

*If So, If Yes, and Hypothetical Commitments**

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1 Introduction

- In this talk, I show that we can solve two puzzles about the discourse effects of conditionals by assuming that ‘if’- clauses can introduce *hypothetical attitudes*.
- By an *attitude*, I mean a mark on the conversational scoreboard indicating one’s stance towards a proposition— a *commitment*, *refusal*, etc.
- An attitude is *hypothetical* when it lives on a temporary “exploratory” conversational scoreboard.
- To make this explicit, I propose a variant of Kaufmann’s (2000) *stack model* which operates on conversational scoreboards defined (almost) as in Roelofsen and Farkas (2015).
- **Puzzle #1:** Why do questions allow both ‘if yes’ and ‘if so’ replies, while assertions only allow ‘if so’?
 - (1) a. ALDA: Does this law run afoul of the sixth amendment?
BUDDY: If {✓yes | ✓so }, it will be repealed!
 - b. ALDA: This law runs afoul of the sixth amendment!
BUDDY: If {# yes | ✓so }, it will be repealed!

Proposal for Puzzle #1:

1. ‘If so’ and ‘if yes’ both pragmatically signal an *objection* in response to an assertion, but not in response to a question.
2. ‘If yes’ semantically introduces a hypothetical *self-sourced commitment*.
3. ‘If so’ semantically introduces hypothetical *dependent commitment*.
4. Objections can coexist with dependent commitments.
5. Objections cannot coexist with self-sourced commitments.

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- **Puzzle #2:** Why are *factual conditionals* (FC's) like (2) acceptable utterances?¹

- (2) ALDA: It's Zhuoye's birthday today!
 BUDDY: Oh! If it's Zhuoye's birthday, I better start baking him a cake!
(Buddy hurries off to bake a cake)

Why would Buddy use an 'if'-clause if he accepts Alda's assertion?

Proposal for Puzzle #2:

- 1. Declarative sentences can create self-sourced or dependent commitments.**
- 2. FC's are conditionals whose antecedents create dependent commitments.**
- 3. Factual conditionals allow speakers to discuss the consequences of another agent's assertion before deciding whether to accept it.**

- Roadmap:
 - §2: I present Puzzle #1 and argue that it arises from pressures on commitments
 - §3: I introduce a formal system in which conditionals introduce hypothetical attitudes
 - §4: I show how this system solves Puzzle #1
 - §5: I present Puzzle #2 and show that a solution falls out from what we've already said
 - §6: I conclude with some outstanding issues

2 Puzzle #1: 'If so' and 'If yes'

2.1 The basic pattern

- An 'if so' conditional is an acceptable response to either a question or an assertion.
 - (3) CONTEXT: Alda and Buddy are discussing a recently passed law. Buddy has heard conflicting reports about this law, but knows that unconstitutional laws are always repealed.
 - a. ALDA: Does this law run afoul of the sixth amendment?
 BUDDY: If **so**, it will be repealed!
 - b. ALDA: This law runs afoul of the sixth amendment!
 BUDDY: If **so**, it will be repealed!
- By contrast, an 'if yes' conditional can only occur in response to a question.
 - (4) a. ALDA: Does this law run afoul of the sixth amendment?
 BUDDY: If **yes**, it will be repealed!
 - b. ALDA: This law runs afoul of the sixth amendment!
 BUDDY: #If **yes**, it will be repealed!

¹The term *factual conditionals* comes from Iatridou (1991). The alternate term *premise conditionals* is used by Haegeman (2003) and Mayol and Castroviejo (2017).

- This restriction on conditional 'if yes' responses does not arise with non-conditional 'yes' responses:
 - (5) a. ALDA: This law runs afoul of the sixth amendment!
BUDDY: Yes. (That's why it's gonna be repealed.)
 - b. ALDA: Does this law run afoul of the sixth amendment?
BUDDY: Yes. (That's why it's gonna be repealed.)
- Thus, this puzzle arises from an interaction between three factors and so a solution needs to identify:
 1. Some property of 'if'-clauses...
 2. ...conspiring with some property which distinguishes questions from assertions...
 3. ...in a manner which is sensitive to some property which distinguishes 'yes' and 'so'.
- In the next few subsections, I will identify what these properties are.

2.2 A property distinguishing 'yes' from 'so'

- 'Yes' and 'so' are both commonly treated as propositional anaphors.²
- However, they differ with regard to the pressures they put on interlocutors' *commitments*.
 - (6) *Commitment*: a conversational record of an agent having accepted a proposition.
- 'Yes' can be used to accept a commitment to its anaphoric antecedent, but that commitment cannot be made on the basis of another agent's say-so (Gunlogson, 2008).
 - (7) ALDA: Today is Zhuoye's birthday.
 - a. BUDDY: Yes, I knew that!
 - b. BUDDY: #Yes, I didn't know that!
- To explain this fact, Gunlogson proposes that 'yes' creates a special kind of commitment, namely a *self-sourced commitment* as defined in (8).
 - (8) A *self-sourced commitment* is a commitment made on the basis of one's internal mental state, i.e. one's beliefs, evidence, knowledge.
- Gunlogson contrasts self-sourced commitments with *dependent commitments*, defined as in (9).
 - (9) A *dependent commitment* is a commitment made on the basis of an interlocutor's testimony.
- Dependent commitments can be diagnosed with 'oh', as shown in (10).
 - (10) ALDA: Today is Zhuoye's birthday.
 - a. BUDDY: #Oh, I knew that!
 - b. BUDDY: Oh, I didn't know that!

²Previous work treating 'yes' as a propositional anaphor includes Krifka (2013) and Roelofsen and Farkas (2015). Previous work treating 'so' as a propositional anaphor includes Kiparsky and Kiparsky (1971); Cornish (1992); Needham (2012) though see Meijer (2018) for an alternative approach.

- 'So' on the other hand is governed by *Meijer's (2018) Generalization*, given in (11).

(11) *Meijer's Generalization*: The anaphoric antecedent of 'so' must be under discussion at the time of utterance.

- This generalization makes predictions about commitments because if all agents are committed to the antecedent of 'so', it must be in the common ground and thus no longer under discussion.
- Those predictions are upheld by a corpus study, but also capture classic restrictions on the predicates that can embed 'so', e.g. not factives (Kiparsky and Kiparsky, 1971).

(12) ALDA: You locked the door.

- BUDDY: #I {realize | regret | am glad} so.
- BUDDY: I {suspect | guess | believe} so.

- Summing up, the key contrast between 'yes' and 'so' is as follows:

1. 'Yes' creates a *self-sourced commitment* to its anaphoric antecedent.
2. 'So' requires that some interlocutor isn't committed to its anaphoric antecedent.

2.3 Polarity particle responses to questions versus assertions

- Polarity particle responses to questions and assertions are distinguished by what they reflect about their speaker's attitude towards the content of the previous utterance.
- To see why, observe that 'yes' and 'so' are anaphoric to an assertion's *content*.

(13) ALDA: Morwenna is coming to the party.

- BUDDY: Yes.
↪ Buddy agrees with what Alda has asserted
- BUDDY: I don't think so.
↪ Buddy disagrees with what Alda has asserted

- As a result, 'yes' and 'so' will create attitudes towards the content of a preceding assertion.
- On the other hand, 'yes' and 'so' are anaphoric to a question's *positive answer*:

(14) ALDA: Is Morwenna coming to the party?

- BUDDY: Yes.
↪ Buddy endorses the positive answer to Alda's question
↯ Buddy endorses the issue raised by Alda's question
- BUDDY: I don't think so.
↪ Buddy endorses the negative answer to Alda's question
↯ Buddy refuses the issue raised by Alda's question

- This means that 'yes' and 'so' presuppose that a preceding question has been accepted and signal an attitude towards one of its answers.
- This distinction becomes significant for our purposes as it pertains to conditional replies.

2.4 Conditional versus non-conditional replies

- 'If p then q ' seems to reflect something less than full acceptance of a preceding assertion of p .³

(15) ALDA: This law runs afoul of the sixth amendment!
 BUDDY: If it runs afoul of the sixth amendment, it will be repealed.
 ↗ Buddy is reluctant to commit to the content of Alda's assertion

- Given what we saw about 'yes' and 'so' in the previous section, this means that an 'if yes/so' reply to an assertion signals resistance towards that assertion.

(16) ALDA: This law runs afoul of the sixth amendment.
 BUDDY: If so, it will be repealed.
 ↗ Buddy is reluctant to commit to the content of Alda's assertion

- And again given what we saw about 'yes' and 'so' in the previous section, there will be no such resistance signaled in response to a question.

(17) ALDA: Does this law run afoul of the sixth amendment?
 BUDDY: If so, it will be repealed.
 ↗ Buddy accepts Alda's question but isn't in a position to answer it
 ✗ Buddy is reluctant to entertain the issue Alda raises

- In this talk, I assume that this resistance amounts to a signal of an attitude called an *objection*.

(18) An *objection* is the attitude one has when one is reluctant to accept a proposition.

- The notion of an objection should not be confused with the stronger notion of a *refusal*.

(19) A *refusal* is the attitude one has when one is unwilling to accept a proposition.

- Summing up, the key contrast between conditional responses to assertions and questions is that the former signal objections while the latter do not.

2.5 Outlook

- In this section, we have made two crucial observations, repeated below:
 1. In response to an assertion of p but not in response to a polar question $?p$, an 'if so/yes'-conditional indicates that the speaker objects to p .
 2. 'Yes' creates a self-sourced commitment to its anaphoric antecedent, while 'so' requires that some interlocutor isn't committed to its anaphoric antecedent.
- The remaining question is how these observations combine to produce the pattern in (3) and (4).
- My proposal is that **the objection to p is entered as a mark on the conversational scoreboard which clashes with a hypothetical self-sourced commitment created by 'if yes'**.
- This predicts the acceptability of 'if yes' replies to questions, since they don't signal an objection.
- This predicts the acceptability of 'if so' replies to both questions and assertions since 'so' need not create a self-sourced commitment.
- In the next section, I introduce a formal system which makes this explicit.

³This intuition isn't perfectly robust. Apparent counterexamples will be addressed later.

3 A discourse semantics for hypothetical attitudes

- The formal system I propose in this section has three ingredients:
 1. The notion of content supplied by inquisitive semantics (Ciardelli et al., 2017).
 2. A notion of what contexts are and how they are updated which draws on Gunlogson (2008) and Roelofsen and Farkas (2015).
 3. Kaufmann’s (2000) *stack model* of conditionals, in which the true state of a conversation is defined not by a single context but rather by a *macrocontext*, i.e. a stack of contexts.
- I will add each of these ingredients over the course of the next few subsections.

3.1 Notions of content and context

- Our notion of content will be that of an *inquisitive proposition* (Ciardelli et al., 2017).
- Our notion of a context will be essentially that of Roelofsen and Farkas (2015), but with their commitments function replaced with an attitudes function.

(20) A context C is a tuple $\langle \text{participants}, \text{table}, \text{drefs}, \text{attitudes} \rangle$ where:

- a. **participants** is a set of discourse participants.
- b. **table** is a stack of inquisitive propositions which have been offered as proposals.
- c. **drefs** is a stack of classical propositions available as discourse referents
- d. **attitudes** is a function mapping each $a \in \text{participants}$ to that a ’s *attitude structure*

- An *attitude structure* is a tuple storing lists of which classical propositions a participant has signaled these attitudes towards.

(21) An *attitude structure* for an agent a is a tuple $\langle \text{SS}_a, \text{DS}_a, \text{OS}_a, \text{RS}_a \rangle$ where:

- a. SS_a is the set of classical propositions to which a commits as source.
- b. DS_a is the set of classical propositions to which a commits dependently.
- c. OS_a is the set of classical propositions to which a objects.
- d. RS_a is the set of classical propositions which a refuses.

- Recall the four attitudes we are concerned with:

(22)

- a. A *self-sourced commitment* is a commitment based on one’s private mental state.
- b. A *dependent commitment* is a commitment based on someone else’s say-so.
- c. A *refusal* is the attitude one has when one is unwilling to accept a proposition.
- d. An *objection* is the attitude one has when one is reluctant to accept a proposition.

- From these sets of propositions, one can derive singular propositions storing exactly the information to which the participant holds the attitude.

1. For positive attitudes, this is done by grand intersection— $\bigcap \text{SS}_a$ is the strongest proposition to which a is committed as source.
2. For negative attitudes, this is done by grand union— $\bigcup \text{RS}_a$ is the weakest proposition a refuses.

- We can also derive a common ground like so: $\{w \mid w \in \bigcap \text{SS}_a \cap \bigcap \text{DS}_a \text{ for all } a \in \text{participants}\}$.

3.2 A system for context-level updates

- Our context-level language includes *propositional formulas*, *attitude constants*, and *polarity particles*.
- Attitude constants and polarity particles have no internal structure, but propositional formulas are built by prefixing a discourse operator to a *content-bearing expression*.

(23) *Content Bearing Expression*: α is a content-bearing expression iff α is a formula of the language of propositional InqB or if $\alpha = \text{so}$.

- Content-bearing-expressions bear content as shown in (24).

(24) Fix a model \mathfrak{M} and a context C . Then the content of a content-bearing expression α is the inquisitive proposition $\llbracket \alpha \rrbracket^C$ defined as follows.

- If α is a formula of propositional InqB , then $\llbracket \alpha \rrbracket^C$ is α 's denotation in InqB .
- If α is *so* then $\llbracket \alpha \rrbracket^C$ is the downward closure of the top item of drefs , if that item is an alternative of the top item of table .

- Note that ‘so’ has no content if the top item of drefs isn’t under discussion in C , as required by *Meijer’s Generalization* that we saw back in (11).
- Now we can define our context-level language as shown in (25).

(25) The context-level language $\mathcal{L}_{\text{context}}$ is the smallest set containing:

- All *propositional formulas*, i.e. all formulas of the form $S\alpha$ or $D\alpha$ for some content-bearing expression α
- The four attitude constants $S\text{-ACCEPT}$, $D\text{-ACCEPT}$, OBJECT , or REFUSE
- The polarity particle *yes*

- To interpret this language, we must index our interpretation function $[\cdot]$ to some $a \in \text{participants}$, since the discourse effects of an utterance are specific to the speaker.
- I assume that the content bearing expressions $?p$ and p highlight $\text{info}(p)$ and that no other formulas highlight anything. A more complete system of highlights is given in Roelofsen and Farkas (2015).
- This language is interpreted as shown in (26).

(26) Fix a context C , a model \mathfrak{M} , and an agent $a \in \text{participants}$. Then:

- If $\varphi = S\alpha$ or $\varphi = D\alpha$ for some content bearing expression α , then $C[\varphi]^a$ differs from C only in that:
 - $\text{info}(\alpha)$ is added to SS_a in the case of $S\alpha$ and DS_a in the case of $D\alpha$
 - $\llbracket \alpha \rrbracket^C$ becomes the top item on the table
 - α 's highlight (if any) becomes the top item on drefs .
- If φ is one of the attitude constants, then $C[\varphi]^a$ differs from C only in that $\text{info}(\psi)$ is added to the appropriate attitude set for a , where ψ is the top item on the table .
- If $\varphi = \text{yes}$, then $C[\varphi]^a$ differs from C only in that P is added to SS_a , where P is the top element of drefs .

- In the next section, I use this system as the basis for a variant of Kaufmann’s (2000) stack model.

3.3 A system for macrocontext-level updates

- In this section, I use the system developed in the previous subsection to create a variant of Kaufmann’s (2000) *stack model* of conditionals.
- The intuition behind the stack model is that conditionals are thought experiments, where you sandbox around with a hypothetical context in order to learn something in your actual context.
- The essential idea is that the state of a conversation is defined not by a context but by a *macrocontext*.

(27) A *macrocontext* τ is a nonempty stack (i.e. tuple) of contexts $\langle C_0, C_1, \dots, C_n \rangle$.

- How to understand a macrocontext $\tau = \langle C_0, \dots, C_n \rangle$:
 - The bottom or *main context* C_0 contains actual, lasting discourse information.
 - Higher-up contexts contain hypothetical and temporary discourse information.
 - The top or *active context* C_n contains currently active discourse information.
 - When no hypothetical assumptions are in play, we have that $C_0 = C_n$.
- Updating a macrocontext with ‘if φ ’ creates a temporary hypothetical context where φ ’s effects hold.

(28) Updating $\langle C_0, C_1, \dots, C_n \rangle$ with ‘if φ ’ returns $\langle C_0, C_1, \dots, C_n, C_n[\varphi] \rangle$

- Utterances made while the hypothetical context is active update the macrocontext by updating its active context with φ and *percolating* the result of that update down to other contexts.
- In Kaufmann’s original system, contexts are identified with information states, so he defines the result of percolating φ from C down to C' is $C'[\downarrow(\varphi)(C)] = \{w \in C' \mid w \notin C \text{ or } w \in C[\varphi]\}$.

(29) Updating $\langle C_0, C_1, \dots, C_n \rangle$ with φ returns $\langle C_0[\downarrow(\varphi)(C_n)], C_1[\downarrow(\varphi)(C_n)], \dots, C_n[\varphi] \rangle$

- The popping operator (i.e. poperator) POP removes the top context from the macrocontext.

(30) Updating $\langle C_0, C_1, \dots, C_n \rangle$ with POP returns $\langle C_0, C_1, \dots, C_{n-1} \rangle$

- Figure 1 shows a way of visualizing how an utterance of ‘if φ , then ψ ’ works in the stack model. The circles are contexts, the rectangles are macrocontexts.

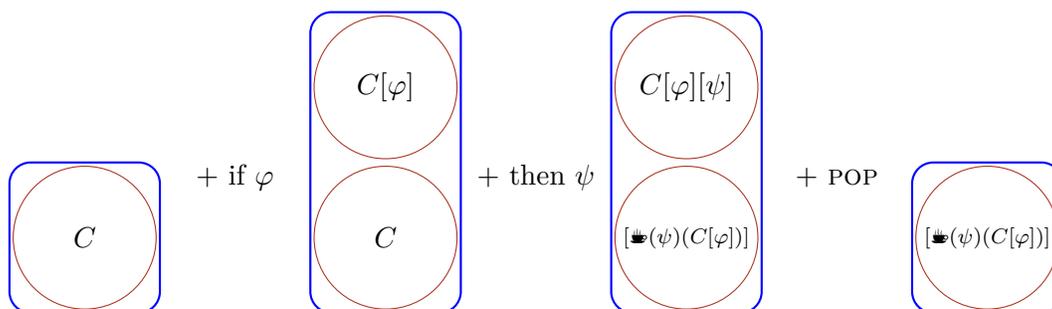


Figure 1: The stack model in a nutshell

- The formal system I propose essentially just drops in the notion of context updates from Section 3.1 into this framework.

(31) The stack level language \mathcal{L}_{stack} is the smallest set containing:

- All formulas of $\mathcal{L}_{context}$
- All formulas of the form 'if ψ ' where ψ is one of the propositional formulas of $\mathcal{L}_{context}$
- The operator POP

- This language is interpreted as shown in (32).

(32) Fix a model \mathfrak{M} , a macrocontext $\tau = \langle C_0, \dots, C_n \rangle$ and an agent $a \in \text{participants}_\tau$. Then for $\varphi \in \mathcal{L}_{stack}$ we have:

- If $\varphi \in \mathcal{L}_{context}$ as well, then $\tau +^a \varphi = \langle C_0[\blacktriangleright(\varphi)(C_n)]^a, C_1[\blacktriangleright(\varphi)(C_n)]^a, \dots, C_n[\varphi]^a \rangle$
- If φ is of the form 'if ψ ' then $\tau +^a \varphi = \langle C_0, C_1, \dots, C_n, C_n[\psi]^a \rangle$
- If φ is POP, then $\tau +^a \varphi = \langle C_0, C_1, \dots, C_{n-1} \rangle$

- Percolation can be defined in this system as follows:

(33) The result of percolating φ from C down to C' is the context $C'[\blacktriangleright(\varphi)(C)]^a$ which differs from C' only in that:

- $\{w \mid w \notin \bigcap \text{SS}_a^C \cap \bigcap \text{DS}_a^C \text{ or } w \in \bigcap \text{SS}_a^{C[\varphi]} \cap \bigcap \text{SS}_a^{C[\varphi]}\}$ is added to $\text{SS}_a^{C'}$
- $\{w \mid w \notin \bigcap \text{SS}_a^C \cap \bigcap \text{DS}_a^C \text{ or } w \in \bigcap \text{SS}_a^{C[\varphi]} \cap \bigcap \text{SS}_a^{C[\varphi]}\}$ is added to $\text{DS}_a^{C'}$

- My proposal is that natural language utterances can be analyzed at the level of stack updates.

4 Solving Puzzle #1

4.1 Conversational norms

- Given the framework developed in the previous section, we can solve Puzzle #1 by appealing to the following conversational norms.
- First, we have *Resolve Immediately*, a locality condition governing the structure of a discourse.

(34) *Resolve Immediately*: Every utterance is understood as being followed by all other agents accepting, refusing, or objecting to it.

- Second, we have *No Vacuous Moves*, adapted from Hara (2018).

(35) *No Vacuous Moves*: An utterance is infelicitous if it returns a macrocontext with an identical active context.

- Finally, we have the *jealousy conditions* governing which attitudes may coexist in a context.

1. A self-sourced commitment cannot coexist with any other attitude.

Suppose you have a self-sourced commitment to P . That means that you have a commitment to P made on the basis of your private mental state. And so:

- The fact that P follows from your private state supersedes the fact that it follows from what someone else said, so you can't commit to it dependently.

- Since P follows from your private state, it's not in tension with your private state, so you can't object to it.
 - Since you are committed to P , you can't refuse to commit to it.
2. **A refusal can't coexist with either kind of commitment.**
 Suppose you have refused P . That means that you're not willing to commit to P . And so:
- You cannot accept either a self-sourced or dependent commitment.
 - But you can object and then refuse just fine!
3. **A dependent commitment can only coexist with an objection.**
 Suppose you have a dependent commitment to P . That means that you have a commitment to P despite it not following from your private mental state. And so:
- You can object, since you can signal misgivings and then commit even so.
4. **An objection can coexist with anything except a self-sourced commitment.**
- Together, these principles put us in a position to solve Puzzle #1.

4.2 Applying these principles to Puzzle #1

- Our conversational principles imply that when 'if φ ' occurs as a reply, it creates a hypothetical context with *two* new attitudes:
 1. Whatever attitude φ creates
 2. Some covertly signaled attitude towards the content of the utterance it responds to
- To see why we have this second attitude, observe that in general, a conditional does not directly signal an attitude towards the preceding utterance as required by *Resolve Immediately*.⁴
- Thus, a conditional reply must be understood as being preceded by its speaker implicitly adopting some attitude to the previous utterance:

(36) ALDA: p
 BUDDY: If p , then q .

 - a. $\mapsto \tau +^a Sp +^b$ some attitude constant $+^b$ if $Dp +^b Sq$
 - b. $\not\mapsto \tau +^a Sp +^b$ if $Dp +^b Sq$
- Moreover, since our logic is monotonic, this attitude will be inherited by the hypothetical context created by Buddy's conditional antecedent.
- This attitude cannot be identical to that created by Buddy's antecedent given *No Vacuous Moves*.
- So **why is (4b) bad?** Informally, here is how the present system parses the dialogue in (4b):
 1. Alda proposes that this law runs afoul of the sixth amendment.
 2. Buddy implicitly adopts some attitude towards Alda's assertion (by *Resolve Immediately*).
 3. Buddy's explicit 'if'-clause creates a hypothetical context where he is committed as source to the law running afoul of the sixth amendment.
 4. Buddy's implicit attitude will be inherited by this hypothetical context (by *Monotonicity*).
 5. Since self-sourced commitments are extremely jealous, this attitude will either run afoul of *No Vacuous Moves* or one of our jealousy conditions.

⁴An exception is $\neg p \rightarrow \perp$ as a response to an assertion of p .

⇒ the dialogue in (4b) has no acceptable parse!

- **Question:** Why isn't this a problem when Alda's utterance is a polar question, as in (3a) and (4a)?
Answer: No objection!
- **Question:** Why isn't this a problem when Buddy uses an 'if so' conditional?
Answer: 'If so' can be understood as the formula '*if* D*so*', meaning that it creates a dependent commitment which is compatible with an objection.

5 Puzzle #2: Factual conditionals

- Recall that our second puzzle concerns the acceptability of factual conditionals such as (37).

(37) ALDA: It's Zhuoye's birthday today!
BUDDY: Oh! If it's Zhuoye's birthday, I better start baking him a cake!
(Buddy hurries off to bake a cake)

- Given that Buddy seems to accept Alda's assertion, why does he use it as a conditional antecedent?
- In our system, Buddy's conditional in (37) would have to be understood as following an objection.
- This objection would force the commitment created by Buddy's antecedent to be a dependent commitment, because of the jealousy conditions.
- Thus, according to what we've already said, we would have to parse (37) as shown in (38):

(38) $\tau +^a Sp +^b \text{OBJECT} +^b \text{if D}p +^b Sq +^b \text{D-ACCEPT}$

- The picture that emerges about factual conditionals is as follows:
 1. Factual conditionals are those whose antecedents create hypothetical dependent commitments.
 2. Factual conditionals serve as vehicles for speakers to discuss the consequences of another agent's assertion before taking a stance on it.
- Some evidence comes from Iatridou's (1991) observation that a factual conditional is infelicitous when its speaker has direct evidence for its antecedent:

(39) ALDA: It's raining!
BUDDY: *(looking at the rain)* #If it's raining, I'd rather stay inside.

- In the present framework, having evidence for the antecedent would lead us to expect a self-sourced commitment, blocking the possibility of a hypothetical dependent commitment.

6 Conclusion

- In sum, if we take a bit of a leap and assume that conditionals operate by creating hypothetical commitments, we can use some reasonably well supported assumptions to explain two puzzles.
- A problem pointed out to me by Lyn Frazier:

(40) ALDA: It's snowing!
BUDDY: Yes! Indeed! I see that! *(pause)* *(sigh)* Well, if it's snowing, I'm staying indoors.

- Conditionals like (40) might be explained away as propositional-level rather than discourse level. However, this returns us to a variant of Puzzle #2— why say these things if you think it's snowing?
- An alternative approach might be to pair presuppositional 'yes' and 'so' with Kratzerian (1986) conditionals. The challenge would be to tame these presuppositions' projection behavior:

- (41) ALDA: Is the exam today?
 BUDDY: If yes, I'm an idiot! I thought it was next week.
 ✗ Buddy actually has evidence that the exam is today.

References

- Ciardelli, I., J. Groenendijk, and F. Roelofsen (2017). Inquisitive semantics. Lecture notes for a MSc course at the University of Amsterdam, www.iillc.uva.nl/inquisitive-semantics.
- Cornish, F. (1992). *So be it*: The discourse-semantic roles of *so* and *it*. *Journal of Semantics* 9(2), 163–178.
- Gunlogson, C. (2008). A question of commitment. *Belgian Journal of Linguistics* 22, 101–136.
- Haegeman, L. (2003). Conditional clauses: External and internal syntax. *Mind & Language* 18(4), 317–339.
- Hara, Y. (2012/2018). Questions are Hamblin-issues. Manuscript, City University of Hong Kong.
- Hara, Y. and K. Sano (2017). Conditional questions revisited. Presented at the Inquisitiveness Below and Beyond the Sentence Boundary, December 2017. Slides available at www.iillc.uva.nl/inquisitive-semantics.
- Iatridou, S. (1991). *Topics in conditionals*. Ph. D. thesis, Massachusetts Institute of Technology.
- Isaacs, J. and K. Rawlins (2008). Conditional questions. *Journal of Semantics* 25, 269–319.
- Kaufmann, S. (2000). Dynamic context management. In M. Faller, S. Kaufmann, and M. Pauly (Eds.), *Formalizing the Dynamics of Information*, pp. 171–188. CSLI publications.
- Kiparsky, P. and C. Kiparsky (1971). Fact. In D. Steinberg and L. Jakobovits (Eds.), *Semantics: An Interdisciplinary Reader in Philosophy, Linguistics and Psychology*, pp. 345–369. Cambridge University Press.
- Kratzer, A. (1986). Conditionals. In *Proceedings of Chicago Linguistics Society* 22, pp. 1–15.
- Krifka, M. (2013). Response particles as propositional anaphors. In *Semantics and Linguistic Theory*, Volume 23, pp. 1–18.
- Mayol, L. and E. Castroviejo (2017). Premise conditionals are thematic hypothetical conditionals. <http://www.cssp.cnrs.fr/cssp2017/abstracts/Mayol-Castroviejo.pdf>. Abstract for CSSP2017.
- Meijer, A. M. (2018). The pragmatics and semantics of embedded polar responses with English *so*. In *35th West Coast Conference on Formal Linguistics*, pp. 269–279. Cascadilla Proceedings Project.
- Needham, S. M. (2012). Propositional anaphora in English: The relationship between *so* and discourse. Master's thesis, Carleton University.
- Roelofsen, F. and D. F. Farkas (2015). Polarity particle responses as a window onto the interpretation of questions and assertions. *Language* 91(2), 359–414.