

# **Transnational infrastructures: Coping with scarcity and vulnerability**

**International workshop**

**Stockholm, 21-24 May 2008**

## **Vulnerability and scarcity – key issues in critical infrastructure history**

The vulnerability of infrastructure systems has aroused considerable attention all over the world in recent years, not least after the terrorist attacks in the USA, Madrid and London. In the debate, it is usually the vulnerability of national systems that has been at focus, but transnational systems are also subject to far-reaching vulnerabilities, so that a ‘critical event’ in an infrastructure in one country easily spreads to other countries. During the 20<sup>th</sup> century a growing number of infrastructural systems have been connected across national borders in Europe. This concerns energy systems such as electricity and natural gas, transport systems such as railways, highways and air traffic and communications systems such as telephony, radio and TV. This cross-border intertwinement has given many positive effects, but it has also contributed to the emergence of new types of problems, such as growing mutual interdependencies (although interdependencies have also been seen as positive in many ways) and in some cases an increasing scarcity of resources such as energy, land, space and wavelengths.

In the proposed workshop we will explore how the intertwinement of different systems – both with each other (vertically) and across political borders (horizontally) – have created interdependencies and new types of vulnerabilities and scarcities. Further, we want to study how those actors which connected the systems have interpreted the new risks and how they have tried to handle these with the help of contracts, institutions, standards, etc. We also want to study ‘critical events’, for example, in the form of electricity blackouts, interrupted deliveries of natural gas, airplane crashes, etc., in order to analyze how actors in different countries have acted, partly while the events were happening, partly afterwards so as to prevent similar events from happening again. Our ambition is to investigate different parts of Europe, trying to determine the extent to and ways in which the cooperative patterns have looked different, for example, within the former Eastern bloc, on the Balkans and in Western Europe. But we also want to explore how ‘Europe’ as a whole manifests itself in – and how it can be understood through – critical events, processes of standardization, discourses etc. relating to transnational infrastructures. In doing so we want to contribute to a novel understanding of what Europe ‘is’.

The purpose of the workshop is to gather around 30 researchers within the history of technology and related disciplines from a wide number of countries which study different types of transnational infrastructural cooperation. We will ask the participants to present papers of three kinds: first, papers that focus on case studies of critical events and how they have been handled; secondly, papers that raise more conceptual and theoretical aspects of vulnerability, interdependence and institutional forms for handling these; and thirdly, historical narratives of the emergence of critical infrastructures in Europe.

## **Format**

The workshop will start with four keynote speeches and a subsequent panel debate. This will cover the first afternoon of the workshop.

The second day and most of the third day will be devoted to discussion of workshop contributions, to be structured into three themes:

- (1) Critical events in transnational infrastructures – and the responses
- (2) Perceptions of scarcity and vulnerability
- (3) The emergence of critical infrastructures in Europe

In order to facilitate cross-fertilization of contributions and to encourage the search for common points, the papers are grouped into ‘pairs’. A commentator will be assigned to each pair of papers and a final commentator to each theme. The focus will be on open discussions around each pair of papers, without any formal presentation of the paper by the author. Each pair of papers is introduced in brief (5-10 minutes) by the commentator, whose task is to summarize the main points in the contributions and open up for points for discussion. Particular points of interests are issues that cut across each pair of papers, so that the discussion focuses not only on each paper itself, but also on its relevance and value in relation to the other paper in its pair. Texts should be available two weeks before the workshop. It is expected that participants read all papers in advance.

The evening of the third day and the first half of the fourth day will be open to EUROCRIT partners only, and the workshop will here take the form of an internal CRP meeting.

## **Venue**

*Royal Institute of Technology.* The first day of the workshop will take place at the Division of History of Science and Technology at the Royal Institute of Technology (KTH), Stockholm. KTH is the leading technical university in Sweden, and we would like to invite the workshop participants to the everyday environment of the coordinating EUROCRIT partner. See <http://www.kth.se> and <http://www.teknikhistoria.se>.

*Sigtunastiftelsen.* The rest of the workshop will take place in Sigtuna, a small countryside town 40 km outside Stockholm and in direct vicinity of the airport. Workshop participants will be hosted at the combined hotel-conference facility here. See also <http://www.sigtunastiftelsen.se/english.asp/id/60>

## Preliminary Programme

### Wednesday, 21 May 2008

Location: KTH, Division of History of Science and Technology (address: Teknikringen 76), Room V2

13.00 Welcome and workshop programme presentation (Arne Kaijser)

13.30 The vulnerability of technological culture (Wiebe Bijker)

14.00 Vulnerable landscapes: Historicizing spatial features of risk (Sverker Sörlin)

14.30 Coffee

15.00 Vulnerability in practice I (Per Molander)

15.30 Vulnerability in practice II (speaker to be announced)

16.00 Linking theory, practice and history – a panel discussion with an introduction by Thomas P. Hughes, moderated by Eda Kranakis

17.00 Reception at Division of History of Science and Technology, KTH

19.00 Bus transfer to Sigtuna, 40 km north of Stockholm

### Thursday, 22 May 2008

Location: Sigtunastiftelsen (address: Manfred Björkquists Allé 2-4, Sigtuna)

#### Session 1: Critical events in transnational infrastructures – and the responses

09.00 Transnational Energy Flows and Blackout Risks in a Balkan European Context (Yiannis Garyfallos, Stathis Arapostathis & Aristotle Tympas)

From reliability to liability? Europe's interconnected electricity network (Vincent Legendijk & Erik van der Vleuten)

Commentator: Nil Disco

10.00 Coffee

10.30 Eurocontrol: Facilitating Transnational Air Transportation in Europe, 1960-1981 (Lars Heide)

Security in the "space of flows": The problem of air-hijacking in Europe, 1945-1980 (Eda Kranakis)

Commentator: Per Østby

11.30 Negotiating scarcity: The natural gas contracts between Sweden and Denmark (Anna Åberg)

“If it keeps on rainin’ the levee’s gonna break”. Drainage systems as critical infrastructures (Nil Disco)

Commentator: Andreas Kunz

12.30 Lunch

13.30 Depths of vulnerability: The interplay between national and international telecommunications in the Express Samina tragedy in the Aegean Sea (Katerina Vlantoni & Aristotelis Tympas)

Emergency services: Two case studies of transnational collaboration between the Netherlands, Germany and Belgium (Anique Hommels & Eefje Cleophas)

Commentator: Gerard Alberts

14.30 Summing up session 1  
Introduction: David Nye

15.15 Coffee

## **Session 2: Perceptions of scarcity and vulnerability**

15.45 The cultural construction of criticality: the case of Soviet-designed nuclear power in Finland (Kalle Michelsen)

Transnational perceptions of nuclear vulnerability: the case of Bulgarian nuclear power (Ivan Tchalakov, Tihomir Mitev & Ivaylo Hristov)

Commentator: Thomas P. Hughes

16.45 Vulnerability, criticality and border: a comparative review of English, Finnish and Russian concepts used in studies of infrastructures (Tuija Mikkonen)

Blackouts in cultural perspective (David Nye)

Commentator: Andreas Fickers

19.00 Dinner

## **Friday 23 May**

Location: Sigtunastiftelsen (address: Manfred Björkquists Allé 2-4, Sigtuna)

09.00 Summing up session 2  
Introduction: Thomas Kaiserfeld

### **Session 3: The emergence of critical infrastructures in Europe**

09.45 Broadcasting as a critical European infrastructure (Andreas Fickers)

Trusting the enemy: Natural gas relations in Cold War Europe (Per Högselius)

Commentator: Eda Kranakis

10.45 Coffee

11.15 Critical nodes in the European transport infrastructure (Andreas Kunz)

The cold-chain as a critical infrastructure (Per Østby)

Commentator: Erik van der Vleuten

12.15 Lunch

13.15 From Large Technical Systems to Technological Complexes: The case of the electric power industry (Lars Thue)

The Criticality of the Software Crisis (Gerard Alberts)

Commentator: Aristotle Tympas

14.15 Summing up session 3

Introduction: Thomas P. Hughes

15.00 Coffee

15.30 Final discussion

- General conclusions? Similarities and contrasts?
- Representatives of other Inventing Europe CRPs comment on possible links and possible points for future collaboration with EUROCRIT
- How can workshop results contribute to the planned Inventing Europe book series?

Moderator: Arne Kaijser

17.00 End of open workshop

19.00 Dinner

20.00 The 7 IPs and APs report on their progress and problems

**Saturday 24 May**

Location: Sigtuna

9.00 Group work: What lessons from open workshop are to be incorporated into EUROCRIT research agenda?

10.00 Discussion

11.00 Planning

- Future workshops: Lisbon meeting, collaboration with other CRPs etc.
- Project website

12.30 Lunch
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13.30 End of workshop