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ALTERNATIVE APPROACHES TO CAUSATION

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[Alternative Approaches to Causation: Beyond Difference-Making and Mechanism](#)[□]

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When is C a cause of E ? Many traditional approaches to causation imply that the answer to this question must be of the form ' C is a cause of E if and only if X ', where X is supposed to provide necessary and sufficient conditions for C 's being a cause of E , while itself not relying on causal notions. This reductive approach to causation has led to various

valuable insights. However, some philosophers have always been sceptical that such an analysis is possible and, especially in the last two decades, the hope that philosophers could eventually agree on a widely accepted reductive theory of causation has faded. Nevertheless, the literature on causation is flourishing, since causal notions are central to both philosophical and scientific discourse and there is much to be said about them, even beyond attempts to provide a unified reductive analysis.

It is in this context of moving past reductive analysis that Yafeng Shan's edited volume, *Alternative Approaches to Causation*, is situated. Shan points out in the introductory chapter that most existing theories of causation can be grouped into either difference-making theories, which include regularity theories, counterfactual approaches, and recent interventionist approaches, or mechanistic theories, which include process theories and transference theories of causation (pp. 1–2). What these approaches have in common is that (with few exceptions), they are all based on three assumptions. The first is that of reductionism, that causation can be reduced to something else (such as counterfactual dependencies or physical processes). The second is the assumption of realism, that causation is something real in the world that would be there even if there were no subjects to experience, study, or describe it. And the third is the assumption of monism, that there is just one concept of causation.

In addition to the introduction by the editor, the volume contains nine chapters, all of which give different answers to the question of what causation is and challenge at least one of these three assumptions. In what follows, I briefly describe the content of each chapter, arranging them according to which of the three assumptions they reject (rather than according to the where they appear in the book).

Four of the chapters give a non-reductionist answer to the question of what causation is, but do not question (nor explicitly address) the assumptions of realism and monism. In chapter 2, Michael Tooley analyses causation as a theoretical entity corresponding to a theoretical term in a Ramsey sentence. He argues that there are fundamental and largely uncontroversial probabilistic statements that contain causation as a theoretical term and that can be combined to form a Ramsey sentence. Causation is then the unique relation that satisfies this Ramsey sentence (pp. 16–20).

In chapter 3, Evan Fales offers a version of non-reductionism that is more explicit about the nature of causation than Tooley's approach. Fales claims that causation is a second-order relation that holds between first-order physical properties, and justifies this claim by an argument involving an inference to the best explanation: the existence of this relation best explains why we perceive certain phenomena—especially certain tactile and kinaesthetic experiences—as causal.

Rani Lill Anjum and Elena Rocca answer the question of what causation is from a special-science perspective in chapter 5. They argue that causation should not be understood as a two-place relation between events, but that causal processes are constituted by complex interactions of dispositions. This is a non-reductionist approach, because the notion of a disposition is causal and taken as primitively given.

The fourth chapter that rejects reductionism but accepts realism and monism is chapter 6, by R. D. Ingthorsson. Ingthorsson zooms in on production accounts of causation and argues that standard process theories are not compatible with physics. This is because such theories take causation to be a unidirectional process, with the cause being the active part and the effect being the passive part. In contrast, physical interactions, such as colliding billiard balls, are always reciprocal. He then goes on to describe his 'powerful particulars account', according to which causes are interactions between particulars, and effects are changes brought about by such interactions between particulars (p. 136). This approach is non-reductionist in the sense that the notion of an interaction on which it is based seems to contain an irreducible causal component.

Phyllis Illari and Federica Russo also deal with production theories in their chapter 7, but the approach is quite different from Ingthorsson's. Illari and Russo argue that there is a metaphysically relevant type of causation that can be analysed in terms of information transmission. Their theory is thus a version of the mark transmission theory of causal processes à la Reichenbach and Salmon. However, they also argue that this type of causation is only one of several useful notions of causation, which together constitute what they call the 'causal mosaic approach' (p. 153), that is, a version of causal pluralism.

The remaining four chapters all take explicitly anti-realist positions on causal analysis. In chapter 4, John D. Norton justifies an anti-realist position by describing the following dilemma: either a metaphysical theory of causation imposes restrictions on actual scientific practice or it does not. That metaphysics is successful in imposing restrictions on actual science is, according to Norton, refuted by the history of science. But if the metaphysics of causation does not have any impact on science, it has no factual content and only tells us something about our cognitive capacities and practices (p. 70). And this is the role that causal notions should play for us: they are convenient definitions of when it makes sense for us to use the term 'causal' (p. 71).

Chapters 9 and 10 share the anti-realist conclusion of Norton's chapter, but with different nuances. Antony Eagle makes a convincing case for anti-realism in chapter 9 by arguing that fundamental physics alone does not provide the resources for causal inference, but that causation requires further facts that cannot be found in fundamental physics. The result is that the causal interpretation of physical observations is 'optional' (p. 222). Nevertheless, we should not eliminate causal talk and causal models because they are useful fictions that help us navigate the world.

Yafeng Shan, Samuel D. Taylor, and Jon Williamson defend an epistemic theory of causation in chapter 10, according to which causal claims are justified by established causal epistemologies, but do not correspond to anything metaphysically deep in the world. This view, which holds that causation should be analysed in terms of 'rational causal beliefs' (p. 270), is intended to be particularly close to scientific practice, especially the practice of the special sciences, such as the social sciences and cognitive science.

In chapter 8, Julian Reiss also takes an anti-realist approach, but justifies it differently. Reiss's starting point is the observation that natural language contains many causative terms, terms like 'push', 'carry', 'knock over', or 'make', whose meaning cannot be reduced to a causal component and something else. He proposes an inferentialist approach according to which the meaning of statements containing the word 'cause' or some other causative term is given by 'the role they play in our inferential practices' (p. 191). This leads to a pluralist understanding, since the assumption that there is a single causal relation that can be described in a unified terminology is abandoned from the outset.

As can be seen from this synopsis, the volume covers a broad range of approaches to causation that go beyond the standard difference-making and mechanistic analyses. Readers with a general background in the philosophy of causation who are interested in an overview of non-reductionist and non-realist approaches will clearly benefit from reading it. A thread running through the book is the question of whether theories of causation are consistent with scientific practice, both with the practice of fundamental physics and with the practice of the special sciences, and there are a number of subtle and interesting observations and arguments about this intricate relationship. However, as can be the case with publications of this kind, some of the chapters are a little programmatic, often relying on previously published work by the authors. A reader interested in the details of a particular approach will ultimately have to refer to that other work to get the full picture.

Before concluding, I would like to highlight a recent development that does not appear (at least not prominently) in the book. In the introductory chapter, the editor diagnoses a 'practice turn' in the recent debate on causation, arguing that the notion of causation should be analysed in the context of its use in scientific practice (p. 6), and

many of the chapters do just this. But there is another way that theories of causation interact with the practice of the empirical sciences: empirical psychology has a growing literature on how current theories of causation line up with how people actually use causal concepts (see, for example, Lagnado et al. [2013]; Willemsen and Kirfel [2019]).

A related recent debate centres on the interplay between metaphysical theories of causation and normative considerations. It is fairly uncontroversial that causal truths can have normative implications. For instance, it is commonly assumed that an agent can only be held morally responsible for something if she has caused it, so if an agent's action did not cause a (harmful) outcome, she is not morally responsible for it either. However, it is much more controversial whether the opposite is true—whether normative considerations can influence causal claims—as suggested by empirical findings that people are more likely to consider an agent's action as the cause of an outcome if the action violated a norm (Knobe and Fraser [2008]; Hitchcock and Knobe [2009]). The underlying methodological question here is what the criteria of adequacy are for a theory of causation and whether empirical findings about actual causal intuitions or normative considerations should be considered. A discussion of these aspects does not appear in the book, but would have been an ideal way to round it off.

Of course, a volume of this kind has to make choices about which topics to cover, and considerations of space and coherence always mean certain things have to be left out. Overall, Shan's book is a timely and well-crafted collection of essays by leading experts in the field that makes a valuable contribution to the current literature. It will undoubtedly be of interest both to experts in specific theories of causation and to readers wishing to gain a more general overview of recent developments in the debate.

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References

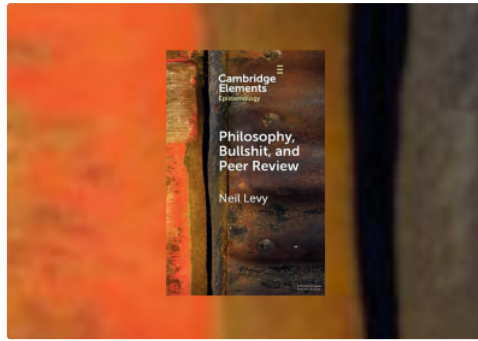
Hitchcock, C. and Knobe, J. [2009]: 'Cause and Norm', *Journal of Philosophy*, **106**, pp. 587–612.

Knobe, J. and Fraser, B. [2008]: 'Causal Judgment and Moral Judgment: Two Experiments', in W. Sinnott-Armstrong (ed.), *Moral Psychology, Volume 2: The Cognitive Science of Morality: Intuition and Diversity*, Cambridge, MA: MIT Press, pp. 441–47.

Lagnado, D. A., Gerstenberg, T. and Zultan, R. I. [2013]: 'Causal Responsibility and Counterfactuals', *Cognitive Science*, **37**, pp. 1036–73.

Willemsen, P. and Kirfel, L. [2019]: 'Recent Empirical Work on the Relationship between Causal Judgements and Norms', *Philosophy Compass*, **14**, available at .

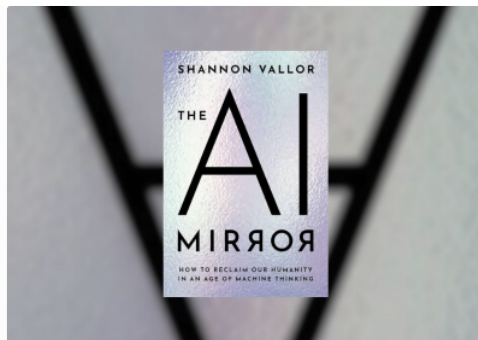
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