

IV. Indicative Conditionals: non-truth-functional accounts

Further problems for truth functional accounts

We saw various problems that arise if the indicative conditional is taken to be equivalent to the material conditional. But on the other hand there are considerations that seem to show that if the indicative conditional does express a proposition, it must be equivalent to the material conditional. Some of these, from Gibbard, involve inference patterns (see Rothschild 2013 for a simple summary); but we'll focus on another of his arguments:

Gibbard's Sly Pete case (Poker free example from Rothschild)

A coin may or may not be tossed at a certain time. Adam will be told iff it is tossed, and it comes down heads. Bob will be told iff it is tossed and it comes down tails. Claire won't be told anything directly, but she understands the situation, and both Adam and Bob are to report to her. Adam reports:

If it was tossed it didn't come down heads

Bob reports:

If it was tossed it came down heads

Claire concludes that it wasn't tossed.

But aren't these two contradictory? The only obvious account that makes them both true is the material conditional account.

Now we seem to have considerations that seem to show both that if the indicative conditional expresses a proposition it can't be equivalent to the material conditional, and that it must be. An obvious conclusion to draw is that it doesn't express a proposition (an application of the Sly Pete reasoning!) In addition, the triviality proofs (which seem to show that the probability of a conditional cannot be equivalent to the corresponding conditional probability; see Bennett Ch. 5) are commonly held to push in that direction too. But are there ways of saving a propositional approach?

Stalnaker

Basic idea: assertions are always made relative to a background context set. This is the set of possible worlds that the speakers accept for the basis of the conversation. This set can be thought of as the conversation's *presuppositions*, but Stalnaker avoids that usage because he wants to insist that it is simply a single class of worlds (not a class of classes of worlds as this suggests); he calls it the *context set*. Typically this set corresponds to the beliefs of the participants (the worlds that the participants think are consistent with their beliefs), but they need not be. So, for instance, at the beginning of a trial, neither the guilt nor innocence of the defendant is presupposed, even though different participants might have their own beliefs. We can think of it instead as what is *supposed* for the purposes of the conversation.

The role of conditionals is to temporarily change the context set—to create a ‘derived context set’ for the duration of the conversational move (which may be just a sentence, or may be longer). Subjunctive conditionals and indicative conditional do this in different ways.

Subjunctive conditionals, as we have seen, require us to replace the context set with a new one, the closest one in which the antecedent is true. As Stalnaker puts it, the presuppositions are suspended. So the assertion made by the subjunctive conditional is that in the world that one gets to by going to the closest possible world to the actual one in which the antecedent holds, whether or not that

In contrast, indicative conditionals typically take us to a proper subset of the existing context set; we simply restrict it to those worlds in which the antecedent is true. This is straightforward if the context set is compatible with the antecedent but is not entailed by it.

If the antecedent is entailed by the context set, then the conditional is redundant: asserting it is tantamount to simply asserting the consequent.

The difficulty comes if the antecedent is incompatible with the antecedent. Suppose we all accept that Oswald did kill Kennedy. But then it occurs to me that the possibility that he didn’t should be investigated, so I say ‘If Oswald didn’t kill Kennedy then someone else did’. Stalnaker doesn’t talk about such a case in his original article, but presumably the idea is that then, by a process of presuppositional accommodation, the context set will have to be changed so that such a world is in it. But of course we keep as much in the context set as we can—so we keep the idea that all of the worlds in the set are ones in which Kennedy is killed.

Where this isn’t possible, because we want to maintain a context set that excludes the antecedent, the indicative conditional will be unacceptable, and a subjunctive conditional will have to be used in its place. Thus contrast:

If the butler did it, the murder weapon will be in the pantry. So let’s look in the pantry

*If the butler did it, the murder weapon will be in the pantry. But the murder weapon isn’t in the pantry. So the butler didn’t do it. (Needs a subjunctive conditional.)

Note why this approach is not truth functional. To determine the truth of an indicative conditional, knowing the truth values of the antecedent and consequent does not suffice. We need to know the context set, and whether the consequent holds when the antecedent is added to it. Note also that the account is equivalent to a strict conditional approach (i.e. the necessitation of material conditional), except that the class of worlds under consideration is restricted. So it is sometimes described as a variably strict conditionals.

One great advantage is that we now have a uniform account of subjunctive and indicative conditionals.

One great disadvantage though is that, as we saw, subjunctive conditionals do not follow the inference patterns of the material conditional. The same now applies to the indicative conditional. So, for instance these two are not equivalent:

Either p or q
If not p then q

To see this, suppose that I know I didn't commit the crime. So I know that:

If the butler didn't do it, I did

is false. But I don't know that the disjunction

Either the Butler did it or I did

is false, since I don't know whether or not the butler did it. Nevertheless the naturalness of moving from the disjunction to the conditional, and *vice versa*, is explained by their assertibility. In any context in which one is assertible, the other is. For pragmatic reasons (akin to Grice's), one can't assert a disjunction if one knows that one of the disjuncts is false.

Stalnaker puts Grice's approach on its head: pragmatics are used to explain the inferences, not to explain away the intuitions about semantics.

Kratzer

Kratzer's basic idea is very similar. What is different about her approach is a general insistence that conditionals shouldn't be seen at two place connectives. Rather, the antecedent serves to modify an operator.

There is no two-place *if ... then* connective in the logical form for natural languages. If-clauses are devices for restricting the domains of various operators. Whenever there is no explicit operator, we have to posit one (1991, 656)

Typically bare conditionals are understood as modalized with 'must', and hence as epistemic conditionals. So the following two sentences are equivalent:

If Oswald didn't shoot Kennedy, somebody else did.

If Oswald didn't shoot Kennedy, somebody else must have.

The set of worlds that are then restricted by the 'must' operator are the belief worlds of the speaker, or, more plausibly, the context set of the conversation. But that takes us back to Stalnaker's approach.

The advantage of Kratzer's approach is that it brings the semantics of conditionals into line with a host of other constructions, most centrally, adverbs of quantification. Following Lewis, Kratzer holds that adverbs such as 'Always', 'Usually', 'Often', 'Sometimes', 'Rarely' and 'Never' should be understood as quantifiers ranging over cases. (Some complexity, but not really needed here: Such adverbs are 'unselective quantifiers', quantifiers that bind all the free variables within their scope, and not, like standard quantifiers, just the variables that they explicitly mention. Thus in 'Usually, x reminds me of y iff y reminds me of x' the adverb 'Usually' binds both x and y; the sentence is true just in case most pairs of persons (i.e. most cases) satisfy the open sentence that follows it.)

Resolving the problems?

(i) the sly Pete cases.

The conversational contexts of the two utterances are different.

(ii) the triviality results, the Equation, Adams' thesis

See Egré and Cozic for a way to motivate and defend Adams' thesis within a Kratzer framework. But it is far from obvious that we should accept Adams' thesis (see Rumfitt for a recent criticism).

Egré, Paul, and Cozic, Mikaël, 'If Clauses and Probability Operators' ms

Kratzer, Angelika, 'Conditionals' in her *Modals and Conditionals*

Rothschild, Daniel, 'Conditionals and Propositions in Semantics' ms

—— 'Do Indicative Conditionals Express Propositions?' *Nous* 2013

Rumfitt, Ian, 'Old Adams Buried'

Stalnaker, Robert, 'Indicative Conditionals' in *Context and Content*

—— 'Conditional Propositions and Conditional Assertion' in Egan and Weatherson, *Epistemic Modality*