



Values in Science Workshop Schedule

Institute for Futures Studies May 17-18, 2021

Monday, May 17th

11.00 – 11.15	Introduction	Welcome from Gustaf Arrhenius, Krister Bykvist, Göran Duus-Ötterström (PIs “Climate Ethics and Future Generations”) Technical Instructions
11.15 – 12.15	Katie Steele (ANU)	Justifying climate targets: a role for reverse-engineering our decision models A relatively common view amongst those concerned about climate decision making is that climate targets of any stringency – including those referred to in policy discussions, like the “2 degrees warming” target – <i>cannot</i> be justified in terms of maximising expected social utility. The idea is that our most fine-grained predictive decision models – the so-called “integrative assessment models” that couple a climate and economic model – simply do not support anything like precise probability and social utility distributions over the relevant outcomes, and worse, the lack of precision matters for discriminating between climate targets (e.g., Frisch 2013). It is then suggested that a climate target may rather be justified in a different way, say, procedurally, as a social agreement (e.g., Pezzey 2018); or by appeal to an alternative <i>precautionary</i> decision principle that focuses on the plausible worst-case scenarios (e.g., Frisch 2018). While they have merits, I argue that these proposals fall short with respect to truly <i>justifying</i> a climate



		<p>target. Put differently, they fall short as ways to rationalise the opinions of many that certain climate targets are quite simply preferable to others. I argue that, to this end, we should engage in a reflective equilibrium process: <i>to some extent</i> we should reverse engineer our expected social utility models so that they yield conclusions that accord with our more informal reasoning. The revisions I have in mind concern the translation of physical climate possibilities into social wellbeing. I do not attempt to provide the right translation, but rather focus on the reverse engineering process: when does our informal reasoning come apart from our complex decision models, and what sorts of adjustments to either or both can reasonably restore consistency in such cases?</p>
12.15 – 13.15	Lunch	
13.15 – 14.15	Joe Roussos (IFFS) and Julie Jebeile (Bern)	<p>“Usability” in climate science: moving from natural science to science-for-policy</p> <p>Historically climate science developed as a natural science, drawing in particular on physics. This has influenced its methods, e.g., of uncertainty management, and how climate scientists and philosophers think about the role of values in climate science. However climate science aims to inform policymaking and in this respect it is expected to provide usable knowledge that is reliable, salient and legitimate. Its failure to do so has led to discussions of a “usability gap”, and the call for closer cooperation with stakeholders in creating user-tailored climate information. In this talk, we highlight the tension between the aims that climate science has historically set for itself and the expectations that policy users have of it, looking in particular at the case of climate services. We studied the STS literature on science-for-</p>



		<p>policy, in the “mandated science” and “post-normal science” traditions. We argue that climate science ought to see itself as closer to science-for-policy, and that this reconception leads to a change in how to manage uncertainty and values.</p>
14.15 – 14.30	Break	
14.30 – 15.30	Per Wikman Svahn (KTH)	TBA
15.30 – 15.45	Break	
15.45 – 16.45	Sabine Undorf (SU)	<p>How do values in science enter model-based assessments of climate sensitivity uncertainty?</p> <p>The past decades of philosophical scholarship have established that values, including social ones, do - legitimately- play a role in science. This insight has however not reached the gross of the climate-scientific community; and in turn, some of the complexities and properties of climate science have arguably not been acknowledged enough in the philosophical discourse to be able to provide easily and broadly applicable descriptive accounts and normative guidance regarding value-judgements. In this presentation, I will report on the results of an interdisciplinary collaboration that aims to bridge this gap by identifying how value-judgements enter much of the climate-scientific research process. Specifically, I will discuss typical choices faced at each step underlying scientific assessments such as those undertaken by the IPCC, all the way from climate model development to results communication, and illuminate possible values invoked to address these choices. The focus will be on Equilibrium climate sensitivity (ECS), a number that quantifies the</p>



		<p>magnitude of future climate change and is one of the most sought-after pieces of climate-scientific knowledge, the uncertainty of which has proven to be very persistent over time. I will discuss the findings within the historical evolution of climate models, ECS estimates, and their uncertainty range, and highlight transferable insights for the wider values in climate science debate.</p>
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Tuesday, May 18th

13.00 – 14.00	Marina Baldissera Pacchetti (Leeds)	<p>Trust and values at the science-policy interface: challenges for adaptation to climate change.</p> <p>I show that using a model of trust can clarify the role of value judgements in the interaction between scientists and policy makers regarding climate science and uncertainty. Theories of trust are a social science tool for analyzing the trust relations between individuals (interpersonal trust) and between organizations (organizational trust). After describing the key differences between the procedural and structural characteristics of science and policy making, I explore some of the main ideas of theories of trust. Different forms of trust (procedural, affinitive, dispositional, rational) describe the trust relationship that can develop between policy makers and scientists. I suggest that these forms of trust help clarify how value judgements enter the decision-making process at the science-policy interface. A breakdown in trust can damage the relationship between scientists and policy makers, and I discuss a breakdown in procedural trust, a form of trust that arises from the trustor's reliance on the rules of knowledge production of the trustee. The trustor is usually an individual, and the trustee can be either an individual or an institution. The breakdown can result from a misalignment of epistemic value judgments in knowledge co-production and from differences in incentive</p>
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		structures for scientists and policy makers. The difference in incentive structure can influence epistemic and ethical value judgements of both scientists and policy makers. Finally, I suggest that deep uncertainty is a special case of breakdown in procedural trust that arises from a misalignment of value judgements about what counts as reliable information.
14.00 – 14.15	Break	
14.15 – 15:15	Karoliina Pulkkinen (KTH)	Making scientific progress more progressive: why distribution matters for progress Philosophical accounts of scientific progress disagree on whether truthlikeness, knowledge, problem-solving capacity, or understanding is more central for scientific progress. Despite this disagreement, the accounts of progress share the tendency of analysing it in terms of accumulation. Here, I argue that mere accumulation of goods is not always enough for scientific progress, as there is a subset of projects where scientists have an obligation to provide knowledge that stems from a deeper moral obligation. With the example of scientists' use of simulation models to gain a better understanding of African climate, I demonstrate that a mere accumulation of goods is not enough, but their distribution matters too. For this reason, philosophical accounts of scientific progress should be updated to consider how goods are distributed, not just accumulated.
15.15 – 15:30	Break	
15.30 – 16.30	Henrik Thorén (Lund)	TBA