

# ***The Power of Possible Causation***

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## **1. Introduction**

My topic is possible causation. In its most basic form, this involves counterfactuals of the form, ‘had an event of kind *A* occurred, it would have caused an event of kind *B*’.

Throughout the paper I’ll shorten this locution and say ‘had *A* occurred, *A* would have caused *B*’, where capital ‘*A*’ and ‘*B*’ refer to events of kinds *A* and *B* respectively. I want to defend three theories due to David Lewis, each of which appeals to such would-cause counterfactuals. The first is Lewis’ theory of contrastive causal explanation (1986b), in which actual causal history is differentiated from a possible causal history; the second is an account Lewis gives of absence causation, in which claims of the form ‘*A*’s not occurring caused *B*’s not occurring’ are understood in terms of the would-cause counterfactual (2004b); and the third is Lewis’ account of dispositions, where the claim ‘the glass is fragile’ is analysed, roughly, in terms of the would-cause counterfactual ‘were the glass to be struck, the striking together with some intrinsic property of the glass would cause the glass to break’ (1997).

These Lewisian theories have been largely overshadowed by his more prominent contributions, namely the counterfactual theory of causation and the closest world semantics for counterfactuals. The core idea of the counterfactual theory of causation (Lewis 1973) is that for events *c* and *e*, *c* causes *e* if *c* and *e* occur, and the counterfactual

'had  $c$  not occurred,  $e$  would not have occurred' is true. The counterfactual is true iff  $e$  does not occur at any of the closest  $\sim c$ -worlds.

I think the counterfactual theory should be rejected, and one major reason for doing so is the so-called problem of pre-emption. Billy and Suzi both throw rocks at a bottle, Billy's rock gets there first, shattering the bottle. But the bottle's shattering does not counterfactually depend on Billy's throw, since had Billy not thrown, Suzi's rock would have shattered the bottle. Lewis had three attempts at avoiding this problem. In his original account he made causation the ancestral of counterfactual dependence, but this does not work for late preemption, as in the example just given. Then came the ill-fated quasi-dependence account (Lewis 1986a), and finally his influence theory (2004a), according to which causation is the ancestral of whether, when or how on whether, when or how dependence. This does solve late pre-emption in the sense that Billy's throw now counts as a cause: had he not thrown, there would have been a difference in the time and manner of the bottle's breaking. But it does not solve late pre-emption in the sense that the theory also counts Suzi's throw as a cause: had she thrown earlier, there would have been a difference in the time and manner of the bottle's breaking. The influence theory also allows too much to count as causation: on that account alleviating pain is to cause that pain, and slowing the traffic is cause it to flow. There has been no shortage of attempts by others to solve the problem of pre-emption. The brave will die fighting. However, at some point we should face the dirty little secret that causation is not counterfactual dependence, since causes are not always nomologically necessary conditions for their effects in the actual circumstances. Causation is not difference-making.

I think causes are locally connected to their effects in certain ways. As has become fairly commonplace, I will use the term “biff” to refer to the class of theories of causation that are based on such a connection. Unfortunately the term ‘biff’ is used in several different ways. I will not define it, but I mean to include my own and Salmon’s theory based on causal processes and interactions exhibiting and exchanging conserved quantities (Dowe 1999), Fair’s basic theory of causation as energy transfer (1979), Armstrong’s theory (not incompatible with those just mentioned) that causation is the instantiation of a necessitation relation (2004), and Ehring’s basic trope persistence theory (1997). Biff theories do not include any theory that appeals to counterfactuals or regularities.

To defend the three Lewisian theories, we do need to accept a counterfactual theory of causation or anything like it. None of the three theories requires commitment to the counterfactual theory of causation. As Lewis himself notes in the explanation paper:

But this [account] is not meant to rely on my views about the analysis of causation.

Whatever causation may be, there are still causal histories, and what I shall say about causal explanation should still apply. (Lewis 1986b, pp.216-7)

I want to defend Lewis’ three theories from the perspective of a biff theory of causation. When considering counterfactuals of the form, ‘had *A* occurred, it would have caused *B*’, we will think of the causing in the counterfactual scenario as causation according to a biff theory. I will begin by spelling out the three theories and some objections to them, and finish by finish by spelling out how, in response to these objections, these theories should be construed.

## 2. Three Theories of David Lewis

According to Lewis' theory of contrastive causal explanation (1986b), to explain why  $E$  rather than  $E^*$  occurred where  $E$  is incompatible with  $E^*$ , we appeal to a difference between the causal history of  $E$  and the counterfactual causal history of  $E^*$ :

Why did I visit Melbourne in 1979, rather than Oxford or Uppsala or Wellington?  
Because Monash invited me. That is part of the causal history of my visiting Melbourne; and if I had gone to one of the other places instead, presumably that would not have been part of the causal history of my going there. It would have been wrong to answer: Because I like going to places with good friends, good philosophy, cool weather, and plenty of trains. That liking is also part of the causal history of my visiting Melbourne, but it would equally have been part of the causal history of my visiting any of the other places, had I done so. (Lewis 1986b, pp. 229-30)

This approach appeals directly or indirectly to would-cause counterfactuals 'had an event of kind  $C^*$  occurred, it would have caused an event of kind  $E^*$ '. Given that Lewis's account of causation is a difference making theory, this account of causal explanation is open to the objection, due to Peter Menzies (2004), that it includes difference-making twice over. However, we can simply note that if Lewis' theory of causal explanation were coupled with a biff theory of causation, then since biff theories as I defined them above are not difference making theories, then this would not involve difference-making twice over.

Proponents of contrastive explanation tend to straight-jacket all cases into the contrastive structure. In the case of absences, for example, my not throwing the rock explains the window's not breaking, they would say we compare the not-throwing/not

breaking scenario with the throwing-breaking scenario. I have no need or desire to quibble with this straight-jacketing. But Lewis seems to have a problem, and in general with absences in causal explanation. He says

A causal history is a relational structure. Its *relata* are *events*: local matters of particular fact, of the sorts that may cause or be caused. ... These events may stand in various relations, for instance spatiotemporal relations and relations of part to whole. But it is their causal relations that make a causal history. (Lewis 1986b, p. 216).

But absences can't be events, on Lewis' theory. Lewis has since elaborated on absence causation, see below, and in the light of that we should suppose that he would broaden the notion of a causal history to include absences.

Our second Lewisian theory is absence causation. According to Lewis absences can cause and be caused. In (2004b) Lewis gives an account of the supervenience basis of causation. Give the name 'biff' to the intrinsic relation between distinct events that is typically associated chance-raising (Menzies' 1996 account of causation itself). Then:

- (1) Event  $c$  directly causes event  $e$  iff  $c$  stands to  $e$  in the relation that occupies the biff-role. For short: iff  $c$  biffs  $e$ .
- (2) The absence of any event of kind  $C$  directly causes event  $e$  iff, had there been an event  $c$  of kind  $C$ ,  $c$  would or might have biffed some event  $d$  incompatible with event  $e$ .
- (3) Event  $c$  directly causes the absence of any event of kind  $E$  iff  $c$  biffs some event  $d$  incompatible with any event of kind  $E$ .

(4) The absence of any event of kind *C* directly causes the absence of any event of kind *E* iff, had there been an event *c* of kind *C*, *c* would or might have biffed some event *e* of kind *E*. (Lewis 2004b, pp. 284-5).

This defines direct causation, and indirect causation is built from chains of direct causation. Note that varieties (2) and (4) appeal to would (or might) cause counterfactuals. These are counterfactuals about biff. Absence causation is thus a derivative variety of causation, derivative on the basic variety of causation, namely causation as biff. This account is an account of the supervenience basis of absence causation, not a conceptual analysis of causation. His account of the concept of causation remains a counterfactual one; not in general counterfactual dependence between events, since absences such as rocks not being thrown are not events, but simply on account of true counterfactuals such as ‘had I thrown the rock the window would have broken’. But according to the supervenience basis account, my not throwing the rock causes the window to not break because had I thrown the rock, the rock would have caused the window to break (4). Lewis thus has two accounts to juggle when it comes to answering counterexamples, as we shall see.

I don’t agree that these non-biff varieties (2)-(4) of causation are cases of causation at all. I have variously called them ‘causation\*’ (Dowe 1999) and ‘quasi-causation’ (2009, see also Ehring 1997, pp 150-1), but my characterization of them is similar enough to Lewis’ account of the supervenience basis. One reason (for others see Dowe 2004, 2009) we should not count absences as literal causes is that there seem to be too many of them, a problem Peter Menzies (2004) calls ‘profligate causation’. Not only did the gardener cause the plant to die by not watering it, but so too did the Queen of England, since had

she watered the plant she would thereby have caused it to survive. I believe the problem of profligate causation is worse than has been realized (but see Kim 2007). Typically, actual events could have been prevented by adding in some preventer to what is otherwise the same set of background conditions. The glass breaks because some very large boulder falls on it, but had someone deftly snatched away the glass in time, its breaking would have been prevented. Many events in history are such that they could have been prevented by human intervention. Take the assassination of Kennedy. Had the bodyguard been at hand to push away the gun as it fired the death would have been prevented. The bodyguard caused the death, according to absence causation. But had I been at hand to push away the gun as it fired the death would have been prevented, so I am the cause of the death. And had Julius Caesar been at hand to push away the gun as it fired the death would have been prevented, so he caused the death. And so too for every person who has ever lived. We all killed Kennedy. And so too for every event that has ever occurred that could have been prevented by human intervention.

And so too for events that couldn't have been prevented by human intervention. For it is true that if, per impossible, I had applied a certain force to the sun at a certain time, its subsequent trajectory would have been different in certain ways, including ways such that there never would have been life on earth. Thus it seems that everyone that ever lived is the cause of everything that has ever happened in the universe, if absence causation really is causation. In my view that's about as good a reductio as you can get. The only theories that could possibly survive the reductio would be accounts of absence causation, such as Peter Menzies' (2004), which have it that some of these counterfactuals but not others are causation-determining. Lewis' account does not do that.

I say that absence causation is not causation, but any instance involves some configuration or other of actual and merely possible causation. According to some, to make this move is merely to relocate the problem of profligate causation (Woodward 2006, p. 20, Craver 2007, p. 85). So, although we don't have the problem for causation, we do have a problem of profligate quasi-causation.

Lewis' account of absence causation, and my account of quasi-causation, are counterfactual accounts. It would not be surprising, then, that they are open to pre-emption type problems. Here's an example of "would preempt". Suzi throws the rock and breaks the bottle. Billy doesn't throw, but had he done, his rock would have broken the glass, preempting Suzi's throw. Does Billy's not throwing cause by omission the bottle's breaking? Taking conceptual analysis first, on Lewis' original counterfactual theory it doesn't, since the bottle breaks whether Billy throws or not. The counterfactual (A) had Billy thrown, the bottle would not have broken is false. But, on the supervenience base account Billy's not throwing is the cause of the bottle breaking, since the counterfactual (B) had Billy thrown, his throw would have biffed the bottle's breaking is true. So for Lewis, Billy's not throwing causes by omission the bottle's breaking does not fit the analysis of the concept of causation, yet it does count as a cause on the theory of the supervenience base. The two theories give different answers. On biff theories of causation, however, the counterfactual is true, so, as with standard late preemption, biff theories of causation have an advantage over Lewis' original counterfactual theory of causation. We should add that on Lewis' influence theory there would be a difference to the manner and time of the bottle's breaking, so Billy's not throwing does cause by

omission the bottle's breaking, and his conceptual analysis and his supervenience base account do give the same answer.

Now let's return to contrastive causal explanation, and let's allow Lewis' influence theory. Again, actually Suzi throws and Billy doesn't. Suppose we want to explain why the bottle breaks rather than not. I presume one could in theory have a context in which we want to explain why the breaking occurred in a particular manner rather than another, or at an exact time rather than a slightly earlier time. But take a context in which we want to explain why the bottle breaks rather than not. That Billy doesn't throw is salient to the explanation. We compare the actual scenario with the alternative where neither Suzi nor Billy throw. In both scenarios we must include Billy's not throwing, and to do so that must be part of the causal histories. So in the actual scenario it is salient that Billy's not throwing is a cause by omission of the bottle's breaking. Say the bottle actual broken 'this way'. On the influence conceptual analysis it is since the counterfactual (C) had Billy thrown, the bottle would have broken that way is true. But on the supervenience base theory, it is not, since the counterfactual (D) had Billy thrown, his throwing would have biffed something incompatible with the glass breaking is false. His two theories give different answers. Straight biff theories say Billy doesn't cause by omission the bottle's breaking, for the same reason, namely that (D) is false.

Perhaps the problem is that we should not try to make Billy's not throwing an explicit part of the explanation, after all, it's not a difference maker as required by Lewis' theory of explanation. OK, then consider a context where we ask of this example, why does the bottle break just then rather than a very short time earlier? We compare the actual causal

history in which Suzi throws and Billy doesn't with the counterfactual history where Billy throws and Suzi doesn't. We vary both, so both are potential difference makers. But consider Suzi's not throwing, in the alternative history. It must be a cause in that counterfactual scenario in order to figure in the explanation. Suzi must cause by omission the bottle's breaking earlier. But both the counterfactuals (E) had Billy thrown and Suzi not thrown, then (had Suzi thrown, the bottle would have broken slightly later) and (F) had Billy thrown and Suzi not thrown, then (had Suzi thrown, her throwing would have biffed something incompatible with the bottle breaking slightly earlier) are both false. The first is required to be true on Lewis' influence conceptual analysis, the second is required to be true on Lewis' supervenience base account. What we want to do is contrast with the alternative in which Suzi still throws her rock. In that scenario we won't get these particular problems. But we are operating under the assumption that to figure in an explanation the factor has to be a difference maker. So either way, with or without this requirement, we get trouble.

Returning now to absence causation, here's an example I'll call 'preempting omission' corresponding to so-called early preemption. The gardener fails to water the plant and it dies. But lurking is anti-gardener, who poisons any plant that looks like surviving. Our plant does not look like surviving since it hasn't been watered, so anti-gardener doesn't poison it. Then it still seems that the gardener killed the plant by omission, yet the counterfactual

(G) had the gardener watered the plant, his doing so would have caused the plant to survive

is not true. Supposing surviving rather than dying is the positive event, there is no direct causation via Lewis' condition (4). But nor is there indirect causation, because, although the gardener's not watering the plant causes the anti-gardener to not poison the plant by condition (4), the anti-gardener's not poisoning the plant does not cause it to die since it is not true that had the anti-gardener poisoned the plant, that would have biffed something incompatible with the plant's dying. Whether the anti-gardener's not poisoning the plant causes it to die is the kind of thing that Lewis would say is spoils to the victor. If the victor for conceptual analysis is Lewis' influence theory, the anti-gardener's not poisoning the plant does cause the plant's survival given that gardener didn't water, since the manner of the plant's death depends on anti-gardener's poisoning the plant: had anti-gardener poisoned the plant the plant would have died a water-deprived, poisoned death as opposed to just a water-deprived death. So by transitivity, the gardener's not watering the plant causes the plant to die. So, from the perspective of the influence theory, Lewis' account of the supervenience basis for causation gives the wrong answer. But on the other hand, on Lewis' earlier theories of causation which don't allow how-on-whether dependence, the gardener's not watering the plant does not cause by omission the plant's death, which is consistent with Lewis' account of the supervenience base, but does not seem to be the kind of example that we can allow to be spoils for the victor. Biff theories fare no better. The counterfactual 'had the gardener watered the plant, his doing so would have caused it to survive' is false when we take 'caused' in the counterfactual scenario to be analysed as biff.

There are theories that get the above case right. Hitchcock (2001) defines token causation in terms of active causal paths, which in our case means that you hold fixed

anti-gardener's not poisoning the plant, and then the plant's dying does depend on the gardener's watering. But that account gets late preemption wrong. As mentioned above, I think history tells us to be pessimistic about the prospects for saving counterfactual theories from pre-emption counterexamples.

We turn now to the third Lewisian theory. According to Lewis' causal theory of dispositions,

Something  $x$  is disposed at time  $t$  to give response  $r$  to stimulus  $s$  if and only if, for some intrinsic property  $B$  that  $x$  has at time  $t$ , for some time  $t'$  after  $t$ , if  $x$  were to undergo stimulus  $s$  at time  $t$  and retain property  $B$  until time  $t'$ ,  $s$  and  $x$ 's having of  $B$  would jointly be an  $x$ -complete cause of  $x$ 's giving response  $r$ . (Lewis 1997, p. 157.)

This involves the would-cause counterfactuals 'were  $s$  to occur,  $s$  would cause  $r$ ' and 'were  $s$  to occur,  $b$  would cause  $E$ ', where we are using ' $E$ ' for any event of the type ' $x$ 's giving response  $r$ ', and ' $b$ ' for the event ' $x$ 's having of  $B$ '. The requirement that property  $B$  persists over the time interval is an attempt to solve the problem of finkish dispositions, dispositions that can be undermined by the stimulus. But, as Toby Handfield points out (2009), there are certain similarities between preemption problems for the counterfactual theory of causation and the problems of finkish dispositions and masking. Those of us who doubt that preemption problems for the counterfactual theory of causation will be solved will also doubt that analogous problems for the causal account of dispositions will be solved. A particular person's having an angry disposition no doubt has a causal base in the cellular and chemical properties of their brain, for example at a particular time. One could in theory enumerate the conditions this involved at that time. But a person could have two independent sets of conditions,  $B$  and  $B^*$ , each of which is sufficient, together

with the stimulus and other external conditions, for the response. Suppose the same stimulus, stress say, would trigger both mechanisms, but that the first preempting mechanism would run more quickly than the second, preempted mechanism. So consider the counterfactual 'were  $s$  to occur,  $B$  would cause  $E$ '. On the counterfactual theory of causation, this is true just if

(H) were  $s$  to occur, ( $E$  would occur and were  $b$  not to occur,  $E$  would not occur)

is true. But this latter counterfactual is not true, since  $B^*$  would cause  $E$ , just as with standard preemption. Note this is not a problem for biff theories.

However, we can give versions of this kind of preemption which do apply to biff theories as much as to the counterfactual theory of causation. Lewis' analysis says intrinsic property  $B$  and stimulus  $s$  are an  $x$ -complete cause of response  $r$ , which means  $B$  includes all the intrinsic properties of  $x$  that are partial causes of  $E$ . Lewis says explicitly that  $B$  may be an absence: "We must not omit the causal difference-making of negative properties from the causal roles of bases for dispositions." (Lewis 1997, p. 154). One should assume, then, that Lewis means to count absences as intrinsic properties. But, further, it would seem that  $B$  would *typically* include negative factors. To be susceptible to the stimulus an object needs not only to have certain positive properties, but also to not have any number of other positive properties. One could in theory enumerate the positive brain conditions underlying particular person's angry disposition at a given time. What distinguishes that person from others who lack the angry disposition? Some others may lack some of those positive conditions. But it's possible that someone might have all those exact positive properties yet have additional positive properties that explain why they nevertheless lack the angry disposition. And in neuroscience one would expect that

there are many ways that someone could have additional positive properties so as to not have an angry disposition. So if it is to be  $x$ -complete, the causal base  $B$  for our first, anger-disposed person must include negative conditions, quite likely very many negative conditions. And as Mill said, “a special enumeration of... the negative conditions... of any phenomenon ... would generally be very prolix” (Mill 1843, pp. 370-1). So in our preemption case,  $B$  and  $B^*$  could well involve absences, and so when we consider the counterfactual ‘were  $s$  to occur,  $B$  would cause  $e$ ’ we will have to account for absences.

For those of us who deny absence causation, and for Lewis who gives an account of the truth conditions for absence causation as above, this presents a second but related problem. One could substitute for ‘cause’ in the would-cause counterfactuals further embedded would-cause counterfactuals as these accounts require. But as we have seen, no analysis would be possible. Suppose  $\sim A$  is a non-redundant part of  $B$ . For  $B$  to count as a dispositional property, it must be that the counterfactual

(I) had  $s$  occurred,  $\sim A$  would cause-by-omission event  $E$

is true. Substitute Lewis’ condition (4) for ‘cause by omission’ in the counterfactual, and we get the counterfactual

(J) had  $s$  occurred, then ( $E$ , and had  $A$  occurred,  $A$  would biff some event incompatible with  $E$ ).

This is false since we are holding  $B^*$  fixed, with  $s$  an  $x$ -complete cause of  $E$ . This then is a strong reason to doubt that a Lewis-style analysis of dispositions is possible.

Negative conditions create difficulties for the stimulus part of the equation as well. Take masking, where some other factor is present, together with the stimulus, which prevents the stimulus causing the response. According to Alex Bird (1998) the causal

theorist has two options. One could say that the stimulus produces the response only sometimes, or one could say that the stimulus is the positive cause together with the absence of the mask, or antidote. The latter seems to be the response of Lewis, who says “We might offhand define a poison as a substance that is disposed to cause death if ingested. But that is rough: ... we should really say ‘if ingested without its antidote’” (Lewis 1997 p. 153). One problem with this is that it potentially makes the stimulus include a large conjunction of negative factors: without its antidote, in the absence of a stomach pump, and so on, an enumeration of which could, again, be very prolix. In any case, this also leaves the account open to the kinds of ‘would preempt’ counterexamples considered above.

### ***3. Defending the Three Theories***

To overcome the above difficulties without giving up the core ideas in the Lewisian theories of explanation, absence causation and dispositions, I suggest the following program. We adopt a biff theory of causation. We deny that absences cause or are caused, but we understand so-called ‘absence causation’ as a derivative, counterfactual notion about causation. We take the ‘biff’ in Lewis’ account of the supervenience base to be causation simpliciter. Lewis’ reason for rejecting his account of the supervenience base *qua* conceptual analysis of causation is that it is too disjunctive. I’ve shown that it would have to be more disjunctive than he imagined. But this is not a problem for causation if we take causation to be simply biff. Explanations and dispositions are likewise, as for Lewis, also derivative, counterfactual notion about causation.

In the ‘would preempt’ counterexamples to Lewis’ theory of explanation, we need to relax the requirement that salient parts of the explanation vary across the contrasted

alternatives. Like Lewis, I doubt that necessary and sufficient conditions can be given to capture all cases of intuitively plausible explanation schemas. What can be said about causal explanation is that explanatory relevance requires events or absences described by explanans statements to be connected to events or absences described by explanandum statements. The connection can be actual causal connections or possible causal connections among alternatives. In other words, causal explanations are based on various configurations of causings and would-causings. There are, no doubt, innumerable possible connections that could by this criteria function in causal explanations of any given event. But the holding of such a connection is not the only criterion on a good explanation. As Lewis and many others have said, the causal histories appealed to must also be relevant in the context. I have nothing to contribute to the difficult question of how context might disambiguate a why question. But it must be context, if anything, that explains why some explanations are satisfying and others that also appeal to causally relevant connections are not.

In the ‘preempting omissions’ counterexample, I say the gardener’s causing by omission the plant’s death in the case that anti-gardener is lurking, has, as its truth generating conditions, the would cause counterfactual (K) had the gardener watered the plant and the anti-gardener not poisoned it, gardener’s doing so would have caused the plant to survive.

This is not a condition included in Lewis’ analysis of the supervenience base, nor is it included in the conditions I have elsewhere listed as generating quasi-causation. For reasons like this, I don’t want to claim those conditions give a necessary condition for quasi-causation, and neither can we say Lewis’ conditions provide a necessary condition

for absence causation. If there is a necessary condition to be found, it will contain diverse and infinitely many disjuncts. These sorts of problems show that the prospects of a simple analysis of absence causation or quasi-causation look dim.

What can be said about absence causation or quasi causation is that it depends on various patterns of actual and merely possible causation. Although absence causation is not causation, it can figure in causal explanation. This follows from what I've said about explanation and absence causation. In this I follow the tradition of Davidson (1967) and Helen Beebee (2004). As Davidson says,

'The failure of the sprinkling system caused the fire', ... 'The fact that the dam did not hold caused the flood'. ... What we must say in such cases is that in addition to, or in place of, giving what Mill calls the "producing cause," such sentences tell, or suggest, a causal story. They are, in other words, rudimentary causal explanations. Explanations typically relate statements, not events. I suggest therefore that the 'caused' of the sample sentences in this paragraph is not the 'caused' of straightforward singular causal statements, but is best expressed by the words 'causally explains'. (Davidson 1967 pp. 702-3).

Again, there are innumerable possibilities that would have caused something incompatible with an actual event, or would have caused something that was actually absent. Folk may think in some cases that the absence of any of these constitutes an actual causing. We are not inclined to count most of them as causings. Again, only context can explain why we think this way. There's nothing concerning actual or possible causation that distinguishes such cases. But the problem of profligate quasi-causation does not seem like a problem when one considers that it is just a way of referring to some

would cause counterfactual or other. It's hard to understand how so many things could be causes, but it's not hard to see how there could be so much possible causation. Actuality is but a tiny subset of the realm of possibility.

If folk may think in some cases that the absence of any of these constitutes an actual causing, they are confusing causation with causal explanation. According to Jonathan Schaffer, because both causation and absence causation figure in explanation, we should take them as a single concept. If it quacks like a duck, it is a duck. Well, we should agree that explanations can involve both actual causation and possible causation. But this does not mean we must deny the difference between the actual and the merely possible. Likewise, it does not mean that we must treat quasi-causation as a species of causation.

Finally, I also doubt that any analysis can be given of the general concept of a disposition. I don't think Lewis' analysis can account for every case we can dream up, and I think there is reason to believe that no modification of the analysis will either. Nevertheless, we can say that any dispositional claim can be understood in terms of some configuration or other of actual and merely possible causation. In this sense I think the general features of Lewis' account are right.

Absence causation and dispositions are derivative concepts. They supervene on cause and would-cause. Yet no analysis can be given of how in general they reduce to their base. This matters less if absence causation is not a real relation, and dispositions are not real properties. As David Armstrong says, that which supervenes is no addition of being. However, while it may not be possible to provide a satisfactory general necessary condition, it remains useful to talk of the doctor's omission causing the patient's death, or the fragility of glass. I take these to be handy shorthand in particular cases, convenient

ways of picking out this or that configuration of would causes. In any particular case, if we can establish which configuration is appropriate in a particular context, then we have truth conditions of the particular claim. The only general thing we can say in this regard is that they supervene on possible causation. This is the power of possible causation.

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