Workshop Report

How to Overcome Social Dilemmas: Towards an Interdisciplinary Understanding of Global Cooperation

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Workshop organised by:
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At present, multilateral negotiations are proving less than successful in galvanizing us into collective action to tackle pressing world problems. In an attempt to throw light on the ways in which social dilemmas (such as those posed by the management of climate change) might be addressed at the global level, the Centre organized an interdisciplinary workshop on this theme. The workshop, which took place in January 2014, built on the Masterclass Retreat on complexity and global cooperation held the previous summer.

The problem of climate change has all the hallmarks of the classic social dilemma: despite the global benefits that accrue from reducing greenhouse emissions, individual countries and citizens have little incentive to engage in solo reductions. The workshop focused on the causes of these kinds of social dilemmas, how they might be scientifically modelled, and what measures might be taken to overcome them. It drew together strands from game-theory research, social-dilemma experimentation, and the research carried out by behavioural biologists into the possibility of human cooperation. Three particular areas came under scrutiny in the various thought-provoking presentations and discussions: theory and methodology; the impact of uncertainty; and the (dis)inclination to cooperate.

Opening the workshop, Dirk Messner outlined the problematics of climate change. Marlies Ahlert then sought to provide a common starting-point exploring the economic ‘toolbox’ available for analysing global cooperation—and multilateral negotiations in particular. She distinguished between the ‘thin’ kind, which seek to isolate single effects as a basis from which to develop economic theory, and the ‘thick’ kind, which contextualize. When it came to the analysis of social dilemmas, she advocated the wholehearted espousal of ‘thicker’ studies encompassing both normative aspirations and complex contexts. She urged that, in analysing negotiations, researchers pay greater attention to conflicts over norms than conflicts over pay-offs. Andreas Löschel did just this in his presentation of conflicting burden-sharing rules among climate negotiators. He reported that surveys conducted among participants of international climate-change negotiations pointed to the ‘polluter pays’ principle, based on 1990 levels of pollution, as the most common burden-sharing rule—although it was far from commanding consensus. There
were strong regional differences here, he said, and when allowed to select multiple answers, negotiators tended to opt for a combination of several burden-sharing rules. Significantly, negotiators—particularly those from richer countries—tended to prefer rules that would be beneficial to their home country.

Moving on, the workshop turned its attention to the impact of uncertainty and risk on the solution of social dilemmas such as climate change. Astrid Dannenberg explained that recent game-theory experiments demonstrated a link between the degree of certainty of a threshold (such as the 2° threshold) and the willingness of participants to cooperate. Once the threshold was certain and accepted, she said, a social dilemma would be transformed into a more easily resolvable coordination-game. However when the threshold was uncertain, the nature of the interaction plunged back into a standard social dilemma situation, where incentives urge individual agents not to provide the public goods—a theoretical prediction borne out by the experiment she then presented. Drawing on experimental research undertaken with Israel Waichman, Markus Kade, and Manfred Milinski, Till Requate suggested a scheme for modelling inter-country asymmetries in national income and climate-change impact. Astonishingly, the experiments showed that neither of these asymmetries has a negative effect on negotiations (modelled as threshold public goods games); on the contrary, they enhance their chances of success.

Addressing the third strand of the meeting, the workshop discussed ways in which cooperation can be promoted. Speaking from the perspective of evolutionary biology, Dirk Semmann pointed to the fact that cooperation is, in itself, an evolutionary puzzle, given that it entails costs and inevitably brings with it the danger of exploitation. One factor that helped explain cooperative behaviour, he said, was indirect reciprocity. Drawing on the results of game-theory experiments involving public goods, he showed that reputation, as it emerges through exposure of participants’ behaviour in repeated rounds of interaction, plays an important part in prompting individuals to contribute to public goods. Using an economic-modelling exercise, Sayantan Ghosal argued that unilateral initiatives could help overcome the stalemate in climate-change negotiations by making green technologies less costly to other countries.
Astrid Dannenberg asked how these negotiations might be re-framed in such a way that they no longer resembled a ‘prisoner’s dilemma’ (by imposing targets and timetables) and instead assumed the form of a coordination game (with technology standards as a goal). Experiments she had conducted jointly with Scott Barrett, had shown that, when given the choice between interacting in a coordination game or a cooperation game, participants initially shied away from the coordination option, presumably because it was less beneficial from the collective point of view. However, as the game went on, more and more people shifted to the coordination game, thereby improving their pay-offs. But the shift was not universal: only some groups gradually got wise to this strategic advantage. Gianluca Grimalda drew the session to a close with an overview of the different mechanisms by which social dilemmas might be overcome: trust, guilt, and shame; ‘tipping-point’ certainties; sanctions; and communication. A fourth possible remedy, he said, was the creation of a club that would somehow exclude ‘defectors’ from the resource in question. Applied to climate change, this would mean that a group of countries would reward or punish other countries depending on how much they reduced their emissions. This idea was to be tested experimentally.

Closing the workshop, Silke Weinlich remarked on the very fruitful nature of the interdisciplinary exchange and expressed the hope for more intensive dialogue in the months to come.