## Technology, Natural Resources and Crises in the Past and Present of Europe and Beyond

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Due to the recent boom-and-bust-cycle on the commodity markets, ongoing debates and challenges in the field of energy transitions, and the "material turn", natural resources keep on attracting considerable attention in historiography and related humanities. The workshop "Technology, Natural Resources and Crises in the Past and Present of Europe and Beyond" organized by MATTHIAS HEYMANN (Aarhus) and ELENA KOCHETKOVA (St. Petersburg) is another proof of this trend. Following a first workshop at the Higher School of Economics in St. Petersburg in October 2016 this event held at Aarhus University represented the second meeting of the Tensions of Europe Network on Resources, which forms part of the larger Tensions of Europe Project on Grand Challenges. The 14 international participants came from the fields of History of Science and Technology, Environmental History, Economic History as well as Area Studies, and their research projects focussed on the 19th and 20th centuries. Europe provided the geographical framework for the workshop, and this included a fair share of Northern, Central, and Eastern European topics, but also European activities in Africa. In-depth discussions were facilitated by pre-circulated papers or project-descriptions rather than conventional presentations. In each case, another participant provided a short commentary on the paper to start the discussion.

SEBASTIAN HAUMANN (Darmstadt) took the utilisation of limestone as a flux in iron-smelting as a starting point to re-examine the concept of "critical resources" from the demand side. Based on practice theory his paper showed how resources become prone for scarcity and crisis as they are incorporated in certain practices. GEORG FISCHER (Aarhus)

looked at the emergence of a "global iron space" around 1900 as geologists and policy makers in all industrialized countries were worried about the imminent depletion of iron ore deposits. One result of these concerns was the report on the iron ore resources of the world initiated by the International Geological Congress in Stockholm, 1908. Staying with the topic of iron, the paper by KARL BRUNO (Stockholm) investigated Swedish investments in an iron ore mine in Liberia from the mid-1950s to the 1980s. His analysis focussed mainly on the changing relationship between the Swedish state's foreign policy and the Swedish business sector: Whereas initially the state directly supported private investments, the mine increasingly became a liability for Swedish foreign policy since the second half of the 1960s, when the notion of mining as development aid was replaced in the public discourse with an understanding of mining as exploitation.

IHEDIVA CHIMEE (Abuja) used the example of railways and palm oil-presses in colonial Nigeria to demonstrate the transformative impact of European technology for resource extraction on African societies. This paper argued that these technologies only served the interest of the colonizer, but had disruptive effects on the Nigerian society ranging from trade structures to gender roles. MATTHIAS HEYMANN (Aarhus) examined the history of climatology focussing on research efforts in the problems of arid regions pursued by the UNESCO in the late 1940s and 1950s. The project's point of departure is the question why regional droughts and local disasters have received much less attention in climatology than global models. UR-BAN WRÅKBERG provided an analysis of recent developments in the Norwegian oil and gas industry which tries to present itself not only as a reliable provider of energy to Europe, but also as a contributor to the EU's climate policy by offering technologies like CO2-capture-and-storage and hydrogen production. The aim of the project is to comment on contemporary debates of global geoeconomics, Northern local environmental politics, and the ways these relate to shifting technological scenarios. Another paper dealing with the Far North came from DAG AVANGO

and ANNA ÅBERG (both Stockholm). They reflected on the question how legacies of mining can become a resource for post-mining Their paper took the shift from coal mining to tourism and scientific research on the Arctic archipelago of Svalbard as a case study, but they proposed to launch a larger comparative research project on postextraction communities all over Europe. The first day of the workshop ended with a lecture by HENRY NIELSEN (Aarhus) on uranium mining projects in Greenland; Nielsen demonstrated how the Cold War, Danish attitudes towards nuclear power, and the Greenlanders' strive for independence have influenced mining projects on the Arctic island between the years 1944 and 2017.

Conflicts about forest resources in late 19th century Hungary were explored by VIKTOR PÁL (Helsinki). He asked in particular how competing nationalisms and social tensions between Austrians, Hungarians, and Slovaks shaped this conflict. JAWAD DAHEUR's (Strasbourg) paper also dealt with wood and Austria-Hungary, but looked into the effects of railway construction and timber trade to Germany on the forests and the local population in Galicia. According to his analysis, Galicia turned to some extent into a German timber colony, where the resource extraction benefitted the local elite, but impoverished the region and its population in general. Moving towards the South-East of Europe and into the 20th century, ERMIONI FREZOULI (Athens) provided a close look at the Greek island of Chios and its water supply from the 1960s up to today. She emphasized the role of various technologies like dams and desalination plants in shaping the notions about water resources. JIŘÍ JANÁČ (Prague) examined Czechoslovakian water management policies between 1930 and 1970 and aimed at putting the relationship between the environment, natural resources, and economic planning in the larger context of the socialist hydro-social configuration in order to determine the role played by environmental concerns in the decision making.

Fish resources and fishing technologies in the Russian North were at the centre of JU-LIA LAJUS' (St. Petersburg) presentation. She argued that the food crisis in Russia during the First World War provided the impetus to adopt modern technologies like steam trawlers although such innovations only came into effect following the end of the conflict and the revolution. ELENEA KO-CHETKOVA (St. Petersburg) dealt with the Soviet paper and pulp industry in the 1950s and 1960s. Taking three plants - one located on the Finnish border and two in the Baikal region - as case studies, she examined the discourse among Soviet engineers, scientists and officials on industrial water pollution and emphasized the debate on Lake Baikal as a catalyst that drew attention to this issue in the Soviet Union. OLE SPARENBERG (Saarbrücken) provided an analysis on the commodity crisis of the 1970s focussing on nonferrous metallic resources. This paper argued that concerns over interruptions of supply and the confrontation between commodity producing-states in the Global South and industrialized consumer states in the North had a considerable impact on the general economic development and international relations despite the fact that the crisis was largely prospective and real shortages never occurred.

Apart from the overarching topic of resources, technology, and crises, the final discussion revealed additional recurrent themes that had surfaced in the papers and the discussions providing a basis for further intensified cooperation between groups of participants. One such theme was the question of what "resources" and "scarcity" precisely meant and how these were perceived by the historical actors. Other papers were also linked by the geographical framework of Austria-Hungary, where the multi-ethnic structure of society shaped resource conflicts in particular ways. Finally "colonialism" represented a recurrent theme, although it turned out to be a matter of debate whether in some cases like within Europe the relationship might be better understood as one between centre and periphery rather than "colonial". Discussions will continue on the 8th Tensions of Europe workshop in Athens in September 2017, where several participants of the Aarhus workshop will present further

elaborated versions of their projects.<sup>1</sup>

## Conference overview:

Sebastian Haumann (Darmstadt, Germany): Prone for Crises? How Resources Become Critical Resources

Georg Fischer (Aarhus, Denmark): Rescaling Resource Crises: Iron Production Forecasts and their Consequences before the First World War

Karl Bruno (Stockholm, Sweden): Whose Business? Swedish Foreign Policy and Commercial Natural Resource Interests in Liberia, 1955–80

Ihediva Chimee (Abuja, Nigeria): The transformative power of European technology in resource exploitation and use: Reflections on the oil presses and rail lines of colonial Nigeria

Matthias Heymann (Aarhus, Denmark): Climatic challenges and water scarcity: International cooperation in the UNESCO Arid Zone Programme

Urban Wråkberg (Kirkenes, Norway): Non-renewable energy recourses in the Fennoscandian north: Technological pathdependence and competing visions of change in geo-economic and environmental scenariobuilding

Dag Avango and Anna Åberg (Stockholm, Sweden): Mining regions in transition: legacies of resource extraction in post-extraction futures

Henry Nielsen (Aarhus, Denmark): Cold Atoms - The Hunt for Uranium in Greenland 1944-2017 (special lecture)

Victor Pál (Helsinki, Finland): The Colonization of the Natural Environment in Austria-Hungary: Economic, Ethnic and Social Conflicts over Slovakian Forests in the late Nineteenth Century

Jawad Daheur (Strasbourg, France): Expanding Railways, Forest Use Changes and Fuelwood Crisis in Habsburg Galicia (1880-1914)

Ermioni Frezouli (Athens, Greece): On the historical co-shaping of water resources and technological infrastructures on a Greek island: The case of Chios

Jiri Janac (Prague, Czech Republic): The Complex Water Management and Soil Improvement Scheme for Southern Moravia

Julia Lajus (St. Petersburg, Russia): First World War food crisis, inventory of fish resources and discussions on new fishing technologies in Russia

Elena Kochetkova (St. Petersburg, Russia): Soviet Natural Resources and Technological Development, 1940s-1980s

Ole Sparenberg (Saarbrücken, Germany): The Commodity Crisis of the 1970s: Perception and Response

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<sup>&</sup>lt;sup>1</sup>8th Tensions of Europe Conference, 7.–10. September 2017, Athens, Greece, http://8toe2017.phs.uoa.gr/program.html (17.05.2017).