DEFENDING A SIMPLE THEORY OF CONDITIONALS

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1. Introduction

In Rieger (2006) I presented the following simple theory of the indicative conditional $A \rightarrow C$: the truth-conditions are those of the material conditional $A \supset C$; and $A \rightarrow C$ should be asserted by S only if:

I	S knows $A \supset C$
II	S does not know A, and does not know ~A
III	S does not know C, and does not know ~C.

I attempted to use the theory to give an account, Gricean in spirit, of the standard "paradoxes of material implication", and argued that the theory could meet the criticisms Jackson (1979) made of Grice's own theory (1989).

I was under no illusion, however, that the paper amounted to anything like a complete case for a material account of $A \rightarrow C$. For one thing, I gave no positive reasons to believe that $A \supset C$ gives the right truth conditions; I have attempted to fill that lacuna in Rieger (2013). In addition, the earlier paper dealt only with contexts where conditionals are asserted, the central idea being to handle the awkward examples as true-but-unassertable. This leaves open the question of how to treat difficult cases where conditionals are unasserted – embedded in a compound statement, for example.

I shall make some steps towards this below. Before that, I shall take the opportunity to address some other issues concerning the simple theory.

2. Methodological considerations

What should we expect from a theory of natural-language conditionals, such as the one I am advocating? What, exactly, is the project here?

The obvious answer is that we take natural language usage as "data", and aim to find a theory with as good a fit as possible to it.[1] However, this seems to me misguided.

Some of what ordinary English speakers have internalized about indicative conditionals is undoubtedly inconsistent with their being truth-functional. If you ask 100 subjects whether "I'll have toast for breakfast" entails "If I don't have toast for breakfast the end of the world will come", there will not be many affirmative responses. However, some of what they have internalized *entails* that indicatives are truth-functional (as I have argued in detail in (2013)). The truth is that a theory that seeks to proceed by formalizing everything such speakers pre-theoretically believe about these conditionals will be inconsistent,[2] and consequently any consistent theory a philosopher constructs will clash with intuition at some point.

We should admit this at the outset. We are in the same kind of situation here as the one posed by, say, the liar paradox. The project in each case is not the formalization of pre-theoretic intuition into an inconsistent theory, but rather the construction of a consistent theory which preserves as much as possible of importance of the naïve concept. And where there is a clash between intuition and the naïve theory, as there inevitably will, the most we can hope for is that we can give a principled and non ad hoc explanation as to what has happened.[3]

Having suitably lowered the bar, I shall now attempt to get over it.

3. Modus ponens

I held back in (2006) from explicitly endorsing Williamson's (2000) knowledge account of assertion, but the simple theory is clearly in the same spirit and can be motivated using it. But on putting the two together we might appear to be in trouble. Take an everyday instance of *modus ponens,* such as

(1) If you're under 18 you can't vote.

(2) You are under 18.

Therefore,
(3) You can't vote.

If, following Williamson, we require knowledge of (2) and (3) to make them assertable, then my theory *ipso facto* makes (1) unassertable (we ignore the case where the speaker comes to learn (2) some time after asserting (1)). Thus, the theory renders instances of *modus ponens* unassertable.[4] A similar objection renders instances of *modus tollens* unassertable as well, since knowledge of ~C equally rules out assertion of A → C.

Whilst this does not look good at first sight, I am not too perturbed by it. To explain why, I shall first consider the case of disjunctions (a tactic I shall have recourse to more than once).

However controversial a Grice-style account of conditionals may be, the corresponding theory for disjunctions is overwhelmingly convincing: “or” is truth-functional, and disjunctions are legitimately asserted only if one doesn’t know either disjunct (or else one could more informatively have asserted the disjunct one knows). But this theory renders, for example, instances of disjunctive syllogism unassertable:

(4) Murray or Djokovic will win.

(5) Djokovic won’t win.

So,
(6) Murray will win.

If I have no business asserting (5) unless I know it, then I should not be asserting (4), since I already know which of its disjuncts is true.

It would be eccentric, though, to regard this as a counterexample to a Gricean account of disjunctions, and seek a non-truth functional theory of “or”. Rather the conclusion should be that, whilst one should not *usually* assert a disjunction whilst knowing one of the disjuncts, there are contexts when, after all, one can. That there should be such contexts is completely in the spirit of the Gricean approach – Grice himself gives the example (1989, p. 4) of a treasure hunt, where one tells the children that the prize is either in the garden or the attic, whilst knowing perfectly well which.

Though it is not a case discussed by Grice, presenting a deductive argument is another context where the usual rules are suspended, in fact, one that has quite a lot in common with Grice’s treasure hunt: the speaker “knows the answer” from the outset, and could just assert it flat out, but is leading his audience through a process of getting there by a more roundabout route. One must see the assertion of the disjunction not as isolated, but part of a larger discourse with a particular purpose. For obvious reasons, it is natural for philosophers to underestimate just how unusual this context is and how rarely it features in the everyday interaction of human beings.

We can therefore reply to the *modus ponens* objection in a way that is not at all ad hoc. In my earlier paper, I cited an example of Grice (1989, p. 60) where a conditional carries no implicature – that of a convention in bridge, where a certain bid means “if I have a red king, then I also have a black king”. The presentation of a deductive argument is just another such context.

4. Compound sentences

In this section I will discuss how a material account can address a different sort of difficulty: those examples where a conditional occurs as part of a larger sentence. Clearly the original theory cannot be applied here.

I shall not attempt to be either systematic or comprehensive here; indeed, I think there are limits as to how systematic one can be, in view of the rather irregular behaviour exhibited by conditionals in natural language. But I will give enough examples to show the main ideas which can, I think, be used to defend the material account against any apparent counterexamples that can be offered against it.

(a) Negations

Notoriously, the material account gives what appear to be very bad results when applied to negations. $\sim(A \supset C)$ entails both A and $\sim C$; the corresponding natural language entailments often seem absurd. For example,

(7) It’s not the case that if Labour win the next election, they will turn Britain into a North Korean style totalitarian state.
Therefore, Labour will win the next election.

How can the material theorist answer this? There are two main weapons in the armoury, and both were suggested by Grice himself. As he points out "it is by no means always clear just what a speaker who says (or says in effect) "it is not the case that if p, q" is committing himself to, or intending to convey" (1989, p. 80). But, as Grice goes on to outline, in at least some cases to deny "if p, q" seems to be to assert the conditional "if p, not-q". Grice gives the example of one who denies "if he proposes to her, she'll refuse him"; such is denial is most naturally taken as meaning "if he proposes to her, she won't refuse him". The same analysis seems to apply to a denial of "if it rains, the match will be cancelled", and the conditional in (7).[5]

In other cases, again clearly identified by Grice (1989, p. 81), something else seems to be going on when a conditional is denied. Once again, any appearance of ad hocness here can be dispelled by first considering the case of disjunctions.

To update an example of Grice (1989, p. 64):[6] supposing someone says

(8) After the election, either Cameron or Clegg will be Prime Minister[7]

and a listener (who, let us say, has no strong views as to whether Labour or the Conservatives are more likely to be the largest party, but is quite sure that the leader of the Liberal Democrats cannot end up as PM) is asked to evaluate the statement. They may well assess it as untrue. What is true, they will say, is rather

(9) After the election, either Cameron or *Miliband* will be Prime Minister.

Suppose it turns out that Cameron wins the election. What is now the verdict on (8)? I take it that, whatever the instinctive judgment of ordinary speakers, few philosophers would want to maintain that (8) was false, on the grounds that Cameron or Miliband were the only plausible possibilities as Prime Minister. Surely the correct view of (8) is that it was true but should not have been asserted because the speaker did not have grounds to support it.

The position with conditionals seems *exactly* parallel. We can modify the examples to

(10) If Cameron is not Prime Minister after the election, it will be Clegg.

(11) If Cameron is not Prime Minister after the election, it will be Miliband.

Someone might react to (10) exactly as to (8) and exclaim “that’s not true!”. But once again, if Cameron wins, both (10) and (11) are true (they are, indeed, entailed by (8) and (9) respectively). One who says (10) has uttered a conditional for which they fail to have grounds, not an untruth.

Grice himself made exactly this point (1989, p. 82). But he remained puzzled (1989, p. 83) as to *why* in this case denying an utterance denies its implicature (i.e., that one has non-truth functional grounds for it), whilst in other cases denying an utterance negates the content of the utterance instead. I propose a simple answer: speakers are just confused. They *should not* say “that’s not so” when faced with (8) or (10), but they do so because they do not clearly distinguish between truth conditions and assertability conditions. Instead, they are perhaps inclined to judge the truth of a statement by asking themselves “would I say that?”.

Philosophers who have long ago acquired a clear grasp of the difference between truth and assertability tend to forget how unnaturally this difference comes to ordinary speakers. But those of us who teach logic are reminded how difficult students find it, for example, to see that v-introduction is valid, for exactly this reason. They have trouble seeing that “Murray will win, therefore either Murray will win or he will withdraw injured” is valid, because they see that in circumstances where they might assert the premise, they would not assert the conclusion. Enlightenment dawns only with a careful thinking through about disjunctions and truth; under the guidance of their logic teacher they can be convinced that we are already committed to a disjunction’s being true iff one of its disjuncts is.

I am suggesting here that with respect to conditionals we are in a similar position to the confused student. We cannot see that $\sim A$ entails $A \rightarrow C$, because we have not clearly distinguished a conditional's assertability from its truth. Only a careful thinking through reveals that we are already committed to principles (v-introduction, the or-to-if inference) that guarantee the correctness of the entailment.

This also disposes, I think, of Edgington's attempt (1995, p. 245) to bypass any appeal to assertability conditions by couching a paradox of material implication purely in terms of belief. Thus she claims that "believing the Queen is not at home, I may without irrationality reject the claim that if she's at home, she will be worried about my whereabouts". But we can explain why it is *natural* not to believe that if the Queen is at home, she's worried about my whereabouts – it is because people work out what they believe by working out what they *would assert.* Contra Edgington, that does not mean it is rational not to believe the conditional is true.[8]

(b) Disjunctions

Some of the alleged counterexamples to the material account involve disjunctions of conditionals. For example, Cooper (1968, p. 297) gives

(12) If it rains, then it will not snow. Therefore, if it rains the game will continue, or if it snows, the game will continue.

This inference looks ridiculous; but the inference $P \supset \sim Q \models (P \supset R) \vee (Q \supset R)$ is propositionally valid.

What, however, is the meaning of the conclusion of the natural language inference? It seems that what appear syntactically to be disjunctions of conditionals are often really conjunctions. For example if a mother says to her child

(13) If it's a nice day tomorrow, we'll go to the beach, or if it rains we'll play Monopoly

she cannot, if it turns out nice, refuse to go to the beach on the grounds that it was the other disjunct that was true. Similarly in the example above the right hand side is heard as a conjunction, and the inference is invalid in both the natural language and formal versions.

This line is indeed considered by Cooper but rejected (1968, p. 298): he asks "if the speaker meant 'and', why didn't he say 'and'?". I suggest that something like the following is going on. Often we are considering a number of cases, say A, B, C, and what will happen in each of them, say D, E, F respectively. We have firmly in mind that the cases are disjunctive: A or B or C will happen, and consequently D or E or F will. We might say: "D (if A), or E (if B), or F (if C)". So the construction "if A then D, or if B then E, or if C then F" comes naturally, when what is meant is really a conjunction.

There may be cases where a disjunction of conditionals really is meant as a disjunction, or we can be forced to hear it that way. Adams (1975, p. 32) gives the following example:

(14) If switches A and B are thrown the motor will start. Therefore, either if switch A is thrown the motor will start or if switch B is thrown the motor will start.

I think it is unclear what the most natural way to hear the conclusion of this argument is. It can be heard as a conjunction, as above, or perhaps as being of the form (A v B) → C, in which case as before there is no problem, as the formalised argument is invalid. But let us grant that one can hear the conclusion as a genuine disjunction.

How would one convince a sceptic that the argument is, after all, valid? Consider first a case in which switch A is thrown. It seems that the conditional "if switch B is thrown, the motor will start" is then true, and hence so is the disjunction. Similarly if switch B is thrown. Hence any invalidity must be due to a case where neither switch is thrown. But the problem then amounts to showing that "switch A is not thrown" entails "if switch A is thrown the motor will start". Certainly ordinary speakers do not find this entailment intuitive, but (i) to repeat, it follows from principles they *do* find intuitive and (ii) we already have an account as to why speakers do not find the entailment intuitively valid: once again it hinges on truth versus assertability (the argument does not preserve assertability, so speakers have trouble accepting that it preserves truth).

(c) Conditionals embedded in conditionals

Gibbard (1981, p. 235) gives the following examples. Someone says of a conference

(15) If Kripke was there if Strawson was, Anscombe was there.

Gibbard points out that we find it hard to process this at all, and in particular to work out its meaning according to the material account, namely that either Anscombe was there, or Strawson was and Kripke wasn't. It seems right that we find this sentence more or less unfathomable, but it is very hard to see what the *use* of the sentence could be (that is, under what circumstances someone might assert it), so its relative incomprehensibility does not seem very damaging for the theory. More serious is Gibbard's second, structurally similar, example:

(16) If the cup broke if it was dropped, then it was fragile

said of a cup that was being held at a moderate height over a carpet. We do seem to be able to understand the conditional, and it looks true, intuitively. But if the cup wasn't dropped, didn't break and wasn't fragile, the material account wrongly give the truth value "false".

Though he has a quite different agenda (namely, to argue that indicative conditionals do not have truth conditions and give an account of embedding consistent with that), Gibbard himself provides the central idea for solving this puzzle. He notes that the antecedent of (16) has what he calls an *obvious basis* (p. 237)

(17) The cup was disposed to break on being dropped;

and that the obvious basis of the antecedent is "understood in its place", so we hear (16) as

(18) If the cup was disposed to break on being dropped, then it was fragile.

This seems right, but to put it in terms of my own account, this is another example of a conflation of assertability and truth conditions. The "obvious basis" is what would make the antecedent of (16) assertable. It is because we hear (16) as (18) that we (mistakenly) hear it as true.

I have had space here to discuss only a limited number of examples. However, we can be optimistic that the technique just used will have wide application. Any example which is held to support a "strong" reading of the indicative can be recast as resulting from a confusion between a conditional and its basis.

5. Inference principles

Objections are sometimes made to the material account by adducing certain inference principles which the account sanctions as valid but which seem intuitively invalid. Consider, for example, the case of strengthening the antecedent. Instances can be constructed in which it appears that "If A then C" is true, but "If A and B then C" false; typically B is a remote possibility which rules out C. For example, Priest (2001, p. 74) gives

(19) If it does not rain tomorrow we will go to the cricket. Hence, if it does not rain tomorrow and I am killed in a car accident tonight then we will go to the cricket.

The conclusion of such an argument will, however, never be assertable according to the simple theory. To see this, we might first note that the simple theory never sanctions the assertability of two conditionals of the form $A \rightarrow C$ and $A \rightarrow {\sim}C$; for if one knows both $A \supset C$ and $A \supset {\sim}C$, then (given some weak assumptions about closure) one knows ~A and neither conditional is assertable. But in the examples such as (19) that allegedly show the failure of antecedent strengthening, the conditional (A & B) → ~C is not only true but assertable.[9] It follows that (A & B) → C is not assertable, even though it will be true if either A or B turn out to be false.

A similar objection is based on hypothetical syllogism, another inference pattern which is validated by the material account but is allegedly invalid. For example, Adams (1975, p. 16) gives

(20) If Jones wins the election Smith will retire; if Smith dies before the election Jones will win; therefore if Smith dies before the election Smith will retire.

The structure is that we have premises B → C and A → B, and conclusion A → C; A is an unlikely event which brings about B in a way that rules out C. Again, it does not seem that such an example can produce a conclusion which is assertable, since A → ~C *will* be assertable.

In summary, the simple theory seems to have the resources to cope with the kind of example in this section in the same way it handles the original "paradoxes of material implication", by treating the problematic conclusions as true but unassertable.

6. Concluding remarks

I end with a sketch of one final application of the main idea of this paper, that we are systematically confused between the truth and assertability conditions of indicative conditionals. If indicative conditionals are truth-functional, they are very unlike subjunctive conditionals; we therefore face Strawson's challenge (1986, p. 230), to explain why we use the word "if" for two such different purposes. The problem is perhaps particularly acute with future tense conditionals: is it really credible that

(21) If I were to drop this vase, it would shatter

is to be given radically different truth conditions from

(22) If I drop this vase, it will shatter?

Here is the beginning of an answer. On the simple theory, (22) is assertable only if we know the material "drop ⊃ shatter". We have this knowledge via knowledge of some law-like relation which is, in some way or other, intimately connected with (21). So even though (22) has much less demanding truth conditions than (21), one will not normally be in a position to assert it without knowing (21). Thus (21) has to do with the assertability, not the truth, of (22).[10]

This deserves a fuller discussion which I cannot give here. But I hope I have said enough to show that the material account, and the simple theory in particular, can survive encounters with a wide variety of examples.

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NOTES

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1 Some have gone as far as extensive empirical investigation (see for example Evans and Over (2004)). The evidence seems mostly to confirm, however, that people's views about conditionals are highly confused.

2 For example, all four of: (i) p entails p or q, (ii) p or q entails if not-p then q, (iii) entailment is transitive, and (iv) p does not entail if not-p then q are intuitively correct, but they are jointly inconsistent. Here as elsewhere in the paper, I assume without argument that conditionals do have truth values.

3 I have discussed these methodological matters in a bit more detail in Section 7 of Rieger (2013).

4 This objection was first made to me by Richard Dietz in a private communication; I think I have also received it every time I have presented the simple theory in a talk. I am also grateful to Dietz for pointing out to me some common features between my theory and that of von Wright (1957), at least as regards the assertability conditions.

5 The phenomenon of casualness about scope in the context of conditionals is by no means limited to negation. For example, people sometime express an entailment by “if p, then necessarily q” when q is clearly contingent (even on the supposition of p); what is really meant is “necessarily, if p then q”. For an interesting suggestion that the confusion between “if p, then obviously q” and “obviously, if p then q” is relevant to moral philosophy, see Lenman (2004).

6 Grice’s own use of the example is different, and indeed somewhat obscure – he uses it to introduce his “bracketing device” which is supposed to indicate what is “common ground” between speaker and interlocutor.

7 For those unfamiliar with British politics, the Prime Minister after the next election is extremely likely to be one of the leaders of the two largest parties, Cameron (Conservative) or Miliband (Labour); Clegg, the leader of the smaller Liberal Democrat party, has only a remote chance of becoming Prime Minister.

8 As well as belief, Edgington also puts the example in terms of judgments of probability. The connection between these judgments and assertion is certainly looser than the relation between flat-out belief and assertion. But the issue of what exactly it means to judge a conditional probable is a complex one. I will not attempt to address it here.

9 This assumes (as seems plausible in (19)) that ~B is not known. If one *is* in a position to know ~B, then (A & B) → C is still not assertable according to the simple theory, since one then knows the negation of the antecedent.

10 This is why one has to work hard to construct a future tense example where it is intuitive that the indicative and the corresponding subjunctive differ in truth value: see for example Edgington (1995: 239). Her examples require knowledge of a future disjunction not based on a law, a rare situation.

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