

# Premise conditionals are thematic hypothetical conditionals

## Abstract

This paper aims to show that the difference identified in the literature between hypothetical and premise conditionals is not to be found in the semantics, but rather in their information structure, which has a mapping in the syntax. In particular, we argue that premise conditionals are echoic, which makes them exclusively thematic from an information structural perspective, while hypothetical conditionals can also be rhematic. Rhematic conditionals happen to be compatible with all the characteristics that stand out as incompatible with premise conditionals.

## 1 Introduction

The aim of this paper is to analyze the so-called premise conditionals, in comparison to regular, hypothetical conditionals, given that these two types of conditionals a priori present some interesting differences. Although there are some claims in the literature that premise conditionals are syntactically and semantically different from hypothetical conditionals (Iatridou, 1991; Haegeman, 2003), there is no previous detailed analysis of the semantics of premise conditionals. In this paper, we argue that premise and hypothetical conditionals are semantically identical, and that all differences follow from the fact that premise conditionals echo a previous utterance in the discourse, which makes them necessarily thematic from an information structural perspective, unlike hypothetical conditionals, which can also be rhematic.

## 2 Two types of conditionals

The literature on conditionals has often distinguished between hypothetical conditionals and

premise conditionals (Iatridou, 1991; Haegeman, 2003). Example (1-a) illustrates hypothetical conditionals (called 'event conditionals' in Haegeman, 2003), while example (1-b) illustrates premise conditionals (also called 'factual conditionals' in Iatridou, 1991).

- (1) a. If it rains a lot, we will all get terribly wet and miserable.
- b. If [as you say] it is going to rain so much, we should stay at home.

Although both Haegeman and Iatridou are concerned mainly with the syntax of conditionals, they argue that there are interpretative differences between both types. In particular, Haegeman claims that while a hypothetical conditional modifies the main clause event, a premise conditional "structures the discourse: it makes manifest a proposition that is privileged context for the processing for the associated clause" (page 319). Iatridou claims that premise conditionals, as opposed to hypothetical conditionals, do not specify the circumstances in which the consequent is true.

Both Haegeman and Iatridou point out that the antecedent of a premise-conditional echoes the words of another participant of the conversation, as shown by examples (2)-(4). The speaker may accept the truth of the antecedent, (2), may be agnostic towards it, (3), or may seriously doubt it, (4). Iatridou proposes that premise conditionals carry the presupposition that somebody other than the speaker believes the content of the antecedent to be true. Example (5) shows that the speaker cannot have direct evidence about the truth of *p*: in this content, a causal clause, rather than a conditional, should be used.

- (2) From Iatridou (1991), example (20)  
A: Bill is very unhappy here.  
B: If he's so unhappy, he should leave.

- (3) From Iatridou (1991), example (21)  
 A: This book that I'm reading is really stupid.  
 B: I haven't read it, but if it's so stupid you should not bother with it.
- (4) From Iatridou (1991), example (22)  
 A: My friend Joe, whom you haven't met, is very smart.  
 B: Oh, yeah, If he's so smart why isn't he rich?
- (5) From Iatridou (1991), example (29)  
 Both A and B are looking out of the window.  
 A: It's raining.  
 B: Since / \*If it's raining, we shouldn't go out.

### 3 Some differences

Apart from echoicity, Iatridou and Haegeman point out that there are several differences between premise and hypothetical conditionals. We will concentrate on the following:

**Negation** When the consequent of the hypothetical conditional precedes the antecedent and contains negation, it is potentially ambiguous, as shown by the continuations of the examples in (6). In (6-a), negation is under the scope of the conditional, while in (6-b) negation outscopes the conditional.

- (6) a. Mary doesn't yell at Bill if she's hungry, since hunger keeps her quiet.  
 b. Mary doesn't yell at Bill if she's hungry, but if she's sleepy.

If the antecedent precedes the consequent, the ambiguity disappears and the conditional must take scope over negation, as the contrast in (7) shows.

- (7) a. If Mary is hungry, she doesn't yell at Bill, since hunger keeps her quiet.  
 b. #If Mary's hungry, she doesn't yell at Bill, but if she's sleepy.

The same situation holds for premise conditionals: they are not ambiguous and negation cannot take scope over the antecedent. This is shown by the unacceptability of (8): this sentence cannot mean "You should only remain quiet if you're respected, and not if you are so unhappy."

- (8) #You shouldn't remain quiet if you're so unhappy, but if you're respected.

**Question answering** While hypothetical conditionals can serve as answers to questions, premise conditionals cannot, as shown by the contrast in (9) and (10).

- (9) a. How can John get any fitter?  
 b. If he takes more exercise in the future.
- (10) a. How can John get any fitter?  
 b. #If he is already taking so much exercise right now.

**Only** The antecedent of a hypothetical conditional can associate with focus particles such as 'only', while the antecedent of a premise cannot. While (11-a) conveys that the only circumstances in which John will finish the book are the ones in which there is a lot of pressure on him, (11-b) conveys that if there is a lot of pressure on him, the only thing he will finish is the book.

- (11) a. John will only finish the book if there is a lot of PRESSURE on him.  
 b. John will only finish the BOOK, if there is already such a lot of pressure on him.

**Bound pronouns** A pronoun in the antecedent of a hypothetical conditional may be bound by a pronoun in the consequent, while this is not the case in a premise conditional. (12-b) is only acceptable if the pronouns in the consequent are not bound by *no one*.

- (12) a. No one<sub>i</sub> will answer the phone if he<sub>i</sub> thinks it's his<sub>i</sub> supervisor.  
 b. #Why does no one<sub>i</sub> answer the phone, if he<sub>i</sub> probably thinks it's his<sub>i</sub> supervisor?

### 4 Proposal

We propose that premise and hypothetical conditionals are semantically identical and their differences can be explained by appealing to their information structure, which maps to a different syntactic structure, as suggested in previous literature.

We assume a standard Stalnakerian view (Stalnaker, 1968, a.m.o.), whereby the effect of updating context with *if p, q* amounts to conveying that all the worlds in which *p* is true are worlds in which *q* is also true. This is made more explicit by

assuming that the update of  $c + [\text{if } p, q]$  is viewed as a two-step process. First, a derived context is created with the content of  $p$ . Second, the derived context is updated with  $q$ . We submit that this process happens with both hypothetical and premise conditionals. For instance, truth-conditionally, example (1-a) conveys that all worlds in which it rains are worlds in which we get wet and miserable; example (1-b) conveys that most deontically accessible worlds in which it rains are worlds in which we stay at home.

Contra Iatridou, we do not claim that premise conditionals presuppose that somebody believes  $p$  to be true, but rather that premise conditionals are simply hypothetical conditionals whose antecedent has been uttered in the discourse. This is very often reflected linguistically in the conditional. For instance, all Iatridou's premise conditionals include anaphoric elements in  $p$ , such as 'so'. Other cues could be the presence of *verum* markers such as 'indeed', as in (13), from von Stechow (2011).

(13) If it is indeed that late, we should leave.

In addition, it is not necessary to stipulate that a speaker cannot have direct evidence about the truth of  $p$  to explain the oddness of (5). It is sufficient to follow Isaac and Rawlin's (Isaacs & Rawlins, 2008) rendering that in indicative conditionals,  $p$  is presupposed by the speaker to be possible. Moreover,  $\diamond p$  carries the quantity implicature that  $\neg \square p$ . Therefore, this clashes with an epistemic state of the speaker whereby she knows  $p$  to be true or believes  $p$  to be true. This also holds for non-echoic conditionals: that is, the conditional in (5) is unacceptable even if speaker A does not say anything, as long as speaker B has direct evidence that  $p$  is necessarily true.

We assume a Question under Discussion (QUD)-model of discourse, in which any utterance is answering a specific (and possibly implicit) QUD (Ginzburg, 1994; Roberts, 1996). An utterance always contains a part which elaborates on the QUD, its actual update potential (the 'rheme' or 'focus') and may contain a 'theme' (or 'topic') which replicates content already present in the QUD (Vallduví, 2016).

Since premise conditionals include a  $p$  that has been uttered by another participant in the conversation (it is discourse-old in Prince's terms (Prince, 1992)), this forces the antecedent to act as

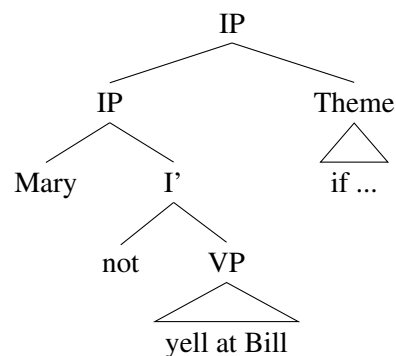
a theme. That is, the shape of the QUD is 'What happens if  $p$ ?' In contrast, in hypothetical conditionals, the antecedent may act as the theme (and the QUD is also 'What happens if  $p$ ?') or as the rheme of the sentence (and the QUD is 'Under which circumstances,  $q$ ?').

#### 4.1 Explaining the properties

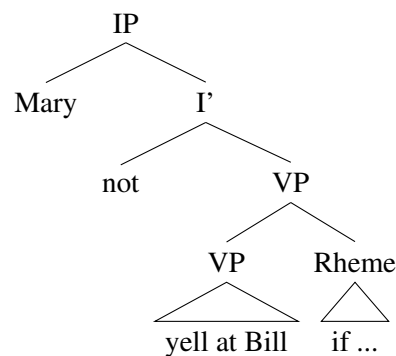
The fact that the antecedent of a premise conditional is required to act as a theme can explain all the aforementioned differences:

- Themes occupy a higher syntactic position than negation and, therefore, outscope it. In contrast, rhemes remain in a lower position under the scope of negation (according to Vallduví (Vallduví(1992)), cross-linguistically rhemes tend to be placed at the end of the main clause). (14) and (15) show the two structures for 'Mary does not yell at Bill if she's hungry' (slightly modified from Iatridou): in the former the conditional is thematic and, thus, outscores negation; in the latter it is rhematic and is under the scope of negation. Since premise conditionals are always thematic, they are not compatible with the second structure.

(14)

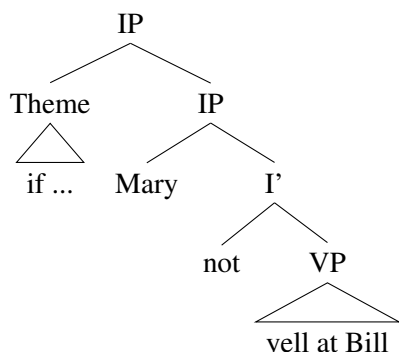


(15)



This explanation can also account for the unacceptability of (7-b): when the antecedent precedes the consequent, it is always thematic and, thus, cannot be outscoped by negation (see (16)).

(16)



- Themes cannot answer questions, which by definition map to rhematic items. Notice how the explicit QUD in (9) can be paraphrased as ‘Under which circumstances,  $q$ ?’, where  $q$  = ‘John can get any fitter’. In contrast, the conditional in (10) is not congruent with the explicit question, since a thematic conditional can only address a QUD of the shape ‘What will happen if  $p$ ?’.
- Themes cannot associate with focus particles, such as ‘only’.
- From a semantic/pragmatic point of view, since the antecedent is thematic, the pronouns in it are already bound to salient discourse referents and cannot be bound by quantifiers in the consequent. Syntactically, a pronoun in a thematic position will not be c-commanded by a quantifier in the consequent (which occupies a lower position).

#### 4.2 Thematic, rhematic and echoic conditionals

The connection between thematicity and conditionals has been pointed out before in the literature. For instance, Haiman (Haiman, 1978) shows that conditional clauses and topics are marked identically in several unrelated languages and proposes that, in fact, the antecedent of a conditional is a topic. In the same vein, Ebert, Endriss & Hinterwimmer, (2008) propose that hypothetical conditionals with fronted antecedents are best analyzed as left-dislocations conveying an aboutness topic. Our observation is that hypothetical conditional antecedents are often thematic, but they

don’t have to be. In particular, (i) if the antecedent is fronted, it will be thematic, and (ii) if the antecedent is echoic (fronted or postposed) it will be thematic.<sup>1</sup> However, there are cases in which the antecedent of the conditional can be rhematic and, as far as we can tell, this is a new observation in the literature. When the antecedent of a conditional is rhematic, it will be able to answer a question, to remain under the scope of negation or to associate with a focus particle. These were precisely the examples used in the literature to distinguish hypothetical and premise conditionals.

Uttering a theme-containing utterance manipulates the QUD in a particular way (Vallduví, 2016). When a speaker decides to use a premise conditional, she is reopening the issue of whether  $p$  and, in particular, exploring the consequences of  $p$  (‘What will happen if  $p$ ?’). She may do this for several reasons: (i) because she wants to challenge the content of  $p$  (see (4)), (ii) because she wants to reactivate a particular QUD, which possibly was no longer active (see (17)), or (iii) because she wants to make explicit that the consequent ( $q$ ) is an answer to a subquestion specified by the derived context (see (18)). In (18), a reply without an antecedent (B’) would be possible, but less coherent; in contrast, the theme-containing reply (B) makes it explicit that the speaker is addressing the QUD ‘What should we do if it rains?’.

- (17) A: My name is Mary. I got my Ph.D. at UPF and then I did two postdoctoral stays, one at UPenn and the other at UChicago.  
 B: If you got your Ph.D. at UPF, you must know Louise, right?
- (18) A: It’s raining a lot.  
 B: If it’s raining so much, we should not go out.  
 B’: We should not go out.

Let us go into more detail about the relationship between echoicity and thematicity. Our claim is that whenever we have echoicity, we will have thematicity (these were the cases identified in the literature as premise conditionals). In contrast, it is possible to have thematic conditionals which are not echoic, as shown by (19), in which speaker A has not asserted that Peter will come. Again, the

<sup>1</sup>Ebert, Endriss & Hinterwimmer, (2008) suggest that postposed conditional clauses can be analysed as right-dislocated constituents, which are also thematic.

reply without the antecedent (B') is less coherent for it is not clear which QUD the speaker is addressing and how it relates to the previous utterance.

- (19) A: I'm not sure whether Peter will make it today.  
B: If he comes, we could watch a movie.  
B': We could watch a movie.

(19-b) is an answer to the QUD 'What could we do if he comes?'. It is not addressing a question such as 'Under what conditions could we watch a movie?', which would be a context that would license a rhematic conditional. Here, the antecedent is thematic because it has just been taken into consideration whether or not the antecedent is true. However, as opposed to a premise conditional, the antecedent has not been asserted as reporting some participant's belief.

Finally, let us see a more complex example of a rhematic conditional. At first sight, it may look like the conditional in (20) is thematic, since speaker A had already addressed the question of whether Peter will come. However, speaker B chooses not to address this question, but rather a different one, 'Under which circumstances will we go to the beach?'. Thus, B's utterance only makes sense in a context in which the possibility of going to the beach has been previously raised (i.e. it is thematic) and the rhematic antecedent, 'only if he comes', answers the QUD.

- (20) A: I'm not sure whether Peter will make it today.  
B: We will go to the beach only if he comes.

## 5 A prediction

The main consequence of our proposal is that, ontologically, there is no such thing as a premise conditional, and that the properties attributed to premise conditionals follow from the fact that the antecedent is echoic and, as a consequence, thematic. From this it follows that we should be able to find echoicity not only in hypothetical conditionals, but also in other types of conditionals. A well-studied type of conditional which is not hypothetical are the so-called 'biscuit conditionals', illustrated in (21) (Siegel, 2006; Franke, 2007a; Franke, 2007b). The antecedent in a biscuit con-

ditionals does not establish a causal or epistemic relationship with the consequent, but rather determines when it is relevant to assert the consequent (or to contribute the information encoded in *q*).

- (21) If you are hungry, there's pizza in the fridge.

Our prediction is that we should be able to find echoic biscuit conditionals. Examples like (22) show that they do exist: the antecedent of this biscuit conditional contains an anaphoric element and echoes a previous utterance in the discourse.

- (22) A: I'm starving!  
B: If you are so hungry, there's pizza in the fridge.

## 6 Conclusion and open issues

In this paper we have argued that so-called premise conditionals are regular hypothetical conditionals with specific discourse and information structure. Specifically, we have shown that the differences that have been proposed to exist between the two types, which were strictly mapped to a different syntax, actually follow from the fact that premise conditionals are obligatorily thematic. In fact, being echoic makes them thematic.

An open issue which we leave for future research is understanding why many cases of echoic conditionals involve consequents that are non-assertive speech acts. In particular, imperatives, (23-a), and (*why*-)questions, (23-b).

- (23) A: I'm exhausted.  
B:1 If you're so tired, go have some rest.  
B2: If you're so tired, why don't you rest for a while?

## References

- Ebert, C., Endriss, C. & Hinterwimmer, S. (2008). A Unified Analysis of Indicative and Biscuit Conditionals As Topics. In *Proceedings of SALT XVIII*.
- von Stechow, K. (2011). Conditionals. In K. von Stechow, C. Maienborn, & P. Portner (Eds.), *Semantics: An international handbook of meaning*, volume 2 (pp. 1515–1538). de Gruyter Mouton.
- Franke, M. (2007a). The pragmatics of biscuit conditionals. In Aloni, M.; Dekker, P. & Roelofsen, F. (Eds.), *Proceedings of the 16th Amsterdam Colloquium*.

- Franke, M. (2007b). Independence and Decision-Contexts for Non-Interference Conditionals. Benz, A., Ebert, P. & van Rooij, R. (Eds.), *Proceedings of the ESSLLI 2007 Workshop on Language, Games and Evolution* (pp. 9–16).
- Ginzburg, J. (1994). An update semantics for dialogue. In *Proceedings of the first International Workshop on Computational Semantics, Tilburg, The Netherlands*.
- Haegeman, L. (2003). Conditional clauses: External and internal syntax. *Mind & Language*, 18(4), 317–339.
- Haiman, J. (1978). Conditionals are topics. *Language*, (pp. 564–589).
- Iatridou, S. (1991). *Topics in conditionals*. PhD thesis, Massachusetts Institute of Technology.
- Isaacs, J. & Rawlins, K. (2008). Conditional questions. *Journal of Semantics*, 25(3), 269–319.
- Prince, E. F. (1992). The zpg letter: Subjects, definiteness, and information-status. In *Discourse description: diverse analyses of a fund raising text* (pp. 295–325).
- Roberts, C. (1996). Information structure in discourse: Towards an integrated formal theory of pragmatics. *OSUWPL Volume 49: Papers in Semantics*, (pp. 91–136).
- Siegel, M. E. (2006). Biscuit conditionals: Quantification over potential literal acts. *Linguistics and Philosophy*, 9(2):167–203.
- Stalnaker, R. C. (1968). A theory of conditionals. In *Ifs* (pp. 41–55). Springer.
- Enric Vallduví. *The informational component*. Garland, New York, 1992.
- Vallduví, E. (2016). Information structure. In *Cambridge Handbook of Formal Semantics*. Cambridge: Cambridge University Press.