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1970s: Turn of an era in the history of science? Centre for Science Studies, Aarhus University, 14.09.2015—15.09.2015.

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1970s: Turn of an era in the history of science?

The decade of the 1970s is regarded by many scholars as a period of crisis and political and cultural change and a âturn of an eraâ in many respects. Eric Hobsbawm describes the shift from a âgolden ageâ of rapid economic growth to an age of economic stagnation. Hartmut Kaelble refers to it as âa major turning point or turning period of the 20th centuryâ. Niall Ferguson depicts the 1970s as a time of crisis in many spheres, the economic, political, social and cultural. Konrad Jarausch marks this period as âthe end of confidenceâ, describing a shift from progress optimism to cultural pessimism. Jeremy Black emphasizes the rise of environmental transformations and environmental consciousness in the 1970s. However, the role of the sciences in this picture of the 1970s has so far not been discussed in depth. This two-day workshop had the purpose to shed light on the relationships between science and the broader themes of political crisis and cultural transformations in the 1970s.

In an attempt to grasp the changes of science in the 1970s, the first keynote speaker RÃDIGER GRAF (Potsdam) offered the notion of âdÃ©tente scienceâ as an alternative to the widely used though ambiguous concept of âCold War scienceâ, which however does not seem to fit the 1970s well. As opposed to the 1950s and 60s, which are commonly characterized by the belief in technological progress and a vision of a positive future, the 1970s marked a change towards ideas of doom, decline and crisis. At the same time, perceptions of expertise changed. Science needed new metanarratives, because doubt was cast on the privilege of scientific knowledge. Science entered a postmodern condition. Graf pointed out that global divisions in the 1970s run rather between the North and the South than between the East and the West. The concept âdÃ©tente scienceâ may be appropriate to capture some of these shifts, the shift from the prevailing Cold War narrative to an environmental narrative, from science for war to science for peace among nations as well as with the environment. At the same time, Graf questioned this concept and highlighted the problem of any such single category. DÃ©tente science was not pervasive and not necessarily new.

In the second talk of the day DIRK THOMASCHKE (Oldenburg) analysed the change within genetics in Germany and Denmark. With the new technological possibilities for prenatal diagnostics, in the 1970s human genetics became more personalised and contributed to a change of the relationship between the individual and the society, as well as between the expert-patient relationships. GIULIA FREZZA (Rome) gave a rich insight into changes in Italian laboratories in the 1970s towards a new concept of occupational health. The 1970s in Italy were characterised by a critique of scientific knowledge. The Marxist movement pointed out that the society was affected by science as well as the production of scientific knowledge was influenced by the social context. As a result, in 1970s Italy, the neutrality of health science was questioned since health as a goal was not neutral itself.

The second keynote was given by MARK CAREY (Eugene, Oregon, USA) and addressed the topic of women in glaciology. After the 1970s more and more women have entered glaciology while a big gap in the higher ranks of

academic hierarchy persists still today. Carey described the strong masculine connotation of a field science like glaciology (quantification, risk, heroism, conquest, control etc.), which was considered to bestow authority on the discipline. Much has changed in glaciology in respect of female contributions since the 1970s. But many things have not. Carey, hence, pointed to a question Graf had raised earlier that day. Was it rather the discourse about science than the sciences that changed during the 1970s?

CHRISTIAN KEHRT (Braunschweig) presented aspects of German Antarctic Expeditions in the 1970s and used the example of krill to show how in the 1970s, besides polar sciences, also the biological and marine sciences became relevant for international politics. Resources, such as fish, were subject to economic interests as well as ecological considerations. While fish became a limited resource, krill was considered to be unlimitedly available and thus a real substitute for fish. Science became crucial in the debate about how to manage and cultivate these resources, and hence for ocean and world politics. PEDER ROBERTS and LIZE-MARIÃ VAN DER WATT (both Stockholm) presented their project on the relationship between military-strategic imperatives and environmental monitoring networks on the basis of three polar research institutions in Sweden, USA and USSR. The political and economic changes and environmental trends in the 1970s had implications on the understanding what important research in the Arctic is.

In her contribution, JULIA LAJUS (St. Petersburg) analysed the Soviet geophysicist Yevgeny Fedorovâs (1910-1981) career and compared his ideological view with the one of US American ecologist Barry Commoner. Fedorov played a key role in the Soviet perception of global processes and ecological thinking and illustrated how a new scientific language for environmental problems was created and used within the Marxist ideological paradigm. JANET MARTIN-NIELSEN (Aarhus) traced the circumstances which, during the 1970s, lead to a âbubble of interestâ in carbon dioxide in British politics. She explored the role of the Meteorological Office and identified four influencing factors: Climate predictions from US scientists, weather disasters, growing European interest in climate, and environmental pressure to reduce pollutants without constraining British economy.

The third keynote speaker ELKE SEEFRIED (Munich/ Augsburg) analysed how the way to think about the future changed during the 1970s. Future Studies emerged in the decades before and depicted the future as open, manifold and positive. Around 1970, Future Studies gradually incorporated ecological thinking and put a stronger focus on the limits of economic growth. This focus and the pessimistic claims it produced caused a lot of controversy and criticism. Future Studies oscillated between idealism and pragmatism, and the field became more diverse. By the close of the 1970s, Future Studies had lost much of its authority. Seefried showed that Future Studies were influenced by the transformations in the 1970s and at the same time, considerably contributed to these changes.

SVERKER SÃRLIN (Stockholm) explored the history of interest in climate science at the Royal Swedish Academy of Sciences in Stockholm. In the 1970s, a new hegemony of earth systems and global change replaced the original predominance of conservation and preservation. The new environmental interest was conceived as an opportunity within the Academy. JENNY BECKMANN and KATARINA NORDSTRÃM (both Uppsala) explored the institutionalisation of environmental expertise in the Nordic countries. Environment issues created windows of opportunity for Nordic collaboration. Sweden seized the opportunity for the case of the development of national land use plans. New working groups emerged and Swedish agencies developed an expertise on biotope protection. ISABELL SCHRICKEL (LÃ¼neburg) traced the history of the International Institute for Applied Systems Analysis (IIASA) in Laxenburg. The IIASA was an East-West think tank set up in 1972 to pursue systems analysis, which was perceived to be a neutral, apolitical problem solving strategy. Schrickel argued that the integrated scientific approaches at IIASA were part of a âcooperation without consensusâ.

Fourth keynote speaker MICHAEL EGAN (Hamilton, Canada) spoke about the science of environmental crisis. In the 1960s, scientists were generally imagined as heroes, priests and statesmen, while in the 1970s the notion of ânature knows bestâ spread. âCrisis disciplinesâ emerged as disciplines that had to act before all the facts were known. They were mission-oriented, politically engaged and âadisciplinaryâ, for example by creating vernacular vocabulary. By gathering actors from different backgrounds in order to solve problems, crisis disciplines transformed science and created a new âscience of survivalâ. This science of survival gave a strong voice to environmental issues and altered the relationship of science and society.

GABRIEL HENDERSON (Aarhus) discussed the development of the US National Climate Program Act of 1978 to analyse the conflict between the scientists,

who advocated a user-oriented climate research, and the Carter administration, which regarded such a program scientifically unjustified and politically irresponsible. In doing so, Henderson raised the question of how can a proper relationship between the states and the federal government be created and how is science integrated into âclimate governanceâ. Subject of the presentation by JENNIFER HUBBARD (Toronto, Canada) were significant organisational changes in Canadian marine science during the 1970s. Hubbard argued that these changes were linked to the cultural pessimism of the decade, which replaced progressive social, political and economic ideals. The rise of economic theories and the decline of technocratic structures ended in the dissolution of traditional scientific organisations and the setup of âline managementâ institutions with an emphasis on economic and technological development.

The workshop showed that âcrisisâ became a prevailing notion when talking about the sciences in the 1970s. The decade was characterised by growing concerns about nature and economy, and future in general. At the same time, science became more political and more critical. Throughout the workshop, it became evident that the narrative of âCold War scienceâ is too coarse to grasp this shift and that a more differentiated narrative is needed. The workshop participants therefore discussed if the new kind of science in the 1970s could be understood as âdÃ©tente scienceâ or âsurvival scienceâ. As a preliminary conclusion, a concept of âdÃ©tente scienceâ was seen critically, though considered to raise a fruitful discussion towards a more differentiated image of the history of sciences during the long period of the Cold War. All agreed that the 1970s marked a shift also in the production of scientific knowledge and the institutionalisation of science. Thus a closer look at these changes are necessary to broaden the themes of crises and cultural transformations in this decade and, in particular, the history of contemporary sciences.

Conference Overview:

Chairs

Dania Achermann, Gabriel Henderson, Matthias Heymann, Janet Martin-Nielsen

Matthias Heymann (Aarhus University, Denmark): Introductory remarks

Keynote

RÃ¼diger Graf (Zentrum fÃ¼r Zeithistorische Forschung, Potsdam, Germany): DÃ©tente Science? Transformations of Knowledge and Expertise in the 1970s

Dirk Thomaschke (Carl von Ossietzky University, Oldenburg, Germany): Providing Genetic Services: Prenatal Diagnosis, Human Genetics Experts, and Space in Denmark and Germany during the 1970s

Giulia Frezza (Sapienza University of Rome, Italy): Science and Medicine in the Factory: Occupational Health and the Critique of Scientific Knowledge in the 1970s Italy

Keynote

Mark Carey (University of Oregon, Eugene, USA): Feminist Glaciology: Rethinking Power, Knowledge, and Ice in the 1970s

Christian Kehrt (Technische UniversitÃ¤t Braunschweig, Germany): âMaybe Never Again Krillâ: GermanyÂ´s Antarctic Expeditions in the 1970s

Peder Roberts/ Lize-mariÃ© Van Der Watt (Royal Institute of Technology KTH, Stockholm, Sweden): From Khaki to Green? Arctic Science in the 1970s

Julia Lajus (Higher School of Economics, St. Petersburg, Russia): Soviet High-Level Experts and their Perception of the Western Left-Wing Vision of âEnvironmental Crisisâ

Janet Martin-nielsen (Aarhus University, Denmark): Politicizing climate: Rhetoric, aims and actions in the UK

Keynote

Elke Seefried (Institut fÃ¼r Zeitgeschichte Munich and UniversitÃ¤t Augsburg, Germany): Towards a Global and Human-Centred Future: Transformations in the 1970s Future Studies

Sverker SÃ¶rlin (Royal Institute of Technology KTH, Stockholm, Sweden): The Royal Swedish Academy of Sciences and the Emerging Global Climate Change

Jenny Beckman/ Katarina NordstrÃ¶m (Uppsala University, Sweden): Scale and expertise in Swedish and Nordic environmental institutionalisation, 1970-1984

Isabell Schrickel (Leuphana University, LÃ¼neburg, Germany): Cooperation without Consensus? Integrated Scientific Approaches at IIASA, 1972-1978

Keynote

Michael Egan (McMaster University Hamilton, Canada): Crisis Disciplines and the Science of the Environmental Crisis

Gabriel Henderson (Aarhus University, Denmark): Fearing the Trickle-Down â The Development of the National Climate Program Act of 1978

Jennifer Hubbard (Ryerson University, Toronto, Canada): Canadian Marine Science and the âChaining of Prometheusâ

Commentary

Libby Robin (Australian National University, Canberra, Australia)

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