Cold War and Environmental Sciences: Circulations, Exchanges and Cooperation between the East and the West, 1950s–1990s

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The importance of the Cold War context in shaping the history of environmental science is hard to overestimate. It created patterns of cooperation and competitiveness that reflected the complicated relationship between geo-politics and geo-scientific research at the time. The superpowers' ideological competitiveness created desires to both withhold knowledge (to maintain military advantage) and to showcase knowledge internationally (to demonstrate the high quality of national research). Yet even in this agonistic context, the collegial scientism that knits together scholarly communities ensured that scientific research continued to progress collectively. This workshop gathered together those working on historic examples of exchange and cooperation across the East/West border during the Cold War, covering knowledge exchange programmes and institutions, environmental protection agreements between the US and the USSR, collaboration in the Arctic and Siberia and cooperation in understanding air pollution in the USSR and Central Europe.

The workshop was opened with a keynote address from ELKE SEEFRIED (Institute for Contemporary History, Munich), which gave an overview of trans-bloc exchanges of knowledge during the Cold War. Looking particularly at the work of the International Institute for Applied Systems Analysis (IIASA), she presented a loose scheme of three periods, characterised by different relationships between the two blocs and the research they conducted. The first period was one in which the application of systems theory to the future of society was of interest to both Western and communist powers. It began with the publication of the Club of Rome's *Limits to Growth* in 1972 and the notion of applying systems thinking to social problems and futures. The second was one in which the knowledge being generated by the two superpowers was still cooperative, but no longer intertwined, characterised by concerns on the part of the communist nations about the methodology of systems theory. For example, an (IIASA) energy project in the 1970s which looked at energy mix was dismissed by the GDR as too bourgeois in its approach. The third was a period of asymmetry in which the West was identified more with 'environmental' concern than the Soviet region. This was considered as beginning with work on the Brundtland report in the mid-1970s, emphasising an environmental awareness that included developing country needs and social justice at its core. This keynote helped attendants to appreciate how the relationships and attitudes of the epistemic community around IIASA shifted over time and gave historical context to the papers which followed.

The first panel considered East and West collaboration and knowledge exchange during the Cold War. LIZA SOUTSCHEK (Institute for Contemporary History, Munich) discussed IIASA with a focus on West and East German information exchange. Created in the 1970s, IIASA was interested in understanding future energy in the context of the OPEC oil crisis and the publication of *Limits to Growth*, which was supported by the GDR. There was discussion of the Wolf-Häfele fast-breeder reactor and early successes in energy supply, but it was made clear that this research was not popular with the GDR. The talk drew attention to a strong sense of imagined competition on the part of the GDR, but that the sharing of observational data and interests was nevertheless as much a feature of the organisation as Cold War competition. MARC ELLIE (CRNS Paris) looked at soil science in the world 'divided' by the Cold War, considering how knowledge exchange took place between pedologists from the East and West. In this case study, overt competition was less a feature than in other natural sciences, but competition for control of an international taxonomic consensus expressed competitive elements between the superpowers. Viktor Abramovich Kovda (1904–1991),

for example, tried to preserve the Russian language taxonomy, which had given Russia domination of the field prior to the Cold War, while Guy Donald Smith (1907–1981) tried to create and share a new US based taxonomy. Other actors, like the Belgian Raoul Dudal (1926–2004), tried to find a solution that would be mutually acceptable to both superpowers. EGLĖ RINDZEVIČIŪTĖ's (Kingston University London) work explored nuclear cultural heritage around IIASA and UNESCO, looking at power and influence in competitive systems applied to biospheric programs and their impacts on the political imagination of the time. Rather than looking at the issues as ideological or power struggles, in which science is a zero-sum competitive game, her work looks at how science reshapes the political arena and shifts political actors' perceptions of their own aims and struggles. Considering this, it makes sense to view systems thinking as an innovative epistemological – a transnational shift –, changing understandings of authoritativeness in science.

The second panel looked at collaborations on environmental protection between the US and the USSR. KATJA DOOSE (University of Birmingham) examined climate change research during the Cold War, particularly around the Moscow Summit in 1972, to gain insight into green diplomacy in this period. The 1972 bilateral agreement between the US and the USSR included working groups, of which WG-8 looked at environmental change with regards to the climate. Her presentation drew on interviews with participants in WG-8 from both sides of the Cold War divide and explored their reasons for participation and how they understood their collaborative work. BENJAMIN BEÜRLE (German Historical Institute, Moscow) looked at archival evidence to shed light on Soviet motivations for engagement with other nations in dealing with climate change. His work shows that there was ambiguity in the Soviet position. There was acceptance that problems of global scope would necessitate Soviet participation in international solutions and that climate change might be a problem of this type, but there were also economic incentives for Soviet involvement in terms of access to high value data. There was concern that the World Meteorological Organisation (WMO) was going beyond its remit in pursuing climate change research, but alternatively concern that the WMO was losing its control of the climate change agenda to the United Nations Environmental Programme (UNEP). The proposal of the United Nations Framework Convention on Climate Change (UNFCCC) was to be assessed by the Soviet Union on purely economic terms, with rejection if it was not found to be positive for the Soviet economy, but in general the benefits were felt likely to outweigh the costs. VLAD JANKOVIĆ (University of Manchester) considered the role of environmental issues in the Glastnost period. His case study was a teleconferencing initiative between the US and USSR in 1988, beginning 11th May, which was the result of work by Walter Orr Roberts. In 1985 Roberts wanted to do something to support collaboration over the greenhouse warming issue by drawing on the potential for online community interaction. He moved to Boulder and raised money for technological connections to 6-10 Soviets, aiming for a year-long online conference between US and USSR climate scientists. The project ended up involving many and most of the big names in climate change research at the time on both sides of the divide. As a new age spun off, the teleconferencing of climate change as an asynchronous communication method was thought to allow more time for reflection and polite formulation of ideas, so that conflict and antagonism would be undermined. The epistemological benefits of a delayed response was one of the main benefits of the medium because of the slow responses. In some ways the medium was the message.

The third panel looked at collaborations over the Arctic, Antarctic and Siberia. KSENIA TATARCHENKO (University of Geneva), a historian of computing interested in geographies of meteorological knowledge in the Cold War era, looked at the work of Guri Marchuk, who was head of the Akademgorodok Computer Center (1964–1980), the president of the Siberiand Branch of the Soviet Academy of Sciences (1975–1980) and the last president of the Soviet Academy of Sciences (1986–1991). Looking at the role of Siberia as a location for the development of

interpersonal relationships between French and Soviet mathematicians under Marchuk's auspices, Tatarchenko made clear that the location provided a more informal space for relationship building, but was also itself a region shaped by the changing knowledge regime such applied mathematicians were generating. DENIS SHAW (University of Birmingham) looked at Antarctica, climate change in Russia and the interactions with Americans around Vostok. Because the 1959 Arctic Treaty designated the Antarctic as a 'Zone of Peace', it had, what Shaw calls, 'idiosyncratic politics' of its own. In 1958 the Scientific Committee on Antarctic Research (SCAR) began cooperative projects that included focuses on a lost ice shelf, drilling and glaciological research. Ice drilling was the key mode of investigation for looking at ice sheets and paleo climates. The first impact of the discoveries included the finding of a subglacial lake, which potentially contained unique life forms, so drilling was halted for some time. Nature announced the discovery of the lake, but was very careful and diplomatic around the attribution of the discovery to particular individuals or nations. There have been over 400 sub-glacial lakes found since. RONALD DOEL (Florida State University) looked at the Arctic and how the CIA engaged politically regarding this region, asking whether the approach was primarily one of cooperation or conflict with the USSR. Doel made clear that newly declassified information allows for the integration of the CIA into knowledge circulation issues and the history of science in the early Cold War. The Arctic is a good focus for this research, because of Cold War concerns such as submarines and guided missiles. The CIA was keen to understand what was known and what was hazy, with regards to for example the chemistry or biomedical concerns of the war, with a lot of focus on atomic issues. There was a use of 'front' scientists with good relationships in the international community who acted as intermediaries, but there was concern to ensure these scientists were loyal to the US. There were also CIA reports for example on meteorology or ice, showing that Soviet knowledge was very advanced in these areas, countering any tendencies to see the USSR as 'backward' scientifically. This is the key CIA narrative of the time. Doel's research raises fascinating questions about the makers of these reports and the awareness that there were many scientists in the US, almost unknown at the time, who were publishing prolifically in classified scientific journals. The problem of declassification is that such sources cannot talk about their work, so we know little about their expertise and motivation or how scientists obtained funding in this area of scholarship. This raises interesting questions about how effectively this sort of information can be integrated into contemporary scholarship on the development of environmental science.

The fourth panel focussed on USSR and European collaboration on climate change. MICHEL DUPUY (Institute of Early Modern and Modern History, Paris) looked at building an epistemic community around air pollution in Central Europe (1956–66). The growth of the epistemic community occurred around experimental research on CO2 in 1956 and 1960 in Germany, which looked at fume damage from emissions at a regional level and in 1957 at German forestry. SABINA KUBEKĖ (Justus Liebig University Giessen / Herder Institute Marburg) presented on Poland and international environmental cooperation in the 1970s and 1980s. She gave details of the history of sustainability as a concept in Poland and noted that sustainable development has been part of the constitution in Poland, but is not clearly discernible in policy discourse since the concept has no direct equivalent in the Polish language. To look at its history in Poland, she argued one has to look at the local and national entanglements around environmental issues and accept the plurality of the concept. She looks at *Man and the Biosphere*, IIASA and the Baltic Sea as issues around which to explore local and national ideas of sustainability and how the concept traveled.

Overall, the day provided a broad and fascinating overview of the science/politics interface around the geo-science and environmental knowledge of the Cold War, in which global issues were researched and responded to in a geo-politically divided world. Questions about how methodologies and ways of working together shaped knowledge produc-

tion and how it was evaluated were of particular interest for me, and I was struck by the impact of place, when knowledge production in and about the Arctic, Antarctic and Siberia were discussed. There were some fascinating insights into the history of the epistemic communities involved in a variety of natural sciences and the particular problems of researching a history steeped in Cold War tension were particularly apparent in DOEL's discussion of the CIA perspective at this time. The workshop stressed the importance of the Cold War context in shaping both how environmental science developed in this period and how we, as scholars of this period, can approach our research.

Conference Overview:

Katja Doose / Jon Oldfield (both University of Birmingham): Introduction and Welcome

Keynote Lecture
Elke Seefried (Institute for Contemporary History, Munich): Competition and Cooperation: Trans-Bloc Exchange of Knowledge during the Cold War

First Session: Knowledge Exchange between East and West
Discussant: Vlad Janković (University of Manchester)

Lisa Soutschek (Institute for Contemporary History, Munich): East-West Science: The International Institute for Applied Systems Analysis (IIASA)

Marc Elie (CRNS Paris): Cold War Consciousness? Trans-Bloc Exchanges in the Soil Sciences, 1950s–1990s

Eglė Rindzevičiūtė (Kingston University, London): Soviet Climate Sciences as a Source of New Imaginaries of Global Governance

Second Session: The 1972 US-USSR Agreement on Environmental Protection
Discussant: Marc Elie (CRNS, Paris)

Katja Doose (University of Birmingham): Climate Change Research during the Cold War – A Global Problem for a Divided World, 1972–1991

Benjamin Beürle (German Historical Institute, Moscow): Climate Change and Air Pollution in (Projected) Binational and International Environmental Agreements between the Soviet Union and Western Countries (1985–1991)

Vlad Janković (University of Manchester): Greenhouse Glasnost: Teleconferencing Climate Change between US and USSR

Third Session: Collaboration in the Antarctic and Arctic
Discussant: Julia Lajus (Higher School of Economics, St. Petersburg)

Ksenia Tatarchenko (University of Geneva): The Thaw in the Pole: Cold War Science and Showcasing at the Siberian Science-City and Antarctic Expeditions (1955–1964)

Denis Shaw (University of Birmingham): Soviet/Russian Studies of Long-Term Climate Change in Antarctica: The International Context

Ronald Doel (Florida State University, Tallahassee): Dark Collaborations: How CIA Science Specialists Sought to Reshape U.S. Arctic Environmental Studies to Embrace Soviet Research Aims

Fourth Session: Cooperation in Climate Change and Air Pollution in the USSR and Central Europe
Discussant: Katja Doose (University of Birmingham)

Michel Dupuy (Institute of Early Modern and Modern History, Paris): Building an Epistemic Community in Central Europe against Air Pollution (1956–1966)

Sabina Kubekė (Justus Liebig University Gießen / Herder Institute Marburg): Poland and the International Environmental Cooperation During 1970–1980s

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