MAKING CONDITIONAL SPEECH ACTS IN THE MATERIAL WAY

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ABSTRACT

The prevailing viewpoint concerning conditionals asserts two claims: (1) conditionals featuring non-assertive acts in their consequents, such as commands and promises, cannot plausibly be construed as assertions of material implication; (2) the most promising hypothesis for such sentences is conditional-assertion theory, which defines a conditional as a conditional speech act, i.e., the performance of a speech act given the assumption of the antecedent. This hypothesis carries significant and far-reaching implications, as conditional speech acts are not synonymous with a proposition possessing truth conditions. This paper opposes such a view in two steps. Firstly, it presents a battery of objections against conditional-assertion theory. Secondly, it advances the argument that such examples can indeed be convincingly construed as assertions of material implication.

1. INTRODUCTION

Conditionals are tricky. They defy our linguistic intuitions as they are used to represent reality while also being inferential in nature. This duality becomes even more perplexing when the main clause involves a non-assertive act, appearing to disregard the limited knowledge we possess about conditionals. One proposed explanation for these confounding sentences is conditional-assertion theory, which posits that $A \rightarrow B$[1] is equivalent to the performance of the speech act B given the assumption of A. This hypothesis aims to provide a unified account of conditional sentences, regardless of whether the speech act in the main clause is an assertion or not.

The elegance of conditional-assertion theory is often contrasted with the material account of conditionals, which holds that conditionals are logically equivalent to an assertion of material implication, i.e., that $A \rightarrow B$ is true if and only if it is not the case that A is true and B is false. Critics argue that the material account is outdated and too rigid to be applied to different types of conditional speech acts. This paper, however, will argue that it 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 inadequacies of the material account will be presented in section 2. Sections 3-6 will address a series of objections to conditional-assertion theory. In section 3, I will argue that conditional sentences cannot plausibly be interpreted as conditional speech acts, but rather are better understood as

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[1] Here '$\rightarrow$' stands for indicative conditionals, '$\supset$' stands for material conditional and '$\vDash$' 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. For simplicity of exposition, I will use the same numeration (1,2,3…) for each positive argument and the capital letters A, B, C…. for both sentence letters and propositional variables—the context will make it clear which one is being used.

categorical assertions of a relation between the antecedent and consequent. Section 4 will argue that, due to the many similarities between conditional-assertion theory and the Ramsey test, the former inherits the flaws of the latter. Section 5 will address the accusation that the conditional-assertion theory eliminates the objectivity of conditionals, with a particular focus on Dorothy Edgington's response to this charge. In section 6, I will criticize the argument that the triviality result reinforces the conditional-assertion theory, and offer a less revisionist interpretation of the result. Section 7 will explain away counter-examples to the material account involving conditional speech acts, resulting in a material account that can be generalized to different types of conditional speech acts. Finally, the paper will conclude with some observations about the current state of the discussion.

2. THE LURE OF CONDITIONAL-ASSERTION THEORY

When considering 'if' sentences in the context of conditional theory, we typically focus on those where the main clause takes the form of an assertive act (e.g., 'If you strike the match, it will light,' 'If Oswald did not kill Kennedy, someone else did,' or 'If the train is on time, we'll be home by ten'). However, such conditional assertives only represent a fraction of the many different types of conditional sentences that exist. These may range from conditional interrogatives ('If he calls, what shall I say?'), to 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'), among others.

Conditional-assertion theories were craftily designed to provide an elegant and intuitive explanation for various types of conditional sentences. According to these theories, any given conditional sentence of the form $A \rightarrow B$ is equivalent to the performance of a speech act B on the assumption that A is true[2]. In this interpretation, B can be any type of speech act (e.g. an assertion, a command, a request) and A can be any assumption about the world (e.g. the satisfaction of a condition, the occurrence of a fact). The conditional speech act is only considered to have been fulfilled if the speech act in the consequent is performed when the antecedent is true. If the antecedent turns out to be false, the conditional speech act is null. For example, consider the conditional bet, 'If Parasite is a nominee for best picture, I bet you $100 it will win an Oscar.' If the antecedent is false and the film doesn't win an Oscar, I am not required to pay you $100 because the bet only holds if Parasite was actually a nominee for best picture.

One of the most surprising features of conditional-assertion theory is its non-propositional nature. The theory posits that $A \rightarrow B$ is simply a conditional act of B given A. Therefore, it is not a proposition with truth-values, nor is it a connective that combines two propositions to produce another proposition whose truth-values are determined by its propositional constituents. When B is an assertive act, $A \rightarrow B$ is used to conditionally assert that B is true

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

given *A*. This new perspective casts conditionals in a different light. Rather than being viewed as static truth-functions, conditionals are now considered as actions in natural language[3].

The proponents of conditional-assertion theory offer several arguments to support the unique nature of conditionals. One of these arguments is that other speech acts, such as warnings, questions, and commands, used in the main clause of conditionals cannot be conjoined and disjoined. For example, there is a clear difference between the conditional warning, 'If you go to New York, watch out for the taxi drivers', and the conjunction 'You are going to New York and watch out for the taxi drivers', or the disjunction 'You are not going to New York or watch out for the taxi drivers'. Both the conjunction and disjunction with the warning seem ungrammatical or at the very least inappropriate (DeRose & Grandy, 1999, p. 410).

The supporters of conditional-assertion theory provide several arguments to support the the thesis that conditionals have a unique nature. One such argument is that other speech acts, like warnings, questions, and commands, used in the main clause of conditionals cannot be conjoined or disjoined. For instance, there is a clear distinction between the conditional warning, 'If you go to New York, watch out for the taxi drivers', and the conjunction 'You are going to New York and watch out for the taxi drivers', or the disjunction 'You are not going to New York or watch out for the taxi drivers'. Both the conjunction and disjunction with the warning appear ungrammatical or, at the very least, inappropriate (DeRose & Grandy, 1999, p. 410).

The most compelling defence of conditional-assertion theory thus far was put forward by Dorothy Edgington (1986; 1995). Edgington's perspective is motivated by a series of arguments, including the adaptation of Ernest Adams' (1965; 1975) probabilistic logic to present a persuasive alternative logic, where conditionals can be interpreted as conditional speech acts. This adaptation is bolstered by arguments about the uncertain nature of conditional judgments and triviality results. As noted by Jeffrey (1964, pp. 702–703) and Adams (1965, p. 172), our fundamental intuitions about conditionals with assertive consequents attribute to them the structure of conditional probability. Intuitively, the level of confidence in the conditional 'If this match is struck, it will light' is measured by the probability that I assign to the match being lit given that it was struck. If the conditional probability is high, I accept the conditional; if it is low, I reject the conditional. Thus, if a conditional expresses a proposition

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[3] Some of the main proponents of conditional-assertion theory are Appiah (1985), Edgington (1986, 1995), Barker (1995), Woods (1997), DeRose (1999), and DeRose & Grandy (1999). However, one could object the neglect of propositional versions of conditional-assertion theories. These theories maintain 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, when *A* is false, $A \rightarrow B$ does not express any proposition. This argument is supported by Jeffrey (1963), Manor (1974), and McDermott (1996), and while Stalnaker mentions this hypothesis in a footnote with interest (Stalnaker, 1975, p. 137, fn. 2), he is not a proponent of the theory. Belnap (1970) also explored this view without endorsing it. Nonetheless, these views should not be identified as versions of conditional-assertion theory as they do not capture the intuition that the speech act conveyed by the consequent can be non-assertive in nature. For instance, it is unclear if a command or request can be interpreted as having truth values. Moreover, this reasoning does not view conditionals as conditional speech acts but as categorical assertions that are null when the antecedent is false. Consequently, the conditional-assertion theory should not be conflated with the view that conditionals express a proposition with the same truth value as the consequent when the antecedent is true, but that is truth-valueless when the antecedent is false (as suggested by Milne, 1997, and Lycan, 2006).

with truth conditions, the level of confidence in this proposition must be measured by its conditional probability.

Nevertheless, Lewis' (1976, pp. 299–300) triviality results demonstrate that this is not the case. There exists no proposition whose probability of truth is measured by its conditional probability. If such a proposition existed, the probability of a conditional would be measured by the probability of its consequent, which is absurd. The probability that the match will light given that it is struck is not intuitively equivalent to the probability that it will light (Edgington, 1997, p. 109). Something is amiss.

This leads us to another significant argument. Edgington (1986, p. 17) contends that the most appropriate way to construe conditionals whose consequents are assertions is not as factual propositions, but as conditional assertion acts. To assert 'if *A*, then *B*' is to assert *B* on the assumption of *A*. This is not a categorical assertion with a truth value, but a conditional assertion of *B* given the assumption of *A*. This clarifies why the confidence in a conditional is measured by its conditional probability, despite it not being equivalent to the probability of a proposition[4].

Edgington (2003, p. 6) emphasizes the importance of the uncertain nature of most conditionals. When we ask a specialist about a sentence of the form 'if *A*, then *B*,' her answer will not be definitive, but rather an answer with a degree of confidence. For example, if we ask a doctor if we will survive an operation, we may hear an answer such as 'It is very likely that you will survive if you have the operation.' In this sense, the uncertainty surrounding conditionals is continuous with the uncertainty about propositions in general. Just as our best theories about propositions attribute probabilities to them, our best theory about conditional sentences attributes them the structure of conditional probability (Edgington, 1997, p. 109). The uncertain state of conditionals is linked to our epistemic limitations. We are not omniscient and are faced with epistemic possibilities whose truth interests us. It is against 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 in making decisions (Edgington, 1986, p. 4).

This compelling argument is in line 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 realized unconditionally or conditionally, including 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 example, when I say 'if *A*, do *B*,' I am giving a command that *B* must be done given the assumption that *A* is true (Edgington, 2008, p. 302).

According to Edgington (2008, p. 302), the conditional-assertion theory's flexibility is often regarded as a triumph over competing theories, such as the material account of conditionals. For example, consider a doctor who tells a nurse in the emergency ward, 'If the patient is still alive in the morning, change the dressing.' If this conditional were material, it would have the same truth conditions as 'Make it the case that either the patient is not alive in

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[4] 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. See Edgington (1986, p. 5).

the morning, or you change the dressing.' If the nurse suffocates the patient with a pillow and kills her, we might say that the nurse was following the doctor's orders, which is absurd. Edgington (2008, p. 302) argues that the problem with the material account is that it cannot be extended to conditional sentences where the main clause is not an assertion.

Furthermore, the material account faces difficulties with conditional bets. For instance, if someone says, 'If this number is even, I bet it is six,' and the result of the draw is five, the material account predicts that the conditional is true and the bet is won, since both the antecedent and the consequent are false. However, intuition suggests that the bet was not won, for it was cancelled (McDermott, 1996, pp. 20–23). Similarly, if we are speculating about the name of a newly purchased animal at the local zoo, and I say, 'If it's a gorilla, I bet its name is Magilla,' and you bet against me, the bets are off if the new animal is not a gorilla (DeRose & Grandy, 1999, p. 417). The material account mistakenly predicts that the conditional is vacuously true and that I should win the bet.

No matter how we consider it, the conditional-assertion theory is a powerful hypothesis that poses a significant challenge to competing theories. This theory is sophisticated, adaptable and positions conditional logic as a fundamental aspect of our knowledge practices. It appears to be much more attractive than strict formal logics that construe conditionals as functions, especially classical logic.

3. CONDITIONAL-ASSERTION THEORY UNDER SCRUTINY

Although the conditional-assertion view has significant strengths, it is not immune to criticism. One of the most significant attacks on this theory is the argument that some conditional speech-acts cannot be used in contraposition, a form of argumentation deemed valid by some (Lycan, 2006, p. 151). For example, biscuit conditionals such as 'There are biscuits on the sideboard if you want some' (Austin, 1956, p. 113) seem to be contraposition-resistant because they are uttered under the assumption that the consequent is true. As a result, the conclusion of the contraposition would be a vacuously true conditional. However, this interpretation if the example is problematic since it implies that the existence of biscuits on the sideboard is relevant to the truth of the antecedent.

To solve this problem, an alternative formulation of the consequent is proposed, namely, that you would like to know that there are biscuits on the sideboard given that you want some biscuits. In this expanded formulation, the complete conditional would be 'If you want some biscuits, you would like to know that there are biscuits on the sideboard'. It is noteworthy that in this new formulation, neither the consequent nor the antecedent is assumed to be true, and the conditional is not contrapositive resistant at all. Thus, it follows by contraposition from 'If you want some biscuits, you would like to know that there are biscuits on the sideboard' that 'If you wouldn't like to know that there are biscuits on the sideboard, you don't want some biscuits'. This approach successfully addresses one of the issues faced by the conditional-assertion view.

A more effective way to test the conditional-assertion theory is to compare it with our intuitions regarding categorical assertions. The reason for this approach is straightforward: since a conditional assertion involves the assertion of a proposition under a certain assumption, they are similar to categorical assertions in that they are also made under certain assumptions. This test is also justified by the fact that categorical assertions are better understood, or at the

very least more accessible, than conditionals. This comparison will provide us with a framework in which intuitions about categorical assertions can be translated into intuitions about conditional assertion acts. It is the closest we can come to an independent test. If the conditional-assertion theory fails this test, it cannot explain conditional assertion acts.

Suppose you believe that it will rain in New York tomorrow because you found that information while googling the weather forecast. You then say, 'It will rain in 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 will rain in New York tomorrow if the weather forecast is reliable.' The conditional-assertion view predicts that you asserted that it will rain in New York tomorrow given that the antecedent was true. Otherwise, you did not assert anything. However, this prediction is at odds 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 for Jersey City, not New York. Does this mean that you never asserted that it will rain in New York tomorrow? Of course not. Does this mean that both your belief and assertion were false? Not necessarily, because you can make a true assertion based on inadequate evidence.

Ordinary speakers make assertions based on assumptions they regard as true. If the assumptions or reasons that motivated an assertion turn out to be false, the rational speaker is expected to withdraw her support for the assertion. However, it is undeniable that an assertion was made even when the assumptions that motivated it turn out to be false. We do not need to establish the truth of the reasons that motivated an assertion to determine whether the assertion was made. This strongly suggests that conditional assertives are not conditional speech acts. If they were, while evaluating a conditional assertion act, we should 'suspend judgment on whether any assertion had been made until it had been established whether the antecedent was actually true' (Lycan, 2006, p. 150).

The conditional-assertion theorist may object that in order for a conditional assertion to occur, the antecedent need not be actually true, but only assumed to be true by the speaker[5]. Therefore, even if the antecedent turns out to be false, the conditional assertion was still made. In fact, the assertion was made even if the hearer can disagree and believe that the antecedent is false. The conditional-assertion theorist can also maintain that an antecedent does not need to be assumed as true by the proponent of the conditional; it is only required that it should be an epistemic possibility. For instance, with regard to a carpet that I do not think is red, I could say, 'If it is red, I have gone color-blind or am suffering some sort of delusion.' In this case, I am 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 (Edgington, 1986, p. 4).

The intuition supporting this modification is that the epistemic agent does not need to accept the antecedent of a conditional they endorse. It is enough that she uses a hypothetical

[5] 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, p. 701), which consists only on assumptions shared by both participants in a conversation.

assumption in an exercise of imagination to decide whether she would be willing to assert the consequent. Since this exercise of imagination is momentary, the assertion of the consequent would be hypothetical. The individual evaluates whether she would be willing to assert the consequent hypothetically given the hypothetical assumption of the antecedent.

However, this concession faces difficulties. 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 am 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 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' (Jackson, 1987, p. 53) [6]. The conditionals possess the same contradictory antecedent, which is assumed by the reasoner as an impossibility.

The modified view on conditionals is ultimately defeated by our intuitions about categorical assertions. When I assert, 'It will rain tomorrow,' I am making an assertion that is conditional on a set of assumptions, such as 'The weather forecast is trustworthy,' 'There are laws of nature,' and so on. I do not assert 'It will rain tomorrow' based on hypothetical assumptions but based on categorical assumptions about the world, i.e., beliefs that I hold. Therefore, when I assert a proposition B from an assumption A, I commit myself to both the truth of B and A. As a result, if any conditional with an assertion in the main clause were a conditional assertion act, the speaker would have to accept the truth of both the antecedent and the consequent. This implies that the antecedent of a conditional cannot be merely an open possibility if we insist on the intuition that conditional sentences exhibit a conditional-assertion speech act.

The diagnosis exposes another problem with the conditional-assertion view. According to this theory, the speaker not only accepts the antecedent of the conditional she uses, but also the truth of the consequent. This consequence is unacceptable. We do not believe that in proposing or accepting a conditional, we should commit ourselves to the truth of both the antecedent and the consequent, since conditionals are not conjunctions. There are some exceptions, but they mostly involve cases in which the speaker is using a term that adequately expresses her knowledge about the truth value of the constituents involved, such as '*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[7].

Certainly, there are some exceptional cases in which our categorical assertions are conditional on hypothetical assumptions. For example, consider a discussion about epistemology, in which one asserts, 'I exist,' based on the hypothetical assumption that the external world is an illusion. However, these cases represent only a tiny fraction of categorical assertions in general. Thus, it appears reasonable to acknowledge that assertions, in general,

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[6] The original proof is in Elements, Book IX, proposition 20.
[7] 'Even-ifs' can be explained similarly, although the term can indicate 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 they will resign despite the offer, that is, their confidence in the truth of the consequent is independent of the antecedent. However, the 'even' particle may not be necessary if the context is sufficient to understand the speaker's beliefs, for example, 'If he was surprised, he didn't show' (Grice, 1989, p. 62). In some cases, 'even' can signal that the consequent is unexpected given the antecedent, such as 'Even being older, she is still attractive.'

involve effective assumptions rather than hypothetical assumptions. The objection, then, is that based on our intuitions related to categorical assertions, the conditional-assertion theory would imply that conditionals, in general, need to be accepted as conjunctions, which is implausible.

If we interpret conditionals as conditional speech acts, the evaluation of the performance of a conditional should not depend on the truth or falsity of the antecedent. Rather, what matters is whether the speaker made the assumption or not. In other words, if a conditional is a conditional speech act, the antecedent should not be considered an assertion that must be true, but an action that must be taken. For example, in the conditional $A \rightarrow B$, with an assertion in the main clause, interpreting $A \rightarrow B$ as a conditional assertion of B given the assumption A requires the assertion of B given the fact that the proponent of the conditional made the assumption A, regardless of whether A is true or false. This challenges the conditional-assertion program, as the intuition that motivates the research program only works if the role of conditionals in logic is severely limited. Achieving concreteness in the theory requires the irrelevance of truth-values.

One way to circumvent this issue is to reinterpret the antecedent of the conditional as an indirect assertion concerning the speaker's assumption. In such a case, the antecedent does possess a truth-value that depends on whether the speaker made the corresponding assumption. However, this approach seems somewhat desperate. 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. Nonetheless, the conditional-assertion theory would not be content with this concession, as it would undermine the plausibility of the program.

Even if we concede that the antecedent could be reinterpreted as an indirect assertion about the speaker's assumption, we would be compelled to concede the embarrassing conclusion that conditionals are always true. The reason is straightforward: if $A \rightarrow B$ is a conditional action, then B is performed based on an assumption expressed indirectly by the antecedent, A. Consequently, A will always be 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 absurd conclusion and still maintain the spirit of the conditional-assertion theory is to construe the conditional as an attempt to perform a conditional action. Nevertheless, this approach exacerbates the problem because we would have to construe the apparent assertion of conditionals as attempts by the speaker to perform a conditional action. This conclusion can scarcely be considered an improvement.

The conditional-assertion theory faces another difficulty that must be addressed. Even if we accept, for the sake of argument, that $A \rightarrow B$ expresses a conditional assertion of B given A, this view is far too simplistic to capture the full complexity of the role that assumed conditions play in speech acts.

Suppose we consider $A \rightarrow B$ as the assertion of B given the assumption that A is true, but with no assertion made otherwise. The problem with this view is that $A \rightarrow B$ would be not only the assertion of B given the assumption that A is true, but also the assertion of B given the assumption 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. This seems highly implausible.

No theory that predicts that $A \rightarrow B$ is incorrect when A and B are true can be a true representation of conditional assertions. For example, consider the conditional 'If the match is struck, then it will light'. This amounts to the assertion that the match will light given that the match is struck and other background conditions, such as a dry match and the presence of oxygen in the atmosphere, are satisfied. However, suppose that the match is struck and held under water, but still lights due to an additional 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 incorporates a requirement of relevance between the antecedent and the consequent, which would prevent any counter-examples of this nature (Björnsson, 2006, pp. 4-5). However, it is virtually impossible to develop a general logical system with a connective that is so dependent on assumptions about background conditions. Adding a presupposition of relevance would only complicate matters further, to the point where logical systems are indistinguishable from individual belief systems.

Now let's consider the main strength of the conditional-assertion theory: it purports to provide a uniform explanation of conditionals as conditional assertion acts, akin to other conditional speech acts such as conditional commands and promises. This purported advantage makes the theory more elegant than its rivals, since those theories are incapable of distinguishing usual conditionals from other conditional speech acts.

One may argue that the conditional-assertion theory requires a relevance between the antecedent and the consequent, thus preventing any counter-examples of this nature (Björnsson, 2006, pp. 4-5). However, developing a general logical system with a connective that heavily relies on assumptions about background conditions is virtually impossible. If a presupposition of relevance were added, matters would only become more complicated, to the extent that logical systems could not be distinguished from individual belief systems.

Now let us consider the main strength of the conditional-assertion theory: it claims to provide a uniform explanation of conditionals as conditional assertion acts, comparable to other conditional speech acts like conditional commands and promises. This claimed advantage gives the theory more elegance than its rivals, since they are incapable of distinguishing usual conditionals from other conditional speech acts.

To object this point, one can observe that treating conditionals as sui generis connectives makes the conditional-assertion theory less elegant, not more. If we view 'if A, then B' as a conditional assertion of B given A, it involves a compromise with the assertion of its propositional constituents. However, this intuition is false, and we can demonstrate this by considering how we assert propositions composed by other connectives. We do not believe that the use of conjunction requires the assertion of each conjunct, but rather the use of $A\&B$ as a whole, i.e., the use of $A\&B$ does not necessitate the assertion of A and the assertion of B. Similarly, we do not believe that the use of a disjunction necessitates the assertion of each disjunctive because what is used is the disjunction as a whole, i.e., the use of A v B does not require the assertion that A is the case or the assertion that B is the case.

Inferences can involve both conjunctions and conditionals, or both disjunctions and conditionals. However, we do not think that conjunctions or disjunctions are non-truth-functional. The ability to explain conditionals as a conditional speech act is advantageous, but it is offset by the inability to explain their relation to connectives that are uncontroversially truth-functional.

Furthermore, there are independent reasons to believe that the theory fails even in its attempt to unify conditionals as just one among other types 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 share some similarities with other conditional speech acts, it follows that the supposed conditional speech acts of other kinds, such as conditional commands and conditional promises, are not conditional acts at all. If I can accept 'if *A*, then *B*' without asserting *B* or assuming *A*, then I can accept 'if *A*, you must do *B*' without commanding *B* or assuming *A*, just as I can accept 'if *A*, then I must 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 the 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 dictates that we accept $A \rightarrow B$ if, and only if, we would be willing to accept *B* after the hypothetical addition of *A* to our belief system, while making the necessary adjustments to maintain consistency without altering the hypothetical belief in A (Stalnaker, 1968, p. 102)[8]. The Ramsey test shares a strong resemblance with the conditional-assertion theory. Therefore, explanations in terms of conditional assertion inherit all the issues associated with the Ramsey test.

One of the many issues with the Ramsey test is that it is circular. According to the test, to determine whether we should accept a conditional $A \rightarrow B$, we must evaluate whether we should infer *B* after hypothetically adding *A* to our belief system. However, 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 do not accept a conditional due to its inferential usefulness in modus ponens, but its inferential usefulness in modus ponens is determined by the reasons we have for accepting the conditional in the first place.

One might argue that a conditional statement $A \rightarrow B$ may not actually involve a conditional assertion of *B* given *A*. Rather, the willingness to assert *B* upon learning *A* is simply a consequence of accepting $A \rightarrow B$. When one accepts a conditional statement, usually they would be willing to assert the consequent by assuming the antecedent. However, this willingness to assert is contingent upon acceptance of the conditional itself, and does not constitute a conditional assertion.

Another flaw of the Ramsey test is its *ponenscentric* view of conditionals, which is motivated by a directional bias suggested by the grammatical and logical form of conditionals. It is natural to confuse the truth conditions of $A \rightarrow B$ with the inferential jumps suggested by its logical form. The acceptability of $A \rightarrow B$ is often thought to be determined by the Ramsey test due to the inference from *A* to *B* suggested by its logical form. However, this confusion is evident when we consider that other propositional forms, such as $\neg A \vee B$, can have the same inferential jumps as $A \rightarrow B$, but do not elicit the same intuitions. This is because the logical form of $\neg A \vee B$ does not suggest any inferential jump from *A* to *B*, despite having the same inferential jumps, as shown in the table below.

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[8] This is the modified and more widely discussed formulation of the test. The original idea and formulation can be found in Ramsey (1929, p. 143).

$A \rightarrow B$	$\neg A \lor B$
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 $\neg A \lor B$ is true without requiring the hypothetical assumption of A, then $A \rightarrow B$ is also true without requiring that hypothetical assumption. The misleading grammatical and logical form of conditionals is the only reason to think they are any different. This flawed mindset becomes clear when we consider conditionals like 'If John's speaking the truth, I'm a Dutchman'. Asserting this conditional does not mean I am asserting that I am a Dutchman given the assumption that John is speaking the truth. Instead, I am expecting the hearer to infer the falsity of the antecedent from the obvious falsity of the consequent using *modus tollens*. The same criticism applies to the conditional-assertion view. To interpret 'if A, then B' as an assertion of B given the acceptance of A is to give *modus ponens* too much importance. However, we could use similar reasoning to consider the use of a conditional in *modus tollens*. In this case, the intuition behind the conditional assertion of 'if A then B' could also be understood as the negation of A when B is false (Sanford, 2006, p. 27, fn. 3).

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 her own view, 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.

The conditional-assertion theory can be viewed as an error theory. We refer to conditionals as if they have truth conditions, when in fact they are just conditional assertion acts. Edgington attempts to resolve this issue by suggesting that our intuitions about truth conditions can be translated as intuitions about conditional assertion acts. However, this translation does not eliminate the tension between the revisionist aspect of the theory and our conventional way of speaking about conditionals. We intuitively view conditionals as propositional unities that can be evaluated and discussed without being considered as conditional assertion acts. The example 'She believes that if it rains, the street will become wet' (Mackie, 1973, p. 102) demonstrates that conditionals can still function as the object of indirect discourse in the same way as a proposition.

The relationship between conditional assertion and conditional probability presents additional challenges. On one hand, it implies that a speaker would only find a conditional relevant if she assigns a non-zero probability to the antecedent. This is also technically necessary, as it's impossible to calculate the conditional probability of the consequent given the antecedent if the probability of the antecedent is zero. However, on the other hand, we have

the intuition that conditional probability is fundamental and should not be determined as a proposition attributed to another proposition assuming yet another. This is because a person does not need to consider the probability of *A* to determine the probability of *B* given *A* (Edgington, 1986, p. 18). This is an inconsistency. 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 the probability of *A* to determine whether to assert *B* given *A*.

The association between the conditional-assertion view and conditional probability is incomplete. If $A \rightarrow B$ is a conditional assertion of *B* given *A*, the speaker must consider the probability of *A* being true to determine whether to assert *B* given *A*. Assertions are based on probable assumptions. One might argue that there is a distinction between assuming and believing. I can assume that *A* is true for the sake of discussion, even if I don't believe it. However, if my assumption of *A* being true contradicts my probability attribution to *A*, any general observation about my probability attribution must be interpreted cautiously in context.

5. THE LOSS OF OBJECTIVITY

Conditional-assertion theories may be criticized for removing the objectivity from conditionals since, according to this view, conditionals express only our subjective inferential tendencies and not objective relations between events. Edgington, in particular, addresses and attempts to alleviate these objections. Edgington (1997, p. 110) contends that a typical conditional with an assertion in the main clause, $A \rightarrow B$, expresses a conditional belief of *B* given *A*, and not belief in a proposition. However, she assures that objectivity is not lost as we can still ensure that a conditional is objectively correct through objective conditional probability. For instance, consider a situation where you can randomly choose a ball, and 90% of red balls have black spots. If you choose a red ball, you can be 90% confident that it will have a black spot. The probability of the black spot given that it is a red ball is 90%, which is the correct opinion, even though no proposition is expressed by the conditional with 90% probability (Edgington, 1997, p. 110). Thus, to safeguard the objectivity of the example, it is sufficient to hold that the conditional probability must be objective, and objective chances will provide the correct answers for each case.

The purpose of a conditional logic is to ensure that the objectivity of conditionals is maintained in arguments. This objectivity is typically guaranteed through truth conditions. However, the conditional-assertion explanation seeks to maintain objectivity through an alternative means: objective conditional probability. Nevertheless, it is debatable whether the conditional-assertion theory succeeds in this regard, as objective conditional probability is not a suitable replacement for truth conditions. A conditional statement can possess a high objective conditional probability, but still have a true antecedent and a false consequent. What concerns us in this case is whether a conditional that can be utilized in *modus ponens* has both a true antecedent and consequent, rather than whether it has a high objective conditional probability. In reality, objective conditional probability is only relevant to the extent that it is an unreliable guide to truth; it cannot serve as a substitute for it.

This becomes evident when we consider conditionals with the same antecedent but contradictory consequents, yet having the same objective conditional probability. Let us take the example of a coin toss in standard conditions. When the coin is tossed, the probability of the side that is faced-up being heads or tails is the same - both have a probability of 50%.

However, can we claim 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? Certainly not, for only one of these conditionals would have a true consequent after the toss. We must acknowledge that objective conditional probability cannot unequivocally establish the correctness of either conditional. Nevertheless, after the toss, we will know that only one of them is correct, even though the objective conditional probability remains the same. In situations where the objective conditional probability and the propositional constituents of a conditional conflict, we choose the second option, and this is precisely when truth conditions appear to be necessary.

One problem with relying solely on objective conditional probability is that it does not resolve disagreements between individuals about the same conditional (Pynn, 2011, p. 5). For example, two people may agree on the relevant objective conditional probability, but disagree about the same conditional. Suppose that the objective conditional probability of B given A is 60%, meaning that it will rain tomorrow given that we are in March. One person may accept that it will rain tomorrow given that we are in March, while another may reject it, even if both agree that the conditional probability is 60%. This suggests that the conditional probability does not even ensure the subjective component, which is the acceptance of the conditional.

To ensure a degree of objectivity in the use of conditionals when they are interpreted as conditional acts, we need to focus on a completely different aspect than the one proposed by Edgington. Edgington's theory is motivated by its ability to explain uncertain conditionals and their associated subjective conditional probability attributions. In other words, her theory was developed with the subjective aspects of conditionals in mind, but not their objective aspects. The use of objective probability is an attempt to placate critics, but it lacks consistent and meaningful application. This is demonstrated by the way Edgington explains the examples involved in Gibbard stand-offs. Edgington believes that there is no objectivity between contradictory conditionals when the subjective attributions of conditional probability are incompatible. In other words, if two incompatible conditional statements are justified by different points of view in the same context, there is no objectively correct conditional statement. This shows that the attribution of conditional probability is a poor substitute for conditional objectivity. After all, intuitively, conditionals can express relations between events that are not dependent on epistemic agents' reasons and their attributions of conditional probability.

6. THE TRIVIALITY RESULT

The equation (TE), which holds that the probability of $A \to B$ is the probability of B given A, is intuitively appealing (Jeffrey, 1964, pp. 702–703). However, Lewis (1976, pp. 299–300) has demonstrated that accepting (TE) leads to the implausible conclusion that the probability of $A \to B$ is the probability of B. This is evident as the probability of a conditional cannot be the same as the probability of its consequent. For instance, the probability that a match will light given that it is struck is not intuitively the same as the probability that it will light. Edgington (2005, p. 51) interprets this as support for the idea that conditionals lack truth conditions. The argument is straightforward: although the acceptance of a conditional is intuitively measured by conditional probability, there is no proposition whose probability of truth corresponds to its conditional probability, as shown by Lewis' triviality results.

One way to refute this argument is to propose a different interpretation of the triviality result. One can argue that the triviality result only demonstrates that conditional probability

corresponds to the probability that we would assign to a conditional that we are willing to use in a *modus ponens*. Our disposition to use $A \rightarrow B$ in a *modus ponens* is gauged by $\Pr(A \supset B|A)$, which is equivalent 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 $A \supset B$

The probability that the match will light given that it is struck is intuitively the same as the probability that 'if the match is struck, it will light.' This makes sense because our willingness to accept a material conditional, given that its antecedent is true, is equivalent to the probability of its consequent given its antecedent.

Furthermore, the fact that $\Pr(A \rightarrow B) = \Pr(B|A)$ indicates that $\Pr(A \rightarrow B) = \Pr(B)$ - a notion that is perfectly intuitive if TE tracks our inferential disposition to use $A \rightarrow B$ in a *modus ponens*. To support this argument, 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

According to the proof above, $\Pr(A \rightarrow B)$ is equivalent to $\Pr(A \rightarrow B|A)$, which is less than or equal to $\Pr(B)$. The argument highlights that if $\Pr(A \rightarrow B) = \Pr(B)$ is counter-intuitive, then $\Pr(A \rightarrow B) \leq \Pr(B|A)$ should be equally counter-intuitive, but it is not. To understand why $\Pr(A \rightarrow B) \leq \Pr(B)$ is not counter-intuitive, we need to consider that $\Pr(A \rightarrow B)$ is equivalent to $\Pr((A \supset B)|A)$ given the acceptance of TE. This is acceptable because the probability of 'if the match is struck, it will light' given that 'the match is struck' is less than or equal to the probability that 'the match will light.' Therefore, the acceptance of TE should not consider $\Pr(A \rightarrow B) = \Pr(B)$ as counter-intuitive.

Furthermore, the argument for the conditional-assertion view is correct in the sense that our willingness to use a conditional in a *modus ponens* is not a connective with truth conditions. However, we can express this inferential disposition as the acceptance of a proposition, specifically, $(A \rightarrow B) \,\&\, A$. Anyone who is willing to use a conditional in a *modus ponens* would not only 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 with the conditional-assertion theory is that it places too much importance on the assumption of the antecedent, which is a negligible subjective aspect with respect to truth conditions. Rather than interpreting conditionals as conditional speech acts, they are better understood as categorical assertions of material implication. For example, the conditional 'It is going to rain on New York tomorrow, if the weather forecast is reliable' can be interpreted as a categorical assertion about the relationship between testimonial evidence and belief that it will rain tomorrow. This relationship is assumed to hold unless the evidence fails to support the belief. This only occurs when the antecedent is true and the consequent is false, otherwise the epistemic relationship is maintained. This is exactly what would happen if conditionals were assertions of material implication.

The same approach applies to other conditional speech acts. The truth value of each conditional is about the speaker's commitment to perform an act, not about the acts themselves. If the antecedent is false, the speaker's commitment is not nullified. For example, in the conditional bet 'If the new animal is a gorilla, I bet its name will be Magilla', 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.

Consider commands, for instance. Suppose a mother orders her son to wear his coat because he wants to go out. Would we say that no command was given if he decided to stay at home? Certainly not. Now, let's rephrase this command in a conditional statement: 'If you go out, wear your coat.' Does it seem likely that the conditional statement doesn't contain a command because the antecedent turned 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 can be said about the relation between the command and the condition under which it is assumed. The relation will only break if the son goes out and doesn't wear a coat[9].

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: 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 negations of 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'[10] and 'Either you don't go to New York, or you watch out for the taxi drivers.'

What can we infer from the counter-example of the nurse? The doctor instructs the nurse in the emergency room, 'Change the dressing if the patient is still alive in the morning'. If the conditional is material, the falsity of the antecedent would suffice to make the conditional true.

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[9] Similar arguments involving conditional promises can be found in Kleene (1967), Nelson (1993), and Hutchins (2006).

[10] The relevant conjunction in this case is under the scope of a negation, but this is not problematic since this is the expected relationship between the two according to the material account.

However, we don't believe that the nurse would be following the order if she had suffocated the patient with a pillow. What went awry? The objection can be answered by noting that a nurse who killed her patient would violate the tacit assumption that she should preserve the patient's life. Nonetheless, she couldn't be accused of disobeying that specific command given by the doctor because this would only be conceivable if the antecedent were true. The command would only be executed if the nurse changed the dressing; and it would only be disregarded if the patient had been alive in the morning and the nurse failed to change the dressing.

It is worth noting that Edgington (2008, p. 302), who raised these criticisms against the material account, overlooks a subtlety by assuming that a conditional command is equivalent to a disjunction. If the command had a scope over the conditional, then it would not be a conditional command but a command that satisfies the truth conditions of a proposition. Once this assumption is corrected, the disjunction must take a different form: 'Either the patient will not be alive in the morning, or you must change the dressing.' In this case, if the patient dies, it confirms the disjunction because it makes one of the disjuncts true. Thus, killing the patient cannot be seen as a way of disobeying the doctor's command but as a bizarre way of ensuring the truth of the disjunction while disregarding the responsibilities of a healthcare professional.

One compelling argument for the thesis that conditional commands are material is the possibility of finding examples that are intuitively valid with the inferential form 'or-to-if'. This form implies the material account[11], which, in turn, implies that commands are material. For instance, consider the following example: 'Close the door, or leave now! Therefore, if you don't close the door, leave now!'. The same reasoning applies to other types of conditional speech acts. The negation of a conditional command resembles the negation of a material implication. Thus, 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 implies 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 is important to observe that although one can admit that conditional sentences containing commands and promises in their main clauses are assertions, they may still refuse to accept that commands and promises are themselves assertions. It is conceivable that a conditional sentence such as 'If Mark shows up late, you shouldn't let him in' is an assertion that expresses a relation between a command and a condition, but denies that the command itself is an assertion. The assertion of 'if A, then B' does not involve the assertion of either A or B. Similarly, the assertion of 'if A, then do B' does not involve the assertion of either A or 'do B'.

It is more reasonable to explain all of these speech acts as assertions without any qualifications[12]. Of course, this is a controversial topic. It may seem implausible that a question like 'Can you hear me now?' can be interpreted as an assertion, but this implausibility reveals more about our grammatical habits than the true nature of the linguistic act itself. This becomes

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[11] Or any other conditional speech act for that matter. The proof is as follows:
Prem (1) $\neg A \lor B \vDash A \rightarrow B$ (Or-to-If)
Prem (2) $A \supset B \equiv \neg A \lor B$ 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
[12] Or at least as involving two speech acts simultaneously, for instance, a command would be a command and an assertion, etc. See Ginet (1979, p. 246) and Bach (1975, p. 233). However, this is implausible. There is no reason to think this way besides an indulgent attitude regarding grammatical habits.

clearer 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 applies to commands, promises, and so on. In fact, communication involving these speech acts would be impossible if they did not involve an assertion that is communicated by the speaker, *pace* Austin (1962).

Another reason to consider these speech acts as propositions is that conditionals that contain other speech acts can be employed in inferential forms. For example, 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 shows up late, you shouldn't let him in. Mark shows up late. Therefore, you shouldn't let him in.' A conditional speech act can also be the object of indirect quotes, such as 'John said that if Mark shows up late, you shouldn't let him in,' and it can also be embedded, as in 'In case Mark doesn't provide a justification, if he shows up late, you shouldn't let him in.' It is difficult to explain these similarities if the supposedly non-assertive speech acts were not assertions.

This argumentation shows that the 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 ever 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 requiring an entirely different approach should be met with initial skepticism. Alternative hypotheses should only be considered after all available theoretical resources have been exhausted. It has been argued that the conditional-assertion theory fails to explain connectives elegantly, despite its prima facie evidence, and generates additional problems. These problems would be substantial for any theory, but are particularly problematic for the conditional-assertion theory because it is a radical revisionist view that proposes a change in the way we see one of the key connectives in logic. It asks too much and offers little in return.

One could argue that the main problem with the 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 approach, consider how we interpret arguments. Arguers usually expect that the premises should be relevant to the conclusion when making an argument. However, not everyone believes that the classical conception of validity should be revised to fit these argumentative purposes. Instead, one could argue that there is a distinction between the technically 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 technically 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 while using them.

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.

Austin, J. (1962). *How to Do Things with Words* (eds. J. O. Urmson and Marina Sbisà), Oxford: Clarendon Press.

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

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). *Conditionals*. Oxford: Clarendon Press.