Metaphysics // Fall 2016

Handout 16

Causation: Yablo

Two questions. Yablo begins with the observation that traditional discussions of causation pretty much ignored the nature of causes and effects. They focussed on the issue of how causes and effects are related to each other, that is, on the issue of the causal relation or causal properties. But the two questions are not independent. Yablo's answer is given in terms of essences. Causes and effects have essences (to be clarified further), causal properties are hypothetical, and the essential properties of things are relevant in identifying its causal properties.

Commensuration. Hume and Mill agreed that causal properties should not be too promiscuous: they should not contain everything that can be predicated of the cause. We thus have to distinguish between 'efficacious' and 'accidental' factors.

Example 1 (Too many details.). I hold a glass in my hand, I release the glass, it falls to the floor, it breaks. The hand that dropped the glass had, say, a brown glove on it. But we want to say that the broken glass was caused by a hand releasing it—not by a hand-in-a-brown-glove releasing it. (Or at most, it was caused by a hand-in-a-glove: the colour of the glove should still be left out.)

Equally, we have to be on guard against under-specification of the causes.

Example 2 (Too few details.). We sometimes say that the penalty decided the outcome of a football match. But this talk is metaphorical at best. A proper description of the cause must involve specification of earlier facts of the game, including earlier goals.

These observations suggest that causes are proportionate in *size*. They must also be proportionate in *strength*.

Example 3. Suppose, as before, the glass breaks. Did my releasing the glass cause it to break? No, you protest: for it to break it had to be released on Earth. If it were released in outer space, it would not have broken. But to complain so is to assume that the event of dropping the glass was somehow indeterminate as to whether it happens on Earth or in outer space.

Example 4. By contrast, suppose I throw the glass violently at the wall. Then we might say that 'violent throwing' was the cause, rather than 'throwing' on its own.

How are the two cases different? Why cannot I complain about ancillary conditions in Example 4 just as we complained about them in Example 3? Yablo argues that the difference comes down to the *constitutive* properties of the event of violent throwing. That is: violent throwing is better at causing the glass to break. And it is constituted in such a way that 'violent throwing' is constituted by 'violence'.

Essence. Causes must be comparable in 'strength', but for that some properties, as in Example 4, must be such as to be intrinsically more likely to lead to effects—likely, that is, in virtue of their constitution. The explication of constitution will be done via essence.

If we take the view that things have some properties essentially and some accidentally, we soon face paradoxical claims about identity. For example, a statue and the piece of marble composing it have the same perceptual qualities, but are not identical. The statue is a statue essentially, but the marble is a statue only accidentally so.

We can frame the distinction in terms of *categorical* and *hypothetical* properties. The first are the properties that the object has in the actual world, with no account taken of how things are with it in other possible worlds. The properties that violate this condition are hypothetical. Then two entities are *coincident* iff they share categorical properties. Categorical properties can be either essential or accidental; the same goes for hypothetical properties.

A trivial proposal for understanding essences would be to make them sets of all and only essential properties. But this will not do in the present context, because we require causes and effects to be comparable. This will fail. For example, 'x is identical with X' would be an essential property of a cause X, but it will (or may?) not be an essential property of an effect Y.

Yablo's (ingenious) solution is given in terms of the strengthening relation. We have:

$$[x^+ \geq x] \leftrightarrow E(x) \subseteq E(x^+) \qquad [x^+ > x] \leftrightarrow E(x) \subset E(x^+), \tag{16-1}$$

where $E(\xi)$ is the set of essential properties of ξ.

Remark 5. Strict strengthening (i.e. strict inclusion) is later called 'determination' in pages 429–431.

Example 6. Let X^+ = 'Brutus killing Caesar' and X = 'Brutus stabbing Caesar' (see the example in page 412). Then $X^+ \geq X$: Killing, as an individual event, contains all the essential properties of stabbing in its set of essential properties. But the property of 'killing' itself is essential to X^+. It is not essential to X, hence $X^+ > X$. The property of killing, however, is among X's cumulative properties (from the condition (K) in page 409).

Because of this inequality, we are able to say further that two events (two particulars) can be categorically the same (as in [killing Caesar] and [stabbing Caesar]), but differ in their essences.

Causal properties. Given the terminology above, we can say that causal properties are hypothetical. One reason for that is almost trivial. We say, with Hume, that the cause's properties are such that without that cause the effect would not have occurred. This kind of property attributed to the cause is a property it has in merely possible worlds.

Secondly, the problem of strength: a driver dies because of speeding, not because of driving—even though driving and speeding coincide (compare claim (5) in page 410).

Yablo then applies the machinery just sketched to enumerate some of the features of the causal relation.

Contingency. Exercise.

Adequacy. We want to implement the intuition that causes are effective: they create effects. But how to capture that? One attempt is to say:

> If x had occurred, then y would have occurred too. (16-2)

This gets things wrong when we transpose the two parts of the conditional.

Question 7. Explain the last claim.

More promising is to consider the causal chain twice over, so to speak

> Even if the cause hadn't occurred, then still, the effect would have been the same. (16-3)

Example 8. Speeding caused the crash: even if speeding hadn't occurred, then, *in that situation*, if it had, the crash would have happened. By contrast, driving did not cause the crash. For suppose that driving never happened. Then it is not the case that, if it had, the crash would have occurred: it could be done with no speed violation.

Effects require their causes. Overestimated causes sometimes violate the contingency condition. Even if Socrates did not guzzle the hemlock, he would still have died. Yet, Yablo argues, they can also satisfy that condition, still remaining implausible. Socrates may be a habitual guzzler, so that it is *impossible* for him to drink without guzzling. But the causal chain is still misplaced. Yablo proposes the following condition:

> x is required for y iff given any x^- such that $x > x^-$, y would not have occurred. (16-4)

The guzzling example is taken care of, since we have a weaker event 'drinking carefully' that would have delivered the death.

Sufficiency. Causes must be in some sense sufficient for their effects. We represent this now as follows:

> x is enough for y iff for all $x^+ > x$, such that x^+ actually occurs: y does not require x^+. (16-5)

Example 9. Speeding is enough for the crash, since, e.g., speeding at 200 km/h is not required for the crash, and similarly for other events that determine speeding *simpliciter* in the terminology of (Δ) in page 429.

Example 10. Driving is not enough for the crash, since speeding is required for the crash.