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INTRODUCTION

# Evidential monism, evidential pluralism, or evidential contextualism? An introduction to evidential diversity in the social sciences

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## 1.

Social scientists often draw on a variety of evidence for their causal inferences. For example, sociologists employ evidence obtained by different methods to study the 'fundamental causes' of health disparities (e.g. Link & Phelan, 1995; Phelan et al., 2010), while political scientists assess the patterns of violence in civil wars by looking into evidence from different sources (e.g. Weinstein, 2007). There is also a call to use a greater variety of evidence in social science research. For example, mixed methods research is becoming popular, and this approach advocates a mix of both qualitative and quantitative data (e.g. Shan, 2022; Timans et al., 2019). Methodological pluralism and blended designs are two other recent approaches that emphasise diverse evidence (e.g. Crasnow, 2019; Porta & Keating, 2008).

However, there are some doubts about the use of a variety of evidence in the social sciences. Some approaches attach greater weight to one or other of these kinds of evidence. Evidence-based policy (EBP) is such an approach. It presupposes a kind of *evidential monism*: it focusses almost exclusively on studies of the association between cause and effect, such as randomised controlled trials, and tends to either ignore mechanistic studies altogether or to view mechanistic studies as inherently low-quality evidence, to be trumped by association studies.

In addition, there is no consensus about the philosophical foundations and implications of evidential diversity, especially in causal investigations. What justifies evidential diversity in the social sciences? What are the consequences of encouraging evidential diversity?

One way to answer these questions is to appeal to *Evidential Pluralism*, an epistemological account of causation that was put forward in the context of the health sciences

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(Clarke et al., 2014; Gillies, 2011; Parkkinen et al., 2018; Russo & Williamson, 2007; Williamson, 2019). In a nutshell, Evidential Pluralism consists of two normative theses.

> Object pluralism: In order to establish the claim that *A* is a cause of *B*, one normally needs to establish the existence of an appropriate conditional correlation between *A* and *B* and an appropriate mechanism complex linking *A* to *B*.
>
> Study pluralism: When assessing a causal claim, one ought to consider both association studies and mechanistic studies, where available.

Shan and Williamson (2021) argue that Evidential Pluralism can also be fruitfully applied to the social sciences: it provides (i) a new approach to evidence-based policy; (ii) a new account of the evidential relationships in social science research; and (iii) new philosophical motivation for mixed methods research. Thus, Evidential Pluralism arguably provides some motivation for an appeal to diverse evidence in the assessment of causal claims. That said, the application of Evidential Pluralism to the social sciences has been questioned by some (e.g. Claveau, 2012; Reiss, 2009).

Another way to justify evidential diversity is to appeal to what we shall call *evidential contextualism*. This is the view that the evidence base for a scientific claim is context-dependent. Nancy Cartwright (2006, 983) puts forward the following motivation:

> P1. The justification of scientific claims depends on their use.
>
> P2. If the justification of scientific claims depends on their use, what counts as evidence for a scientific claim depends on what is done with that claim.
>
> C. Evidence for a scientific claim is context-dependent.

If evidential contextualism is true, evidential diversity in the social sciences is not surprising. Different evidence is needed for contexts in which scientific claims are used differently. However, evidential contextualism goes against traditional philosophical approaches to confirmation, such as hypothetico-deductivism and the Hempelian theory (Hempel, 1945). Moreover, it might seem to some that evidential contextualism leads to relativism.

This topical collection examines the philosophical foundations and implications of evidential diversity in the social sciences. It assesses the application of Evidential Pluralism in the context of the social sciences, especially its application to economics and political science. It also discusses the concept of causation in cognitive science and the implications of evidential diversity for the social sciences.

## 2.

Mariusz Maziarz, in 'Resolving empirical controversies with mechanistic evidence', argues for the application of Evidential Pluralism to econometrics. It has been noticed that the results of econometric modelling are fragile, in the sense that minor changes in

estimation techniques or sampling can lead to statistical models that support inconsistent causal hypotheses. The fragility of econometric results undermines our ability to draw conclusive inferences from the empirical literature. For example, in the study of tobacco tax and smoking behaviour, economists make inconsistent inferences from similar statistical models. Maziarz argues that Evidential Pluralism can provide grounds for resolving these empirical disagreements. He argues that by taking evidence of mechanisms into account, one can distinguish econometric models representing genuine causal relations from accidental dependencies in data. That said, Maziarz also notes that further philosophical work is needed to support the stronger claim that Evidential Pluralism applies to such situations even when associations in the data are robust in the sense that no disagreement among statistical models is present.

Derek Beach, in contrast, questions the application of Evidential Pluralism to the social sciences, especially political science. In 'Evidential pluralism and evidence of mechanisms in the social sciences', he identifies four contexts in which evidence of mechanisms can be helpful to establish a causal claim: internal validity, causal detail, extrapolation, and external validity. More precisely, Beach maintains that evidence of mechanisms linking $X$ to $Y$ can help to assess a causal claim that $X$ causes $Y$ when (1) evidence of correlation cannot eliminate potential confounders (internal validity), (2) evidence of correlation fails to provide any detail of the correlation between $X$ and $Y$ (causal detail), (3) evidence of correlation cannot show that $X$ causes $Y$ holds in a particular case (extrapolation), and (4) evidence of correlation cannot tell whether $X$ causes $Y$ outside of the studied sample. In addition, Beach identifies three different mechanism-focused methodologies in the social sciences: a minimalist approach, an in-depth mechanistic approach, and a realist approach. He argues that Evidential Pluralism is possible in the minimalist approach, difficult in the in-depth mechanistic approach, and almost impossible in the realist approach. Thus, Beach concludes that applying Evidential Pluralism to the social sciences is very difficult, albeit possible.

Rosa Runhardt develops a different line of argument against Evidential Pluralism. In 'Limits to Evidential Pluralism: Multi-Method Large-N Qualitative Analysis and the primacy of mechanistic studies', she begins with a problem of generalisation: given that evidence of correlation typically concerns a population of cases, while evidence of mechanisms is most often found in individual case studies, it seems natural to ask how one may combine general difference-making claims and specific mechanistic claims. More specifically, under what circumstances can one fruitfully generalise from single case studies to a whole population? And when can case study results support conclusions about a general hypothesis gleaned from statistical reasoning? Runhardt examines one solution: multi-method large-N qualitative analysis (LNQA). By distinguish mechanistic generality from average treatment effects, she argues that the statistical step in multi-method LNQA is redundant and to some extent misleading. She further argues that one may assess a causal claim with mechanistic studies alone. Like Beach, Runhardt concludes that the applicability of Evidential Pluralism to the social sciences is limited.

Contra Beach and Runhardt, Virginia Ghiara defends Evidential Pluralism in the context of the social sciences. In 'Taking the Russo-Williamson thesis seriously in the social sciences', she uses three examples (natural resources and civil war; legalised

abortion and crime rates; and economic deprivation and child outcomes) to show that Evidential Pluralism accords well with successful causal enquiry in the social sciences. Ghiara defends Evidential Pluralism under both descriptive and normative interpretations. She concludes that social scientists should endorse Evidential Pluralism.

Samuel Taylor argues that the epistemic theory of causality sheds light on the issue of evidential diversity in cognitive science. In 'Causation and cognition: an epistemic approach', he revisits a debate over mechanistic and non-mechanistic explanations in cognitive science. Some argue that only mechanistic explanations of cognition are genuine causal explanations, because only evidence of mechanisms reveals the causal structure of cognition. In contrast, others disagree and maintain that we can have genuine causal explanations of cognition that abstract away from mechanistic detail to characterise the causal structure of cognitive systems in non-mechanistic terms. Taylor shows that the debate is rooted in a disagreement about what it takes for a causal-explanation to be genuine. He further argues that we are in a position to deflate the tension surrounding causal-nonmechanistic explanations if we endorse the epistemic theory, because we can leave open the possibility of both genuine causal-mechanistic and genuine causal-nonmechanistic explanations in cognitive science.

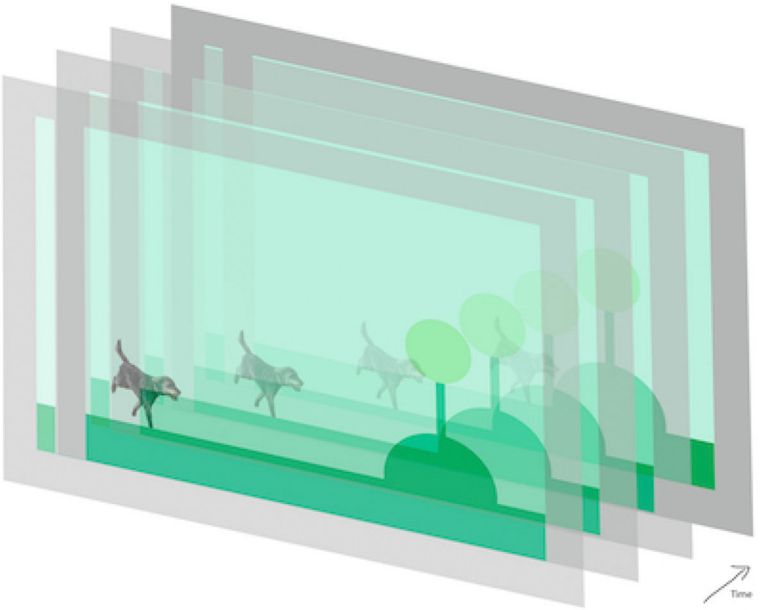
Nancy Cartwright defends the need for evidential diversity. In 'Rigour versus the need for evidential diversity', she focuses on 'singular' causal claims (i.e. claims about what a cause will contribute or has contributed in a particular setting) and argues for a causal-process-tracing Theory of Change (pToC). Moreover, Cartwright argues that there is an important implication of this defence of evidential diversity: rigour is not a virtue of science, after all. She argues that the emphasis on rigour can be counterproductive, that rigour is often the enemy of evidential diversity, and that evidential diversity—lots of it—can improve the reliability of singular causal predictions and post hoc evaluations.

## 3.

The papers in this topical collection are centred around two main debates: the debate between evidential monists and Evidential Pluralists and the debate between causal pluralists and Evidential Pluralists. Both Beach and Runhardt suggest that causal claims can be established by one object of evidence (say, evidence of mechanisms), while Maziarz and Ghiara highlight the significance of the integration of evidence of correlation and evidence of mechanisms in the assessment of causal claims. Runhardt seems to embrace causal pluralism, which is the view that there are genuinely different concepts of causality, in the social sciences, while Ghiara is sceptical. With a different line of argument, Taylor maintains that a monistic approach to causation (the epistemic theory), rather than a pluralist approach, should be adopted in cognitive science. As a critic of evidential monism, Cartwright argues for the benefits of evidential diversity and downplays the significance of rigour in scientific practice.

These papers thus shed new light on issues surrounding causation and evidence in the social and cognitive sciences and open up further avenues of investigation. For example, is evidence of mechanisms alone sufficient to establish single-case causal claims? Which better captures the nature of causal inquiry in the social sciences: causal

pluralism or Evidential Pluralism? What lessons should policy makers take from the debate over evidential diversity?

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