The use of conditionals in argumentation: a proposal for the analysis and evaluation of argumentatively used conditionals

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Summary and conclusions

The course we have pursued in the search for a way to analyze and evaluate argumentatively used conditionals, has been a winding one. Our starting points were the ‘evaluation criteria’ first formulated by Philo of Megara and then later Frege. Both Philo of Megara and Frege described the circumstances in which a conditional is true, namely, a conditional is false when the antecedent is true and the consequent is false. In all other circumstances, the conditional is true.

This description – now commonly known as the definition of material implication – has met with much criticism, as have the logical operations of contraposition, hypothetical syllogism and strengthening the antecedent that are closely related to it. The criticism is more often than not quite compelling. Take for instance the paradoxes of material implication: it seems incorrect to call a conditional sentence true just because its antecedent is false or because its consequent is true. Also the counter-examples against contraposition, hypothetical syllogism and strengthening the antecedent are difficult to ignore, as is illustrated by 11 and 11’, 12 and 14.

11 If the U.S. uphold subvention, then the European Union will not agree to negotiate.

11’ If the European Union will agree to negotiate, then the U.S. do not uphold subvention.

12 If Brown wins the election, Smith will retire to private life. If Smith dies before the election, Brown will win it. So if Smith dies before the election, Smith will retire to private life.

14 If Max is a bat, Max can fly. So: If Max is a bat and has been born this morning, Max can fly.

To abandon this definition and the logical operations that are associated with it, and then to try to find alternative ways to describe conditionals, seems to be a natural course to take. Section 2.3 describes a series of alternative logics that have resulted from taking that course. On the other hand, in Section 2.4 it is argued that abandoning the definition of material implication and the reasoning based on contraposition, hypothetical syllogism and strengthening the antecedent,
may lead to the loss of something valuable. Not only does the definition of material implication form a connection between the truth of a conditional and the validity of some argument forms, there is also something intuitively plausible to contraposition, hypothetical syllogism and (although perhaps less so) strengthening the antecedent. Besides, many examples can be given where those operations seem to be entirely justifiable. The question was therefore raised whether it would be possible to distinguish between two categories of conditionals: conditionals that are unproblematic with regard to the definition of material implication together with the logical operations mentioned above and ‘problematic’ conditionals. The definition of material implication could then at least provide evaluation criteria for one category of conditionals.

In Chapter 3, I discussed whether the linguistic tradition in the study of conditional sentences could be of help in finding a way to distinguish between those two categories of conditionals. The linguistic tradition has shown that it is not unusual to categorize conditionals, since the differences between conditional constructions and between various uses of the same construction are of special interest to the linguist. Several classifications were discussed for the purpose of judging whether a unequivocal distinction between problematic and unproblematic conditionals could be made.

Unfortunately, it was found that the classifications discussed could not be used to distinguish between problematic and unproblematic conditionals, although they failed to make such an unequivocal distinction for quite different reasons. Notably, the classifications of Davies, Funk and Dudman seemed promising, since these classifications do not group problematic conditionals together with unproblematic ones. Their main shortcoming is that some conditionals are ambiguous: they could be classified in different categories.

Davies, for instance, describes a category of conditionals that could considered to be the category of unproblematic conditionals, since she explicitly states that what she calls ‘knowledge conditionals’ are the only conditionals that realize a truth-functional relation between the antecedent and the consequent. It is characteristic for this category of conditionals that the proposition that is expressed in the antecedent is accepted by both parties engaged in the conversation. Yet, from a conditional seen in isolation, one cannot tell what position the parties take towards the antecedent. This means that one cannot decide whether a given conditional belongs to the category of knowledge conditionals.
and as a result, this conditional remains ambiguous between categories. The classifications offered by Funk and Dudman suffer from the same ambiguity.

Fortunately, the ambiguity disappears when the conditionals are placed in context. The conclusion reached in chapter 3, is that attention must be shifted from the characteristics of the conditional to the characteristics of the context in which the conditional appears.

In Chapter 4, a context was provided that makes it possible to specify the conditionals that are unproblematic with regard to the definition of material implication. As was mentioned above, Davies contends that a conditional can only count as a knowledge conditional if both parties accept the antecedent. Argumentation offers a context in which this criterion is naturally met.

Argumentation comes into play when one party engaged in a discussion tries to convince the other party that his point of view is correct. In order to do so, he puts forward a statement that his opponent agrees with and tries to show that if he agrees with this statement, she should agree with the initial point of view as well. The following example was used to illustrate this:

84 **Ikram doesn’t drink alcohol, since she is a Muslim.**

In this case there is a difference of opinion on the question whether Ikram drinks alcohol or not. Now that both parties agree that Ikram is a Muslim, the protagonist uses this statement as a premise in support of his claim. Of course, the protagonist will only be able to remove the antagonist’s doubt about this claim when he can show that agreement with the statement ‘Ikram is a Muslim’ means that the statement ‘Ikram doesn’t drink alcohol’ should be met with agreement as well. That is, apart from the premise ‘Ikram is a Muslim’ there is a second premise the protagonist is committed to: the premise ‘if Ikram is a Muslim, she doesn’t drink alcohol’. This premise I call the ‘connecting premise’, since it provides the connection between the ‘direct premise’ (Ikram is a Muslim) and the claim (Ikram doesn’t drink alcohol).

Not only an application of *modus ponendo ponens* – like the one just mentioned – contains a connecting premise, such a connecting premise is present in applications of *modus tollendo tollens* as well, as in 87:

87 **Daniel is no athlete. If he were an athlete, he would have stamina. But he can’t climb the stairs without losing his breath.**
Although Davies would disagree with me here, I claim that in conditionals that function as a connecting premise in a *modus tollendo tollens* there is shared agreement between the speaker and the listener too, be it that in this case both parties do not agree on the acceptability of the antecedent, but on the falsity of the consequent. As a result, a conditional that functions as the connecting premise in an application of *modus tollendo tollens* fulfils a ‘transferring’ function as well: it transfers agreement on the falsity of the proposition expressed in the consequent to the proposition expressed in the antecedent.

Chapter 4 is aimed at showing that the definition of material implication is unproblematic if its use is restricted to conditionals that function as a connecting premise in an application of either *modus ponendo ponens* or *modus tollendo tollens*. First of all, it is shown that the four situations described in the definition of material implication coincide with the possible outcomes of a discussion where a conditional functions as a connecting premise. Moreover, the context of argumentation makes it possible to explain the intuitive validity of the logical operations connected to the definition of material implication. It is shown how contraposition is needed in the case of indirect proof, how by means of hypothetical syllogism a connecting premise can be supported that is not immediately acceptable to the other party and how strengthening the antecedent is indispensable for a constructive attack on the connecting premise.

The context of argumentation makes it possible to specify the requirements that need to be met so that a conditional can and will function as a connecting premise. First of all, the antecedent and the consequent need to contain what Frege calls a *Gedanke*: something that can be judged to be either true or false, after all, the content of the antecedent and consequent will be asserted (or, in case of *modus tollendo tollens*, denied) in the direct premise and the claim. This does not only exclude general conditionals like ‘If someone is a murderer, he is a criminal’ from functioning as a connecting premise, but also conditionals such as ‘If we pay off our debts, we will not have to pay interest anymore’. In such so-called ‘predictive conditionals’ the time indicated by the tense of the verb in the antecedent precedes the time referred to (the present tense is used whereas the antecedent refers to the future). The antecedents of such conditionals do not contain a *Zeitbestimmung* and hence cannot be judged true or false. This first requirement explains the well-known counter-examples against contraposition and hypothetical syllogism: those counter-examples all contain conditionals that cannot function as a connecting premise.
That a conditional can function as a connecting premise does not mean that it will be used as such. The conditionals arrived at in the paradoxes of material implication and the conditionals that express a concessive will not be put to use as a connecting premise because using them as such would either lead to conflicting commitments for the protagonist, or to circularity. Just to give an example, suppose a conditional is deduced from the falsity of the antecedent. Using it as a connecting premise in *modus ponendo ponens* is not possible. It would lead to a contradiction because the speaker would then have to commit himself to the truth of the antecedent. After all, it is this proposition that needs to be put forward as the direct premise. This commitment is in conflict with his commitment to the falsity of the antecedent that the speaker has taken upon himself by deducing the conditional from it. Using this conditional in *modus tollendo tollens* would lead to circularity, since the conclusion drawn in that case would be that the proposition expressed in the antecedent is false, which was the starting point of our proof.

Up until this point, the reunification of logic and argumentation theory, where argumentation theory is used to clarify logical principles, seems to be a happy undertaking. By looking at the definition of material implication together with the logical operations of contraposition, hypothetical syllogism and strengthening the antecedent from the perspective of argumentation theory, the role of this definition and those operations in the process of reasoning can be clarified. Moreover, when the definition of material implication is restricted to conditionals that function as a connecting premise, compelling counter-examples to those logical operations can be explained away in a systematic manner. Finally, focussing on the commitments of the participants results in disarming the paradoxes of material implication.

However, with regard to one of the central aims of this thesis – finding a way to evaluate argumentatively used conditionals – our intended destination has not come within reach. To be sure, at first glance it may seem that one category of argumentatively used conditionals has been provided with the evaluation criteria laid out in the definition of material implication. But if the perspective of argumentation is consistently maintained, it will soon be realized that the definition of material implication does not suffice. Suppose one wants to evaluate a conditional that functions as a connecting premise in a *modus ponendo ponens*. In that case, the antecedent contains a proposition that is true (or at least commonly accepted by the interlocutors), since it is this
proposition that is put forward as the direct argument. If we only use the truth table of material implication to evaluate the conditional, this means that in order to decide whether the conditional is true, we should focus our attention on the consequent. If the consequent is true, the conditional as a whole is true and if the consequent is false, the conditional as a whole is false. But unfortunately, the truth value of the consequent is not yet known / accepted: it is exactly this proposition that is expressed in the standpoint under discussion and therefore created the need for argumentation in the first place.

A similar complication is to be found in the case of conditionals that function as a connecting premise in a *modus tollendo tollens*. In such instances, the consequent contains a proposition that is commonly considered to be false, since the negation of this proposition is put forward as the direct argument. In an evaluation of the conditional that uses only the truth table of material implication, the attention is therefore shifted to the antecedent: if the antecedent is true, the conditional as a whole is false, if the antecedent is false, the conditional as a whole is true. But in this case, the truth value of the antecedent is not yet known / accepted, it being the negation of the proposition expressed in the standpoint under discussion.

The above remarks indicate that in the search for a way to evaluate argumentatively used conditionals, we should strike out on a new course. Fortunately, within argumentation theory, the route to be followed has already been suggested. In argumentation theory, the relation between the direct premise and the conclusion drawn from it is expressed in an argument scheme. In the last section of Chapter 4, it was contended that an argument scheme should be interpreted as the ground a speaker has for maintaining his connecting premise. Although in argumentation theory the distinction between the connecting premise and the ground one has for entertaining it is not made, I claimed that this distinction has important advantages. For example, it makes the consequences of criticizing a connecting premise in many instances less severe. Suppose one claims that ‘Max can fly, since he is a bat’. In argumentation theory, this example is currently analyzed as follows: the standpoint ‘Max can fly’ is supported by the direct premise ‘Max is a bat’ and by the unexpressed premise ‘Bats can fly’. Consequently, a counter-argument like ‘Max has been born this morning’ – aimed at the unexpressed premise – results in the protagonist having to retract the general statement ‘Bats can fly’. When a distinction is made between the connecting premise and the ground one has for entertaining it, ‘Bats can fly’ is interpreted as the ground one has for
maintaining the connecting premise ‘If Max is a bat, he can fly’. The above criticism can then be interpreted as rather being directed to the connection between the ground and the connecting premise, making it possible to maintain the former statement whilst retracting the latter one.

A great advantage to the notion of an argument scheme is that in argumentation theory it typically is combined with critical questions for the evaluation of those schemes. Because of the close relation between argument schemes and connecting premises, these critical questions indicate how connecting premises based on different grounds can be criticized. Although there is much discussion in the field regarding the number of argument schemes that can be discerned, along with uncertainties regarding the kind of critical questions that are associated with the different argument schemes, the theory of argument schemes at least provides for a starting point for the evaluation of conditionals that function as a connecting premise. For this category of conditionals, the above mentioned aim of this thesis – finding a way to evaluate argumentatively used conditionals – is therefore more or less within reach.

Given that conditionals functioning as a connecting premise are provided with evaluation criteria, the question now remains how conditionals that fulfil other argumentative functions can be analyzed and evaluated. Chapter 5 and Chapter 6 were aimed at doing just that. In Chapter 5 conditionals that function as a standpoint were discussed and in Chapter 6 conditionals that function as a constituent of an argument scheme were dealt with.

The term ‘conditional functioning as a standpoint’ is used for those instances where the protagonist indicates he only wants to take upon himself the burden of proof for his standpoint ‘if a specific condition is met’. It has been argued that this category consists of three types of standpoints, depending on the position both participants take on the proposition expressed in the antecedent.

Regarding the first type – a conditional standpoint – it is assumed both parties do not know whether the proposition expressed in the antecedent is true, as in 100:

100 I don’t know exactly when Tess will arrive, but if she is here on Wednesday, then we should all go to the theatre. Wednesday night is the final night King Lear will be performed and I have heard it is very good.
The antecedent is merely supposed to be true, and on that basis the discussion is carried on. In response to a conditional standpoint, the other party can attack the antecedent by showing that it is false. The protagonist will than retract his standpoint and all the support he has put forward in defence of it, since the condition in the antecedent is not met. The other party could also show that it is very unlikely that the proposition expressed in the antecedent will be realized. In such instances he is unwilling to go along with the hypothetical context sketched and the discussion cannot proceed. If the other party provisionally accepts the antecedent, a discussion can start on the question whether within this hypothetical context the standpoint expressed in the consequent is correct or not. An attack on the connection between the antecedent and consequent is pointless. A conditional standpoint should be interpreted as a conditional speech act, and in conditional speech acts the act expressed in the consequent is performed as soon as the conditional is uttered. Therefore, by saying ‘if X, my standpoint is Y’ the standpoint ‘Y’ has been put forward.

Regarding the second type – a conditional defence – the main standpoint is supported by means of at least two lines of defence. The second line of defence is introduced by a conditional with an antecedent that depicts the situation that the first line of defence is untenable. The consequent of this conditional contains either a repetition of the main standpoint, or an alternative standpoint that is less preferred by the protagonist. An example of a conditional defence is 101:

101  We shouldn’t remain home all day. It is nice and sunny. And even if it were cloudy, we should go out. We all need some fresh air.

Conditional defences differ from conditional standpoints in that in the case of a conditional defence the protagonist is of the opinion that the proposition expressed in the antecedent is untrue. After all, the protagonist has just put forward a line of defence that is inconsistent with the antecedent of the conditional used as a conditional defence. The other party may be undecided on the question whether the antecedent is true or not.

As with conditional standpoints, in the case of a conditional defence, an attack on the connection between the antecedent and consequent is pointless. Furthermore, an attack on the antecedent of the conditional does not make much sense either: criticizing the antecedent only reinforces the first line of defence. This leaves an attack on the consequent
(or on the arguments supporting the consequent) as the only reasonable follow up to a conditional defence.

Finally, the third type – hypothetical standpoints – are characterized by both participants agreeing that the proposition expressed in the antecedent is false and cannot become true, as in 103:

103 It is a pity Tess arrives not until Thursday. Had she been here on Wednesday, we should have gone to the theatre together. Wednesday night is the final night King Lear is performed and I have heard it is very good.

The proposition is only maintained ‘for the sake of argument’. This agreement on the falsity of the antecedent makes an attack on the antecedent of the conditional pointless. However, the other party may respond by explicitly stating that the proposition in the antecedent is not true, in order to indicate that he is unwilling to conduct an hypothetical discussion. But of course this party can also go along with the hypothetical context sketched in the antecedent, resulting in a discussion on the question whether the standpoint expressed in the consequent is acceptable within this hypothetical context.

Chapter 6 was dedicated to conditionals that function as constituents of an argument scheme. Since there is no consensus on the number of argument schemes that can be discerned, and since many argument schemes lack a precise description, there has been no attempt to provide a complete overview of conditionals that fulfil such a function; the attention is rather focused on conditionals used as constituents of pragmatic argumentation, of dilemmas, of arguments from authority and of arguments from example.

The use of a conditional as a premise in pragmatic argumentation illustrates most clearly how the function that a conditional fulfils, influences the way this conditional must be evaluated. In pragmatic argumentation, a certain policy statement is defended by pointing at either desirable or undesirable consequences. An example of pragmatic argumentation is 90:

90 We should pay off our debts. If we pay off our debts, we don’t have to pay interest anymore.

Pragmatic argumentation expresses a means / ends relation, whereby the policy is the means and the achievement of positive outcomes
or the avoidance of negative outcomes is the end. Conditionals can only successfully function as premises in pragmatic argumentation if several quite precise criteria are met. First of all, the antecedent should describe a possibility (otherwise the policy is not feasible). Secondly, there should be a causal relationship between the antecedent and the consequent (otherwise the policy is not effective). Finally, the connection between the antecedent and the consequent should be of a kind of biconditional nature (otherwise, the policy is not necessary). The conditional can be successfully attacked by showing that either one of those criteria is not met.

When a conditional is used as a constituent of a dilemma, the requirements it must meet depend on the type of dilemma put forward. Chapter 6 discussed two types of dilemmas: dilemmas in the colloquial sense of the word and simple constructive dilemmas. In the case of a dilemma in the usual sense of the word, it is argued that a decision cannot be made because the alternative options lead to equally unfavorable (or favorable) consequences, as in 131:

131 I don’t know whether we should accept this apartment or not. If we accept it, we will lose our accumulated rights and will have to wait at least seven years before being eligible for another one. If we don’t accept it, we will have to wait God knows how long before being offered some acceptable place to live.

The conditionals functioning as part of such a dilemma can be attacked by showing that the antecedent is impossible – which amounts to showing that one of the proposed course of actions cannot be implemented. Furthermore, it could be questioned as to whether the consequences depicted would actually occur. Finally, it could be argued that the consequences depicted in the consequent will occur anyway. In that case, those (favorable or unfavorable) consequences drop out of the equation, since the proposed action is not necessary to bring those consequences about.

In a simple constructive dilemma, it is argued that whatever possibility happens to be realized, the result is the same. Example 133 represents a case in point:

133 Whatever the result of the vote will be, our action committee can be disbanded. If the law on referendum is voted through, our committee can happily adjourn – we will have reached our goals. But also if it is voted down we can discontinue. If we don’t
reach our goals now, there is no chance we ever will.

If a conditional functions as a premise in a simple constructive dilemma, criticism of the antecedent is pointless: the speaker argues that his claim is true whatever possibility happens to be realized, and has for each conditional functioning as a premise already taken into account that the situation sketched in its antecedent might not occur. Such a conditional can be seen as a specific type of conditional standpoint and should be evaluated accordingly: a reasonable follow up would therefore be a discussion on the question as to whether the standpoint expressed in the consequent can indeed be maintained in the context sketched in the antecedent.

When taking a closer look at conditionals that function as the constituent of an argument from authority, we see that those conditionals can be determined to be a specific kind of conditional standpoint as well. A speaker may put forward an argument from authority by means of a conditional if the authority quoted is presumed not actually to have been in a position that would allow him to comment on the subject under discussion. By means of the conditional, a hypothetical context is sketched in which the authority would be in a situation that allows him to comment on this subject and the consequent would describe what the speaker thinks the comment might be. An example of a hypothetical appeal to authority is 123:

123 The performance of King Lear in the municipal theatre is an utter disaster. Had Shakespeare been in the audience, he would have hated it and would have made it impossible for the actors to perform.

Conditionals fulfilling this function can be criticized by either rejecting the hypothetical context that is sketched or by questioning whether in this context the authority would indeed have commented in this manner.

With regard to conditionals functioning as a constituent of an argument from example, it was found that it is crucial to know what subtype of this argument scheme one is dealing with. A distinction was made between an inductive argument from example – where the examples are put forward in order to derive a general rule – and an illustrative argument from example – where a general rule is not so much ‘proven’ but made plausible by means of a well-chosen, prototypical example. In 138 one finds an inductive argument from example
and in 139 an illustrative argument from example:

138 **Always when fish is cooked, a nasty deposit remains in the pan.** Last time, when we had salmon, it took me an hour to scrape it off. And when you cooked pasta with fish sauce, even the cover was completely covered. And look at the pan now: I can hardly remove it.

139 **You never should force a child to do something, it leads you nowhere.** For years your mother forced you to eat vegetables and now you dislike them even more.

In an inductive argument from example, there is no room for ‘hypothetical’ examples. To be sure, in that case one could construct the example in such a way that the general rule is supported, but this support is not convincing since it presupposes the rule it is meant to support. Illustrative arguments from example lend themselves quite well to ‘hypothetical’ examples. Such examples allow the speaker to tailor his argument to the audience he is trying to convince. In criticizing conditionals that function as an illustrative argument from example, the other party could either criticize the antecedent, or criticize the consequent within the hypothetical context the antecedent sketches. In the first case, this party is unwilling to go along with the example because it is found to be too unrealistic. In the second case, he goes along with the hypothetical context sketched, but does not agree that in this context the standpoint expressed in the consequent holds.

Although the route towards it has not been a straightforward one, I believe that in this thesis the intended destination of finding a way to analyze and evaluate argumentatively used conditionals has been reached. The pragma-dialectical approach to argumentation, with its emphasis on the functionalization of the subject matter in particular, made it possible to formulate valuable distinctions between different types of conditional sentences. However, with regard to this final destination, there are still many uncharted areas. Due to the unclarity regarding the number of argument schemes that can be discerned and the precise description of the various argument schemes themselves, this thesis contains only a tentative sketch of the way in which conditionals that function as a connecting premise can be evaluated. In order to refine this sketch, it would be necessary to have an overview of the different grounds one can have in maintaining a connecting
premise. It may be difficult to know how many argument schemes have to be discerned, but in formulating the critical questions belonging to each particular argument scheme, the distinction made in this thesis between the connecting premise and the ground a speaker has for maintaining it, can be of value. If one realizes that the support for a connecting premise can be challenged in two ways – one can criticize the ground as well as the connection between this ground and the connecting premise – it becomes possible to map out the critical questions in a more systematic way.

The lack of consensus in the field of argument schemes has also led to many uncharted areas with regard to the analysis and evaluation of conditionals that function as a constituent of an argument scheme. Chapter 6 gives by no means a complete overview of the ways conditionals can function as such. But although the present treatment of conditionals functioning as a constituent of an argument scheme is rather tentative, it has become clear that when studying conditionals, it is important to take the different argument schemes into account. Pragmatic argumentation forms a case in point: the role the conditional fulfils specifies the criteria that a conditional sentence must meet in order to function successfully as a constituent of this argument scheme.

Apart from the uncharted areas due to the lack of consensus on argument schemes, there are still other parts of this thesis that call for elaboration. As it stands now, it may be difficult to perceive the distinction between conditionals that function as a connecting premise in *modus tollendo tollens* (If Daniel were an athlete, he would have stamina) and conditionals functioning as hypothetical standpoints (If Daniel had been an athlete, he would have had stamina). The same holds for the distinction between conditional standpoints that contain a descriptive proposition and connecting premises where the connection is based on a causal relationship. It also may be equally difficult to differentiate between other categories of conditionals.

I think that the focus on the commitments of the participants might form a lead as to how one might clarify these distinctions. As was argued in Chapter 4, the antecedent of a conditional that functions as a connecting premise in an application of *modus ponendo ponens* needs to contain a *Gedanke*; something that can be judged to be either true or false at the moment the discussion takes place. A protagonist attempting to support his claim by means of a direct premise, presupposes that the antagonist accepts this premise as true and also accepts that
through the connecting premise the truth of the antecedent is transferred to the consequent. In the case of a conditional standpoint, such mutual agreement on the truth of the antecedent is not presupposed. On the contrary, the only agreement that is presupposed is that at the time the discussion takes place it is unknown whether the antecedent is true or not. In a similar manner, the (expected) commitments of the participants are different in the case of a connecting premise in an application of *modus tollendo tollens* and in the case of a hypothetical standpoint. In the first case, there exists a difference of opinion about the falsity of the antecedent, whereas in the case of a hypothetical standpoint, the protagonist presupposes that the antagonist agrees with him that the proposition expressed in the antecedent is false.

It would be interesting to see whether and – if so – how those commitments can be externalized by the linguistic construction through which the conditionality is expressed. Drawing on the vast amount of research done within the field of linguistics concerning the different ways to express conditionality, it may be possible that some conditionality markers are more adequate in the case of a connecting premise in an application of *modus tollendo tollens* and yet others in the case of a hypothetical standpoint, because such markers often give some information about the speaker’s attitude with respect to the propositions expressed. Such linguistic clues could in turn be used (in combination with contextual information) to correctly analyze and eventually evaluate argumentatively used conditionals.

A final uncharted area that may prove worthwhile investigating, is the way in which several parts of the conditional can be criticized. To give an example: in chapter 6 it was argued that a conditional that functions as a constituent of pragmatic argumentation can be criticized by questioning the causal link between the antecedent and the consequent. Relevant criticism might demonstrate that it is untrue or very unlikely that the cause depicted in the antecedent leads indeed to the effect sketched in the consequent. How the antagonist should go about criticizing this causal link, and what reasons he might put forward in order to substantiate his criticism has not been discussed. A second example, would be criticism of the connection between the ground one has for maintaining a connecting premise and the connecting premise itself. Although it was indicated that such criticism could be quite fruitful and that some of the critical questions that are related to a specific argument scheme are precisely aimed at this connection, nevertheless, it remained unclear along which lines such criticism would proceed.
In order to provide answers to these questions, it may be beneficial to reunify logic and argumentation theory again. Where propositional logic was valuable in elucidating conditionals that function as a connecting premise and vice versa, additional logical approaches may be helpful in clarifying other argumentative functions that conditionals can fulfil. Probability logic, for instance, which has been devised to deal with questions of causality, may be of help in specifying the criticism that can be brought forward against the causal relation between the antecedent and consequent of a conditional that is employed in pragmatic argumentation. By calculating the probabilities of the various consequences, it may be possible to weigh the advantages and disadvantages of a specific policy in a more precise manner. Regarding the case of pragmatic argumentation in which past actions are evaluated, possible world semantics might elucidate how the connection between the antecedent and consequent of the conditional must be evaluated. The concept of the closest world – the world in which most ‘other things are equal’ – may offer insights for evaluating whether the conditional is indeed of the requested biconditional nature. Finally, the connection between the ground one has for maintaining a connecting premise and the connecting premise itself, seems to be a topic that has extensively been discussed in several non-monotonic logics. It would be interesting to see whether argumentation theory could benefit from the insights in this field.

Although I realize that this proposal for analyzing and evaluating argumentatively used conditionals is still very rudimentary, the framework offered seems to clarify at least some of the argumentative uses of conditionals. Moreover, it may be just because of this attempt that the uncharted areas can be located with more precision. Therefore, I hope that this thesis at least partly answers Fischer’s plea to pay more attention to propositions that are not presented as true, but are merely supposed ‘for the sake of argument’. My appeal in turn would be to increase this focus on conditionals in argumentation, because this thesis has indicated that the role played by conditionals in argumentation and reasoning cannot be denied.