

Raising (and addressing) issues in discourse*

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Abstract

The (in)felicity of issue-addressing questions immediately following disjunctions and conjunctions can be accurately predicted from the semantics of *or* and *and* (Groenendijk and Roelofsen 2009, AnderBois 2011, among others). However, semantics alone turns out to be insufficient in cases when the disjunction/conjunction and the corresponding issue-addressing question are separated by additional conversational moves of acceptance, objection, or retraction of an existing assertion. This article shows that these cases can be handled by integrating the standard semantics for *or* and *and* within a formal theory of discourse dynamics (Farkas and Bruce 2010, Ginzburg 2012, i.a.). Properly, a conversation participant A can utter an issue-addressing question at a certain conversational stage if A's list of publicized discourse commitments contains the relevant issue at that stage.

Keywords: disjunction, inquisitiveness, semantics-discourse interface

1 Introduction

The semantics of disjunction and conjunction are far more different than they might appear at first sight. On the one hand, disjunction defines multiple distinct sets of worlds (“alternatives” in the terminology of Alonso-Ovalle 2006, “possibilities” in that of Groenendijk 2009): if one says *I have to do the dishes or mow the lawn*, one is raising the issue of whether we live in a do-the-dishes world or a mow-the-lawn world (or the intersection of both). In contrast, conjunction defines a single set of worlds: if one says *I have to do the dishes and mow the lawn*, one is asserting that our world is both a do-the-dishes and mow-the-lawn world. Importantly, because this assertion doesn't involve distinct sets of worlds, it fails to raise an issue (at least in the general case, see §1.1 below). The hypothesis that only disjunctions raise issues accounts for the fact that only disjunctions license issue-addressing follow-up questions like *I forgot which (it is)*, *let's figure out which (it is)*, *I can tell you which (it is)*, etc (Groenendijk and Roelofsen 2009, AnderBois 2011).¹

- (1) a. I have to do the dishes or mow the lawn, ✓ but I forgot which (it is).
b. I have to do the dishes and mow the lawn, # but I forgot which (it is).

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¹As far as I have tested, the felicity of the follow-up question is independent of whether the material following *which NP* is elided or not. In what follows, I use whichever option sounds more natural in the corresponding context.

For reference, we can express this generalization as follows.

- (2) Only issue-raising expressions (among them, disjunctions) license issue-addressing follow-up questions.

Assume that the felicity of this kind of follow-up questions is a reliable indicator of whether some issue has been raised and is up for discussion (this is more than plausible: for one, a *which* question is felicitous only if targets a contextually salient set of alternatives). This paper is about examples like (3) and (4), where (2) seems to break down. In (3), a disjunction seems unable to license an issue-addressing question, whereas in (4) a conjunction seems able to license one.

- (3) A: Hey, next week I'm going to a conference. While I am away, you have to teach my class or meet with the lab technician.
 B: You know, I'm not too busy, I can do both, # and I'd rather get to decide which one.
- (4) A: Hey, next week I'm going to a conference. While I am away, you have to teach my class and meet with the lab technician.
 B: You know, I'm too busy, I can do only one, ✓ and I'd rather get to decide which one.

The crucial property of (3)/(4) is that, unlike in (1), the disjunction/conjunction and the follow-up question are separated by a distinct conversational move of objection to an assertion. I take this asymmetry as an indication that the felicity of issue-addressing follow-ups is not exclusively contingent on the semantics of disjunction and conjunction, but rather on the way this semantics interacts with conversation dynamics. I provide the central generalization in (2) —effectively, this generalization says that issues raised by disjunctions (and, by extension, other issue-raising expressions) have an uneven distribution across conversation participants and conversation stages, and can only be addressed by certain participants at certain stages. In §2 below, I implement (5) as the definedness condition of the address conversational move.

- (5) Given an issue introduced by a disjunction $[p \vee q]$ at stage k_i of the conversation, a participant A can felicitously address $[p \vee q]$ at a later stage k_j iff A's list of publicized discourse commitments (DC_A) contains $[p \vee q]$ at k_j .

Note that (5) is a conjunctive condition: the relevant $[p \vee q]$ issue must not only be present in the DC of the appropriate participant, it also must be there at the appropriate conversational stage. The rest of this paper provides evidence that this particular formulation is correct at least for the narrow case of issues introduced by disjunctions.

1.1 Some cases we want to exclude

Before proceeding, consider the examples in (6), where a conjunction licenses an issue-addressing question even in the absence of an intervening objection move.

- (6) a. In Germany, foreign movies are sometimes dubbed and sometimes subtitled. ✓ The TV guide usually tells you which (it is). [Webber 1978]

- b. Some days all the students show up to class, and some days only the good ones do. ✓ I never know which it is going to be until I walk through the door. [author’s colleague’s complain about one of his courses]
- c. The optimal strategy is to randomly kick some penalties to the left of the goalkeeper and some to the right. ✓ Some of the best specialists have revealed that, even as they are running up to they ball, they themselves still don’t know which it is going to be.
[translated from *El penalti de Nash* documentary]

Contrary to what might seem at first sight, this kind of examples don’t violate either (2) or (5). The relevant factor is the presence of indefinite expressions inside each conjunct. This is significant, for two reasons. The first one is that indefinites are issue-raising expressions in the same way as disjunctions (AnderBois 2011, Slade 2011). The second one is that a close look at the discussion of conjunction in the works cited above reveals that a conjunction can be issue-raising, provided that the conjuncts are issue-raising themselves (cf. the assertion in Groenendijk and Roelofsen 2009:§3.1 that “if $[p]$ and/or $[q]$ are inquisitive, then the conjunction $[p \wedge q]$ might be inquisitive as well”). Properly, although uttering p and q amounts to asserting that both p and q are true, the possibilities inherent to p and q themselves might still project beyond the conjunction. Specifically, I conjecture that the following generalization holds true.

- (7) A conjunction $\exists x.P(x) \wedge \exists x.Q(x)$ is issue-raising if it is truth-conditionally equivalent to the disjunction $\forall x.(P(x) \vee Q(x))$.

Going back to the examples above, (6a) can be felicitously rephrased as an assertion that every foreign movie shown in Germany is dubbed or subtitled (or perhaps both); (6b) as an assertion that every class is attended by either all the students or only the good ones; and (6c), as an assertion that every penalty is kicked either to the left or to the right of the goalkeeper. All of these rephrasings conform to the pattern in (7).

To avoid this potential confound, all the examples that I use in the rest of this paper (and especially those involving conjunctions) are free of other issue-raising expressions.

2 A model of conversation

I assume the basics of the model of discourse dynamics outlined in Farkas and Bruce (2010), Ginzburg (2012), and related work. For space reasons, I am going to ignore a number of important aspects of conversation, e.g., the impact of sentence types other than declaratives (Gunlogson 2000, and selected parts of Farkas and Bruce 2010 or Ginzburg 2012), the greeting/countergreeting and parting/counterparting moves commonly used to start and begin conversations (Ginzburg 2012:ch. 3), “strategic” conversation moves (Asher and Lascarides 2013), or the effect of non-verbal events and communicative acts.

A conversation K is built from the utterances of a non-empty set of participants $\{A, B, C, \dots\}$, each associated to an individualized list of publicized discourse commitments $\{DC_A, DC_B, DC_C, \dots\}$. We can decompose K into a sequence of stages $\langle k_0, k_1, \dots, k_n \rangle$, where k_0 is the distinguished empty stage at the beginning of the conversation and k_n is the final stage. Transition from k_i to k_{i+1} is mediated by a set of speech

act operators that take participant utterances (for the purposes of this paper, propositions closed under conjunction, disjunction, and negation) as arguments and effect an update on the relevant participant's DC (given that a participant's DC contains only those propositions that the participant has personally committed to, directly affecting a DC other than one's own is by definition impossible). The informal definitions below suffice for the purposes of this article; readers interested in a full formalization are referred to [Krifka \(2001\)](#), [Farkas and Bruce \(2010\)](#), [Ginzburg \(2012\)](#), and references.²

- (8) For participants A and B and proposition p
- a. $\text{assert}(p,A)$
 defined if p has been uttered by A.
 if defined, add p to DC_A
 - b. $\text{accept}(p,A)$
 defined if $\text{assert}(p,B)$ has happened in a previous move.
 if defined, add p to DC_A
 - c. $\text{object}(p,A)$
 defined if $\text{assert}(p,B)$ has happened in a previous move.
 if defined, do not add p to DC_A .
 - d. $\text{retract}(p,A)$
 defined if $\text{accept}(p,A)$ has happened in a previous move.
 if defined, remove p from DC_A

After A utters p , I take accept to be the default move on B's part, not requiring any explicit verbal or non-verbal expression. This much is necessary to account for the fact that an example like (1a) can be recast as a conversation where B utters the follow-up question without any overt acknowledgment of having accepted A's assertion.³

- (9) A: Jack has to do the dishes or mow the lawn.
 B: He needs to decide which one soon.

Against this background, we can define the additional discourse move address, which integrates (5) as its definedness condition.

²I am cutting some corners here for the sake of exposition. Properly, the [Farkas and Bruce](#) model incorporates a Table component, where propositions asserted by a participant await acceptance or objection by other participants. For the purposes of this paper, we can do away with the Table and assume that accept and object can take propositions in other participants' DCs as arguments.

³[Farkas and Bruce \(2010\)](#) also propose a separate Common Ground component: whenever p is accepted by all conversation participants, p is automatically removed from all the DCs and transferred to the Common Ground. For the purposes of this article, we can redefine the Common Ground as the intersection of the participants' DCs, so as to avoid having to remove propositions from these DCs. This opens up the possibility of keeping issues around and up for discussion even after they have been recognized as such by all participants.

- (10) $\text{address}(p,A)$
 defined if
- i. p is inquisitive (issue-raising).
 - ii. $\text{assert}(p,A)$ or $\text{accept}(p,B)$ have happened in a previous move.
 - iii. $\text{retract}(p,A)$ has not happened (yet).
- if defined, add a query to DC_A about which of the possibilities that make up p can be retracted.

I won't say anything about the details of the query update. The rest of this paper is an extended argument to show that the definedness conditions in (10) are correct. Condition (10i) seems uncontroversial enough to take it as granted (one cannot address the issues raised by p if p doesn't raise any issues). Conditions (10ii) and (10iii) are the same we already saw in (5): together, they require the issue in question to be present in the participant that invokes the address move at the conversation stage that address is invoked. The strategy I adopt consists on showing that, whenever either condition fails to be satisfied, producing an issue-addressing question is infelicitous.

In what follows, I use diagrams like the following to illustrate discourse dynamics. From left to right, we have (i) a participant's utterance in italics; (ii) a cell notating the current conversation stage in the $\langle k_0, k_1, \dots, k_n \rangle$ sequence; and (iii) cells corresponding to each participant's DC. The latter set of cells are each divided horizontally with a dashed line: the top region indicates the contents of the participant's DC at the pertinent conversation stage, and the bottom region the specific speech act operator (*assert*, *object*, etc) invoked at that stage. To keep the discussion streamlined, I will assume that, at any given stage, exactly one participant invokes exactly one speech act operator. For illustration, in (11), we enter stage k_i with DC_A containing the proposition p and DC_B containing q ; participant A utters a proposition that triggers $\text{assert}(r)$, which will cause DC_A at k_{i+1} to contain both p and r (DC_B will remain unchanged).

(11) *A: utterance of some proposition*

	DC_A	DC_B
k_i	p ----- $\text{assert}(r)$	q -----

3 Baseline

To illustrate the mechanics of this system, consider (1a)/(1b) again, and assume that such sequences can be effectively modelled as monologues. In the representations below, the update(s) taking place at each conversational stage appear below the dashed line dividing each conversational stage; propositions carried over from previous stages (if any) appear above the dashed line. Consider (1a) first: the assertion *I have to do the dishes or mow the lawn* moves the conversation from k_0 to k_1 , the later stage containing the $[p \vee q]$ issue as part of DC_A . There being no explicit retraction that removes p from DC_A , all three clauses of the definedness conditions of *address* are satisfied, and A can felicitously utter an issue-addressing question at k_2 .

		DC _A
(12)	<i>I have to do the dishes or mow the lawn</i>	k_0 $\text{assert}([p \vee q])$
	\checkmark <i>I forgot which</i>	k_1 $\text{address}([p \vee q])$

In contrast, asserting the conjunction *I have to do the dishes and mow the lawn* doesn't update DC_A with an issue at k_1 in (1b). Uttering an issue-addressing question at k_2 fails to satisfy all three clauses of the definedness condition of address. By assumption, an undefined address move (notated here as address(—)) results in an infelicitous utterance.

		DC _A
(13)	<i>I have to do the dishes or mow the lawn</i>	k_0 $\text{assert}([p \wedge q])$
	$\#$ <i>I forgot which</i>	k_1 $\text{address}([p \wedge q])$

This is, of course, the same result that we obtain with the standard semantics for disjunction and conjunction developed in the works cited above. In order to appreciate the benefits of integrating this semantics into a model of discourse, we need to examine a variety of dialogic interactions.

4 The distribution of issues in conversations

4.1 Addressed issues must appear in the correct DC

We begin our defense of (5)/(10) by focusing on clause (10ii)—i.e., the requirement that the DC of the participant that utters the issue-addressing question contain the relevant issue, either because this participant has asserted it herself or because she has accepted an issue-raising assertion made by another participant. Consider first the dialogue in (3), where a disjunction seemed unable to license an issue-addressing question. Intuitively, we want to say that the infelicity of this question is a consequence of the fact that B objects to A's assertion before uttering the question. To understand how this intuition can be formalized in the current system, it is instructive to take a detour and examine the alternative dialogue in (14). Here, A's assertion *You have to teach my class or meet with the lab assistant* results in the addition of the disjunction $[p \vee q]$ to DC_A at k_1 . Then, B accepts A's assertion by saying *ok*, resulting in DC_B containing $[p \vee q]$ at k_2 ; as such, clause (10ii) is satisfied, and B can felicitously utter the issue-addressing question.

- (14) A: Hey, next week I'm going to a conference. While I'm away, you need to teach my class or meet with the lab assistant.
 B: Ok. \checkmark I'll let you know when I decide which one I want to do.

		DC _A	DC _B
(15)	A: <i>You need to teach my class or meet with the lab assistant</i>	k_0	assert($[p \vee q]$)
	B: <i>Ok</i>	k_1	accept($[p \vee q]$)
	B: \checkmark <i>I'll let you know when I decide which one I want to do</i>	k_2	address($[p \vee q]$)

Now consider (3) again, which differs from (14) in that B objects to A's assertion at k_1 , rather than accepting it. By the definition of object, DC_B is not updated with $[p \vee q]$ at k_2 , and clause (10ii) fails to be satisfied. As a consequence, the issue-addressing question is infelicitous. Note, importantly, that the presence of $[p \vee q]$ in DC_A at k_2 fails to license B's question. I take this as evidence that $[p \vee q]$ must be located (not necessarily exclusively) in the DC of the participant that utters the issue-addressing question.

		DC _A	DC _B
(16)	A: <i>You need to teach my class or meet with the lab assistant</i>	k_0	assert($[p \vee q]$)
	B: <i>I'm not too busy, I can do both</i>	k_1	object($[p \vee q]$)
	B: $\#$ <i>I'd rather I get to decide which one I want to do</i>	k_2	assert($[p \wedge q]$)
		k_3	address($[p \vee q]$)

The opposite dynamics play out in (4). Here, A's assertion contains a conjunction, which is not an issue-raising expression; at k_1 , B objects to this assertion, so DC_B is not updated with $[p \wedge q]$ at k_2 ; however, B's utterance *I can only do one* amounts to asserting the disjunction $[p \vee q]$, which effects the relevant update of DC_B at k_2 . Given that clause (10ii) is satisfied, B's issue-addressing question becomes felicitous, as desired.

		DC _A	DC _B
(17)	A: <i>You need to teach my class and meet with the lab assistant</i>	k_0	assert($[p \wedge q]$)
	B: <i>I'm too busy, I can only do one</i>	k_1	object($[p \wedge q]$)
	B: \checkmark <i>I'd rather I get to decide which one I want to do</i>	k_2	assert($[p \vee q]$)
		k_3	address($[p \vee q]$)

It is not difficult to modify the conversations to reverse these results. Consider first (18), a variant of (3) where A's utterance *You can't do that* at k_2' amounts to an objection of B's immediately prior assertion. At this point, B's utterance *Ok, then* at k_3' amounts to an acceptance of A's assertion and a retraction of B's own; as a result, DC_B is updated to contain only $[p \vee q]$ at k_4' . As above, this sequence of moves satisfies clause (10ii).

- (18) A: Hey, next week I'm going to a conference. While I'm away, you need to teach my class or meet with the lab assistant.
 B: You know, I'm not too busy, I can do both.
 A: Sorry, but you can't do that. It goes against university regulations.
 B: Ok, then. ✓ I'll let you know when I decide which one I want to do.

		DC _A	DC _B
(19)	A: <i>Sorry, but you can't do that</i>	$k_{3'}$ $\frac{[p \vee q]}{\text{object}([p \wedge q])}$	$\frac{[p \wedge q]}{\text{---}}$
	B: <i>Ok, then</i>	$k_{4'}$ $\frac{[p \vee q]}{\text{---}}$	$\frac{[p \wedge q]}{\text{retract}([p \wedge q])}$
		$k_{5'}$ $\frac{[p \vee q]}{\text{---}}$	$\frac{[p \vee q]}{\text{accept}([p \vee q])}$
	B: ✓ <i>I'll let you know when I decide which one I want to do</i>	$k_{6'}$ $\frac{[p \vee q]}{\text{---}}$	$\frac{[p \vee q]}{\text{address}([p \vee q])}$

The final example to consider is (20), a variant of (18) where B keeps on objecting to A's assertion, rather than accepting it and retracting her own. As a consequence, DC_B remains the same at $k_{4''}$ (i.e., it only contains the non-issue $[p \wedge q]$), and the issue-addressing question becomes infelicitous again.

- (20) A: Hey, next week I'm going to a conference. While I'm away, you need to teach my class or meet with the lab assistant.
 B: You know, I'm not too busy, I can do both.
 A: Sorry, but you can't do that. It goes against university regulations.
 B: Regulations be damned! # I'll let you know when decide which one I want to do?

		DC _A	DC _B
(21)	A: <i>Sorry, but you can't do that</i>	$k_{3''}$ $\frac{[p \vee q]}{\text{object}([p \wedge q])}$	$\frac{[p \wedge q]}{\text{---}}$
	B: <i>Regulations be damned!</i>	$k_{4''}$ $\frac{[p \vee q]}{\text{---}}$	$\frac{[p \wedge q]}{\text{object}([p \vee q])}$
	B: # <i>I'll let you know when I decide which one I want to do</i>	$k_{5''}$ $\frac{[p \vee q]}{\text{---}}$	$\frac{[p \wedge q]}{\text{address}(\text{---})}$

To recap: the examples above show that the felicity of an issue-addressing question is contingent on the DC of the speaker uttering the question containing the relevant issue. This is especially apparent in dialogues (3) and (20), where the $[p \vee q]$ issue appears only in DC_A; this much constitutes evidence against an alternative account B can utter an issue-addressing question so long as the relevant issue is present, if not in DC_B itself, at least in some other participant's DC.

4.2 Addressed issues must appear at the appropriate conversational stage

The next step consists of showing that clause (10iii) also needs to be satisfied —i.e., on top of being in the DC of the participant that utters the issue addressing question,

the relevant issue must also be there at the conversational stage where the question is uttered. We can start by considering the following dialogue, which is an extension of (4).

- (22) A: Hey, next week I'm going to a conference. While I'm away, you need to teach my class and meet with the lab assistant.
 B: You know, I'm too busy, I can only do one.
 A: Look, I really need you to do both.
 B: Fine, fine # I'll let you know when decide which one I want to do

Formally, (22) can be dealt with as follows. At k_0 , A asserts conjunction $[p \wedge q]$, which causes an update of DC_A at k_1 . B's response amounts to an objection of A's assertion and the counterassertion $[p \vee q]$, updating DC_B to contain only $[p \vee q]$ at k_3 . Here, A reacts by objecting to B's counterassertion. This is followed by B retracting her counterassertion at k_4 and accepts A's original assertion at k_5 . Given that DC_B contains the $[p \wedge q]$ non-issue at the final k_6 stage, B's issue-addressing question is infelicitous.

		DC_A	DC_B
(23)	A: <i>You need to teach my class and meet the lab assistant</i>	k_0 assert($[p \wedge q]$)	-----
	B: <i>I'm too busy, I can only do one</i>	k_1 ----- $[p \wedge q]$	object($[p \wedge q]$)
		k_2 ----- $[p \wedge q]$	assert($[p \vee q]$)
	A: <i>I really need you to do both</i>	k_3 ----- $[p \wedge q]$ object($[p \vee q]$)	----- $[p \vee q]$
	B: <i>Fine, fine</i>	k_4 ----- $[p \wedge q]$	retract($[p \vee q]$)
		k_5 ----- $[p \wedge q]$	accept($[p \wedge q]$)
B: <i># I'll let you know when I decide which one I want to do</i>	k_6 ----- $[p \wedge q]$	----- $[p \wedge q]$ address(—)	

The relevance of this example is that $[p \vee q]$ is absent from DC_A at every stage of the conversation (it does make an appearance as the argument of A's object move at k_3 , but note that objections, by definition, do not add their arguments to the participant's DC). This means that the infelicity of B's final question has to be derived from the distribution of $[p \vee q]$ in DC_B . Notably, DC_B does contain $[p \vee q]$ at k_3 and k_4 , but this commitment is then retracted at k_5 (and remains retracted at k_6). This much suggests that the definedness conditions on address cannot be satisfied by issue-raising expressions located in past stages of the conversation; rather, they have to be satisfied by an issue-raising expression located specifically at the same conversational stage where address is invoked, just as (10iii) requires.

As in the previous section, this outcome can be reversed if B had insisted on objecting to A's original assertion, which would have left $[p \vee q]$ on DC_B at the crucial stage, in satisfaction of (10iii).

- (24) A: Hey, next week I'm going to a conference. While I'm away, you need to teach my class and meet with the lab assistant.
 B: You know, I'm too busy, I can only do one.
 A: Look, I really need you to do both.
 B: No, you don't get it, I'm really that busy. ✓ I'll let you know when decide which one I want to do

(25) B: *No, you don't get it, I'm really that busy*
 B: ✓ *I'll let you know when I decide which one I want to do*

	DC _A	DC _B
$k_{4'}$	$[p \wedge q]$	$[p \vee q]$ object($[p \wedge q]$)
$k_{5'}$	$[p \wedge q]$	$[p \vee q]$ address($[p \vee q]$)

5 Conclusions and outlook

To sum up, we have seen that a proper account of the distribution of issue-addressing questions requires integrating the standard semantics of *or* and *and* within a formal theory of conversation dynamics that, at the very least, can track the distribution of issue-raising semantic objects across conversation participants and conversation stages. Specifically, we have seen that the definedness condition on address, as given in (10i-iii), are correct at least for the narrow case of issues introduced by disjunctions. Whether this definedness condition is also correct for issues introduced by other inquisitive expressions (e.g., indefinites, polar questions, foci...) remains to be determined.

More broadly, the line of attack I have sketched here can be used to investigate the kind of factors, whether purely linguistic or not, that affect the rise and fall of semantic information in conversations. Consider, for example, the following variant of (20), where the now-felicitous issue-addressing question is preceded by a non-verbal action on B's part. From the perspective of the analysis I have laid out in the previous sections, the asymmetry between (20) and (26) suggests that B's actions are a non-verbal communicative act equivalent to a retraction of $[p \wedge q]$ from DC_B and an acceptance of $[p \vee q]$. But how are such acts to be encoded in a formal theory of conversation?

- (26) A: Hey, next week I'm going to a conference. While I'm away, you need to teach my class or meet with the lab assistant.
 B: You know, I'm not too busy, I can do both.
 A: Sorry, but you can't do that. It goes against university regulations.
 B: Regulations be damned! [*B pauses, sighs, and gives A a look of reluctant defeat*] ✓ I'll let you know when decide which one I want to do.

Similarly, consider the asymmetry between the alternative C and the C' responses in (27). In both cases, there is a presupposition that the amount of things one can ask the Dean for positively correlates with both the strength of the department and the amount of money available. In (27C), the fact that the professors belong to a weak department in a poor university seems to favor (27A) and (27B) as if they were disjoined ("we

should ask either for lab space or a new hire”),⁴ licensing an issue-addressing question. In contrast, in (27C’), the fact that the professors belong to a strong department in a rich university seems to favor interpreting (27A) and (27B) as conjoined assertions (“we should ask both for lab space and a new hire”), precluding the possibility of an issue-raising question. Here, we face the same problem as above: how are these presuppositions and inferences to be encoded in a formal theory of conversation?

- (27) *Context: three professors are planning their upcoming meeting with the Dean*
- A: I think we should ask the Dean for more lab space.
- B: I think we should ask him for money for a new hire.
- C: Guys, remember that we are a weak department and there isn’t much money going around. ✓ We really need to decided which one we really want to ask for.
- C’: Guys, remember that we are a strong department and there’s lots of money going around. # We really need to decided which one we really want to ask for.

Fortunately, length restrictions on this paper excuse me from having to provide answers to these questions.

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⁴As Jakub Dotlačil (p.c.) points out, against the standard assumption in Dynamic Predicate Logic (Groenendijk and Stokhof 1991) that sequences of propositions are interpreted as if they were conjoined.

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