Metaphysics // Fall 2025

Handout 17

Counterfactual conditionals: Goodman

Prelims. If we can't interpret counterfactual conditionals, we can't do philosophy of science. A satisfactory definition of scientific law, a satisfactory theory of confirmation or of disposition terms (not only predicates ' -ible ' and ' -able ' but almost every objective predicate, such as ' is red ', would solve a large part of the problem of counterfactuals. Conversely, a solution to the problem of counterfactuals would give us the answer to critical questions about law, confirmation, and the meaning of potentiality. The problem concerns counterfactuals in which antecedent and consequent are false. 3

Remark 1. A big digression on conditionals, use, and mention (Quine, *Mathematical Logic*, §§2, 5). Stress the puzzle of material implication etc.

The challenge. Consider the sentence: 4

(1) If that piece of butter had been heated to 150 °F, it would have melted.

As truth-functional compounds, all counterfactuals are of course true, since their antecedents are false. Hence the following should also be true:

(2) If that piece of butter had been heated to 150 °F, it would *not* have melted.

But obviously something different is intended, and the problem is to define the circumstances under which the intuitively true (1) holds while the intuitively false (2) fails. This criterion (that no longer interprets counterfactuals as truth-functional formulae) must be established given that a counterfactual by its nature can never be subjected to any direct empirical test where its antecedent is satisfied.

The problem of counterfactuals is equally a problem of *factual* conditionals. That's because any counterfactual can be transposed into a conditional with a true antecedent and consequent:

(3) (1) $\rightsquigarrow$ ' Since that butter did not melt, it wasn't heated to 150 °F. '

The occurrence of ' since ' in (3) shows that what matters is a certain kind of ' connection ' R between the two component sentences. So the truth of statements of this kind depends not upon the truth or falsity of the components, but rather upon whether R, so far mysterious, obtains. R

Semifactuals. There is another type of conditional that seems similar to counterfactuals, for example, because it is also in subjunctive mood: 5

(4) *Even* if the match had been scratched, it *still* would not have lighted.

Transposition doesn't work here, since:

(5) ' Even if the match lighted, it still wasn't scratched ' — false!

Here, the original intention was to affirm not that the non-lighting could be inferred from the scratching, but rather that the lighting could not be inferred from the scratching—perhaps because the match was actually wet. The semifactual (4) normally means the negation of the proper counterfactual: 5

(6) Not-(4) ≡ ' Had the match been scratched, it would have lighted. '

Remark 2. A possible digression on the pragmatics of ' even ' and maybe ' still '.

The intermediate conclusion is this: A counterfactual $A \boxdot\!\!\rightarrow C$ is true if R obtains between A and C. This connection is not a matter of logic alone.

Special counterfactuals. Consider ' counteridenticals ':

(7) If I were Julius Caesar, I wouldn't be alive in the twentieth century,

(8) If Julius Caesar were I, he would be alive in the twentieth century.

The antecedents are logically equivalent. Yet the plausible consequents are incompatible. Puzzling! Next, ' countercomparatives ':

(9) If I had more money, I would have gone to Bayreuth.

What does this mean: ‘ more ’ than what or who? Perhaps we want to strip the antecedent of its subjunctive mood and get this:

(10) If I had more money than I (actually!) have, I would have gone to Bayreuth.

But then we have a contradiction in the antecedent, and that’s not the intended meaning.

Remark 3 (Advanced). The expression ‘ actually ’ is doing a lot of heavy lifting in (10). See Davies, *Meaning, Quantification, and Necessity*.

RELEVANT CONDITIONS. When we say that R holds, we assume that certain circumstances not stated in the antecedent obtain. Thus in uttering:

(11) If that match had been scratched, it would have lighted,

we mean that conditions are such (i.e., the match is well made, dry enough, oxygen is present etc.) that the consequent can be inferred from the conjunction $A \,\&\, S$ of the antecedent and other statements (S) that describe relevant conditions. In asserting the counterfactual $A \boxdot\!\!\rightarrow C$ we also ‘ commit ourselves ’ ($\approx$ implicate?) the actual truth of S. But how to define S?

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