

# ХРОНИКА НАУЧНОЙ ЖИЗНИ

## Managing land, soil and people: Environmental knowledge and expertise in Tsarist and Soviet Russia (German Historical Institute in Moscow, 14–15 March, 2014)

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People who refer to Russia as being “backward” usually are thinking of villages and peasants, while modernization is associated primarily with urban contexts: growing cities, chimneys spewing smoke, and book loving workers. The conference “Managing land, soil, and people: Environmental knowledge and expertise in Tsarist and Soviet Russia,” called this characterization in to question with its focus on modernity in rural areas. Organized by the German Historical Institute in Moscow and the University of Tübingen’s Collaborative Research Centre (CRC) 923 “Threatened Order,” the conference’s topic offered an innovative and fruitful approach that combined examinations of the political and social transformation of agriculture with environmental history perspectives. The attempt to convert non-urban lifeworlds into an agricultural system must be interpreted as a physical and intellectual appropriation of natural spaces.

In their opening remarks, the organizers **Katja Bruisch** (Moscow) and **Klaus Gestwa** (Tübingen) outlined the goals of the conference. Bruisch emphasized the particular importance that rural regions were felt to have for the economy of the entire nation during the period between Tsarist Russia and the Soviet Union. She made clear that the scientific study of natural spaces and their inhabitants during the late Tsarist period was a reaction to crises and famines resulting from natural causes such as droughts. One of the most important goals of the conference was to show how knowledge gained by agronomists, meteorologists, and soil scientists was connected with concepts of social order. The ambitions of experts and politicians were anything but modest: they believed new agricultural methods would bring about a new, better Russia. Gestwa argued for the relevance of an environmental history perspective. In our present era of climate change, knowledge about natural spaces and processes such as erosion, sand storms, and droughts, is more important than ever. An important goal of the conference was to show how the efforts to gain knowledge about a threatening and threatened environment was a strategy to deal with natural, economic, and political challenges in Tsarist Russia and Soviet Union.

In his keynote talk, **Frank Uekötter** (Birmingham) outlined important characteristics of the Green Revolution and its global dimensions. He argued that the Green Revolution was connected with the hope that it would be possible to avoid famines through new crop varieties, planting monocultures, and other measures. This new agriculture, subject to the demands of rationalization, had wide-reaching effects on the environment and social order. Following his talk, a lively debate arose about the degree to which the Soviet Union took part in the Green Revolution. While Stephen Brain and Klaus Gestwa cited international cooperation and the transfer of knowledge that continued even during the Cold War, the historian Stephan Merl argued that the Green Revolution never happened in the Soviet Union: after collectivization the harvests were meagre, famines were a taboo topic, and agricultural experts had no influence outside of scientific institutions.

The first panel confirmed the importance of these agricultural experts, looking at conceptions of resource management in expert circles. The paper by **Olga Elina** (Moscow) on agricultural societies and *zemstvos* demonstrated the importance of local and non-government initiatives for the development of agricultural knowledge. These institutions successfully incorporated local knowledge into their recommendations for the new agricultural system and integrated the peasant community into their work. **Julia Lajus** (St. Petersburg) supported the view expressed by the organizers that catastrophes encourage scientists to concern themselves with the problem of resources. After a heavy storm destroyed countless boats and deprived many fishermen on the coast of Archangelsk of their livelihoods, commissions were created to improve the living conditions of the fishermen. Lajus showed how experts used the newly awoken interest in fishing to help establish oceanography as a research field. However, as zoologists such as Nikolai Knipovich focused on fish as resources, the fishermen and their problems were pushed more and more into the background.

The second panel focused on notation systems such as statistics as a way of understanding the world, appropriating space, describing the social order, and indeed creating it through the act of description. **Ian Campbell** (Davis) dedicated his presentation to the Kazakh steppes and the Tsarist government's efforts to achieve a "mathematically perfect agricultural colonization." He discussed various attempts during the late Tsarist period to determine the land needs of the Kazakh nomads, and hence the possible number of Russian colonists the land could support. **David W. Darrow** (Dayton) also turned his attention to statistics, specifically land norms after 1917. He showed that the dispute about norms was connected with the hope of solving pressing agricultural needs and bringing about social stability. **Sarah Cameron** (Maryland) returned to the subject of Kazakhstan. She showed how the Soviet attempt to develop the Kazakh steppe challenged the nomadic way of life. Cameron pointed to the difficulties that party functionaries, ethnographers, and statisticians had when trying to fit the nomads into the class system outlined by Marx and Engels. By the late 1920s they had decided that it was not possible to "reach socialism on the back of a camel."

The presenters in the third panel, which was dedicated to the scientific response to natural threats, also placed the interaction between society and experts in the forefront of their discussion. **Anastasia Fedotova** (St. Petersburg) investigated the reception and impact of the 1880 entomological congress in Odessa, which can be seen as a response to increasing plagues of insects and poor harvests in the 1870s. Fedotova showed how insect plagues not only became a scientific fact, but also were increasingly perceived as a threat that required action from the local and national government. **Lutz Häfner** (Göttingen) pursued the topic of environmental consciousness in the late Tsarist period. Although awareness of the environment had grown among agricultural experts as a result of increasing erosion, the Russian farmers in the newly colonized territories on the other



Fig. 1. Frank Uekötter, Katja Bruisch, Klaus Gestwa. Hereafter photo by Olga Matveeva

side of the Urals refused to follow the advice of the experts. As a result, so Häfner's controversial thesis, they did not manage to adapt to the new environmental conditions. How nature conservation eventually did become a topic discussed outside of expert circles was shown by **Laurent Coumel** (Paris) in his paper on how freshwater was managed as a resource during the thaw period under Khrushchev. He showed that it was primarily the intelligentsia who advocated for the protection of Lake Seliger and the Oka River, citing the cultural and aesthetic value of these waters. The discursive strategies which they used are evidence, Coumel suggested, that ideas circulating in the United States and Western Europe in the 1960s – namely that natural spaces should be protected as part of the world's cultural heritage – had also reached the Soviet Union.

The fourth panel turned to the subject of appropriating nature on the periphery of Russia. **Christian Teichmann** (Berlin) analyzed the lives of engineers who worked on the irrigation system of Turkestan between 1900 and 1950. He examined how engineers integrated their knowledge about the environment in their projects, including their responses to political upheavals and government requirements. The sense of living in uncertain times influenced their decisions, his discussion showed. **Marc Elie** (Paris) reached similar conclusions in his paper about agricultural experts who supervised the virgin land campaign in the Kazakh steppes. He showed that the implementation of this plan was shaped above all by local conditions, for example, regional weather patterns and what agricultural machinery was available. Scientific trends, ideological considerations, and conflicts between followers and opponents of Trofim Lysenko were only of secondary importance, Elie argued. **Valentina Roxo** (Munich), who spoke about the development of the oil industry in western Siberia in the



Fig. 2. David D. Darrow, Olga Elina

1960s and after, also focused on the opposition between periphery and center, and with it the gap between expectations and reality. She showed how experts, when confronted with the challenges of local conditions, turned to the environmental knowledge of the population of the region. Knowledge gained in this matter, Roxo argued, collided with the directives from Moscow. The center was not prepared to accept the actors in western Siberia as equals or to take into account their store of knowledge when making political decisions, which ultimately had a significant ecological price.

The fifth panel considered the question of what communication strategies were used to spread and legitimize environmental and expert knowledge and to translate it into action. Erosion, desertification, and sand storms threatened agriculture in the south of Tsarist Russia, as **Stephen Brain** (Mississippi) showed in his presentation. Experts primarily blamed deforestation for these developments, although Brain emphasized that this conclusion says more about the Russian attitude towards forests than about the nature of the steppes, which had been grassland for hundreds of years. The government did not take direct action against these problems, but searched for someone to do it for them. The Cossack army was put in charge of the afforestation campaign intended to prevent desertification, while the Russian railroad was to present a traveling exhibit in its train carriages that would educate visitors about better agricultural methods and instill them with a love of nature. The Russian railroad hoped that richer harvests would result in more use of their services. This “outsourcing” had negative long-term effects, Brain argued. Nature conservation was linked with making a profit, and thus it could not gain a foot-



Fig. 3. Julia Obertreis, Stephen Brain

hold in public consciousness. How knowledge about far-distant regions and their environment was transmitted through exhibitions was the focus of the paper by **Alexander Ananyev** (Moscow). Ananyev interpreted the widely attended 1930s exhibitions on the Arctic in Moscow's Gorki Park and the grounds of the All-Union Agricultural Exhibition as an attempt to promote the government's successes while diverting attention from its mistakes and promises that had not been kept. **Julia Obertreis** (Erlangen) coined the term "infrastructural poetry" for her discussion of the rhetorical strategies with which experts attempted to legitimize irrigation projects in Central Asia. The irrigation engineers drew upon deeply embedded cultural imagery that connected irrigation with the transformation of deserts into flourishing landscapes. These rhetorical figures, Obertreis claimed, were used by experts regardless of their ethnic background: both Russians and the newly educated specialists from Central Asia used these metaphors of fertility, which allowed them to write themselves into the new state and its civilizing mission in the form of infrastructure projects.

In the closing discussion, a central topic was what transformations took place from the Tsarist through the Soviet period. This was also connected with the question of whether and to what degree the developments in Tsarist Russia and the Soviet Union were different from those in Western Europe and the United States. Although the Soviet Union was determined to incorporate far distant regions into their state, it ultimately did not succeed in overcoming the gap between city and countryside and between experts and the general population. Along these lines, **Stephan Merl** (Bielefeld) argued that, while a fruitful exchange of knowledge between society and scientific

experts had developed in the late Tsarist period, this channel of communication dried up in the Soviet Union. The agricultural knowledge taught at the Soviet universities was quite advanced, but it was never successfully implemented, for the farmers had good reasons to be skeptical of the revitalization attempts. The increasing estrangement between city and countryside was exacerbated by the Soviet command economy. It discouraged the farmers from taking responsibility for their land and environment – this resulted in reduced productivity of the agricultural sector compared with other countries, even though workers were brought in on a massive scale.

The conference showed that rural environments in Tsarist Russia and the Soviet Union were a topic that was closely connected with ideas about order and goals for the future. Experts acquired knowledge and worked to incorporate and transform rural regions, in order to fulfill not only agricultural visions, but social visions and utopias as well. Furthermore, many of the papers made clear that famines and natural catastrophes often triggered social and scientific change. The discussions showed that connecting social history, the history of science, and environmental history could be an extremely fruitful mode of investigation.

## **Секция «История социокультурных проблем науки и техники» XX Годи́чной конференции ИИЕТ РАН (Москва)**

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17–21 февраля 2014 г. в Институте истории естествознания и техники им. С.И. Вавилова прошла юбилейная XX Годи́чная конференция ИИЕТ РАН, в рамках которой было организовано два пленарных заседания и шестнадцать тематических секций.

Истории социокультурных проблем развития естествознания была посвящена секция, организованная д-ром биол. наук, проф. Е.Б. Музруковой 17 февраля 2014 г. Вопросы, поставленные выступающими на данном заседании, были интересны различным специалистам, так как касались влияния общественно-политической среды на прошлое, настоящее и будущее науки. Директор ИИЕТ РАН, член-корр. РАН Ю.М. Бату́рин, принявший активное участие в работе секции, подчеркнул, что изменения в жизни общества и государства с неизбежностью приводят к новым формам существования науки как социального института, в связи с этим, по его мнению, представляется актуальным изучение социокультурных аспектов, являющихся важным фактором развития научного знания, смены различных исследовательских направлений, появления новых форм организации научно-исследовательской работы.

В своём докладе Е.Б. Музрукова осветила основные этапы становления биохимической цитологии в 20–30-е гг. XX столетия. Основой для развития этого направления послужили успехи цитохимии, и прежде всего цитохимии нуклеиновых кислот. Именно цитохимия нуклеиновых кислот дала возможность приблизиться к современному уровню понимания строения и функционирования клетки. Изучение распределения РНК в разных тканях, проведённое в начале 1940-х гг. Ж. Браше и Т. Касперсоном,