Woodward 8
Defects in Woodward's Theory

(pp. 209–221, 226–233)

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Woodward's theory of explanation, from last time:

(EXP) (p. 203, simplified)

In a genuine explanation:

1. The explanandum is that a variable Y has the value y.
2. The explanans is:
   a. A variable X has the value x (initial or boundary conditions).
   b. A generalization G that relates X and Y.
3. G implies that when $X = x$ then $Y = y$.
4. There is an intervention on X with respect to Y that would change the value of Y, and G correctly describes the value Y would take under this intervention.

We saw that this successfully handles a variety of examples. Today I'll point out three defects.

Singular causal explanation

Singular causal explanations are explanations in which a token event is explained by citing an event that caused it.

Examples

- Why does Jones have paresis? Because he had syphilis that was not treated.
- Why is there a stain on the carpet? Because I knocked over the ink bottle.

We saw that these are counterexamples to H3.

Problem for (EXP)

(EXP) requires that the explanandum contain a generalization, but singular causal explanations do not explicitly cite one.

Woodward's response

- *Let us begin with ... a situation in which there is no causal overdetermination ... I claim that in this sort of case, a singular cause (or explanation) of form c caused e implies the following counterfactual: if c had not occurred, then e would not have occurred ... For convenience I call this a "not-not" counterfactual.* (p. 211)

- *These counterfactuals should be understood as claims about what would happen if interventions were to occur.* (p. 211)

- *The fact that in situations in which other causes are absent, singular-causal claims uncontroversially imply not-not counterfactuals is sufficient to show why such claims are explanatory, given the account of explanation sketched above.* (p. 213)

Criticism 1

Woodward's assertion, that singular causal claims imply not-not counterfactuals, is inconsistent with (AC).

Example

Let X be the speed Andy was driving and Y whether Andy was ticketed for speeding. Suppose:

1. "90 mph" and "true" are the actual values of X and Y.
2. X is a direct cause of Y (relative to these variables).
3. If X had been "65 mph" then Y would have been "false."

It follows from (AC) that X having the value "90 mph" is an actual cause of Y having the value "true."

The corresponding not-not counterfactual is: "If Andy had not been going 90 mph then he would not have been ticketed." *This is not correct.*

Criticism 2

Even if singular causal claims did imply not-not counterfactuals, that is not sufficient to make singular causal claims explanatory according to (EXP), because they don't imply a generalization satisfying condition (3) in (EXP).

Examples

- The claim that Jones's paresis was caused by untreated syphilis doesn't imply that whenever someone has untreated syphilis then they get paresis. Woodward says only 25% of people with untreated syphilis get paresis. Hence this causal claim isn't sufficient to explain why Jones has paresis, according to (EXP).

- The claim that knocking over the ink caused the carpet to be ruined doesn't imply that whenever ink is knocked over, the carpet is ruined. Hence this causal claim isn't sufficient to explain why the carpet was ruined, according to (EXP).

A possible solution (my suggestion)

- Say that for a genuine explanation of $Y = y$, what is needed is just an event $X = x$ that is an actual cause of $Y = y$.
- On this approach, there is no need for (EXP); we can just use (AC) to determine actual causes.
- Singular causal explanation ceases to be a problem, since an explanandum needn't contain a generalization.
- This better captures Woodward's underlying idea: to explain is to identify a cause.

Pragmatic factors

Example (p. 228)

When Al drops by Burt's office and invites him to go for coffee, Burt sometimes but not always accepts. As it happens, both Al and Burt are fairly straight-laced. Thus

(1) *If Al were to appear in Burt's doorway wearing a shirt covered with obscene slogans, Burt would refuse to join him for coffee.*

But because Al is also straight-laced, he would never wear such a shirt. If we want to explain why Burt joined Al for coffee on some particular occasion, it is unsatisfying to cite

(2) *Al's failure to wear a shirt covered with obscene slogans.*

Nonetheless, it is true that there is a change in this condition . . . which would change whether Burt joins Al.

The problem: (AC) implies that (2) is a cause of Burt joining Al for coffee, and causes explain their effects, but (2) doesn't explain why Burt joined Al for coffee.

Woodward's response

- *When asked for an explanation of why Burt agreed to coffee on occasion O, it is very natural to take the question of interest to be: Why did Burt agree to coffee on this occasion O and not on the other occasions O′? Obviously, citing a factor like Al's failure to wear a shirt covered with obscenities does not distinguish the present situation O from the alternatives O′, because that failure is present in all the actual situations.* (p. 228)

- *On this analysis, the problem with (2) as an explanation of why Burt joined Al is that it fails to explain the explanandum that we want explained: namely, why Burt joins Al on this occasion but not on the other occasions O′.* (p. 229)

The pragmatic response

- *Many philosophers ... conclude from such examples that explanation is a pragmatic notion in the sense that whether some candidate explanans S explains ... some explanandum M depends on the interests of those who give or receive the explanation.* (p. 230)

- *This contrasts with the analysis I favor, according to which the case under discussion is one in which people's interests shift from explaining explanandum M' to explaining the different explanandum M ... On my analysis, interest relativity enters into what we explain but not into the explanatory relationship itself.* (p. 230)

Criticism of Woodward's response

- Woodward said the explanandum we want explained is: "Why Burt joins Al on this occasion but not on the other occasions O'."
- But he said an explanandum is a value of a variable. What is the variable here?
- Let's try:
  - The variable Y specifies whether Burt joins Al on occasion O and whether he joins him on occasions O'.
  - The explanandum is that Y has the value: "Joins on occasion O, not on occasions O'."
- If Al wore a shirt covered with obscene slogans on occasion O, that would change the value of Y to: "Does not join on occasion O, nor on occasions O'."
- So (AC) implies that (2) is a cause of the explanandum.
- Woodward's response doesn't solve the problem.

Explanation of generalizations

One finds in scientific treatises and textbooks explanations of why simple pendulums have periods $T = 2\pi\sqrt{l/g}$, of why monopolies are output restrictors, of Boyle-Charles law ... (p. 391)

- Woodward says that explaining such generalizations is "the same" as explaining the instances of them. (p. 391)
- But to explain, e.g., the law of the pendulum, means the explanandum is this law. So on Woodward's account, the explanans must cite some variable X such that intervening to change X would change the law of the pendulum.
- Intervening to change the law of the pendulum is a very different thing to changing the period of some pendulum!
- Woodward's discussion fails to note the difference. As a result, he hasn't shown that his theory of explanation covers explanation of generalizations.

1. Woodward said:

   The fact that in situations in which other causes are absent, singular-causal claims uncontroversially imply not-not counterfactuals is sufficient to show why such claims are explanatory, given the account of explanation sketched above.

   Show that this is inconsistent with (a) his account of causation and (b) his account of explanation.

2. When Al drops by Burt's office and invites him to go for coffee, Burt sometimes but not always accepts. Al would never wear a shirt covered with obscene slogans but, if he did, Burt would refuse to join him for coffee. (a) Why is this example a problem for Woodward's account of explanation? (b) What is Woodward's response? (c) Does his response solve the problem? Why, or why not?.