Conditionals, Part IA: Meaning.

Lecture I, *The Equivalence Thesis and Grice*, 8th February

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Why study conditionals? Conditionals statements are incredibly useful and are ubiquitous inside and outside of philosophy. If we extend this to conditional promises, commands, and so on, even more so. But they are also mysterious—getting a good philosophical understanding of them is difficult.

1. Indicative, Subjunctive, and Material Conditionals

1.1. We should begin by distinguishing two kinds of conditionals in natural language. Consider:

(1) If Oswald did not kill Kennedy, then someone else did

(2) If Oswald had not killed Kennedy, then someone else would have.

Plausibly, (1) is true and (2) is false. At the very least, we have different reasons for rationally accepting (1) vs. (2). My believing that Kennedy was killed by someone is enough for me to accept (1) but not enough for me to accept (2). (1) and (2) do not mean the same thing, see (Adams, 1970).

1.2. Conditionals of the first kind are known as *indicative conditionals*. Conditionals of the second kind are known as *subjunctive conditionals*. (Sometimes, (2) is called a *counterfactual* conditional because typically conditionals like (2) are uttered when the antecedent is taken to be false, i.e., *counter* to the *fact*.) Most think that subjunctive conditionals like (2) are modal claims, indicated by modal words like 'had' and 'would'. Subjunctive conditionals are clearly not truth-functional. This is demonstrated by:

(3) If Margaret Thatcher had been a penguin, she would have won the 1979 election.

(4) If Margaret Thatcher had been a penguin, she would have had two feet.

To labour the point: Margaret Thatcher is not a penguin, so both antecedents are false; but she did win the 1979 election and she does have two feet, so both the antecedents are true; however, (3) *overall* is false and (4) is true. Thus, subjunctive conditionals are not truth-functional.

1.3. Now, for the rest of this we'll put subjunctive conditionals to one side. Here, we are interested in indicative conditionals. In particular, we'll be discussing how the indicative conditional relates to the conditional in propositional logic, the *material conditional*. The material conditional is just stipulated as follows.

Truth Table for the Material Conditional ($\supset$):

$\supset$	T	F
T	T	F
F	T	T

(In other words: $(p \supset q) := (\neg p \vee q)$)

Obviously, the material conditional is truth-functional—it is just a truth-functional logical connective that we introduce into the language of propositional logic. In this way, it differs from the indicative conditional: the indicative conditional is one of the conditionals used in natural language.

2. The Equivalence Thesis.

2.1. An influential idea is that the material conditional of propositional logic and the indicative conditional in natural language are equivalent in the sense that they have the *same truth conditions*. This is labelled the *Equivalence Thesis*. Of course, an immediate corollary of the Equivalence Thesis is that the indicative in natural language is truth-functional. At first glance, this might sound implausible. Why should we think this?

2.2. A quick, but not very compelling motivation, would be that it makes the semantics for indicatives *nice*. That is, simple, easy to use, no longer mysterious, and so on. A more compelling motivation is that something like the equivalence thesis seems to follow from the validity of certain arguments, see (Stalnaker, 1975).

Direct Argument (DA) There's been a murder. Suppose that either the Butler did it or the Gardener did it. Well, if that's true, we can conclude that *if* the Butler didn't do it, then the Gardener did.

(DA) seems to involve some good reasoning, it's a valid argument. But note that in (DA) we conclude an indicative conditional—*If* the butler didn't do it, *then* the gardener did—from a *disjunction*: either the butler did it or the gardener did it. The disjunction $B \vee G$ is equivalent to the material conditional $\neg B \supset G$. Thus:

(A) The material conditional $\neg B \supset G$ entails the indicative conditional $\neg B \rightarrow G$

In fact, this didn't have anything to do with the particular case. It looks like the lesson should be:

(A^G) Any material conditional $A \supset C$ entails the indicative conditional $A \rightarrow C$

Moreover, it is uncontroversial to think that generally the indicative conditional implies the material, i.e.,

(B) Any indicative conditional $A \rightarrow C$ entails the material conditional $A \supset C$

Thus, from (A^G) and (B) the indicative conditional and the material conditional are *logically equivalent*—they thus have the same truth conditions as the Equivalence Thesis claims. So, even if the Equivalence Thesis looks at first glance implausible, there are some good arguments for it.

2.3. There are also famous problems with the Equivalence Thesis.

(a) False Antecedent It is sufficient for the truth of a material conditional that the antecedent is false. If the indicative and the material have the same truth conditions, then there are true conditionals like

(5) If Sir Keir Starmer is dutch, then he'll win a landslide victory in 2024

(5) is far from obviously true as an ordinary sentence of English. In fact, it looks false.

(b) True Consequent It is sufficient for the truth of a material conditional that the consequent is true. If the indicative and the material have the same truth conditions, then there are true conditionals like

(6) If the moon is not made of cheese, then Paris is the capital of France.

Again, (6) is far from obviously a true sentence of ordinary English.

(c) Connection The material conditional is truth-functional, it only matters what the truth of the component parts are, not what they are about. However, it would seem that indicative conditionals seem to require some connection. This generates another reason for questioning the Equivalence Thesis:

(7) If $2 + 2 \neq 5$, then Sir Keir Starmer will win a landslide victory in 2024.

Again, (7) is far from obviously a true sentence of ordinary English. But now we can see a further problem to the issue raised in *false antecedent*. Namely, that (7) looks wrong because the truth or falsity of $2 + 2 = 4$ has nothing to do with whether Sir Keir will win a landslide victory.

2.4. These three problems (a)–(c) are collectively known as *the paradoxes of the material conditional*. Of course, the source of the 'paradox' is not the material conditional alone. Rather, it is the claim that the material conditional and the indicative conditional are equivalent: (5)–(7) are, counter-intuitively, deemed to be straightforwardly *true* if we accept the Equivalence Thesis.

3. Grice and The Equivalence Thesis

3.1. An obvious response to these problems is just to reject the Equivalence Thesis. But what should you say if you wanted to hold on to the Equivalence Thesis? One approach is to explain away the *oddity* of (5)–(7) without claiming that (5)–(7) are strictly speaking false. This is the approach taken by Paul Grice.

3.2. We should first pause to discuss Grice's general idea of conversational norms and implicature, see (Grice, 1989). Grice's starting idea is that our assertions are governed by a general pragmatic rule, nicely summarised as 'be helpful'. This general rule breaks down into other, more specific rules like 'be relevant', 'be clear', 'be appropriately informative', and so on. Such rules govern our conversational practices. That is, we make sense of what other people are saying by tacit reference to such rules. Consequently, if those rules are broken, we are able to communicate more than what we strictly speaking say. This conveying of further information beyond what is said is known as *conversational implicature*.

3.3. Some examples will nicely illustrate the idea that we tacitly follow rules such as 'be relevant, clear, appropriately informative' and show how breaking them conveys extra information.

> **Example 1: Bus Stop**
> You are waiting in the morning at a bus stop and your bus (the x60 service) is arriving in ten minutes. You also know that it arrives every half an hour, at half past and the hour. Someone asks whether the x60 service stops at this bus stop. You respond, "Yes, the x60 stops here at 15:30."

What you have said here is very *misleading*. Of course, you haven't outright lied in this case: there is indeed an x60 arriving at 15:30. However, it is reasonable to assume that the person asking will want to know whether their bus will stop here and when the next bus arrives at the stop. If the other person is assuming that you are being as helpful as possible, your answer will convey that the bus does not stop any sooner than at 15:30. This information conveyed (but not said) is the conversational implicature.

> **Example 2: Reference Letter**
> The university advertises a job and you apply. In your reference letter, your previous employer writes that you have excellent handwriting and are always on time for meetings. That's it.

Of course, this is a terrible reference letter, since it doesn't tell the hiring committee anything interesting about the candidate. But this is not the only problem. Such a letter actually conveys a negative assessment of the candidate. If we assume that the writer is being as helpful as they can be, the letter conveys something like '... and this is all I can say about this candidate, they are terrible, do not hire them'.

3.4. Conversational implicature is a pragmatic phenomena. As such, the extra information conveyed can always be *cancelled*. In Example 1, if you had then gone on to say that they come every half an hour, and one is coming in ten minutes, then you would of course no longer imply that there is only one bus and it is coming at 15:30. Likewise, with the reference letter: the implication can be cancelled by the letter writer going on to say more about the candidate, i.e., how good they are.

3.5. Now, back to conditionals. How does this help with the so-called paradoxes of material implication. Recall that (5) was far from obviously true and that there certainly something odd about it.

(5) If Sir Keir Starmer is dutch, then he'll win a landslide victory in 2024.

According to the Equivalence Thesis, since (If p, then q) is equivalent to ($\neg p \vee q$), (5) is equivalent to:

(8) Either Sir Keir Starmer is not dutch or he'll win a landslide victory in 2024.

(8) is not false because the first disjunct is true. But (8) is clearly a misleading thing to say. Assuming that conversation is governed by the kind of Gricean norms we discussed, (8) is *not assertible*. By the Equivalence Thesis, (8) and (5) are equivalent, so if (8) is not assertible, then neither is (5). The thought, then, is that, although (5) is strictly speaking true, it strikes us as odd because it is simply not assertible. Generalising: if we have good reason to believe $\neg p$, we should not assert $\neg p \vee q$ if our aim is to be maximally informative. We should just assert $\neg p$. We should not assert 'If p, then q' with good reasons to believe $\neg p$.

3.6. The same kind of Gricean diagnosis can be given for what goes wrong with (6), i.e., conditionals which are true just because the consequent is true. If I have good reasons to believe the consequent, I should not assert the disjunction with that consequent, rather I should just assert that very claim. That is, I believe that Paris is the capital of France. As such, I should not assert

(9) Either the moon is made of cheese or Paris is the capital of France

Rather, I should assert simply that Paris is the capital of France. (9) is, given the Gricean norms, unassertible, since it violates the maxim of being helpful. But, according to the Equivalence Thesis, (9) is equivalent to

(6) If the moon is not made of cheese, then Paris is the capital of France

So, (6), whilst perhaps strictly speaking true is not assertible. That's what goes wrong with it.

4. Problems for Grice

4.1. Grice gives a nice explanation of how the Equivalence Thesis can be maintained whilst we accept that there is something odd, or wrong sounding, about the conditionals (5) and (6)—the moral should be that they are not assertible, not that they are false. Is this solution general enough? There are reasons to worry.

4.2. One worry is that lots of conditionals, which turn out true according to the Equivalence Thesis, are not just bad because they cannot be asserted, but we should just not *believe them* at all. That is, suppose I believe that Sir Keir Starmer is not dutch. By the principle that I should believe anything which I can recognise as logically following from what I already believe, then I should believe (5). But *merely believing* (5) is bad. The strategy of appealling to norms of *assertion*, then, is not going to be convincing at all.

4.3. Another worry is that any account of conditionals should underwrite a good *logic* for conditionals: at the very least, it should explain why certain arguments involving conditionals are good, and others bad. But according to the Equivalence Thesis, the following is (rather implausibly) deemed to be a valid argument:

God & Prayers: (i) If God does not exist, then it's not the case that if I pray my prayers will be answered; (ii) I do not pray; Therefore (iii) God exists. [(i) $\neg G \supset \neg(P \supset A)$; (ii) $\neg P$; $\therefore$ (iii) G] (See (Edgington, 1995))

For our present concerns, the worry is that appealing to the conditions under which conditionals are assertible is not going to give any interesting defence of why the above should be considered good reasoning.

References

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