Philosophical perspectives for the Anthropocene

Colloquium

Vincent Lam, Georg Brun, University of Bern

The term “Anthropocene” has been coined to convey the idea that certain human activities have become the driving force behind some profound changes our planet undergoes. These changes affect not only the climate and other physical components of the Earth system, but also the very conditions that allow for the flourishing of human societies and, more generally, of living beings. This colloquium aims to provide a philosophical perspective on some of the deep challenges that arise in confronting this situation: we will engage a dialogue with a series of invited speakers from various disciplines in the human, social and natural sciences, who will present their perspective on the Anthropocene from e.g. economics, history, political science, climate and Earth system science.

Requirements: To get 4 ECTS students are required to write short texts on the themes of some of the presentations or a short essay (to be defined in agreement with the lecturers).

Learning outcomes: Students learn to critically reflect from a philosophical perspective on concepts and arguments from various disciplines in the context of addressing global environmental challenges; students learn to interact with scientists from various disciplines.

Sessions and Readings

1. Presentation and discussion:
   David Stainforth (LSE): **On the Epistemic Foundations of Climate Modelling**

   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.

2. Presentation and discussion:
   Keith Smith (ETHZ): Operationalising complexity of societal tipping processes towards sustainability: Criticality and critical agency

   Rapid societal transformations are necessary to mitigate risky anthropogenic climate change and maintain human systems within Earth’s planetary boundaries for continued sustainable development. Recently, societal tipping processes have received increasing focus as a potential transformation mechanism. Yet, generalisable solutions towards intentionally transforming societal systems remain elusive. We argue for shifted focus away from individual social tipping points and interventions and towards uncovering the systemic conditions enabling tipping from a complex adaptive systems perspective. In this perspective, we introduce two concepts to advance the emerging field of social tipping points research: criticality, the likelihood that a system will experience tipping processes, and critical agency, human capacity to intentionally arrange conditions towards shifting systemic criticality. Criticality is a necessary condition for societal

transformation, and can serve as a crucial compass for policy makers, entrepreneurs, and activists, illuminating how critical agency can be used to instigate desired 'positive' societal tipping.

Otto, Ilona M.; Jonathan F. Donges; Roger Cremades; Avit Bhowmik; Richard J. Hewitt; Wolfgang Lucht; Johan Rockström; Franziska Allerberger; Mark McCaffrey; Sylvanus S. P. Doe; Alex Lenferna; Nerea Morán: Detlef P. van Vuuren; Hans Joachim Schellnhuber. 2020. "Social Tipping Dynamics for Stabilizing Earth's Climate by 2050". *Proceedings of the National Academy of Sciences* 117, 2354–2365.

Winkelmann, Ricarda; Jonathan F. Donges ; E. Keith Smith; Manjana Milkoreit; Christina Eder;Jobst Heitzig; Alexia Katsanidou; Marc Wiedermann; Nico Wunderling; Timothy M. Lenton. 2022. "Social Tipping Processes Towards Climate Action. A Conceptual Framework". *Ecological Economics* ,192, 107242.

Milkoreit, Manjana. 2023. "Social Tipping Points Everywhere?—Patterns and Risks of Overuse". *Climate Change* 14, e813.

3. Presentation and discussion:
Julia Steinberger (UNIL): **Living Well Within Planetary Limits, and Preparing Post-Growth Economies**

Millward-Hopkins, Joel; Julia K. Steinberger; Narasimha D. Rao; Yannick Oswald. 2020. "Providing Decent Living with Minimum Energy. A Global Scenario". *Global Environmental Change* 65, 102168.

Steinberger, Julia K.; William F. Lamb; Marco Sakai. 2020. "Your Money or Your Life? The Carbon-Development Paradox". *Environmental Research Letters* 15, 044016.

Creutzig, Felix; Leila Niamir; Xuemei Bai; Max Callaghan; Jonathan Cullen; Julio Díaz-José; Maria Figueroa; Arnulf Grubler; William F. Lamb; Adrian Leip; Eric Masanet; Érika Mata; Linus Mattauch; Jan C. Minx; Sebastian Mirasgedis; Yacob Mulugetta; Sudarmanto Budi Nugroho; Minal Pathak; Patricia Perkins; Joyashree Roy; Stephane de la Rue du Can; Yamina Saheb; Shreya Some; Linda Steg; Julia Steinberger; Diana Ürge-Vorsatz. 2022. "Demand-Side Solutions to Climate Change Mitigation Consistent With High Levels of Well-Being". In *Nature Climate Change, 12(2022),* 36–46.

Hickel, Jason; Paul Brockway; Giorgos Kallis; Lorenz Keyßer; Manfred Lenzen;Aljoša Slameršak; Julia Steinberger; Diana Ürge-Vorsatz. 2021. "Urgent Need For Post-Growth Climate Mitigation Scenarios". *Nature Energy* 6, 766–768.

Hickel, Jason; Giorgos Kallis; Tim Jackson; Daniel W. O'Neill; Juliet B. Schor; Julia K. Steinberger; Peter A. Victor; Diana Ürge-Vorsatz. 2022. "Degrowth Can Work. Here's How Science Can Help". *Nature* 612, 400–403.

4. Reading:

Castree, Noel. 2019. "The "Anthropocene" in Global Change Science. Expertise, the Earth, and the Future of Humanity". In Biermann, Frank; Eva Lövbrand (eds). *Anthropocene Encounters. New Directions in Green Political Thinking.* Cambridge: Cambridge University Press. 25–49.

optional reading:

Ellis, Erle C. 2018. *Anthropocene. A Very Short Introduction.* Oxford: Oxford University Press. chs 4, 6, 7.

5. Presentation and discussion:
Kari De Pryck (UNIGE): **The global science-diplomacy interface as trading zones. The case of the IPCC AR6**

The science-diplomacy interface between the IPCC and the UNFCCC is often presented as a model of expertise. In practice, however, there is nothing more complex and controversial than the relationship between the IPCC and the UNFCCC - to the point that the Bonn Climate Change Conference in June 2023 nearly derailed because of disagreements between Parties about how to acknowledge and use the main findings from the Sixth Assessment Report (AR6) in the negotiations. IPCC knowledge rarely flow neatly to the UNFCCC. Against the common idea that scientific expertise fosters learning and cooperation, this article analyses contestation about what constitutes 'policy-relevant' and 'useable' knowledge for the UNFCCC. Doing so, we highlight increasing risks of unlearning in the climate regime. This paper is based on ethnographic work (direct observation, interview, document analysis) at the IPCC (2019 - 2023) and in the UNFCCC (2022 - 2023).

De Pryck, Kari. 2021. “Intergovernmental Expert Consensus in the Making. The Case of the Summary for Policy Makers of the IPCC 2014 Synthesis Report”. *Global Environmental Politics* 21, 108–129.
Hermansen, Erlend A. T.; Bård Lahn; Göran Sundqvist; Eirik Øye. 2021. “Post-Paris Policy Relevance. Lessons From the IPCC SR15 Process”. *Climatic Change* 169:7.

4. Presentation and discussion:
Christian Arnsperger (UNIL): **The Existentialist Anthropocene: Looking at Climate Change Blindness through the Lens of the Fear of Finitude, Fragility and Mortality**

This presentation will focus on the usefulness of what I call “existential economics” to understand some aspects of climate-change blindness and, more broadly, the continued focus on economic growth and “decoupling” as alleged solutions to environmental problems. I will suggest that concepts such as the Environmental Kuznets Curve as well as “green growth” are rooted in a quasi-religious faith in undetermined – and, in fact non-existent – possibilities to collectively attain “immortality” by never having to acknowledge the increasingly hard facts of finitude – our planet’s finite boundaries as well as our finite lives in a frighteningly entropic universe. Existential economics, so I will suggest, may help shed light on the tenacious blindness most of us bring to the table when we discuss – and express doubts about – such ideas as degrowth and the ultimate fading-out of the human species over millions and billions of years. It may also offer some solace as to why philosophy (in the sense of a set of practices for living and dying, and finding meaning) may be of help in finding a new, more existentially adequate, path through the Anthropocene.

Arnsperger, Christian. 2022. “How Deep Time Can Help Shape the Present. Existential Economics, “Joyful Insignificance” and the Future of the Ecological Transition”. *Text Matters* 12, 97–115.
Arnsperger, Christian; Agnieszka Soltysik Monnet. 2023. “Envisioning the Ecological Future. Three Perspectives off the Beaten Track”. *Text Matters* 13, 417–441.

5. Presentation and discussion:
Alexandre le Tiec (CNRS, Paris): **Questioning Modernity in the Anthropocene**

The Anthropocene is a proposed geological epoch giving a name to human-caused, global environmental changes. Alternative perspectives emphasize the major historical roles played by fossil fuels (Carbocene), the capitalist socio-economic organization (Capitalocene), the technical means of economic production (Technocene), colonialism and enduring racial hierarchies (Plantationocene), or a small group of wealthy and powerful people (Oligantropocene), among other analyses. In this presentation, we shall adopt a cultural perspective and emphasize the historical responsibility of industrialized Western nations in the current ecological disaster (Occidentalocene). In line with the philosopher Georg Henrik von Wright, we will first discuss the role played by the enduring 'Myth of Progress' that characterizes the Western Modernity. We will then complete this idealist perspective by a materialist, socio-historical analysis of the sources of power in human societies, based on the work of sociologist Michael Mann. Finally, we will ask how far back in time a radical analysis of the current situation must go to reach the roots of the Anthropocene.

Bouveresse, Jacques. 2011. “Wittgenstein, von Wright and the Myth of Progress”. *Paragraph* 34, 301–321.
Hornborg, Alf. 2023?. “Beyond Civilisation. How Far are We Prepared to Go in Parochialising 'Progress'?” In Mondal, Kaushani (ed.). *Staying Together. NatureCulture in a Changing World* . Rowman and Littlefield.
Murphy Jr., T.W.; D.J. Murphy; T.F. Love; M.L.A. LeHew; B.J. McCall. 2021. “Modernity Is Incompatible with Planetary Limits. Developing a PLAN for the Future”. Energy Research & Social Science 81, 102239.

6. Presentation and discussion:
Anne van Valkengoed (Groningen): **Climate Anxiety: Mental Health Threat or an Outbreak of Sanity?**

While scientists have been warning about the dangers of climate change for years, progress in reducing CO_2 emissions has been frustratingly slow. While many people are worried, some experience genuine anxiety, distress, and terror about climate change, which is referred to as ‘climate anxiety’. In this talk, I will introduce the concept of climate anxiety, discuss current developments in the literature, and address some critical questions surrounding this topic. For example, is climate anxiety the right response to climate change, or is it indicative of mental health problems? ? Is climate anxiety caused by media reporting on climate change? And should we try to reduce or increase people’s levels of climate anxiety?

Fyke, Jeremy; Andrew Weaver. 2023. “Reducing Personal Climate Risk to Reduce Personal Climate Anxiety”. *Nature Climate Change* 13, 209–210.
van Valkengoed, Anne M. 2023. “Climate Anxiety Is not a Mental Health Problem. But We Should Still Treat it as One”. *Bulletin of the Atomic Scientists* 79, 385–387.
van Valkengoed, Anne M.; Linda Steg. 2023. “Climate Anxiety Is About More Than Just Personal Risks”. *Nature Climate Change* 13, 591.
van Valkengoed, Anne M.; Linda Steg. 2019. “Meta-Analyses of Factors Motivating Climate Change Adaptation Behaviour”. *Nature Communications* 9, 158–163.

7. Presentation and discussion:
Charlie Gardner (Kent): **From Publications to Public Actions in a Planetary Emergency**

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.

Gardner, Charlie J.; James M. Bullock. 2021. “In the Climate Emergency, Conservation Must Become Survival Ecology”. *Frontiers in Conservation Science* 2, 659912.
Gardner, Charlie J.; Claire F. R. Wordley. 2019. “Scientists Must Act On Our Own Warnings to Humanity”. *Nature Ecology & Evolution* 3, 1271–1272.
Racimo, Fernando; Elia Valentini; Gaston Rijo De León; Teresa L. Santos; Anna Norberg; Lane M Atmore; Myranda Murray; Sanja M Hakala; Frederik Appel Olsen; Charlie J Gardner; Julia B Halder. 2022. “The Biospheric Emergency Calls for Scientists to Change Tactics”. *eLife* 11, e83292.
Thierry, Aaron; Laura Horn; Pauline von Hellermann; Charlie J. Gardner. 2023. ““No Research on a Dead Planet”. Preserving the Socio-Ecological Conditions for Academia”. *Frontiers in Education*. doi: 10.3389/feduc.2023.1237076

General resource

Wallenhorst, Nathanaël; Christoph Wulf (eds). 2023. *Handbook of the Anthropocene. Humans between Heritage and Future.* Cham: Springer.