

This paper provides an account of conditional reasoning that explains differences between biscuit conditionals (henceforth BCs) and hypothetical conditionals (HCs) as discourse-relevance differences (using QUD models, [9, a.o.]). The literature on BCs, e.g. (1), can be roughly divided between those accounts that defend that the semantics of BCs is not different from that of HCs and assume that pragmatic processes are responsible for the extra inferences (*pragmatic theories*, PRTs) (see [6, 5, 11, 8, a.o.]), and those that argue that differences observed between BCs and HCs are ultimately due to a differences in the semantics. Amongst these, one of the most developed is [3, 2], who claim that conditionals introduce two different speech acts (we dub it the *speech act theory*, SPT): the antecedent introduces a (newly coined) *reference* speech act, whereas the consequent can introduce a speech act of any kind (assertion (1), lie (2), order (3), etc.). The difference between BCs and other conditionals follows from how the two speech acts relate to each other. ([3, 2] ground interpretative differences regarding this relation on the syntax, building on the observation that German BCs and HCs differ regarding the syntactic integration of antecedent and consequent.)

Criticism to SPT are already found in [6], and in general PRT are more elegant due to their semantic ‘simplicity’. However, PRTs have never fleshed out an account of phenomena that SPTs explain ‘for free’: why does the utterance of (1) lead us to conclude that there being biscuits on the sideboard is relevant in case you are hungry? (SPT claim the antecedent in BCs is a ‘relevance topic’); or, why does a speaker uttering (2) say that it is a lie that Bush and Condi are married? (SPT claim there is a ‘lie’ speech act in the consequent). To be complete, a PRT approach, would have to explain where the *relevance* flavour comes from and the different inferences regarding the consequent. **The present proposal** provides a novel account in terms of discourse-relevance and explains (i) why some BCs are infelicitous (4), and (ii) new data regarding ‘perfection’. **Perfection in BCs:** different theories of BCs explain why the utterance of a BC like (1) leads us to update the entire context set with the information that there are biscuits on the sideboard and not just a temporary context set (such as in a Heimian-style context update (5)). In addition, an utterance of (1) leads us to conclude that the speaker is giving the addressee permission to eat the cookies. The new observation is that such inferences can be *perfected* and there are linguistic cues leading to this strengthening: E.g. upon hearing BC in (6)-b the addressee will suspect that the speaker is recommending/giving permission to use the wine by the microwave for the sauce, but that such permission/recommendation is not necessarily extended to other uses. This is not *conditional perfection* as in [4], which cannot be exhibited by BCs ([6]): what is perfected in (6)-b is the permission to use the wine, and this is derived using independently motivated tools.

**Proposal: 1. Contextual update:** We follow ([6, 5]) in that one of the main ingredients of biscuitness is the independence of the antecedent and consequent, which leads to a strengthening of the context update in BCs. **2. Mapping conditionals into discourse structure:** following [7] and in agreement with [2] we assume that conditionals have a default interpretation in which the antecedent is understood as the topic and the consequent as the focus and argue that this is the only possibility in BCs. Hence, according to (7), a BC *if*  $\alpha$ ,  $\beta$  is taken to introduce an immediate QUD asking what is the case when  $\alpha$  is the case, and  $\beta$ , the response, has to be thought of as helping find the answer (see the relevance principle (9)). The general update schema is in (10). **Predictions so far:** The immediate prediction is that all conditionals trigger the same discourse inferences as conversational exchanges reflecting the same relation (if any) between antecedent and consequent (11). In particular, the same permission inference triggered by uttering (1) is triggered in (11-b). This already explains the infelicity of (4): (4) is infelicitous because we cannot retrieve how there being beer in the fridge is relevant to finding an answer to the established question, just as in (12). **3. Perfection: a. Intuition:** The intuition regarding examples like (6)-b is that the speaker is providing the information that there is wine by the microwave as a response, specifically, to the request of wine for the sauce, and not anything else. Since the response is construed (via relevance) as providing a permission/recommendation to use the wine by the microwave, we infer that such permission/recommendation is not necessarily extended to other uses. **b. Explanation:** We have assumed above that the antecedent in BCs is the topic and the consequent is the focus. The linguistic cues already tell us that there are contextual alternatives to the spelled-out antecedent (in (6)-b this is indicated by intonation, there are other means). The results then is a contrastive topic (CT) construction, i.e. in the topic it is conventionally indicated that there are other contextually salient alternatives to the one mentioned, and we process it in the same way we process other CT phenomena. We follow [1], who treats CT as just any other focus value (generalizing the Roothian ‘ $\sim$ ’ operator) with the difference being how it is integrated with the rest of the utterance: the CT-operator in (13), while leaving the ordinary semantic value untouched, indicates at the focus level that the utterance is part of a larger strategy (in [9]’s terms). The focus-value of the BC in (6)-b is offered in (15) which directly maps onto the d-tree in (16). **Conclusion:** Taking into account congruency and relevance, BCs are revealed as examples of the flexible set of strategies we deploy in the construction of discourse, requiring no departure from the semantics of HCs.

- (1) If you are hungry, there are biscuits on the sideboard.
- (2) If you want to hear a big fat lie, Bush Jr. and Condi Rice are secretly married. **(Explained in (10-b-ii))**
- (3) If they ask you, you are four. **(Explained in (10-b-ii))**

(4) #If France is hexagonal, there is beer in the fridge.

(5) Heimian Conditional update:  $c + \text{“if } \phi, \psi\text{”} = (c + \text{ASSUME } \phi) + \psi$

(6) A is cooking dinner at his friend’s house:

a. A: I need wine for the sauce.

B: There is a bottle by the microwave.

A: #Hmm..., so, I shouldn’t drink it, right?

b. A: I need wine for the sauce.

B’: [If you need wine for [the sauce]<sub>L→H\*</sub>]<sub>L%</sub>, [there is a bottle by the microwave]

A: √ Hmm..., so, I shouldn’t drink it, right?

(7) **Discourse Congruency** (based on [9])

A move  $\beta$  is congruent to a question  $?\alpha$  iff its focal alternatives  $[\beta]^f$  are the Q-alternatives (the answers to the question available in discourse) determined by  $?\alpha$ , i.e. iff  $[\beta]^f = \text{Q-alt}(?\alpha)$ .

(8) **Focal alternatives** (simplified): The focal alternatives of an utterance  $\beta$  are the set of alternative propositions that we reach by substituting different meanings for all F-marked constituents.

(9) **Relevance** (adapted from [9, ex. (15)])

A move  $M_\beta$  (discourse move made by the utterance of  $\beta$ ) is Relevant to its immediate QUD  $q$  iff  $M_\beta$  either introduces a partial answer to  $q$  in its context of utterance,  $c_{M_\beta}$  ( $M_\beta$  is an assertion), or is part of a strategy to answer  $q$  ( $M_\beta$  is a question).

(10) Information provided by the utterance of a conditional sentence *if*  $\alpha$ ,  $\beta$ :

a. Contextual information update:  $c + \text{if } \alpha, \beta = (c + \text{ASSUME } [\alpha]) + [\beta]$

(i) Strengthened for BCs:  $c + \text{if } \alpha, \beta = c + [\beta]$  (following [6, 5])

b. Discourse information update:

(i) The QUD of the conditional is [what is the case if  $\alpha$ ?], henceforth  $QUD_\alpha$

(ii)  $\beta$  is relevant as a response to  $QUD_\alpha$ :  $\beta \text{ Relv } QUD_\alpha \rightsquigarrow p; c + \text{ASSUME } p$

In BCs  $p$  is, e.g., the inferences of permission in (1), that  $\beta$  is a lie in (2) or an order to state  $[\beta]$  in (3) (this leads to revising (10-a-i) to update in the entire context that  $[\beta]$  is a lie in (2) or not necessarily true in (3)).

(11) a. A: What does Jones do if it rains?

B: He wears his hat.

b. A: What shall I do if I’m hungry?

B: There are biscuits on the sideboard.

(12) A: What is the case if France is hexagonal?

B: #There is beer in the fridge.

(13) **Topic abstraction** (from [1])

a.  $[\text{CT-}\lambda_i \phi]_g^o = \lambda x. [\phi]_{g[i \rightarrow x]}^o$

(Ordinary semantic value)

b.  $[\text{CT-}\lambda_i \phi]_g^f = \lambda x. [\phi]_{g[i \rightarrow x]}^f$

(Focus semantic value)

(14) **Generalized Focus operator** ([1] based on [10])

a.  $[\sim \phi]^o = [\phi]^o$

b.  $[\sim \phi]^f = \{ [\phi]^o \}$

c. ... and presupposes that the context contain an antecedent  $C$  such that:

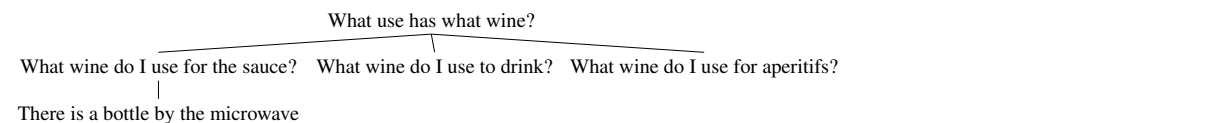
(i)  $C \subseteq [\sim \phi]^f$ ; (ii)  $|C| > 1$ ;

(iii)  $[\phi]^{o*} \in C$  (ancestral membership)

(15) LF:  $[\sim [ [ [ \text{If you need wine for [the sauce] } ]_{\text{CT}} ] ]_{\text{CT}} ]_{\text{CT}} \lambda [ \text{there is a bottle by the microwave} ]_F ] ] ]$

Assuming three contextually salient wine uses (sauce cooking, aperitifs, general drinking) and several wine possibilities.

(16)



**References:** [1] Constant. 2014. Contrastive Topic: Meanings and Realizations. [2] Ebert et al. 2014. A unified analysis conditionals as topics. [3] Ebert et al. 2008. A unified analysis of indicative and biscuit conditionals as topics. [4] von Stechow. 2009. Conditional strengthening, again. [5] Francez, Itamar. 2015. Chimerical conditionals. [6] Franke. 2009. Signal to act: game theory in pragmatics. [7] Heim. 1982. Conditionals are topics. [8] Lauer. 2015. Biscuits and provisos: Conveying unconditional information by conditional means. [9] Roberts. 1996. Information Structure in Discourse: Towards an Integrated Formal Theory of Pragmatics. [10] Rooth. 1996. Focus. [11] Sano & Hara. 2014. Conditional independence and biscuit conditional questions in dynamic semantics.