Philosophical Perspectives for the Anthropocene

Monday, 29. April 2024, 18^{15}–20^{00} Lerchenweg 36, F-123

On the Epistemic Foundations of Climate Modelling

David Stainforth (LSE)

Computer models of the climate system are widely used in studies of climate change in the physical sciences and beyond. They come in varying levels of complexity but here I will focus on the most complicated: Global Climate Models (GCMs) and Earth System Models (ESMs). The output of these models is widely used beyond academia in policy assessments and as a source of information to guide climate adaptation decisions: decisions aimed at improving the resilience of our societies in the context of anthropogenic climate change. Being clear regarding what they can and cannot tell us is therefore of significance for both academic study in diverse disciplines and for the response of our societies to the challenges of climate change.

In this talk I will begin by reflecting briefly on definitions of climate and on how the timescales of human-induced climate change limits our ability to quantitatively describe changes in climate using observations, particularly at local or regional scales. The bulk of my talk, however, will focus on (i) what is required of a climate modelling experiment to be able to robustly quantify changes in climate within the world of the model (the perfect model scenario), and (ii) why the relationship between models and reality demands a new approach to modelling initiatives.

Quantifying changes in climate within a model-world requires ensembles of simulations to capture the consequences of initial-value sensitivity and/or any stochastic components. Questions regarding how these ensembles should be designed, and how future climate within a model is dependent on assumptions about the large-scale initial-state, will be explored and illustrated. Relating models to reality raises further questions regarding how close a model needs to be to the target system to provide reliable quantifications of future climate - consideration of the Hawkmoth effect - and how we should interpret collections of multiple models given the lack of a metric to describe the space of possible models. These questions will also be explored, alongside recommendations for what the target of climate modelling experiments should be if they are to be used to support both scientific understanding and societal decisions.

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Tuesday, 7. May 2024, 18^{15}–20^{00} Lerchenweg 36, F-123

From Publications to Public Actions in a Planetary Emergency

Charlie Gardner (Kent)

Climate change and the destruction of nature threaten the breakdown of planetary systems, the extinction of a million species and the collapse of human civilisation, a situation widely described as a planetary emergency. An emergency is an urgent and dangerous situation requiring us to focus our attentions on the problem at hand, yet most researchers and scientific institutions continue as normal, in the belief that simply providing more information will somehow lead to the required transformations in our societies and economies. However, this theory of change in naive because governmental decisions are not influenced primarily by evidence but by corporate lobbying and public opinion. In this talk, I call for us to reconsider the role of academia in our emergency context, and suggest that those with the greatest understanding of the emergency, including academics, have a moral obligation to step beyond their research and additionally engage in practices that have greater potential to bring about the transformative changes we need. History and social change theory suggest that the most likely catalyst of rapid change is likely to be the actions of social movements using non-violent civil disobedience (NVCD). I will outline the theory of NVCD, discuss why the participation of academics is both important and appropriate, and highlight practical in which we all can safely participate.

Dr Charlie Gardner is a conservationist and activist with particular interests in the intersection of the climate and ecological crises, academic activism, and the contributions of individuals action to social contagion and movement building. He is an Associate Senior Lecturer at the Durrell Institute of Conservation and Ecology (University of Kent), and sometime spokesperson with Scientist Rebellion and Scientists for Extinction Rebellion.

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