

Monday, 24 March, 9:15 am, Hörsaal Anatomie

Contrasting visions of inquiry for an open society

Sabina Leonelli

Technical University of Munich

Openness has long been heralded as a fundamental value to scientific inquiry. This talk examines the multiple meanings of this notion from both an epistemic and a methodological standpoint, and articulates a specific interpretation ('humane openness') as the best way forward for scientific and technological developments. I start with a reconstruction of the history of philosophical debates on openness and the role of inquiry in an open society, focusing on what I identify as a fundamental contrast between the version of openness championed by Henri Bergson and its rational counterpart as famously advocated by Karl Popper. I then consider the legacy of these and subsequent views within contemporary understandings of Open Science, analysing the epistemologies of research presupposed by these two views as well as the implications of such epistemologies for scientific practice. I argue that while Popper's take on open inquiry has so far won the day in inspiring research policy and governance, contemporary debates on open science and its role in society would benefit from considering a humane version of openness inspired by Bergson's philosophy, thereby paying attention to the centrality of connections (intellectual as much as material and emotional) among research participants as backbone to successful communication, constructive critique and creative exchange. I conclude by proposing a version of humane openness that scientific research should incorporate to support societal advancements and planetary health. This research is grounded in philosophical and extensive empirical research carried out within the ERC project "Philosophy of Open Science for Diverse Research Environments", as detailed on www.opensciencestudies.eu (see especially the 'publications' section).

Monday, 24 March, 5:00 pm, Hörsaal Anatomie (online)

DeGruyter Lecture: The Trouble with Supply-Side Science

Naomi Oreskes

Harvard University

Most scientists--and historically, philosophers of science-- have believed that good science is untainted by politics. But we live in a world with extensive resistance to science, much of it politically motivated. Consider climate change denial. Most of the available solutions to the climate crisis involve governance—on the international, national, state, provincial or local level. As a result, neoconservative and neoliberal advocates of "free markets and "limited government" have been loath to accept the scientific evidence of the reality and severity of anthropogenic climate change, because of their political commitments to "free markets," and hostility to expanded governance, especially in the United States, to action by the U.S. federal government. This has motivated positions ranging from modest skepticism to outright science denial, attacks on climate scientists, and attacks on the IPCC. More and better scientific evidence does not solve the problem, because it does not address the critics core concern. I will therefore suggest some options for addressing the political concerns while staying true to the epistemic virtues and regulative ideals of of openness, transparency, and objectivity.

Tuesday, 25 March, 9:00 am, Hörsaal Anatomie

Stabilizing Understanding

Roman Frigg

London School of Economics

Successful science doesn't just represent certain parts or aspects of the world, those representations are the means through which we understand them. Important parts of science achieve this goal through the construction of models. This raises the question: how do models provide understanding of their target systems? Factivists insist that understanding is factive; non-factivists demur and insist that radical departures from the truth need not be an impediment to understanding and should be embraced rather than excised. In this paper we take issues with both sides, but for different reasons. Against non-factivism we argue that a model cannot provide understanding unless it gets those aspects of the target that it aims to understand right: to provide understanding a model must be veridical. We endeavour to establish this conclusion with a thought experiment inspired by the history of physics. This places us on the factivist side of the divide. However, we take issue with existing articulations of factivism, particularly with respect to how they attempt to accommodate the idealised aspects of scientific models within a factivist framework. We then provide our positive account of understanding, which emphasizes the importance of stability across model variations for the noetic value of the involved models and idealisations.

Tuesday, 25 March, 5:00 pm, Hörsaal Anatomie

Explanation and Confirmation: When Loveliness Enables Likelihood

Lina Jansson

University of Nottingham

Explanatory power is typically considered a virtue of scientific theories. It is also sometimes considered a reason to believe the more explanatory theory over its less explanatory rival. For example, when Kepler argued in favour of a Copernican model, he emphasised its explanatory power above its predictive accuracy. Yet, it remains challenging to reconcile allowing explanatory considerations to carry confirmatory power with prevalent models of confirmation, such as Bayesian ones, without making explanatory considerations epiphenomenal to confirmatory success (or failure).

In this talk I will suggest a way that explanatory considerations per se can enable confirmation. I will argue that this shows us a way forward for improving our access to empirical evidence in certain cases of otherwise inaccessible systems such as the early universe or some of the behaviour of black holes.

Wednesday, 26 March, 9:00 am, Hörsaal Anatomie

Values in Science: Where Have We Come from, and Where Are We Going?

Kevin Elliott

Michigan State University

The literature on science and values has flourished in recent years, but there continues to be confusion and disagreement about many of the field's central ideas, including the nature of values and value-ladenness, the cogency of the value-free ideal (VFI), and the best ways to manage values in science. The first part of this talk will provide an overview of the current state of the literature on these issues. It will focus especially on recent efforts to clarify different notions of values, value-ladenness, and the VFI. The second part of the talk will sketch out a promising path forward for future work on these issues. It will suggest that more focus should be placed on the multiple institutional factors that influence the scientific community's value-laden choices, whereas much of the current literature has focused on the conscious values that individual scientists bring to their work. The talk will also argue that, although the VFI is not entirely dead, debates about the VFI are not a very fruitful way to frame the topic of science and values for working scientists. Finally, the talk will highlight a recent trend toward pluralism in the science and values literature, showing how this opens up important lines of inquiry that are neglected when one focuses on identifying a small set of the "best" values for scientists to incorporate in their work.

Wednesday, 26 March, 4:45 pm, Hörsaal Anatomie

Leaving the Humeanism Non-Humeanism Debate behind

Andreas Hüttemann

University of Cologne

The paper starts by discussing some motivations of the participants in the debate about laws of nature, in particular between defenders of Humeanism and non-Humeanism. These debates are often framed in terms of facts that are within our experiential reach on the one hand and irreducible modal facts that need to be postulated in addition on the other hand. The debate does then concern the question what is the best explanation for certain prima facie modal features of laws. Non-Humean views are motivated to a large extent by the thought that there needs to be something in nature that accounts for the apparent modal features of laws. Non-Humean positions are largely motivated by the idea that we should not postulate entities that are beyond our experiential reach. I will consider both motivations and argue that modal features of laws (or systems) are empirically accessible invariance relations. These invariance relations can be used to account for what we usually take to be genuinely nomological (and dispositional) necessities.