The basic assumption behind newer proposals is that lexical items (or sentences) are in pragmatic competition; sentences with presuppositionally stronger items are assumed to be preferred (Percus 2006, Chemla 2008). For example, in (17), assuming that too and \( \emptyset \) are in pragmatic competition \( \{ \text{too, } \emptyset \} \), using \( \emptyset \) becomes odd, since in this context the presupposition of too, which is presuppositionally stronger than \( \emptyset \), is fulfilled.

(17) Hanako went to school.
a. #Taro did ∅.

b. Taro did, too.

Recall now the case of Hurford conditionals, where BAD itself is infelicitous but the insertion of the obligatory discourse particle still disrupts it. Following Ippolito’s (2004) account that the particle still is also a presupposition trigger like too, we could extend the scope of Maximize Presupposition to still by assuming that still and ∅ are in competition { still, ∅ }. Moreover, given the fact that GOOD is a concessive conditional already (cf. (15)), it is reasonable to assume that Hurford conditionals (of the logical form $\neg p^+$, then $p^\gamma$, where $p^+$ is a sentence which asymmetrically entails $p$) always require the concessive presupposition; whenever uttering Hurford conditionals, the concessive presupposition should already be satisfied. Then, in the GOOD case, an insertion of still is not obligatorily required since the form of GOOD itself is already a concessive conditional. On the other hand, in the BAD case, since the form of BAD cannot convey a concessiveness by itself, an insertion of still is required by Maximize Presupposition in order to match the concessive context.

(18) (In a concessive context)

a. If John is not in Tokyo, he is still in Japan. (← still is required by MP)

b. #If John is not in Tokyo, he is ∅ in Japan.

The task to conclude which account (namely, the triviality account or the Maximize Presupposition account) is better to explain the contrast between BAD and GOOD is beyond the scope of the current work and will be left to future work; it is worth noting, however, that at least the Maximize Presupposition account should present more clarification with regard to the semantic/pragmatic status of still. Ippolito (2004) treats the concessive meaning of still as a presupposition, but I do not see any reason why it is a presupposition; there is a possibility that it is a conventional implicature in line with Potts (2007). It is worth demonstrating projection and cancelation tests to prove the concessive meaning of still to be a presupposition (cf. Karttunen 1973), because if it is a conventional implicature rather than a presupposition, the Maximize Presupposition account cannot be applied to the current case. Thus, I (tentatively) leave the Maximize Presupposition account as an ‘alternative’ in this paper.

4. Hurford Conditionals and QuD

An issue that we have not examined yet is about the optionality of the discourse particle still observed in the GOOD case.

(19) a. If Shun drinks a beer, he does not drink a Premium Malt’s. (GOOD)

b. If Shun drinks a beer, he still does not drink a Premium Malt’s. (GOOD + still)

The questions that one might pose are as follows. Why does the particle still seem to be optional but not to be required in the GOOD case? Is the insertion of still really ‘optional’ rather than ‘obligatory’ in GOOD?
To answer these questions, I make use of the discourse model that focuses on Question under Discussion (QuD, Roberts 1998). QuD is an analytic tool that has recently become more and more popular among linguists as a way to characterize how a sentence fits in its context. The discourse model based on QuD assumes that discourse is driven and structured by (implicit/explicit) QuD that the participants are trying to answer; each sentence in discourse addresses a QuD either by answering it, or by bringing up another question that can help answering that QuD. Basically, questioning happens against the background of a (Stalnakerian) Common Ground, a set of propositions that describes ‘what is mutually known’ by discourse participants (Stalnaker 1978). At any point in discourse, a QuD constrains the set of possible answers. Of course, a concessive conditional can also be an answer to a QuD. Focusing on QuD allows us to work from bottom up (what Roberts call Question Reconstruction): what is the question that lead to our answer—the concessive conditional? Does the question differ with and without particle still in GOOD?

Consider the case in (20), where GOOD with still causes a mismatch and GOOD without still matches the context.

(20) (A and B are talking on the phone)
A: Is Shun drinking a beer now?
B: Can’t be. I heard he doesn’t want to drink today.
A: But I’m sure he is drinking a beer right now. So he is drinking a beer, isn’t he?
~~ QuD: Is he drinking a beer?
B: Well, if Shun is drinking a beer, he is (still) not drinking a Premium Malt’s. (Concessive)

In (20), it is infelicitous if the speaker B utters still, which means that the insertion of still is not always optional. The key here is that the QuD only concerns ‘whether shun is drinking a beer’ rather than ‘what kind of beer he is drinking.’ Note that two native speakers of English reported that the insertion of still in this context is somewhat redundant and infelicitous. They also reported that it feels more like adversative (opposition) than concessive. Thus, the QuD needs to change to match still.

In the discourse in (21), where GOOD without still causes a mismatch and GOOD with still matches the context. In (21), with still added to GOOD, the question reconstruction leads to the updated QuD.

(21) (A and B are talking on the phone)
A: Is Shun drinking a beer now?
B: Can’t be. I heard he doesn’t want to drink today.
A: But I’m sure he is drinking a beer right now, and I think it’s a Premium Malt’s. So he is drinking a beer, isn’t he?
~~ QuD: Is he drinking a beer?
★¹ B: No. I know the fact that he isn’t drinking a Premium Malt’s.
★² A: OK, then one thing is for sure: he’s drinking a beer. (QuD′: Is he drinking a beer?)
The QuD is updated (or strengthened) in this discourse; at first, the QuD seems to be “Is he drinking a beer?” (: QuD'), but then it is updated to “Is he drinking a Premium Malt’s?” (: QuD'') since the fact that Shun is not drinking a Premium Malt’s is explicitly added to the Common Ground by B’s utterance marked by ★¹ and A’s acceptance marked by ★². This updated QuD matches the concessive still because still in (21) does not cause any redundancy unlike the one in (20); the meaning conveyed by still in this context, namely the unexpectedness that Shun does not drink a Premium Malt’s, just matches the context.

In this section, I have argued that the particle still is not added to the GOOD case with impunity since the QuD differs from one case to the other: while without still, a general QuD is required in the discourse (cf. (20)), with still a more defined QuD is required (cf. (21)).

6. Conclusion

As far as I know, this would be the first paper that tackles the problem on Hurford conditionals presented by Mandelkern & Romoli (2018). I argued that the contrast found in Hurford Conditionals, BAD/GOOD, is explained as follows. BAD is a tautology, but the particle still can disrupt it by turning it into a concessive conditional. Although GOOD is a concessive conditional already, still is not optional: a certain QuD should be defined.

As a future work, it would be interesting to see what discourse particles can disrupt a tautology in the BAD case. Interestingly, in Japanese, the contrastive marking particle wa can increase the acceptability of BAD when inserted. One plausible possibility is that wa can also take a concessive reading like still. Nakanishi & Rullman (2009) argues that the particle at least in English takes the concessive reading, and Biezma (2013) argues that the concessive reading of at least is generated by scalar implicature. Since wa can induce a sort of at least-meaning (Hirayama & Brasoveanu 2018), it seems reasonable to assume that wa can also take the concessive reading.⁴ However, looking at the data of BAD with wa, the fact is more complicated: it seems to me that BAD with wa in (22b) is not completely natural (thus I put ‘?’ on (22b)) although its acceptability is certainly higher than the one without BAD in (22a).

(22) a.#Shun-ga Puremoru-o noma-nai toki, (sono-baai) kare-wa biiru-o nom-u. S.-NOM PM.-ACC drink-NEG in.the.case.that (in.that.case) he-TOP beer-ACC drink-PRES
   ‘If Shun does not drink a Premium Malt’s, he drinks a beer.’

b. ?Shun-ga Puremoru-o noma-nai toki, (sono-baai) kare-wa biiru-wa_CT nom-u. S.-NOM PM.-ACC drink-NEG in.the.case.that (in.that.case) he-TOP beer-wa drink-PRES
   ‘If Shun does not drink a Premium Malt’s, he drinks a beer at least.’

In sum, I have what I think is a fascinating issue. How are the two concessive meanings (conveyed by still and wa) different from each other? I hope that in the future I will figure out what is going on here.

⁴Precisely, contrastive wa has a different meaning from sukunakatomo ‘at least’ in Japanese. See Hirayama & Brasoveanu (2018) for the experimental evidence.
References


