Metaphysics // Fall 2025

Handout 18

Counterfactual conditionals: Goodman II

Failures to define S syntactically. Proposing that the consequent follow by law from the 9
antecedent and a description of the actual state of the world fails because among true sentences there must be the negation $\sim A$ of the antecedent (since, by assumption, A is false). That is, letting:

(1) S: $\sim A \,\&\, p_1 \,\&\, p_2 \,\&\, \cdots,$

from $A \,\&\, S$ everything will follow.

Question 1. Explain the reasoning just given.

Similarly, if we say that the consequent must follow from some set S of true statements conjoined with A, the result is again trivial, for pretty much the same reason. That's because for any A, there will always be a proposition S (namely, $S = \sim A$) such that from $A \,\&\, S$ any consequent trivially follows.

The next natural idea is to exclude $\sim A$ from S. But now consider statements 'incompatible' with A, though *not logically* so. For suppose:

(2) A: 'If that radiator had frozen.'

S: 'That radiator never reached a temperature below 33 °F.' 10

Here, S is not a logical negation of A. Stipulate S to be true. Now we can infer any consequent from $A \,\&\, S$. This can be shown by observing that the following statements are trivially true:

(3) All radiators that freeze but never reach below 33 °F break: $(A \,\&\, S) \supset C$.

(4) All radiators that freeze but never reach below 33 °F *fail* to break: $(A \,\&\, S) \supset \sim C$.

We might also try to define S as: the set of all true statements compatible with A both logically and non-logically. But this leads to $A \,\&\, S$ being inconsistent (logically or non-logically). For example, let:

(5) A: 'Jones is a Bilkent student.' 11

J_1: 'Jones is not a Bilkent undergraduate student.'

J_2: 'Jones is not a Bilkent graduate student.'

B: 'Whoever is a Bilkent student is either a Bilkent undergraduate student or a Bilkent graduate student.'

S: $A \,\&\, J_1 \,\&\, J_2 \,\&\, B \,\&\, \cdots.$

Well, A is compatible individually with both J_1 and J_2. But the conjunction S is (non-logically) contradictory.

This sufficiently illustrates the problem of coherently defining the conjunction S of the relevant conditions that together with A must counterfactually yield C.

Laws vs. accidental generalisations. We now turn to defining laws that are supposed to 17
enable us to infer C upon the basis of $A \,\&\, S$. Here's an amazing observation: Not every true, general principle can sustain a counterfactual.

Suppose all I have in my right pocket on 5th December 2025 is a group of silver coins. Without 18
some special assumptions (which ones? well, lawlike assumptions…), we would normally deny the counterfactual:

(6) If penny a had been in my pocket on 5th December 2025, a would have been silver. ($Pa \mathrel{\Box\!\!\to} Sa$)

The reason is that the universal statement:

(7) Every penny in my pocket on 5th December 2025 is silver

does not enable us to infer Sa from Pa in (6). That's because (7) is merely an 'accidental', not a 19
'lawlike', generalisation. As such, it can't support the counterfactual, though it *can* support a mere material implication:

(8) If a is in my pocket on 5th December 2025, a is silver. ($Pa \supset Sa$)

Question 2. Explain how (7) is used to justify (8).

The accidental generalisation (7) should be contrasted, therefore, with a lawlike statement such as:

(9) Every piece of silver conducts electricity.

No syntactic criterion will distinguish between (8) and (9). Well, you might suggest that the contrast 20
is due to a reference to a ‘ causal power ’ in (9) between silver and electricity—that silver has the power to cause electricity, but that my pocket has no power to cause pennies to be silver. But this is unscientific. For consider also:

(10) All dimes are silver.

That is intuitively lawlike, but there is no sense in introducing the causal power of ‘ dime-hood ’. Equally, however,

Remark 3. For causal power, see Locke's *Essay*.

Lawlikeness. Let's review the situation. An intuitively accidental generalisation $\forall x(Px \supset Qx)$ 23
can't be accepted before all the instances Px are examined. By contrast, we do accept a lawlike such generalisation *before* all the instances Px are examined. This also means that accidental generalisation has no predictive power, but lawlike generalisation does. Note that this criterion may be used to rule out an artificial construct like:

(11) Everything that is in my pocket or is a dime is silver.

Projection and confirmation. Since we linked lawlikeness to ‘ acceptability ’, the distinction turns on a further distinction between ‘ confirmable ’ and ‘ non-confirmable statements ’.

We now say: accidental generalisations like (7) aren't confirmed before every penny is examined. 24
But lawlike generalisations like (10) *are* confirmed by just a few instances.

However, confirmation theories are open to curious counterexamples. If 25 of 26 marbles in a bag 26
are known to be red, this strongly confirms both of the following:

(12) $Ra \,\&\, Rb \,\&\, Rc \,\&\, Re \,\&\, \cdots \,\&\, Rz \,\&\, Rd$

(13) $Ra \,\&\, Rb \,\&\, Rc \,\&\, Re \,\&\, \cdots \,\&\, Rz \,\&\, {\sim}Rd$.

In other words, Rd and ${\sim}Rd$ are equally and strongly confirmed by the *same* evidence!

Perhaps you might object that (13) is unacceptably complex compared to (12), and that this is the reason why it should not be confirmed just as well. But let us define a special predicate:

(14) P: ‘ … is in the bag and either is not d and is red, or is d and is not red. ’

Then the same evidence as above provides 25 positive cases for the negation-free general statement:

(15) All the marbles (in the bag?) are P.

This entails Pd which in turn entails ${\sim}Rd$. Hence the problem of confirmability becomes the equivalent problem of projectibility from known to unknown cases.

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