

Stephen Mumford and Rani Lill Anjum

Getting Causes from Powers.

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As Hume, Kant and everybody else agree, we cannot seem to describe the world without speaking of causation, but what we mean when we do so, and the ontological grounding of causation, remains hot topics in philosophy. Mumford and Anjum provide us with a novel account of the pandispositionalist ontology, purporting to solve many of the problems encountered by those before them.

They begin with a relatively brief assertion of their position: that ‘it is properties that do the causal work.’ It is reasonable in everyday language to speak of *objects* or of *events* as causes, and for some philosophers, of *facts*; but it is the particular *properties* of the objects/events which produce effects. The book assumes pandispositionalism, which is to say, the thesis that *all* properties are dispositions, or clusters of powers; and whilst they do not attempt to support the position more generally, what they try to show is what a theory of causation should look like if this metaphysical position is held. In causation, they say, causal powers are ‘passed on’, and in contrast to the myriad of previous analyses of causation, it cannot be reduced to counterfactuals, or to anything else. Causation is directly observed: it is a primitive, not reducible to any constituent parts.

The book now steps sideways, as it were, to persuade us (rather well) of the merits of vectors, as opposed to neuron diagrams (which we take to be good representations of counterfactual accounts of causation) in modelling causal situations. Crudely, the diagrams each represent a ‘quality space’ at a given ‘moment’ (though ‘moment’ can be a temporally extended) in which change might occur—only *might*, because what disposes towards wet may happen to be balanced by what disposes towards dry, giving causation with zero effect. The quality space is divided into two or more sections, each corresponding to a property which the powers we’re interested in dispose towards, with the current situation represented by the dividing line. On the quality space are plotted arrows with a direction and a magnitude, each representing one of the powers of the particulars in the causal situation, and the strength of their contribution to the effect. The resultant vector is calculated, and this tells us what the causal situation ultimately tends towards. The quality space may thus represent the temperature of a room, with the heating/cooling powers of objects in the room represented by vectors of varying magnitudes. If the resultant vector points towards ‘hot’, the room will warm up. What is clever here is that what looks at first like a procedural matter (preferred type of diagram) adds substance by accustoming us to view causal situations in terms of dispositions, and this is certainly desirable for the dispositionalist.

Chapter 3, the longest chapter, is in many ways the core of the book. The authors attack the common view that causation involves necessity by distinguishing between causal ‘production’ and necessitation. They argue that Mackie’s *inus* condition account of causation, and Mill’s ‘total cause’ conditional account, both misrepresent causation, as they both propose

that causes must be sufficient for their effects. However, the authors claim it is always possible for there to be interference or prevention; even where, as a contingent fact, there has been no interference, still in some sense there ‘could’ have been. In terms of counterfactuals, one could strengthen the antecedent so that the consequent would not follow, and thus the effect would not be necessitated. If there is necessity in the laws of nature (and they do not deny in this text that there might be) it is not causation that supplies it. Thus they accommodate the determinist—but causation is not ‘the vehicle by which determinism does its business’ (75).

Chapters 4, 6, and 7 fill out some details of the theory and deal with problem cases, but one begins to feel it is possible to be given too many examples. There is an interesting discussion of how causal dispositionalism might be best seen in terms of emergentism—although whether this is convincing or not, I suspect, remains dependent on the reader’s attitude to theories of emergence in general. Nonetheless, we are convincingly shown that their model can offer both explanations and predictions and that it does not cohabit either with deductivism or with Lewis’s counterfactuals account of causes (the temptation to offer Lewis dispositions as his truthmakers is resisted). There is also a good section on causation by absence, which is shown to offer no real problem for the dispositionalist.

Meanwhile, in the important fifth chapter, comes a convincing attack on Hume’s idea of temporal priority, which is a feature of his ‘two event’ model of cause and effect. Rather, it is argued, causation is a ‘single unified process’—it is simultaneous (which does not mean instantaneous). This has previously been argued in various guises by a number of philosophers, for the same reasons as those provided by the authors (see G Molnar, *Powers. A Study in Metaphysics*: Oxford University Press, 2003), but the explication provided in this book is clearly presented. The authors concede that this view relies on acceptance of ‘an ontology in which particulars and events persist’ rather than a ‘particulate’ account of time. Nevertheless, they ‘particulate’ their own theory with the idea of ‘a new and distinct causal process’, where arguably there is only one.

Chapter 8 advances the view that ‘the modality of dispositionalism is *sui generis*’—it occupies the central portion of a spectrum between necessity and pure contingency. Some may find this view attractive, but to reject the core assumptions about modality of most analytic philosophers is arguably a bold claim, and some further work on the subject would be gratefully received. Nonetheless, it is a nice idea, consistent with their general thesis. They do admit a certain amount of necessity in terms of property instances, citing examples such as ‘an electron necessarily has charge -1’, but they restrict these examples to talk of natural kinds; more specifically, ‘a necessarily manifest property ... is a categorical property’. Finally determinism is revisited: again, if there is necessity, it doesn’t come from dispositionality, so (on their view) not from causation.

Chapter 9 asserts, against Hume, that we can directly perceive causation. Presumably this should be true of all the senses, but quoting Armstrong, Mumford picks out bodily sensation, which ‘provides our most intimate experience of causation at work’ and is less vulnerable to a Humean constant conjunction analysis, partly by avoiding the word *observe*. He rehearses convincingly the argument that volitions are unnecessary to intentionality, and both ineffective and usually absent as causes.

The book concludes with an optional add-on about biology. Ever since philosophers began to observe billiard balls, illustrative examples of causation have tended to be drawn from mechanics. To redress the balance, and because it suits their theory, the authors offer a set of biological illustrations.

At many points it seems as though the book is restricting itself to a conceptual analysis, but this is certainly not the intention. The central theme of this book is that there is no necessitation in causation—whilst it *seems* right to suppose that the coming together of two instantiated powers might not produce its manifestation (due to interference, and so on), *metaphysically* the determinist will claim otherwise, and this book is supposed to be consistent with determinism. The necessitarian will claim that given a particular set of circumstances, the cause *will* necessitate its effect; *ex hypothesi* there could be no interferer. One cannot strengthen the antecedent, as the rules of determinism do not permit it. This rather obvious objection is eventually addressed, and in response the authors quote Anscombe, who states that ‘the source of necessitation... is not carried in the *concept* of causation itself’ (178)—but this is a purely conceptual appeal. On the face of it, if the authors wish to respond to the necessitarian by saying that instances of powers only tend toward their manifestations, this must be read in a certain way—it must be understood either as mere conceptual analysis, in which case the book will fail in its primary objective, or else ‘a cause necessitates its effect’ must mean that when the cause occurs, *in whatever situation*, the effect must occur. But the necessitarian accounts which the authors try to refute are accounts of *singular* causation, so this response is not available to them. Perhaps these objections can only be raised in the context of the standard account of modality, which the authors propose should be rejected in favour of their *sui generis* dispositional modality. Again, a more detailed exposition of this new theory of modality would help.

Stylistically it seems as though *Getting Causes from Powers* is aimed not only at the professional philosopher, but also the first year undergraduate, and even the more philosophically minded ‘general reader’. To achieve that kind of reach, the book needs to have not only approachability but also clarity of style and syntax, and ‘impact’ without *longueur*. In this regard, the book is rather good in parts, but decidedly uneven; since no indication is offered as to how the two authors shared their task, one cannot apportion praise as it may be due.

Although many metaphysicians will find themselves frustrated by the book’s lack of scientific precision (an intentional aspect that some may find attractive, but perhaps one that detracts (rightly or wrongly) from the book’s plausibility as a metaphysical account of causation), and despite the unconvincing nature of the arguments ‘against necessity’, the reader is introduced to some interesting new ways of thinking about, and modelling causal processes, and in that respect it is likely to instigate interesting debate.

Benjamin T. H. Smart
Birmingham University

Michael J. Talibard
Independent Scholar