Part 1a, Paper 3 Logic | Michaelmas 2016

Philosophical Logic

Lecture 6: Conditionals

1. Indicative conditionals What does 'if' mean? Typically 'if' is used to express a conditional statement: some state of affairs is presented as a sufficient condition for another state of affairs. (Note, there also seem to be non-conditional uses of 'if'; e.g. 'your keys are on the table if you're looking for them'.) We can distinguish *indicative conditionals* and *subjunctive* conditionals (also known as counterfactual conditionals). Compare:

1. If Oswald didn't kill Kennedy, then someone else did. (Indicative)
2. If Oswald hadn't killed Kennedy, someone else would have. (Subjunctive)

2. Equivalence thesis What are the conditions under which the indicative conditional is true? The *Equivalence Thesis* maintains that these are the truth conditions for $\supset$ (material conditional). An indicative English sentence of the form 'if P then Q' is true unless P is true and Q is false. Accordingly, 'if P then Q' has the same truth conditions as 'either not-P or Q', and its *logical form* is that of $P \supset Q$.

The Equivalence Thesis seems attractive. The truth of an indicative conditional does *seem* to be a function of the truth values of its elements, i.e. its logical form seems *truth-functional*.

Argument for the Equivalence Thesis:

1. The logical form of the indicative conditional is truth-functional
2. If the logical form of the indicative conditional is truth-functional, then the logical form of the indicative conditional is that of $P \supset Q$
3. Therefore, the logical form of the indicative conditional is that of $P \supset Q$

3. Paradoxes of the material conditional The Equivalence Thesis makes what appear invalid arguments valid.

1. **Contraposition:** If Trump wins, it won't be by a large margin. Therefore, if Trump wins by a large margin, he won't win. ($P \supset Q, \therefore \neg Q \supset \neg P$)
2. **Negated Antecedent:** Andrew Jackson didn't die in 1835. Therefore, if Jackson died in 1835, he was president in 1836. ($\neg P, \therefore P \supset Q$)
3. **Antecedent Strengthening:** If I strike this match it will light. Therefore, if I pour water on this match and strike it, it will light. ($P \supset R, \therefore [P \wedge Q] \supset R$)

It seems beyond doubt that, if the logical form of the indicative conditional is truth-functional, then the logical form of the indicative conditional is that of $P \supset Q$ (premise 2). So we are faced with a problem for the Equivalence Thesis.

4. One possible solution: 'Pragmatics' Observation: not only truth determines the assertability of an indicative. Assertability can depend on what is 'implicated' by a statement. A claim can implicate certain things that go beyond whatever truth it expresses. Grice, 'Logic and Conversation' (1975):

> In some cases, the conventional meaning of the words used will determine what is implicated, besides helping to determine what is said. If I say (smugly), *He is an Englishman; he is, therefore, brave*, I have certainly committed myself, by virtue of the meaning of my words, to its being the case that his being brave is a consequence of (follows from) his being an Englishman. But while I have said that he is an Englishman and said that he is brave, I do not want to say that I have SAID (in the favored sense) that it follows from his being an Englishman that he is brave, though I have certainly indicated, and so implicated, that this is so. I do not want to say that my utterance of this sentence would be, STRICTLY SPEAKING, false should the consequence in question fail to hold. (Grice 1975: 44-45)

Two forms of implicature:

1. What is conventionally implied by a phrase puts constraints on what statements are acceptable (*conventional implicature*)
2. Context of communication puts constraints on what statements are acceptable (*conversational implicature*)

On this picture, the English 'if… then…' construction *means* $P \supset Q$ and carries a conventional/conversational implicature along the lines of 'Q because P' or 'P is an explanation for Q'. The details here are controversial.

More generally, we can try to distinguish between *semantics* (meaning/reference/truth) and *pragmatics* (use in context), and maintain that the earlier paradoxes are due to pragmatic features.