

In Defense of ' \supset '

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IN DEFENSE OF '⊃'

What, after all, is the relationship between the English word 'if' and the horseshoe operator of elementary logic? If we regard such conditionals as 'if Tom marries Joan, Susan will be unhappy', or 'if you drop that, it will break', as truth functional, is this justified, or is it, as some philosophers have said, definitely wrong?

In elementary logic, for the purpose of analyzing arguments, etc., we do regard such statements as these as truth functions of their components; we say that their truth values depend on the truth values of the components and on nothing else. So, for example, the first statement I mentioned is counted as true if Tom will not marry Joan, whether or not Susan will be unhappy, as true if Susan will be unhappy, whether or not Tom will have married Joan, and as false in the one case in which Tom will marry Joan and Susan will not be unhappy. Now, it is possible to hold that in logic we adopt this interpretation of conditionals merely for convenience, because of certain given purposes, so that the view is a kind of crude approximation to the facts. Then someone would be entitled to use truth-functional logic and make certain claims on its behalf without being committed to the view of conditionals in question being anything more than crude approximation. But one can still ask: If it is nothing more than an approximation, how good a one is it? And one can raise the same question in a more dramatic way by asking: If someone does hold that the view is perfectly correct, is he right or wrong? I think it is no exaggeration to say that practically everyone who has discussed

* This essay was one of the late James F. Thomson's unpublished papers. We believe that he wrote it in 1963 or 1964. We are grateful to Carolyn Farrow for transcribing the manuscript, and to Robert Stalnaker and James Higginbotham for helpful comments; we have made only minor editorial changes in preparing the essay for publication. [Note by George Boolos and Judith J. Thomson.]

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the question at any length has said that this would be definitely and flatly wrong, a quite definite mistake.

So many writers have held this view—from the late G. E. Moore and P. F. Strawson, down to my very youngest student—that one cannot help feeling that there must be something in it, or at least something behind it. But I am afraid that it is not clear to me just what there is in it, or behind it. So, without pretending to have a clear view of the matter, I would like to ask: Have any really conclusive reasons been advanced for thinking that conditionals of our type are not truth functional?

I say 'of our type', because I am anxious to restrict the discussion to some conditionals, namely, those of which it is at least plausible to hold that they are truth-functional. I am sure that many conditionals are not truth-functional. I shall not try to offer an exact delimitation of the ones to which I want my discussion to be relevant. But I explicitly exclude contrary-to-fact conditionals; also such conditionals as if true are logically or analytically true; and also those which J. L. Austin recently noticed, such as 'If you're hungry, there are some biscuits on the sideboard'. These latter have the peculiarity of not implying their contrapositives. Someone who says, 'If you're hungry, there are some biscuits on the sideboard', is not committed to saying that, if there are not any biscuits there, then his hearer is not hungry. This will have to do as a rough indication of the conditionals about which I do want to ask. They, I think, have the best claim of any to be truth functions if any have; that they have any claim at all has certainly been denied; and I want to ask whether any conclusive reasons for that denial have been put forward.

Let me start from this point: on the truth-functional account of a conditional, each of the following statements is true:

- If Napoleon is alive, Oxford is in France.
- If Napoleon is dead, Oxford is in England.
- If Napoleon is alive, Oxford is in England.

For each has either a false antecedent or a true consequent; the third of course has both. Now, these statements are admittedly rather odd. This has to be admitted by anyone. But what makes them odd? It is not of course enough to exclaim, 'But we just wouldn't say anything like that'—perhaps we wouldn't—but why?

One answer to our question is offered by what I should like to call the *received opinion* (RO) about conditionals. This is, roughly, to the effect that a statement 'if p then q ' is stronger than the corresponding material conditional ' $p \supset q$ '. 'If p then q ' implies ' $p \supset q$ ', but is not implied by it. In other words, for it to be true that if p then q , it has to

be true that p materially imply q , but this, though necessary, is not sufficient. What else is then required? Well, this extra necessary condition is variously described by those who hold what I am calling the RO. Sometimes they say that there must be some or other kind of connection between the antecedent and the consequent, or that the antecedent must somehow be relevant to the consequent. A more exact statement of the requirement is sometimes given in terms of the idea of a ground or reason. According to this, the antecedent must be so related to the consequent that the truth of the antecedent is or would be a reason for accepting the consequent. This then imposes a test on conditionals. And it is clear, or at least seems clear, that none of our three deviant conditionals passes the test. Someone who thought that Napoleon was still alive would not thereby have a reason for thinking that Oxford was in France; nor, for that matter, that it was in England. And those of us who suppose Napoleon long dead do not count his being so as among our reasons for thinking that Oxford is in fact in England.

So the received opinion does then supply us with an answer to our question. But let us notice carefully what that answer comes to. This RO says that such-and-such is a necessary condition for the truth of a conditional statement. Our 'odd' conditionals do not satisfy that condition. So, on any ordinary view of statements, it seems that someone who adopts that view is committed to saying that our odd conditionals are false. And this could be one explanation of why they do seem odd to us. But now is that right? Will it do?

To me at least it seems definitely wrong. The RO takes its stand on an appeal to ordinary language, to our ordinarily unformulated intuitions as to what we would and would not ordinarily say, being in possession of the relevant facts, and to what, being in possession of them, we would or would not call true. Now, it may well be that we would not ordinarily want to call the three odd conditionals 'true'. About this for the moment I express no opinion. But would we want either to call them false? It seems to me that anyone who hesitated at calling them true would hesitate equally to call them false. If you gave a list of conditionals to someone uninterested in and ignorant of logic and asked him to mark them T, F, or ?, wouldn't he mark our three examples as '?'? I think he would.

And if this is correct, then the answer given by the RO is just mistaken. It follows too, of course, that the RO is itself mistaken. It claims to offer an account of the relationship between 'if p then q ' and ' $p \supset q$ '. But it will now seem that the account it gives is mistaken.

In case this victory seemed too easy, let me interpolate two remarks. An example of a "mode of statement composition" that ev-

everyone would agree to be non-truth-functional is that afforded by the schema ' p , and that because q '. For it to be true that Susan is unhappy and is unhappy *because* Tom has married Joan, it must be true that Susan is unhappy, and it must be true too that Tom *has* married Joan. But these necessary conditions are plainly not sufficient, since it might be true that Susan is unhappy not because of Tom—even in fact *despite* Tom having married Joan. So here we can say that ' p and that because q ' implies but is not implied by ' p and q '. Furthermore, since the extra condition required by the former type of statement is not anything to do with the truth values of p and q (it may of course have something to do with the truth values of some other statement or statements), this really does make it clear that ' p and that because q ' is not a truth function of p and q . And so it is at least clear that, if anyone holds that 'if p then q ' is non-truth-functional in much the same way as ' p and that because q ', he is just wrong about the linguistic facts. For if Susan is unhappy despite Tom's having married Joan, the statement that she is unhappy *because* Tom married Joan is flatly and definitely false. But if Tom does not marry Joan, it is not in the same way or to the same extent flatly false to have said, 'If Tom marries Joan, Susan will be unhappy'. So I can at least claim that the RO owes us an explanation of the kind of non-truth-functionality that is, according to it, exemplified by 'if p then q '.

The second remark is this. You may feel that I am taking the RO in too down-to-earth a way. Perhaps I am—I admit it. I am supposing that, if someone says that 'if p then q ' implies, but is not implied by, ' $p \supset q$ ', he really does mean that the inference from ' $p \supset q$ ' to 'if p then q ' is in general fallacious; and I suppose that, if this is so, there have got to be values of ' p ' and ' q ' for which the inference fails, i.e., values which make ' $p \supset q$ ' true and 'if p then q ' false (at least, on any conventional view of statements, validity and nonvalidity). And of course I am supposing, too, that our examples supply such values—but if these do not I am not sure what examples would. And if to suppose this is to be unsympathetic, then I must plead guilty of the crime.

But anyway, if this is not what the RO wants to say, what does it want to say? There is a temptation here to fall back on saying: despite what you have said, ' $p \supset q$ ' does fail to imply 'if p then q ', but in the following sense, namely, that the former might be true, whereas the latter is, not quite false, but all the same something we should not be willing to assert. But, in the first place, there is surely no such sense of 'implies' as that. To say that one statement does not imply another is surely to say that anyone who claimed to be able to deduce the other from the one would be arguing fallaciously. Consider: if you

say that I owe you five pounds, and I say, 'so it follows then that I owe you 2400 halfpennies', then my saying that may well be out of place, pointless, anything you like. But it is one thing to say that we would not "ordinarily say that," and quite another thing to object that it does not follow, i.e., that I have *made a mistake in my arithmetic*. And, in the second place, to fall back on inventing a sense of 'entails' or 'implies' is only to leave the original problem where it was. For it has already been conceded that there is something queer about our three examples of conditionals. We are trying to find out just *what*. And so it should still seem that the RO either gives the wrong answer to our question or gives none at all, but simply restates the problem.

But at this point a way of reinterpreting the RO will I think occur to us. Let us agree that our examples are not naturally called 't' or 'f'. Then they are so far indeterminate. And let us take the RO as laying down, not a necessary condition for the truth of a conditional, but a necessary condition for its being determinate. Call this the RO, second version.

Strawson,¹ who quite explicitly says that 'if p then q ' implies but is not implied by ' $p \supset q$ ', and so holds what I called RO, actually seems to me to vacillate between RO and something like this second version. He says:

The standard or primary use of an 'if . . . then . . .' sentence, on the other hand, we saw to be in circumstances where, not knowing whether some statement which could be made by the use of a sentence corresponding in a certain way to the first clause of the hypothetical is true or not, or believing it to be false, we nevertheless consider that a step in reasoning from that statement to a statement related in a similar way to the second clause would be a sound or reasonable step; the second statement also being one of whose truth we are in doubt, or which we believe to be false. Even in such circumstances as these we may sometimes hesitate to apply the word 'true' to hypothetical statements (i.e. statements which could be made by the use of 'if . . . then . . .' in its standard significance), preferring to call them reasonable or well-founded; but if we apply the word 'true' to them at all, it will be in such circumstances as these. Now one of the sufficient conditions of the truth of a statement of material implication may very well be fulfilled without the conditions for the truth (or reasonableness) of the corresponding hypothetical being fulfilled; i.e., a statement of the form ' $p \supset q$ ' does not entail the corresponding statement of the form 'if p , then q '. But if we are prepared to accept the hypothetical statement, we must in consistency be prepared to deny the conjunction of the statement corresponding to the first clause of the sentence used to make the hypotheti-

¹ *Introduction to Logical Theory* (London: Methuen, 1952).

cal statement with the negation of the statement corresponding to its second clause; i.e., a statement of the form 'if p, then q' does entail the corresponding statement of the form ' $p \supset q$ ' (*ibid.*, p. 83).

Now, I think it has to be agreed that it is not really clear what this comes to. Implicit in it are the following suggestions:

- (1) We often hesitate to apply 'T' or 'F' to a conditional, and prefer to call it 'well-founded' or 'reasonable'.
- (2) We shall be most ready to call a conditional "reasonable" if its antecedent does or would provide us with a reason for accepting the consequent.
- (3) But, if we are going to call a conditional "true," it will be when it is reasonable in that sense.
- (4) But, anyway, it is not just *any* reasonable conditional that we should even then be willing to call "true"; we should be willing to call it true only when it is made in what we might call "standard circumstances," i.e., when the speaker either does not know whether the antecedent is true or believes it false, and does not know whether the consequent is true or believes it false, and (thirdly) thinks that the truth of the antecedent would be a ground or reason for accepting the consequent.

And here several questions seemed to be mixed up. Let me try to untangle them. First, suppose someone to say, 'If Tom marries Joan, Susan will be unhappy', and suppose him to say this simply for effect, irresponsibly, and having no reason to think that Tom's marrying Joan would be likely to make Susan unhappy. Then he is not making the statement in what I called standard circumstances, i.e., he is not using his sentence in what Strawson called the primary or standard way. But suppose further that we, his hearers, happen to know that Susan is in love with Tom and will be unhappy if he marries Joan and not her. Now, does Strawson wish to hold that it would be wrong for us to say, "That's true, she certainly will," or to say, "That's a reasonable thing to suppose"? Taken in one way, what he says does suggest that he would deny this, just because the utterance of the conditional does not exemplify his conditions for the "standard use." But, of course, taken in another way, he might deny it. He might say that, if we, his hearers, repeat his statement, we shall be making the statement in standard circumstances, and will then be entitled to call our statement true, and then, if we are making the same statement, we are entitled to call the other man's statement true as well.

I submit that we ought anyway to call this other man's statement true. What he says is true, even though he has no reason (in the appropriate sense of 'reason') for saying it, i.e., he has no reason to

think it. Also, his statement is a reasonable one. It is not of course reasonable for him to make it. But it is a statement for which good reasons can be given. (About whether it can be called well-founded I admit doubts, but I shall not bother about this.)

Let us suppose then that Strawson would be willing to admit that the irresponsible man's statement can be called true (if of course we are prepared to call any conditional true).

But there is now another difficulty. Strawson says that it is in such "circumstances as these" that we shall be willing to apply 'true', if we are willing to apply it at all, namely, when its antecedent does or would provide us with a reason for accepting the consequent. But all that is guaranteed by our making a conditional statement in these circumstances is that we think that the step in reasoning from antecedent to consequent would be sound or reasonable. And, of course, from our thinking that it would be it hardly follows that it is. And so, when he speaks of our thinking that the step from p to q would be sound or reasonable, he must mean that we shall not be making the conditional in standard circumstances unless we think that the step would be sound or reasonable *and* think this rightly. So the conditions for a step to be "sound or reasonable" must exclude this much, at least that the step is from a true statement to a false one. For otherwise, if this is not excluded, 'if p then q ' might be reasonable enough, in the sense that it would be reasonable to think it yet ' $p \supset q$ ' be false; but then it would be quite wrong on any view to say that 'if p then q ' implies ' $p \supset q$ '. Perhaps this is intended by Strawson; perhaps that is the point of the word 'sound' in the phrase 'sound or reasonable'—a sound inference being one which is at least not from a truth to a falsehood. But an obvious question now arises. The idea was, we thought, that, 'if p then q ' had to satisfy conditions of some sort which ' $p \supset q$ ' did not need to. But those conditions cannot merely be that the step from p to q should be sound in that very weak sense, since ' $p \supset q$ ' has to satisfy that condition, too. So, what does 'if p then q ' have to be to be called reasonable over and above the step from p to q being sound in that weakest possible sense?

Now, if Strawson was trying to characterize the conditions for a conditional to "sound all right," in the way that our three odd ones do not, then obviously he has failed, since it is not a necessary condition for a conditional to sound all right that it should not be materially false. 'If Tom marries Joan, Susan will be unhappy' sounds all right and may still be materially false. (I just think that Susan is in love with Tom; she is not really.) But there is another and more serious trouble. Satisfaction of Strawson's other requirements is not sufficient for a conditional to sound all right—and, worse still, a

conditional may sound all wrong and (not only satisfy all Strawson's requirements but also) be all right.

Suppose, for example, that you and I are arguing about conditionals, and you say that some connection is required between antecedent and consequent, or something like that, and I deny it. I ask you to consider 'If there is a copy of *Moby Dick* on that table, then there was at least one very large Great Dane with a solid gold collar in Paddington Station yesterday'. I ask you whether this is not true. You look, and see that there is no copy of *Moby Dick* on the table, and think (I hope) that the conditional is true, but only as a material conditional, and that, since there is no connection, it does not count as true in any other better way. I hope you say that, because I now tell you that Mary said that she might be coming to Oxford, and that if she came she would return my copy of *Moby Dick* and (if I was not in) leave it on the table; so that if there is a copy of *Moby Dick* there, Mary came from London to Oxford yesterday, so that, since she certainly came by train, she must have been in Paddington; and finally I add that Mary never travels without her dog, which is a large Great Dane, etc.

The point of this example is: it may look as though someone is asserting a conditional for no better reason than that it has a false antecedent, and yet this may not be the case at all. If we see no way in which the antecedent is relevant to the consequent, but notice that the antecedent is false, we may guess that it is being asserted just because the antecedent is false. But, my only point is, we may be wrong in our guess.

It seems, or I anyway now want to suggest, that we must distinguish between two things that Strawson confuses. There is the question when, if at all, we say that a conditional is true (perhaps in the sense of being somehow reasonable), and the question when a particular act of assertion of a conditional is both reasonable as an act and is in point. I hope to make it plausible that our odd conditionals are not odd as statements, that what is or would be odd is the act of making them, or rather, that to make them would, in a sense, be absurd. The way will then be left open for our calling them true if we so wish; I shall make a rather half-hearted recommendation in that direction.

It is sometimes said that the material truth of such a conditional as 'if Napoleon is alive then Oxford is in France' follows from the truth table for '⊃'. This is in one way false, and on any view careless. For the only statements whose truth is guaranteed by the truth table are the tautologies, and that statement is not a tautology. If we are willing to call it true (or materially true) then its truth is contingent,

because contingent on the fact that Napoleon is dead. What we can assert on the basis of the truth table alone is:

If Napoleon is dead, then, if Napoleon is alive, then Oxford is in France.

And if we are willing to suppose it true that Napoleon is in fact dead, we can apply *modus ponens*, and so arrive at the consequent of the tautology. That truth-functional logic allows us to do that is certainly a fact. It does permit the inference from 'not- p ' to 'if p then q ' and from ' q ' to 'if p then q '. And a supporter of the logic must then be willing to say that these inferences are valid. But he need not say that it would be reasonable actually to draw them, or to acquiesce in someone else's drawing them. Consider a parallel case (perhaps too nearly parallel to suit my purpose, but never mind): A says to B , "I heard from John; he's in Rapallo," and B replies, "Oh. It follows then that he's either in Rapallo or somewhere in the Shetlands." B 's remark will now be found puzzling and pointless. Why does he bother to say that? But to criticize his remark on such grounds as these is one thing; to say he has committed a logical mistake, argued fallaciously, is quite something else.

Let me try to bring out the oddness of this kind of argument. There is an oracle (O) that makes statements, and an acolyte, a recorder (R), who records them. R also makes deductions from the statements so recorded. So if O says on one day ' p ', and on another 'if p then q ', R writes these and also may write down ' q '. R allows himself just such deductions as are codified in elementary logic. I shall suppose that, if O seems to contradict itself, R notices this, blames himself, and makes such minimal alterations in his book of records as will preserve consistency. If now O says ' p ', R will certainly write down ' p ' and he *may* also, for all we have said, write down 'if not- p then q '. But he *will* not. For, if he writes down 'if not- p then q ', he will not be able to use this to any purpose. For if O were to say 'not- p ', R could not deduce ' q ', but must notice the inconsistency and square his book; if he erases 'not- p ', he cannot now appeal to *modus ponens*, since he lacks a necessary premise, and if he erases ' p ', he loses his ground for saying 'if not- p then q ', and so again lacks a necessary premise. Nor, if O says ' q ', will he write down 'if p then q '. For if later O were to say ' p ', there would be no point in appealing to *modus ponens* to get ' q ', since *ex hypothesi* ' q ' is already in R 's book. And if O were later to say 'not- q ', R could not appeal to *modus tollens* to get 'not- p ', but must as before square his book.

The point here is one made quite some time ago by W. E. Johnson, and it can be generalized. If we allow that 'if p then q ' follows from

'not- p ', we must allow, too, that whatever follows from 'if p then q ' and 'not- p ' together follows from 'not- p ' alone. Again, if we allow that 'if p then q ' follows from q , we must allow, too, that whatever follows from 'if p then q ' and q together follows from q alone. This means that in general there will be nothing R might wish to deduce for the deduction of which he would need as extra premises what he here and now deduces from what O says. O , as it were, gives R all he needs; initiative is not called for in the recorder's job. Now, one purpose we have in deducing consequences from a set of premises is to see what simpler statements, statements whose content is more easily grasped, are entailed by those premises. (For of course infinitely many statements are entailed by any set; but it is not likely to be interesting that from, e.g., p we can get 'if q then p and q '. Or rather, it will be interesting if we are interested to know, in respect of some particular statement q , what we should be able to assert and are not now able to assert, if it were discovered that q .) And so, it is going to be a waste of time to infer 'if p then q ' from 'not- p ' or from ' q '. The logic allows it, yes. But that does not mean that we have got to do everything that the logic allows. As Ludwig Wittgenstein remarked, in a rather different connection, just because there is no fence along the top of a cliff does not mean that you have got to fall over. Not everything not excluded by the rules is thereby encouraged or required.

But this will not be thought a complete defense. It deals with the case of a man who says 'not- p ', so 'if p then q '. But it does not deal with the case of a man who says 'if p then q ' on the sole ground that not- p .

To try and deal with this case, let me first go back to the oracle. Let us now suppose that customers come from time to time and ask: Does O think that so-and-so? R looks through his book to see what O has said about the matter, and also what O has committed itself to. If, for example, the question is whether it is so that p and if O has not said p or said 'not- p ', but has said (e.g.) r and 'if r then p ', R will say, O thinks that p . Suppose now that a customer asks whether it is the case that if p then q ; and R , looking through his book, finds that O has in fact said quite explicitly that q . Now what shall he say? I want to say that this is not a question of logic at all but a question of commercial policy and perhaps of commercial ethics. A generous and helpful recorder will say: "Well, as a matter of fact, he's said q outright. So, if p then q , and also if not- p then q , if you see what I mean." But then why should he? If the customer is paying for information, why give him more information than he is paying for? And so he may say: O thinks that if p then q , i.e., the answer to your question is "Yes."

The point here is that q contains more information, at least in general, than 'if p then q '. And 'not- p ' contains more information than 'if p then q '. (An aside: the notion of information needed here can be made quite exact if we (a) make an agreement about what is to count as an atomic statement and (b) assign a probability measure over our atomic statements. But any set of statements will do as a set of atomic ones provided they satisfy certain quite formal requirements, i.e., we are not going to be committed to any metaphysics.)

In the same way p will in general give more information than 'either p or q '. Now, in ordinary life we expect each other to be at least moderately generous with our information. So if you ask me where John is, and I say 'either in Oxford or in London', you will tend to take for granted that I am giving you as much information as I relevantly can. If you later discover that I knew at the time that John was in Oxford, and either did not want you to know that, or did not want you to know that I knew, you will think that I was mildly dishonest. For I allowed you to believe that I did not know whether he was in Oxford or not; although I was perhaps, in a casuistical kind of way, careful not to say, in so many words, 'I don't know which'. Whether this should be called lying I am not clear. But this much is obvious: if I say that John is either in Oxford or in London, and say nothing more, then, if John is in fact in Oxford, I have not said anything false, since what I do say is compatible with all the relevant facts.

Compare that case with a slightly different one. A child asks to be taken to the circus. His mother already intends to take him to the circus, but says, 'If you're good I'll take you'. This is a deception (perhaps justifiable) of much the same kind. For the child will tend to suppose that he will be taken to the circus only if he is good, whereas the fact is, we are supposing, that he will be taken whether he is good or not. Here we see clearly that the mother did not say, though she did allow and perhaps even encourage the child to believe, that if he was not good he would not be taken. So, in giving the child less information than she might have done, she may bring it to behave in a different way than it otherwise would.

I think we are now in sight of a clearer view of what is a moderately complicated situation. In saying 'if p then q ' a speaker will say something which is in general anyway true or false. But by the act of making the statement he will do other things, too. He will encourage us to think that he has some or other reason for thinking that if p then q and that his reasons are not such as to allow him to assert not- p nor such as to allow him to assert q . If we take these conditions as defining a sensible assertion act, we can offer a suggestion about the

three odd conditionals with which we started off. What is odd about them will now seem this: if someone were to assert any of them, he would not, we feel, be making a sensible assertion act. For either his reason lies in the falsity of the antecedent or in the truth of the consequent; or it does not and then we just do not see what his reason could be.

And to give this account leaves the way open to say that these conditionals are true, after all. Should we take it? We do not need to. But I think we can if we like. And we may be emboldened to take it when we notice that language already has a device that will, so to speak, ease the shock: the phrase 'trivially true'. A certain logician once made a conjecture to the effect that every sequence of rationals that satisfied a certain condition (was definable in a certain system) had a certain property. Another logician showed, quite some time later, that no sequences of that kind were definable in that system anyway. Both logicians put it that conjecture had been shown to be trivially true.

One more point. When someone makes a conditional statement, we not only tend to suppose him to have reasons of a nontrivial sort, but tend actually to impute particular reasons to him. This is, I believe, at least part of the explanation for the idea that a conditional at least typically exhibits a stronger connection between antecedent and consequent than is suggested by the truth table for \supset . Thus, if someone says, 'If you drop that glass it will break', we tend to suppose not just that he has a reason for thinking so but that he has this reason in particular, namely, that the glass is brittle and the floor beneath it hard. And because of that, we read what we take to be his reason into the statement itself, and behave as if he had said, 'If you drop it, it will break and will break because it is brittle'. Now this, regarded as a function of three statements—'You will drop it'. 'It will break'. 'It is brittle'.—is certainly not a truth function of them. Indeed, if we take his statement to be (roughly) 'If you drop it, it will break and will break because you dropped it', then that, though a function of 'you will drop it' and 'it will break', is not a truth function of them anymore than 'If Tom marries Joan, Susan will be both unhappy and unhappy because of Tom's marrying Joan' is a truth function of its components. No wonder then that philosophers have denied that 'if you drop it, it will break' is a truth-functional conditional.

Perhaps the easiest way of coming to see that we should not import the imputed reasons into the information conveyed by the statement is by paying more attention to cases where it is easy to go wrong over

one's "imputation." So, to end, let me mention a rather farfetched case of that kind.

An astronomer, living among a barbarous and savage tribe, employs the following device to maintain his prestige and keep himself out of the cooking pot. From time to time he says, 'If I clap my hands there will be an eclipse'; and when challenged, claps them. And of course there is. He is careful to say this only when he knows there will be an eclipse. Perhaps we, who also live among these people, will remonstrate with him: 'But (we say), there is going to be an eclipse whether you clap your hands or not'. He has a reply to this: 'Your point is', he says, 'that there will be an eclipse if I clap, and will be one if I don't. Quite so. So you are saying that if p then q and that if not- p then q , and I was just saying if p then q , so what I said follows from what you said, and how can it be an objection to me to say something from which what I said follows'. So we shall have to fall back on saying that he is deceiving the natives, since they come to believe that there is a causal or a magical connection between his hand-clapping and eclipses. And then of course he will have to agree that this is his intention.

Now, so far we have one and the same statement made for two different reasons. The astronomer says that if he claps there will be an eclipse, for no better reason than there will be an eclipse. The savages say that if the astronomer claps there will be an eclipse, and say this for a more interesting reason, but a superstitious one. But notice now that we, who do not know much about eclipses, but do know a lot about the astronomer, may have a third reason for saying that if he claps there will be an eclipse, and this not a superstitious one; the astronomer will not clap unless he thinks there will be an eclipse because he will not want to lose face, and he is not likely to think there will be an eclipse unless there is going to be one, because he is a good astronomer, and because he has every reason (the cooking pot) for not making mistakes. So if one of us says 'Will there be an eclipse? Yes, I think so, because I saw the astronomer clapping in the market place', he is making a sound or reasonable step, and is then entitled to say that if the astronomer claps his hands there will be an eclipse.

So we have now the phenomenon of one and the same statement made for three quite different kinds of reason: the astronomer's, cogent but dull; the savages', not dull but silly; ours, cogent, and far from silly. Plainly then, it will not do to import the reasons for which the conditional is asserted into the meaning of the conditional.

So what hope is there of being able to pick out conditionals as

(somehow) *specialy* true, not just *materially* true, in virtue of a connection between antecedent and consequent, either of the “step in reasoning” kind or of some other kind? I hope I have made it plausible that there is not much. That is why I said at the beginning that I was not happy about the current rejections of the material conditional. For they all seem to promise an account of nonmaterial truth of a conditional which will accord better with our actual speech habits than the account provided by the truth table. I have tried to make it look as if those promises were just promissory. And then the way is left open, as I said, for calling ‘true’ any conditional that is just “materially true.” I did not say that we had to take that way that was left open. Nor did I say that there might not be an account of ‘real’ conditionals which fared better than those I have discussed. But certainly I do not know of any.

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