MAKING CONDITIONAL SPEECH ACTS IN THE MATERIAL WAY

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ABSTRACT

The conventional wisdom about conditional speech acts claims that (1) conditionals that have non-assertive acts in their consequents such as commands, promises and bets cannot be plausibly interpreted as being logically equivalent to the material implication; (2) the most promising hypothesis about these conditional speech acts is the conditional-assertion theory, which explains a conditional as being synonymous with a performance of a speech act given the assumption of the antecedent. This paper argues against this prevalent view in two steps. First, a battery of objections is presented against conditional-assertion theory. Second, it is argued that apparent examples of conditional speech acts can be convincingly interpreted as categorical assertions of material implications.

Keywords: conditional-assertion theories; material implication; conditionals; conditional speech acts.

1. INTRODUCTION

Conditionals are tricky. They constantly defy our linguistic intuitions, because they are used to represent reality, but they are also inferential in nature. This dual nature becomes weirder when the main clause is the sort of non-assertive act we encounter in sentences such as conditional commands because it seems to disregard the little knowledge we have about conditional assertions. One way to explain these puzzling sentences is the conditional-assertion theory. According to this theory, $A \rightarrow B$[1] is synonymous with the performance of a speech act, B, given the assumption of A. This hypothesis tries to offer a unified account of conditional sentences independently of whether or not the speech act in the main clause is an assertion or not. The elegance of conditional-assertion theory is usually presented in contrast with the material account of conditionals, which asserts that $A \rightarrow B$ is logically equivalent to a material implication. The material account, accuses the critic, seems old-fashioned in comparison, and it is too rigid to be generalised to different conditional speech acts. This paper will argue that is possible to offer a unified material account of conditionals that is less revisionist and more elegant than conditional-assertion theory.

The many attractions of conditional-assertion theory and the allegedly inadequacy of the material account will be presented in section 2. A battery of objections against the conditional-assertion theory is presented in sections 3-6. In section 3 it is argued that

[1] Here '$\rightarrow$' stands for indicative conditionals, '$\supset$' stands for material conditional and '$\models$' stands for entailment. I will not use quotes to highlight the use-mention distinction when there is no risk of confusion, and the symbols and variables quoted will be modified to ensure that the notation remains uniform.

conditionals cannot be plausibly interpreted as conditional speech acts. Instead, conditional sentences are better interpreted as categorical statements of a relation between the antecedent and the consequent. Because there are many similarities between conditional-assertion theory and the Ramsey test, it will be argued in section 4 that the conditional-assertion theory inherits the Ramsey test flaws. The accusation that the conditional-assertion theory eliminates the objectivity of conditionals is made in section 5. In section 6, the argument that the triviality result reinforces the conditional-assertion theory is criticised. It is offered a different interpretation of the result that is less revisionist. The counter-examples to the material account involving conditional speech-acts are explained away in section 7. This results in a material account that can be generalised to different conditional speech acts. Finally, the paper concludes with some observations about the state of the discussion.

2. THE LURE OF CONDITIONAL-ASSERTION THEORY

Usually, when we think about 'if' sentences in conditional theory their main clause is an assertive act ('If you strike the match, it will light', 'If Oswald did not kill Kennedy, someone else did', 'if the train is on time, we'll be home by ten'). Conditional assertives, however, represent only a small portion of conditional sentences, which may be as varied as conditional interrogatives ('If he calls, what shall I say?'), conditional warnings, ('If you go to New York, watch out for the taxi drivers'), conditional requests ('If you're going out anyway, could you please pick up some Dos Equis?'), conditional commands ('If the patient is still alive in the morning, change the dressing'), and conditional bets ('If Parasite is a nominee for best picture, I bet you $100 it will win an Oscar'), to name just a few.

Conditional-assertion theories were craftily designed to explain all these sentences in an elegant and intuitive fashion. Conditional-assertion theories state that any given conditional $A \rightarrow B$ is tantamount to the performance of a speech act B given an assumption A[2]. In this interpretation, B can be any kind of speech act (e.g., an assertion, a command, a request, etc.) and A can be any kind of assumption about the world (e.g., about the satisfaction of a condition, the occurrence of a fact, etc.). The conditional speech act is only fulfilled if the speech act in the consequent is performed when the antecedent is true. If the antecedent turn out to be false, the conditional speech act is null. Take for instance the conditional bet, 'If *Parasite* is a nominee for best picture, I bet you $100 it will win an Oscar'. If the antecedent happens to be false and the film doesn't win an Oscar, I don't have to pay you $100 because the bet only holds if *Parasite* was a nominee for best picture.

One of the most surprisingly features of conditional-assertion theory is its non-propositional requirement[3]. The theory states that $A \rightarrow B$ is just a conditional act of B given A. Thus, it is not a proposition with truth values, much less a connective that combines two propositions to produce an additional proposition whose truth values are determined by its propositional constituents[4]. Thus, if B is an assertive act, $A \rightarrow B$ is used to conditionally assert that B given A[5]. This puts conditionals in an entirely new light. Instead of being seen as

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[2] This intuition was first suggested in very crude terms by Quine (1950: 19), who credited Philip Rhinelander with the idea.

[3] Some of the main proponents of the theory are Appiah (1985), Edgington (1986, 1995), Barker (1995), Woods (1997); Derose (1999) and Derose & Grandy (1999).

[4] Derose & Grandy (1999: 407).

[5] Derose & Grandy (1999: 407).

static truth-functions, conditionals are now portrayed as action movements in natural language[6].

The proponents of theory present a variety of arguments to reinforce the sui generis character of conditionals. One of these arguments is that other speech acts that occur in the main clause of conditionals (e.g., warnings, questions, commands, etc.) cannot be combined with conjunctions and disjunctions. For instance, there is an obvious difference between the conditional warning, 'If you go to New York, watch out for the taxi drivers', and the following conjunction 'You are going to New York and watch out for the taxi drivers', and the disjunction 'You are not going to New York or watch out for the taxi drivers'. The difference is that both the conjunction and the disjunction with the warning seem ungrammatical or at least inappropriate[7].

But the most compelling defence of conditional-assertion theory to date was advanced by Dorothy Edgington (1986; 1995). Edgington's view is motivated by a series of arguments, including the adaptation of the probabilistic logic of Ernest Adams (1965; 1975) in order to present a compelling alternative logic where conditionals can be interpreted as mere conditional assertions. This adaptation is reinforced by arguments about the uncertain nature of conditional judgments and the triviality results. Our basic intuitions about conditionals attribute to them the structure of conditional probability. Intuitively, the degree of confidence in the conditional 'If this match is struck, it will light' is measured by the probability that I attribute to the occurrence of being lighten given that it was struck. If the conditional probability is high, I accept the conditional. If the conditional probability is low, I refuse the conditional. Consequently, if a conditional express a proposition with truth-conditions, the degree of confidence in this proposition must be measured by its conditional probability[8].

However, the triviality results presented by Lewis[9] show that this cannot be true.There is no proposition such that the probability of its truth is measured by its conditional probability. If there was such proposition, the probability of a conditional would be measured by the probability of its consequent, but this is absurd. The probability that the match will light given that is struck is not intuitively the same as the probability that it will light[10]. The probability of $A \rightarrow B$ cannot be the probability of B. Something is wrong.

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[6] One could object that I'm ignoring conditional-assertion theories in its propositional version. These theories state that $A \rightarrow B$ is true when A and B are both true; false when A is true and B is false; and has no truth value when A is false, regardless of B's truth value. In other words, if A is false, $A \rightarrow B$ express no proposition. This thesis is defended by Jeffrey (1963); Manor (1974) and McDermott (1996). Stalnaker mentions this hypothesis with interest in a footnote, even though he is a not proponent of the theory. See Stalnaker (1975: 137, fn. 2). Belnap (1970) also explored the view without endorsing it. The reason why I don't consider these views as versions of conditional-assertion theories is that they don't capture the intuition that the speech act expressed by the consequent can be non-assertive in nature. For instance, it is not obvious that a command or a request can be interpreted as having truth-values. Another reason to think that this line of reasoning is not conditional-assertion in kind is that it doesn't interpret conditionals as conditional speech acts, but as categorical assertions that are null when the antecedent is false. For this reason, the conditional-assertion theory shouldn't be confused with the view that conditionals express a proposition which has the same truth-value as the consequent if the antecedent is true, but which goes truth-valueless where the antecedent is false. *Pace* Milne (1997) and Lycan (2006).

[7] Derose & Grandy (1999: 410).

[8] Jeffrey (1964: 702–703), Adams (1965: 172).

[9] Lewis (1976: 299–300).

[10] Edgington (1997: 109).

This take us to another important argument. Edgington insists that the best way to interpret conditionals is not as propositions about facts, but as conditional assertion acts. To assert 'if *A*, then *B*' is to assert *B* given the assumption of *A*. This is not a categorical assertion that has truth-value, but a conditional assertion of *B* given the assumption *A*. This explains why the confidence in a conditional is measured by its conditional probability, even though it is not equivalent to the probability of a proposition[11].

Edgington also gives importance to the uncertain aspect of the vast majority of conditionals. If we ask a specialist about a sentence with the form 'if *A*, then *B*', her answer will not be definitive one, but an answer with a degree of confidence. If we ask a doctor if I'm going to survive in case I have an operation, I could hear as an answer 'It is very likely that you survive in case you have the operation'[12]. In this sense, the uncertainty about conditionals would be in continuity with the uncertainty about propositions in general. Just as our best theories about propositions attributes to them the structure of probabilities, our best theory about conditional sentences attribute to them the structure of conditional probability[13]. The uncertain state of conditionals is tied to our epistemic limitations. We are not omniscient; we are bombarded by epistemic possibilities whose truth interest us. It is in this background of imperfect information that conditionals play their part. They express a way of thinking about the consequences of a possibility given its assumption and assist us to make decisions[14].

This powerful argument is in tune with the ease with which the conditional-assertion theory identifies conditional assertion as an element of a more general explanation of conditional speech acts. Any type of speech act can be realised unconditionally or conditionally. There are conditional commands, questions, promises, etc. The conditional-assertion theory has the advantage of being capable of explaining conditional assertions as just another type of conditional act. For instance, when I say 'if *A*, do *B*', I'm just giving a command that *B* must be done given the assumption that *A*[15].

This flexibility of the conditional-assertion theory is usually presented as a triumph over rival theories, particularly the material account of conditionals. Suppose that a doctor says to the nurse in the emergency ward 'If the patient is still alive in the morning, change the dressing'. If the conditional above is material, it would have the same truth-conditions of 'Make it the case that either the patient is not alive in the morning, or you change the dressing'. The nurse suffocates the patient with the pillow and kills her. If we accept the material account, we could say that the nurse was carrying the doctor's order, but this is absurd[16]. The problem is that the material account cannot be extended to conditional sentences in which the main clause is not an assertion[17].

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[11] Edgington (1986: 17). Edgington purposes a similar explanation to subjunctive conditionals. The only difference in this case is the type of assumption. She defends that when we accept a sentence with the form 'if *A* were the case, *B* would be the case', we are willing to assert that *B* would be the case given the assumption that *A* is the case, even if we know that *A* is not the case. Whereas an indicative conditional would also be a conditional assertion, but wouldn't involve the assumption that *A* is not the case (Cf. Edgington, 1986: 5; 2008b).

[12] Edgington (2003: 6).

[13] Edgington (1997: 109).

[14] Edgington (1986: 4).

[15] Edgington (2008a: 302).

[16] Edgington (2008a: 302).

[17] Edgington (1995: 288).

Another problem for the material account involves conditional bets. Suppose that one says that 'If this number is even, I bet it is six'. The result of the draw is five. According to the material account, the conditional must be true and I will win the bet, since both antecedent and consequent are false, but the intuition says that I did not win the bet, for it was canceled[18]. Or suppose that the local zoo bought a new animal and we are wondering what the animal's name is. I say, 'If it's a gorilla, I bet its name is Magilla' and you bet against. But if the new animal is not a gorilla, the bets are off[19]. Again, the material account wrongly predicts that the conditional is vacuously true and that I should win the bet.

Whatever way we look at it, the conditional-assertion theory is a powerful hypothesis that represents a formidable challenge to rival theories. The theory is elegant, flexible and places conditional logic at the heart of our epistemic practices. It seems much more appealing than rigid formal logics that treat conditionals as functions, especially classical logic.

3. THE MANY PROBLEMS OF CONDITIONAL-ASSERTION THEORY

Despite its many strengths, the conditional-assertion view faces numerous attacks. Take for instance the accusation that some conditional speech-acts can't be used in contraposition, which is perceived as a valid argumentative form[20]. This would be the case for biscuit conditionals 'There are biscuits on the sideboard if you want some'[21]. They appear to be contraposition-resistant because they are uttered under the assumption that the consequent is true. In this case, the conclusion of the contraposition would be a vacuously true conditional. But this interpretation of the example is strange because it suggests that the existence of biscuit conditionals on the sideboard has a relevance determined by the truth of the antecedent.

A different formulation of the consequent would make this work, namely, that you would like to know that there are biscuits on the sideboard given that you want some biscuits. In this case, the complete conditional would be 'If you want some biscuits, you would like to know that there are biscuits on the sideboard'. Notice that in this expanded formulation the conditional will be ungrammatical in its original form, 'You would like to know that there are biscuits on the sideboard, if you want some biscuits'. This is understandable since the original form was designed to make things easier on the speaker. What is interesting is that in this new formulation it becomes clear that neither the consequent nor the antecedent are assumed as true, and that the conditional is not contrapositive resistant at all. Thus, from 'If you want some biscuits, you would like to know that there are biscuits on the sideboard' it follows by contraposition that 'If you wouldn't like to know that there are biscuits on the sideboard, you don't want some biscuits'. Thus, one of the difficulties of the conditional-assertion view is explained away.

Perhaps a better way to test the conditional-assertion theory is by comparing it with our intuitions related to categorical assertions. The rationale for this strategy is simple: since a conditional assertion amounts to the assertion of a proposition given a certain assumption, they are similar to categorical assertions in the sense that they are also made given certain

[18] McDermott (1996: 20–23).
[19] Derose & Grandy (1999: 417).
[20] Lycan (2006: 151).
[21] The example was first introduced by Austin (1956: 113).

assumptions. This test is also justified by the fact that categorical assertions are better understood or at the very least are more accessible than conditionals. This comparison will provide us with a dictionary in which intuitions about categorical assertions can be translated into intuitions about conditional speech acts. It's the closest we can get to an independent test.

Now, suppose you believe that it is going to rain on New York tomorrow because that's the information you found while googling the weather forecast. Then you say, 'It is going to rain on New York tomorrow', because you believe in the weather forecast. We can represent the relation between the belief (or subsequent assertion) and the evidence in this example as the conditional 'It is going to rain on New York tomorrow, if the weather forecast is reliable'. The conditional-assertion view predicts that you asserted that it is going to rain on New York tomorrow given that the antecedent was true. Otherwise, you didn't assert anything. This prediction is in disagreement with the facts. Suppose that in the example above you made a mistake. Perhaps Google's algorithm malfunctioned and the weather forecast you relied on was actually about Jersey City, not New York. Does this mean that you never believed (or asserted) that it is going to rain on New York tomorrow? Of course not. Does this mean that both your belief and assertion were false? Not necessarily, because you can form a belief or make an assertion based on inadequate evidence.

Or consider Lycan's objection that ordinary speakers don't 'suspend judgment on whether any assertion had been made until it had been established whether the antecedent was actually true'[22]. The same can't be said about categorical assertions. Ordinary speakers make assertions based on assumptions they deem as true. If the assumptions or reasons that motivated an assertion turn out to be false, there is an expectation that the rational speaker should withdraw her assertion. This strongly suggests that conditionals are not conditional speech acts. If they were, the truth of the antecedent would be assumed as true, but it is not.

The conditional-assertion theorist can change her approach to avoid this criticism. She can maintain that an antecedent doesn't need to be assumed as true by the proponent of the conditional, rather, it is only required that it should be an epistemic possibility. For instance, regarding a carpet that I don't think is red, I could say, 'If it is red, I have gone colour-blind or am suffering some sort of delusion'[23]. In this case, I'm not really asserting the consequent under the assumption of the antecedent. Instead, I believe that the antecedent is false even though it remains an open possibility. The intuition that supports this modification is that the epistemic agent doesn't actually need to accept the antecedent of a conditional he endorses, since it is enough that a hypothetical assumption in an exercise of imagination to decide whether she would be willing to assert the consequent. Considering that this exercise of imagination is merely momentary, the assertion of the consequent would be merely hypothetical. I evaluate whether I would be willing to assert hypothetically the consequent given the hypothetical assumption of the antecedent.

This concession, however, faces more difficulties. It is evident that we can propose many conditionals without assuming the antecedent, even hypothetically. When I assert the conditional 'If John's speaking the truth, I'm a Dutchman', I'm not asserting that I am a Dutchman given the assumption that John is speaking the truth because I take for granted that the antecedent is false. Instead, I want the hearer to infer by *modus tollens* from the obvious

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[22] Lycan (2006: 150)
[23] Edgington (1986: 4).

falsity of the consequent that the antecedent is false. Conditionals used in *reductio ad absurdum* proofs in mathematics are also counter-examples. Consider this simplified version of Euclid's proof of the infinity of primes: 'If there are only *n* primes, then there are (*n* + 1) primes; if there are only *n* primes, then there are not (*n* + 1) primes; therefore, there are not only *n* primes'[24]. The conditionals possess the same contradictory antecedent, which are assumed by the reasoner as impossibilities.

But the coup de grâce against this modified view involves our intuitions about categorical assertions. When I assert, 'It will rain tomorrow', I make an assertion conditionally to a series of assumptions such as 'The weather forecast is trustworthy', 'There are laws of nature', etc. I don't assert, 'It will rain tomorrow' based on hypothetical assumptions, but based on categorical assumptions about the world, i.e., beliefs that I do have. Thus, in asserting a proposition *B* from an assumption *A*, I compromise myself with both the truth of *B* and *A*. Consequently, if conditionals were conditional assertion acts, the speaker would need to accept the truth of both the antecedent and the consequent. This implies that the antecedent of a conditional cannot be just an open possibility, or at least it cannot be just an open possibility if we insist on the intuition that conditional sentences exhibit a conditional-assertion speech act.

The diagnosis highlights another problem with the conditional-assertion view. The theory implies not only that the speaker should accept the antecedent of the conditional she uses, but the truth of the consequent as well. This result is intolerable. We don't think that in order to propose or accept a conditional we should compromise ourselves with the truth of both, the antecedent and consequent, because conditionals are not conjunctions. There are few exceptions, but they involve mostly cases in which the speaker is using a term that adequately express her knowledge about the truth value of the constituents involved, e.g., '*Since* she got late to the airport, she lost the airplane'. Other suitable examples involve terms such as 'Given that *A*, *B*', '*B*, because *A*', 'When *A*, *B*', 'Despite *A*, *B*', etc[25].

Of course, there are some special cases in which our categorical assertions are conditioned to hypothetical assumptions. Take for instance a discussion about epistemology when one asserts, 'I exist', from a hypothetical assumption that the external world is an illusion. But these cases represent just one tiny fraction of categorical assertions in general. Thus, it seems safe to admit that assertions in general involve effective assumptions, not hypothetical assumptions.

If conditionals should be interpreted as conditional speech acts, then the performance of a conditional should not be judged on whether the antecedent is true or not, since what should matter is whether the speaker made the assumption or not. To put it differently, if a conditional is a conditional speech act, then the antecedent shouldn't be judged as an assertion that need to be true, but as an action that needs to take place. Take for instance a conditional $A \rightarrow B$ with an assertion in the main clause. If we interpret $A \rightarrow B$ as a

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[24] This version is offered by Jackson (1987: 53). The original proof is in Elements, Book IX, proposition 20.

[25] 'Even-ifs' admit a similar explanation, although the term can signal different things about the speaker's expectations in different contexts. In an example such as 'Even if you offer me a huge pay rise, I shall resign', it expresses the speaker's belief that he will resign despite the offer, i.e., his confidence in the truth of the consequent is independent of the antecedent. But the 'even' particle could be dispensed altogether if the context is enough to understand the speaker's beliefs, e.g., 'If he was surprised, he didn't show' (Grice, 1989: 62). In some cases, 'even' can signal that the consequent is unexpected given the antecedent, e.g., 'Even being older, she is still attractive'.

conditional assertion of B given the assumption A, what it would be required in order for this conditional action to take place is the assertion of B given a fact, namely, that the proponent of the conditional made the assumption A. The truth value of A shouldn't matter if conditionals were actually actions. This puts a dent in the whole conditional-assertion program, because the intuition that motivates the research program only works if their role in logic is severely diminished. The concreteness of the theory can only be achieved if truth values become irrelevant.

One way of avoiding this difficulty is to reinterpret the antecedent of the conditional as an indirect assertion about the speaker's assumption. In this case, the antecedent do have a truth value that is determined by whether the speaker made the corresponding assumption or not. But this seems like a desperation move. If the antecedent can be reinterpreted as an indirect assertion about the speaker's assumption, then the consequent can also be reinterpreted as an indirect assertion about the speaker's speech act. But the conditional-assertion theory wouldn't be content with this concession, since it would diminish the plausibility of the program. What is worse is that even if we concede that the antecedent could be reinterpreted as an indirect assertion about the speaker's assumption, we would need to admit the embarrassing conclusion that conditionals are always correct. The reason is simple: if the antecedent is an indirect assertion about the speaker's assumption, then it is trivially true, because conditional assertions should be *by definition* conditional actions. Simply put, if $A \rightarrow B$ is a conditional action, then B is performed given an assumption that is expressed indirectly by the antecedent, A. Consequently, A will be always true, since the corresponding assumption was made by definition, and B holds, because it was an action performed by the speaker. The only way to avoid this ridiculous conclusion and still retain the spirit of conditional-assertion theory is if we interpret the conditional as an attempt to perform a conditional action. This solution is worse than the problem though, because we would have to interpret the apparent assertion of conditionals as attempts to perform a conditional action by the speaker. How can this conclusion be interpreted as an improvement?

Another problem with the conditional-assertion theory is that even if we accept for the sake of argument that $A \rightarrow B$ express a conditional assertion of B given A, it is too simplistic to accurately represent the role of assumed conditions in speech acts. Let's say that $A \rightarrow B$ is the assertion of B given the assumption that A is true, but express no assertion otherwise. The problem with this picture is that $A \rightarrow B$ would be not just the assertion of B given the assumption that A is true, but the assertion of B given the assumption that A is true and that a series of other background assumptions are true. Thus, even if A and B were both true, $A \rightarrow B$ could still be incorrect if some background assumptions don't obtain. But this is absurd. No theory that predicts that $A \rightarrow B$ is incorrect when A and B are true can be true. Consider the conditional 'If the match is struck then it will light'. This would amount to the assertion that the match will light given that the match is struck and other background conditions, i.e., the match is dry, there is the presence of oxygen in the atmosphere, etc. But suppose that the match is struck and it is held under water, and lights nonetheless due to an addition of a mixture of rust and aluminium powder. The conditional-assertion theory in its more consequential formulation would have to conclude that the conditional is incorrect, which is implausible.

One could argue that the conditional-assertion theory has a built-in requirement of relevance between the antecedent and the consequent. This would prevent any counter-

examples of this nature[26]. The problem is that chances of developing a general logic system with a connective that is so dependent of assumptions about background conditions are virtually nil. The addition of a presupposition of relevance would only complicate things even further to the point where logic systems are indistinguishable from individual system of beliefs.

It was mentioned before that categorical speech acts represent a dictionary we can use to translate intuitions about conditional speech acts. In a sense they are also a bridge between the two of them, and if we cross this bridge accepting the conditional-assertion theory we will have to accept bizarre consequences. For instance, anything that was asserted under a false assumption should be described as a pseudo-assertion. If we consider that speakers are fallible and have plenty of false assumptions about the world, this would imply a radical revisionist view about the way we use categorical speech acts. The conditional-assertion enthusiast may bite bullet and insist on his view of things, but most people would shy away from such a heavy theoretical burden. The reason why the conditional-assertion theory is plausible at first sight is that it seems natural when it is applied to a variety of different conditionals. But once the consequences of this approach is extended to categorical speech acts, the problems become insurmountable.

The only situation where conditional-assertion theory would work is when the locutionary content *presupposes* the truth of the antecedent[27]. For example, the main clause of the conditional 'If Sheila owns a heavy overcoat, please borrow it for me' cannot express a request unless the antecedent is true, because you cannot borrow something that doesn't exist. Not surprisingly, this also occurs with categorical speech acts. Suppose I ask you to borrow for me Sheila's heavy overcoat, but it turns out that I made a confusion. What I assumed was an overcoat was actually a raincoat. It seems that the request was meaningless because it was made under a false presupposition.

These cases, however, are marginal and don't represent a problem for the alternative views. This becomes clearer when we consider conditionals that contain an assertion in the main clause. Suppose one says about a main suspect of a crime 'If John murdered his wife, he should confess to the murder'. Now, if John is actually innocent, the consequent has no truth-value and the conditional doesn't express a proposition. Since the conditional doesn't express a proposition, it doesn't have truth-conditions and it doesn't represent a counter-example to a truth-conditional account of conditionals. Yet even in this small space where the conditional-assertion is vindicated we still have the intuition that the conditionals involved express a relation between the antecedent and the consequent which would be true if the antecedent were true.

Now let's consider the main merit of the conditional-assertion theory, namely, that it is supposed to offer a uniform explanation of conditionals as conditional assertion acts, in the

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[26] Björnsson (2006: 4-5).

[27] The notions of 'assumption' and 'presupposition' here mean different things. An assumption is a proposition that the speaker assumes as a necessary truth to accept the truth or falsity of another proposition. For instance, the assumptions that make me accept the proposition 'It will rain more in the afternoon' involve beliefs about the last weather forecast and the black clouds on the sky. If these assumptions would turn out to be false, I will abandon the proposition that it will rain more in the afternoon. A presupposition is a proposition whose truth is necessary to a statement that has truth-conditions. The notion of assumption shouldn't also be confused with the notion of presupposition in the sense intended by Stalnaker (2002: 701), which consists only on assumptions shared by both participants in a conversation.

same vein of other conditional speech acts, such as conditional commands and promises. This is supposed to make the theory more elegant than its rivals, since they are incapable of explaining usual conditionals as distinct from other conditional speech acts.

The best way to object this point is to observe that this aspect makes the conditional-assertion theory less elegant not more, because it treats conditionals as sui generis connectives. If 'if *A*, then *B*' is a conditional assertion of *B* given *A* it involves a compromise with the assertion of its propositional constituents. To see why this intuition is false, all we need to do is to consider how we assert propositions composed by other connectives. We do not accept that the use of conjunction involves the assertion of each conjunct, but we think that what is used is just a conjunction as a whole, i.e., the use of *A*&*B* does not require the assertion of *A* and the assertion of *B*. We also do not think that the use of a disjunction involves the assertion of each disjunctive because what is used is the disjunction as whole, i.e., the use of $A \vee B$ does not involve the assertion that *A* is the case or the assertion that *B* is the case.

There are also inferences involving both conjunctions and conditionals, or both disjunctions and conditionals. But we don't think that conjunctions or disjunctions are not truth-functional. The advantage of being able to explain conditionals as a conditional speech act it's not offset by the inability to explain its relation to connectives that are uncontroversially truth-functional.

Moreover, there are independent reasons to think that the theory fails even in its attempt to unify conditionals as just one among other type of conditional speech acts. As explained above, there are no good reasons to think that assertive conditionals are conditional assertion acts. But since assertive conditionals are not conditional speech acts *and* intuitively share some similarities with other conditional speech acts, then the supposed conditional speech acts of another kinds, e.g., conditional commands and conditional promises, are not conditional acts at all. If I can accept that 'if *A*, then *B*' without asserting *B* or assuming *A*, then I can accept that 'if *A*, you must do *B*' without commanding *B* or assuming *A*, just as I can accept 'if *A*, then I most promise *B*' without promising *B* or assuming *A*. Therefore, these conditionals can be interpreted as categorical assertions of a relation between the antecedent and the consequent. This is not a flattering picture considering that conditional-assertion view is supposed to be an improvement over the material account hypothesis.

4. INHERITING THE FLAWS OF THE RAMSEY TEST

The Ramsey test states that we accept $A \rightarrow B$ if, and only if, after the hypothetical addition of *A* to our belief system, and after making the required adjustments to maintain consistency without modifying the hypothetical belief in *A*, we would be willing to accept *B*[28]. The similarity of the Ramsey test with the conditional-assertion theory is palpable. This implies that the explanations in terms of conditional assertion inherit all the problems from the Ramsey test.

One of the many problems of the Ramsey test is that it is circular. According to the test, in order to determine if we should accept a conditional $A \rightarrow B$, we should consider whether we

[28] Stalnaker (1968: 102). This is the modified and more widely discussed formulation of the test. The original idea and formulation can be found in Ramsey (1929: 143).

should infer B after the hypothetical addition of A to our belief system. But the problem is that we would only be willing to infer B after hypothetically assuming A if we already have independent reasons to accept $A \rightarrow B$. In other words, we don't accept a conditional due to its inferential employability on *modus ponens*, but its inferential employability on *modus ponens* is determined by reasons that we have to accept the conditional.

Similarly, it could be argued that a conditional $A \rightarrow B$ doesn't consist in a conditional assertion of B given A. Instead, my willingness to assert B upon learning that A is just a consequence of accepting $A \rightarrow B$. If I accept a conditional, I would be willing to assert the consequent by assuming the antecedent. However, my assertive willingness hinges on the acceptance of the conditional. It is not a conditional.

Another flaw of the Ramsey test is that it is compromised by a *modus ponenscentric* view of conditionals motivated by a directional bias suggested by both the grammatical and logical form of conditionals. We are naturally inclined to confuse the truth conditions of $A \rightarrow B$ with the inferential jumps suggested by its logical form. It is natural to think that the acceptability of $A \rightarrow B$ is determined by the Ramsey test because it's logical form suggests that B can be inferred from the assumption of A. That this is a confusion becomes clear when we consider that other propositional forms, e.g., $\neg A \vee B$, can have the same inferential jumps of $A \rightarrow B$, but do not cause in us the same intuitions. The reason is that unlike $A \rightarrow B$, the logical form of $\neg A \vee B$ does not suggest any inferential jump from A to B, even though they do have the same inferential jumps–see the table bellow:

$\boldsymbol{A \rightarrow B}$	$\boldsymbol{\neg A \vee B}$
modus ponens	*disjunctive syllogism*
If Oswald did not kill Kennedy, someone else did. Oswald did not kill Kennedy. Thus, someone else killed Kennedy.	Either Oswald killed Kennedy, or someone else did. Oswald did not kill Kennedy. Thus, someone else killed Kennedy.

If the truth of $\neg A \vee B$ doesn't require an evaluation with the hypothetical assumption of A, then the truth of $A \rightarrow B$ doesn't require an evaluation with the hypothetical assumption of A. The only reason to think that conditionals are any different is its misleading grammatical and logical form, which suggests that its truth is determined by an inferential jump from one of its constituent propositions to the other.

That this mindset is flawed becomes clear when we consider conditionals such as 'If John's speaking the truth, I'm a Dutchman'. I'm not asserting that I am a Dutchman given the assumption that John is speaking the truth. Instead, I'm asserting this conditional with the expectation that the hearer will infer by *modus tollens* the falsity of the consequent from the obvious falsity of the consequent. The same criticism can be extended to the conditional-assertion view. To interpret 'if A, then B' as an assertion of B given the acceptance of A is to attribute excessive importance to *modus ponens*. However, is possible to use a similar reasoning considering the employability of a conditional in a *modus tollens*. In this case, the

intuition behind the conditional assertion of 'if *A* then *B*' could be just as well be understood as a negation of *A* when *B* is false[29].

This objection makes it clear that there is a psychologist motivation in the conditional-assertion view. Conditionals are reduced to acts of conditional assertion, which in turn can be reduced to inferential dispositions. This reductionist character explains why the conditional-assertion view makes our way of speaking about conditionals convoluted and artificial. For instance, Edgington states that the degree of confidence of someone in a conditional 'if *A*, then *B*' is the conditional probability that she attributes to *B* given *A*. However, this is the wrong way of describing the facts accordingly the her own version of conditional-assertion view. We cannot speak about the confidence of someone in 'if *A* then *B*', for according to the her theory, a conditional is not a proposition that we can accept in different degrees of confidence. Rather, we should say that the degree of confidence in *B* given *A* is measured by the probability of *B* given *A*, but this is a triviality and not an illuminating conclusion.

In this sense, the conditional-assertion theory can also be considered an error theory. We talk about conditionals as if they had truth-conditions, but conditionals are just conditional assertion acts. Edgington try to disguise this inconvenient conclusion observing that our intuitions about truth-conditions can be translated as intuitions about conditional assertion acts, but this translation is not enough to eliminate the tension between the revisionist aspect of the theory and our way of speaking about conditionals. Intuitively, we continue to refer conditionals as propositional unities and they can be evaluated and discussed without having to consider them as conditional assertion acts. If conditionals are not propositions they couldn't be the object of indirect discourse, but they can, as it is evidenced by examples such as 'She believes that if rains, the street will become wet'[30].

The relationship between conditional assertion and conditional probability faces additional problems. On the one hand, it implies that a conditional would only have relevance for a speaker when she attributes a probability to the antecedent that is above zero. This is also necessary for technical reasons, since is not possible to calculate the conditional probability of the consequent given the antecedent if the probability of the antecedent is zero. But on the other hand, we have the intuition that conditional probability is primitive and shouldn't be determined as a proposition that we attribute to a proposition given the assumption of another, since a person doesn't need to consider how much *A* is probable in order to decide if *B* is probable given *A*[31]. This is an incoherence. If the conditional assertion of *B* given *A* is measured by the conditional probability of *B* given *A*, then a person wouldn't need to consider how much *A* is probable in order to decide if she should assert *B* given *A*.

There is something missing in the association between the conditional-assertion view and the conditional probability. If $A \rightarrow B$ is a conditional assertion of *B* given *A*, then a speaker would need to consider how much *A* is probable in order to decide if she should assert *B* given *A,* since assertions are made from assumptions we consider probable. What one could object is that there is a difference between assuming and believing. I can assume that *A* for the sake of discussion even though I don't believe in *A*. However, if my assumption that *A* is incompatible with my attribution of probability to *A*, any general observation about my

[29] Sanford (2006: 27, fn. 3).
[30] Mackie (1973: 102).
[31] Edgington (1986: 18).

attribution of probability as a whole must be considered with caution and subject to contextual interpretation.

5. THE LOSS OF OBJECTIVITY

Conditional-assertion theories can also be accused of eliminating the objectivity of conditionals. After all, if a conditional is just a conditional act, conditionals express just our subjective inferential dispositions, not objective relations between events. The position advanced by Edgington in particular deserves special attention, since she anticipate and tries to placate these criticisms. Edgington maintains that $A \rightarrow B$ express a conditional belief of B given A, and not belief in a proposition. But she also assures us that we are not at risk of losing objectivity, for we can still ensure that a conditional is objectively correct because of an objective conditional probability[32]. Suppose that you can choose a ball at random. 90% of red balls have black spots. You can be 90% confident that if you choose a red ball, it will have a black spot. The probability of the black spot given that is a red ball is 90%. This is the correct opinion, even though no proposition is expressed by the conditional with 90% of probability[33]. Therefore, to protect the objectivity of the example is enough simply to hold that the conditional probability must be objective. The objective chances will provide the right answers for each case.

The aim of a logic of conditionals is to guarantee that the objectivity of conditionals are preserved by arguments. This objectivity is usually ensured by means of truth-conditions, but the conditional-assertion explanation aims to preserve the objectivity by means of an alternative, which is the objective conditional probability. However, it is arguable that the conditional-assertion theory fails in this aspect, since the objective conditional probability is not a proper substitute for truth-conditions. A conditional can have high objective conditional probability, but still have a true antecedent and a false consequent. What interest us in this case is knowing that if a conditional that is employable on a *modus ponens* have true antecedent and consequent, not if it has high objective conditional probability. In fact, objective conditional probability has only relevance insofar as is fallible guide to truth, but it can't be its substitute.

This becomes clear when consider conditionals that share the same antecedent but contradictory consequents, yet still have the same objective conditional probability. Consider the toss of a coin in standard conditions. The probability that the side of the coin that is faced-up is heads or tails given the tossing is the same. Both have a probability of 50%. But should we say then that both conditionals 'if the coin is tossed, the result will be heads' and 'if the coin is tossed, the result will be tails' are objectively correct? Of course not, for just one of the conditionals would have a true consequent after the toss. What we should say is that objective conditional probability doesn't allow us to decide beyond any doubt which conditional is correct. However, after the tossing we will know that only one of them is correct, even though the objective conditional probability remains the same. When the objective conditional probability and the truth-values of the constituents of a conditional are in disagreement, we opt for the second, and these are exactly the circumstances in which truth-conditions seem necessary.

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[32] Edgington (1997: 110).
[33] Edgington (1997: 110).

Another problem is that the appeal to an objective conditional probability for its own does not eliminate the disagreement between two individuals about the same conditional[34]. Two individuals can agree about a relevant objective conditional probability, but disagree about the same conditional. Suppose that the objective conditional probability of *B* given *A* is 60%, i.e., that will rain tomorrow given that we are in March. Someone could accept that will rain tomorrow given that we are in March while other could refuse even if both accept that the conditional probability is 60%. This suggests that the conditional probability does not ensure even the subjective component, which is the acceptance of the conditional.

The only way to ensure a resemblance of objectivity in the use of conditionals when they are interpreted as conditional acts is by a focusing on an entirely different aspect from the one proposed by Edgington. What motivates her theory is its aptitude to explain uncertain conditionals and their respect attributions of subjective conditional probability. In other words, her theory was not formulated having the objectivity of conditionals in mind, but its subjective aspects. This raises the suspicion that the mention of objective probability is just an insincere attempt to appease the critics, since it isn't followed by any consistent and meaningful use. This is evidenced by the way Edgington explains the examples involved in Gibbard stand-offs. Edgington thinks that there is no objectivity between contradictory conditionals when the subjective attributions of conditional probability are incompatible. In other words, if two incompatible conditional judgments are justified by different points of view in the same context, there is no objectively correct conditional judgment. This shows that the attribution of conditional probability is a poor substitute of conditional objectivity. After all, intuitively, conditionals can express relations between events, and these relations are not dependent on epistemic agents' reasons and their attributions of conditional probability.

6. THE TRIVIALITY RESULT

It is intuitive to think that the probability of $A \rightarrow B$ is the probability of *B* given *A*[35]. This intuition is known as the equation (TE). Lewis has shown that the acceptance of (TE) implies that the probability of $A \rightarrow B$ is the probability of *B*. This is implausible. The probability of a conditional cannot plausibly be the same as the probability of its consequent, e.g., the probability that the match will light given that is struck is not intuitively the same as the probability that it will light[36]. Edgington interpreted this result as a support for the belief that conditionals cannot have truth-conditions. The argument is simple: intuitively, the acceptance of a conditional is measured by conditional probability, but there is no proposition whose probability of truth corresponds to its conditional probability, as have demonstrated Lewis' triviality results[37].

One way to block this argument involves a different interpretation of the triviality result. It can argued that the triviality result just shows that conditional probability corresponds to the probability that we would attribute to a conditional that we are willing to employ on a

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[34] This argument is suggested on a lesson by Geoff Pynn (2011: 5).
[35] Jeffrey (1964: 702–703).
[36] Lewis (1976: 299–300).
[37] Edgington (2005: 51).

modus ponens. Our inferential disposition to employ $A \rightarrow B$ on a *modus ponens* is measured by $\Pr(A \supset B/A)$, which is equal to $\Pr(B/A)$. The proof is as follows:

1	$\Pr((\neg A \vee B)/A) = \Pr(B/A)$	since $\Pr(\neg A/A) + \Pr(B/A) = \Pr(B/A)$
2	$\Pr(A \supset B/A) = \Pr(B/A)$	From 1, given that $\neg A \vee B$ is logically equivalent to $A \supset B$

This is plausible since the probability that 'if the match is struck, it will light' given that 'the match is struck' is intuitively the same as the probability that the match will light given that is struck. In other words, our willingness to accept a material conditional given that its antecedent is true is the same as the probability of its consequent given its antecedent.

Now, the fact that $\Pr(A \rightarrow B) = \Pr(B/A)$ implies that $\Pr(A \rightarrow B) = \Pr(B)$ is perfectly intuitive if TE tracks our inferential disposition to employ $A \rightarrow B$ on a *modus ponens*. To support this, I propose the following proof:

1	$\Pr(A \rightarrow B) = \Pr(B/A)$	TE
2	$\Pr(B/A) = \Pr((\neg A \vee B)/A)$	since $\Pr(\neg A/A) + \Pr(B/A) = \Pr(B/A)$
3	$\Pr((\neg A \vee B)/A) = \Pr((A \supset B)/A)$	given that $A \supset B$ is logically equivalent to $\neg A \vee B$
4	$\Pr(A \rightarrow B) = \Pr((A \supset B)/A)$	from 1 and 3
5	$(A \supset B)\ \&\ A \vDash B$	given the validity of m*odus ponens*
6	$\Pr((A \supset B)/A) \leq \Pr(B)$	from 5, for it is irrational to be more confident of the premises than of the conclusion
7	$\Pr(A \rightarrow B) \leq \Pr(B)$	from 4 and 6

From the proof above it follows that $\Pr(A \rightarrow B)$ is tantamount to $\Pr(A \rightarrow B/A)$, which is less or equal to $\Pr(B)$. The point of this argument is that if $\Pr(A \rightarrow B) = \Pr(B)$ is counter-intuitive, $\Pr(A \rightarrow B) \leq \Pr(B/A)$ should be equally counter-intuitive, but it isn't. To see why $\Pr(A \rightarrow B) \leq \Pr(B)$ is not counter-intuitive, we only need to consider that $\Pr(A \rightarrow B)$ is tantamount to $\Pr((A \supset B)/A)$ given the acceptance of TE, which is less or equal to $\Pr(B)$. The probability of 'if the match is struck, it will light' given that 'the match is struck' is less or equal to the probability that 'the match will light'. This is perfectly acceptable. Therefore, $\Pr(A \rightarrow B) = \Pr(B)$ shouldn't be considered counter-intuitive given the acceptance of TE.

The argument for the conditional-assertion view is right in the sense that the willingness to employ a conditional in a *modus ponens* is not a connective with truth-conditions, but we can express that inferential disposition as the acceptance of a proposition, namely, $(A \rightarrow B)\ \&\ A$. Anyone who is willing to employ a conditional on a *modus ponens* would not just accept that the conditional probability of B given A is high, but also accept $(A \rightarrow B)\ \&\ A$.

7. CONDITIONAL SPEECH ACTS ARE MATERIAL

The problem of conditional-assertion theory is that it puts a negligible mental aspect at the centre of the debate about conditionals truth-conditions, namely, the assumption of the antecedent. The use of conditionals does not require an interpretation in terms of conditional speech acts since they are better interpreted as categorical statements of material implication. Take for instance the conditional 'It is going to rain on New York tomorrow, if the weather forecast is reliable'. Instead of describing it as a conditional assertion of the consequent given

the assumption of the antecedent we can interpret it as a categorical assertion about a relation between the testimonial evidence and your belief that it is going to rain tomorrow. It is natural to assume that this relation will only break if the evidence fails to support or justify your belief. This failure will only happen when the weather forecast is reliable and it is not going to rain on New York tomorrow. In other words, when the antecedent is true and the consequent is false. Otherwise the epistemic relation is preserved. This exactly what would happen if conditionals were assertions of material implication.

The same strategy applies to other conditional speech acts. The truth-value of the conditional is about the speaker's commitment to make an act, not about the acts themselves. If the antecedent is false, his commitment is not annulled. Take conditional bets for instance. The conditional 'If the new animal is a gorilla, I bet its name will be Magilla' should be interpreted as follows: The proposition 'the new animal is a gorilla' materially implies the proposition 'I bet its name is Magilla'. The conditional itself is not a conditional bet. Therefore, the vacuous truth of the conditional due to the falsity of the antecedent does not ensure that anyone will win or lose a bet.

Or let's consider commands. Suppose a mother order her son to wear his coat because he wants to go out. Would we say that no command was made if he decided to stay at home? Certainly not. Now, let's phrase this command in a conditional 'If you go out, wear your coat'. Does it seem likely that the conditional doesn't contain a command because the antecedent turn out to be false? Absolutely not. It is obvious that the locutionary content of the main clause of a conditional, whether it is a question, a bet or a request, does not become defective when the antecedent is false. The same could be said about the relation between the command and the condition under which is assumed. The relation will only break if the son go out and doesn't wear a coat[38].

Now, let's consider the argument that conditional speech acts are unlike conjunctions and disjunctions. The conditional warning 'If you go to New York, watch out for the taxi drivers', would have nothing to do with 'You are going to New York and watch out for the taxi drivers' and 'You are not going to New York or watch out for the taxi drivers'. But the present account can explain why this is not the case. The conditional warning can be interpreted as saying that the statement 'you go to New York' materially implies 'watch out for the taxi drivers'. This assertion of material implication is logically equivalent to their respective conjunction and disjunction sentences when they are properly formulated, namely, 'It is not the case that you go to New York and don't watch out for the taxi drivers'[39] and 'Or you don't go to New York, or you watch out for the taxi drivers'.

And what can we say about the counter-example of the nurse? The doctor says to the nurse in the emergency room 'If the patient is still alive in the morning, change the dressing'. If the conditional is material, the falsity of the antecedent would be sufficient to make the conditional true. However, we don't think that if the nurse would be obeying the order if she had suffocated the patient with a pillow. What went wrong? The answer to this objection is that a nurse that killed her patient would disobey the tacit presumption that she should preserve the patient's life. However, she certainly couldn't be accused of disobeying that

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[38] See also Kleene (1967), Nelson (1993) and Hutchins (2006) for a similar argument involving conditional promises.

[39] Of course, in this case the relevant conjunction is under the scope of a negation, but this is not a problem because that's the relationship between the two according to the material account.

specific command given by the doctor, for this would only be possible if the antecedent were true. The command would only be carried out if the nurse changed the dressing; and it would only be disobeyed if the patient had been alive in the morning and the nurse didn't change the dressing.

It is interesting to observe that even Edgington who advanced these very criticisms against the material account ignores this subtlety when she accepts that a conditional command would be equivalent to the following disjunction if it were material, 'Make it that the patient isn't alive in the morning, or change the dressing'[40]. However, we cannot assume that the command has a scope over the conditional, for in this case we wouldn't had a conditional command, but a command that would satisfy the truth-conditions of a proposition. Once this mistake is undone, it becomes clear that the disjunction must assume a different form, namely, 'Either the patient will not be alive in the morning, or you must change the dressing'. In this case, the death of the patient confirms the disjunction, since it make it true one of the disjunctives. Therefore, killing the patient cannot be interpreted as a way of disobeying the doctor's command, but a bizarre way to ensure the truth of the disjunction while ignoring the duties of a healthcare profession.

One decisive argument for the thesis that conditional commands are material is that is possible to find examples that are intuitively valid with the inferential form 'or-to-if'. Since this inferential form implies the material account[41], it also implies that commands are material. For instance, 'Close the door, or leave now! Therefore, if you don't close the door, leave now!'. The same reasoning holds for the other types of conditional speech acts. The negation of a conditional command resembles the negation of a material implication. The negation of 'If you aren't going to close that door, leave now!' is not 'If you aren't going to close that door, don't leave now!', but 'You are not going to close that door and don't leave now'. This means that the conditional command will only be falsified in the circumstances that correspond to the second line of the truth-table of material implication.

It's important to observe that someone can admit that conditional sentences that contain commands and promises in their main clauses are assertions, but still refuse that commands and promises are assertions. It is possible to accept that a conditional such as 'If Mark shows up late, you shouldn't let him in' is an assertion that can express a relation between a command and a condition, but deny that the command itself is an assertion. The assertion of 'if *A*, then *B*' doesn't involve the assertion of neither *A*, nor *B*. Similarly, the assertion of 'if *A*, then do *B*', doesn't involve the assertion of neither *A*, nor 'do *B*'.

However, it is more reasonable to explain all these speech acts as assertions, without qualifications[42]. Of course, this is a controversial topic. It seems implausible that a question such as 'Can you hear me now?' can be interpreted as an assertion, but this implausibility

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[40] Edgington (2008a: 302).

[41] Or any other conditional speech act for that matter. The proof is as follows:

Prem (1) $\neg A \vee B \vDash A \rightarrow B$ (Or-to-If)

Prem (2) $A \supset B \equiv \neg A \vee B$ given the truth conditions of '$\supset$'

1,2 (3) $A \supset B \vDash A \rightarrow B$ 1,2 transitivity of entailment

Sup (4) $A \rightarrow B \vDash A \supset B$ given the validity of modus ponens for '$\rightarrow$'

1,4 (5) $A \rightarrow B \equiv A \supset B$ 3,4 mutual entailment

[42] Or at least as involving two speech acts simultaneously, for instance, a command would be a command and an assertion, etc. See Ginet (1979: 246) and Bach (1975: 233). However, this is implausible. There is no reason to think this way besides an indulgent attitude regarding grammatical habits.

tells more about our grammatical habits than the real nature of linguistic act in itself. This becomes more clear if we consider which questions are plausibly translatable as assertions about the intentions of the speaker, for instance, the question 'Can you hear me now?' can be translated as 'I would like to know whether you can hear me now', which is an assertion in its own right. The same explanation holds for commands, promises, etc. In fact, it would be impossible to explain communication involving these speech acts if they didn't involve an assertion that is communicated by the speaker.

Another reason to think that these speech acts are propositions is that conditionals that contain can be employed in inferential forms. For instance, a conditional command can be used in a *modus tollens*, 'If he is late, don't let him in. You let him in. Therefore, he wasn't late' or in a *modus ponens*, 'if Mark show up late, you shouldn't let him in. Mark show up late. Therefore, you shouldn't let him in'. Just as an assertion, a conditional speech act can also be the object of indirect quotes, for instance, 'John said that if Mark show up late, you shouldn't let him in' and can also be embedded, e.g., 'In case Mark doesn't provide a justification, if he shows up late, you shouldn't let him in'. It's hard to explain these similarities if conditional speech acts were not assertions.

This argumentation shows that the supposed differences between speech acts such as bets, promises and questions and assertions were greatly exaggerated. In fact, what is striking is not that the conditionals that are usually interpreted as assertions can be perceived as similar to different conditional speech acts, but that these speech acts were considered distinct from assertions in the first place. More importantly, it suggests that the material account can explain these conditionals as assertions of material implication.

8. WHAT SHOULD WE MAKE OF THIS

The notion that we have a group of abnormal conditionals that requires an entirely different approach should be greeted with some initial skepticism. Alternative hypothesis should be perceived as the last resort to be adopted only after all the theoretical resources available failed. The conditional-assertion theory is motivated by an incomprehension of the data and doesn't deliver what it promised. It doesn't explain the connectives in an elegant fashion and it generates its own problems. These problems would be substantial for any theory, but have even more force against the conditional-assertion theory since it is a radical revisionist view. This hypothesis want us to believe that we should change the way we see one of the key connectives in logic. That's too much to ask and she offered us little in return.

The main problem with conditional-assertion theory is that it treats the communicative purposes of ordinary language as a reliable guide to the nature of conditionals. To see why this is the wrong way of looking at things, consider how we interpret the use of arguments. Reasoners usually expect that the premises should be relevant to the conclusion. This is their purpose while using an argument. Yet no one would think that the classical conception of validity should be revised to fit these argumentative purposes. Instead, we should argue that there is a distinction between the technical sophisticated notion of validity and our common purposes while using deductive arguments. Similarly, speakers may have different communicative purposes while using conditionals, but we should still maintain a distinction between the technical sophisticated notion of material implication and our common purposes

while using conditionals. This is a discussion about the logic of conditionals, not about the nature of our communicative purposes when using conditionals.

REFERENCES

Adams, E. (1965). The Logic of Conditionals. *Inquiry*, 8 (1-4), 166–197.

Adams, E. (1975). *The Logic of Conditionals - An Application of Probability to Deductive Logic*, (Ed.) D. Reidel Publishing Company, Dordrecht-Holland, Boston-U.S.A.

Appiah, A. (1985). *Assertion and Conditionals*. Cambridge: Cambridge University Press.

Austin, J. (1956). Ifs and Cans. *Proceedings of the British Academy*, 42.109–132.

Bach, K. (1975). Performatives are statements too. *Philosophical Studies*, 28(4), 229–236.

Barker, S. (1995). Towards a Pragmatic Theory of 'If'. *Philosophical Studies.* 79(2), 185–211.

Belnap, N. (1970). Conditional Assertion and Restricted Quantification, *Noûs*, iv, 1: 1–12.

Björnsson, G. (2006). Commentary on Lycan's "Conditional-Assertion Theories of Conditionals". *Philosophical Communications*, Web Series, No 43.

Derose, K. (1999). Can It Be That It Would Have Been Even Though It Might Not Have Been?," *Philosophical Perspectives*, 13: 387–413.

Derose, K., Grandy, R. (1999). Conditional Assertions and "Biscuit" Conditionals. *Noûs*, 33(3), 405–420.

Edgington, D. (1986). Do Conditionals Have Truth Conditions? *Crítica*: *Revista Hispanoamericana de Filosofía*, 18(52), 3–39.

Edgington, D. (1995). On Conditionals. *Mind*, 10(414), 235–329.

Edgington, D. (1997). Truth, Objectivity, Counterfactuals and Gibbard. *Mind*, 106(421), 107–116.

Edgington, D. (2003). What If? Questions about Conditionals. *Mind & Language*, 18(4), 380–401.

Edgington, D. (2005). Ramsey's Legacies on Conditionals and Truth. In: Hallvard Lillehammer & D. H. Mellor (eds.), Ramsey's Legacy. Oxford University Press.

Edgington, D. (2008a). Conditionals, truth and assertion. In: Ravenscroft, I. (Org.) *Mind, ethics, and conditionals, Themes from the philosophy of Frank Jackson*. Oxford: Clarendon Press.

Edgington, D. (2008b). Counterfactuals. *Proceedings of the Aristotelian Society*, 108(1), 1–21.

Ginet, C. (1979). Performativity. *Linguistics and Philosophy*, 3(2), 245–265.

Grice, P. (1989). Indicative Conditionals. In: Studies in the way of words. Cambridge: Harvard University Press.

Hutchins, D. (2006). Promises, Promises: Teaching Conditionals and Disjunctions. *Teaching Philosophy*, 29(1), 41–44.

Jackson, F. (1987). *Conditionals*. Oxford: Basil Blackwell.

Jeffrey, R. (1963). On Indeterminate Conditionals, *Philosophical Studies*, xiv, 3: 37–43.

Jeffrey, R. (1964). If. Unpublished paper; abstract appears in *Journal of Philosophy*, 61, 702–703.

Kleene, S. (1967). *Mathematical Logic*. New York, John Wiley and Sons.

Lewis, D. (1976). Probabilities of Conditionals and Conditional Probabilities. *Philosophical Review*, 85(3), 297–315.

Lycan, W. (2006). Conditional-Assertion Theories of Conditionals, in Judith Thomson and Alex Byrne, eds., *Content and Modality: Themes from the Philosophy of Robert Stalnaker* (Oxford: Oxford University Press), pp. 148–64.

Mackie, J. L. (1973). *Truth, probability and paradox: studies in philosophical logic*. USA: Oxford University Press.

Manor, R. (1974). A Semantic Analysis of Conditional Assertion. *Journal of Philosophical Logic*, iii, 1–2: 37–52.

McDermott, M. (1996) On the Truth Conditions of Certain 'If'-Sentences, *The Philosophical Review*, 105(1): 1–37

Milne, P. (1997). Bruno de Finetti and the Logic of Conditional Events, *British Journal for the Philosophy of Science*, 48(2): 195–232.

Nelson, M. (1993). Promises and Material Conditionals, *Teaching Philosophy*, 16(2), 155–56.

Pynn, G. (2011). Indicatives Status Report; Gibbardian Standoffs. Northern Illinois University. https://geoffpynn.weebly.com/uploads/4/1/6/2/41626837/691_h6.pdf

Quine, W. (1950). *Methods of Logic*. New York, Holt, Rheinhart and Winston.

Ramsey, F. (1929) General Propositions and Causality. In: Braithwaite, R. B. (Org.) *The foundations of mathematics and other logical essays*, London: Routledge & Kegan Paul, 1950.

Sanford, D. (2006). *Epistemic Requirements of Inference, Truth-makers for Conditionals, and Stand-offs*. University of Connecticut, Conditionals Conference, 1–32.

Stalnaker, R. (1968). A Theory of Conditionals. In: *Studies in Logical Theory*. Oxford: Blackwell.

Stalnaker, R. (1975). Indicative Conditionals, *Philosophia*, 5(3): 269–86.

Stalnaker, R. (2002). Common Ground. *Linguistics and Philosophy*, 25 (5-6), 701–721.

Woods, M. (1987). *Conditonals*. Oxford: Clarendon Press.