

Visualizing the World – Making Sense of Our Environments

Summer School in Science, Technology, and Environmental Studies, 2014

Jointly organized by:

- The Graduate Program Topology of Technology, Darmstadt University of Technology, Germany
- The Division of History of Science, Technology and Environment, Royal Institute of Technology, Stockholm, Sweden

Topic

Scientific and technological investigation has always been sensory-based. Natural historians observed and tasted the phenomena that nature produced; experimental philosophers smelled and touched their objects of study; technicians used their ears to diagnose a faulty engine. Throughout the centuries, these professionals developed a multitude of methods and instruments to record their experiences: telescopes and thermometers, scales and seismometers, X-ray and ultrasound sensors. At the same time, they made active use of an array of inscription devices such as ink and paper, engravings and photographs, oscilloscopes and computer screens to *visualize* their recordings. In science and engineering, as in our culture more generally, the visual sense has continuously gained in importance. The increasing use of GPS and GIS data, as well as the popularity of computer applications such as Google Maps and Google Earth, testifies to this trend.

This summer school investigates these processes critically. Although they at first sight may look neutral and objective, instruments and inscriptions always incorporate specific epistemological premises and reproduce a particular interpretation of the world. Recorded findings are intimately connected to power – as are revealed by issues as different as the surveillance of public places, the creation of consumption profiles by collecting smart-phone user data, and the application of intelligence satellites to track enemy movements. By the same token, processed data have political and economic implications; images and graphs never simply mirror the world in an indifferent manner. Sensory experiences and sensory instruments perceive nature – whether social environments or natural environments – in specific ways, anticipating and encouraging particular forms of understanding, modeling, and planning, while discouraging others. Remote-sensing data from earth-resource satellites, for example, are never innocent. Think about the monitoring of global sea levels, the mapping of deforestation activities, and the search for mineral deposits.

The summer school brings together teachers, graduate students, and postdocs working on the relationship between inscriptions and power, between visualized sensorial data and political and economic intervention in social and natural environments. It aims at creating an atmosphere of joint discussion across disciplinary boundaries, focusing on the following topics and questions:

- The co-construction of data and instruments on the one hand and the five senses on the other – with a special focus on technologies of visualization.
- The importance of remote-sensing devices and their inscriptions in perceiving environments: meteorological instruments, satellite-mediated data, computer applications, simulations, and forecasts.
- The concepts and tools of monitoring public spaces: Internet surveillance, population screenings.
- The political and economic power of objectified data: census records, epidemiological statistics, resource surveys.
- The role of images in economic, political, and military affairs: demographic diagrams, air-surveillance photos, emission charts.

Format

The summer school is open to doctoral students in the area of science, technology, and environmental studies. It is carried out in the period May 6 – 11, 2014, at the beautifully situated conference hotel at Abisko, Sweden. Participation fee: ??? euros.

Teachers (list not complete)

Petra Gehring, philosophy, Darmstadt

Gabriele Gramelsberger, philosophy, Berlin

Mikael Hård, history, Darmstadt

Sabine Höhler, STS, Stockholm

Jens Lachmund, sociology, Maastricht

Nina Wormbs, history, Stockholm

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Spring School in Science, Technology, and Environmental Studies

Program

	Tues., May 6	Wedn., May 7	Thurs., May 8	Fri., May 9	Sat., May 10	Sun., May 11
8.00		Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
9.00		Lecture: <i>Nina Wormbs</i>	Lecture: <i>Sabine Höhler</i>	Lecture: <i>Petra Gehring</i>	Group Activities	<i>Individual return trip</i>
10.30		Coffee	Coffee	Coffee	Coffee	
11.00		Lecture: <i>Jens Lachmund</i>	Working Time on Research Tasks	Lecture: <i>Gabriele Gramelsberger</i>	Presentation of Group Activities	
12.30		Lunch	Lunch	Lunch	Lunch	
14.00	Field Trip to Esrange, Kiruna	Working Unit - I: <i>Wiemeyer, Rehner, Dietz</i>	<i>Free afternoon</i>	Guided Tour of the Scientific Research Station	Presentation of Research Tasks	
15.30		Coffee		Coffee	Coffee	
16.00		Working Unit - II		Working Time on Research Tasks	Summary: <i>Mikael Hård</i>	
17.30	Bus Ride Kiruna – Abisko	Break		Break	Final discussion	
18.30	Dinner	Dinner	Dinner	Dinner	Dinner	
20.00	Introduction Distribution of Research Tasks	Poster presentations - I	<i>Open</i>	Poster presentations - II	<i>Party</i>	