

## Mapping controversies in science, technology and architecture

3 ECTS / SS16

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### Introduction:

Controversies are open, critical and creative situations, in which fundamental features of the social are reshuffled, including definitions of what is an entity, what is agency, what are the effects of actions, what is a fact, what is a prejudice or what is valuable. In controversies the boundaries between politics and science, technology and aesthetics, lay knowledge and expertise are suspended and redrawn. Techno-scientific controversies are a rich empirical field to study the crafting, assembling and disassembling of scientific knowledge and technological innovations, as well as the democratization challenges associated to techno-scientific change. In the last years, controversy analysis has also proved useful to study environmental issues, such as global warming, as well as urban development and architectural projects. This seminar provides a theoretical and practical introduction into a set of concepts, research strategies, methodological tools and analytical techniques that have been developed in the field of science and technology studies for the study of controversies.

### Learning objectives:

1. To understand and identify different conceptualizations and analytical approaches to controversies.
2. To sharpen the attention towards current public debates as potentially controversial events in which the social is reshaped.
3. To gain detailed knowledge about one current controversy in science, technology or architecture, its actors, claims, and dynamics.
4. To acquire practical abilities for working with digital methods and social network visualization techniques.
5. To reflect upon the potentials and limitations of digital methods for the study of techno-scientific issues

### Assessment:

You will have to investigate (in groups of two to three students) one current controversy, deploying the concepts, methods and visualization techniques learned in class, and present a 30-minutes report. This presentation can be freely structured, but should answer the following questions:

- a. How did you come to choose a specific controversy? – Discuss how the conceptual discussions, the digital methods and the (interdisciplinary) collaboration

in the group shaped the problem definition

- b. How did you elaborate and adapt your research strategy and what did the methodological problems and limitations you confronted taught you about the controversy you are researching on?
- c. Which are the main uncertainties and disagreements shaping your controversy and reflect on how digitally mapping controversies helped you to identify these? Include at least two controversy maps elaborated in Gephi with different sets of data related to your controversy

### **Schedule:**

#### **Session 1: What is a controversy? - April 18, 2016**

In this session, we will introduce the topic, goals, structure and spirit of the seminar, as well as explain the final assignment.

Readings:

Bruno Latour 1993 "Crisis", in We have never been moderns. Cambridge, MA: Harvard University Press, pp. 1-12

#### **Session 2: What are digital methods? - April 25, 2016**

For this session, students are required to bring a laptop with an external mouse, as well as Gephi installed and running.

You can download Gephi from: <http://gephi.github.io/users/download/> Please notice that you might need to update Java. For FAQ see: <https://forum.gephi.org>

Readings:

Rogers, R., Sánchez-Querubín, N., & Kil, A. (2015). 'Introduction: Issue Mapping, Ageing and Digital Methods' in Issue mapping for an ageing Europe. Amsterdam University Press.

Venturini, T. (2010). Diving in magma: How to explore controversies with actor-network theory. Public understanding of science, 19(3), 258-273.

#### **Session 3: Project Workshop - May 9, 2016**

In this session, we will collectively discuss possible cases for the group work and define what will be the groups working throughout the semester on one of such cases.

For this session, students are required to bring a laptop and bring ideas of possible controversies. For inspiration please check the following repositories of student work in controversy analysis:

<http://controverses.sciences-po.fr/archiveindex/>  
<http://www.msa.ac.uk/mac/StudentWork/Introduction>

#### **Session 4: Crawling controversies - May 23, 2016**

For this session, students are required to bring a laptop with an external mouse, as well as NaviCrawler installed and running.

You can download the NaviCrawler from: <http://webatlas.fr/wp/navicrawler/>

Readings:

Marres, N., & Rogers, R. (2005). Recipe for Tracing the Fate of Issues and their Publics on the Web.

#### **Session 5: 'Social' controversies in science, technology and architecture - May 30, 2015**

Merton 1957 Priorities in scientific discovery, *American Sociological Review*, 22(6), pp. 635-659

Nelkin 1995 Scientific controversies. Dynamics of public disputes, *Handbook of science and technology studies*, pp. 444-56

Yaneva 2012 "The Sydney Opera House Revisited", in *Mapping controversies in Architecture*, Ashgate, pp. 49-59

#### **Session 6: Controversies on platforms - June 6, 2016**

An introduction to some platform scrapers used for controversy mapping. Specifically:

-DMI Google scraper: <https://wiki.digitalmethods.net/Dmi/ToolGoogleScraper>

-Netvizz Facebook: <https://apps.facebook.com/netvizz/>

Readings:

Marres, N., & Weltevrede, E. (2013). Scraping the social? Issues in live social research. *Journal of Cultural Economy*, 6(3), 313-335.

#### **Session 7: Controversies as sociotechnical events - June 13, 2016**

Collins 1981 Sons of seven sexes. The social destruction of a physical phenomenon, *Social Studies of Science*, 11(1), pp. 33-62

Aibar, Eduard, & Bijker, Wiebe E. (1997). Constructing a City: The Cerda Plan for the Extension of Barcelona. *Science, Technology & Human Values*, 22(1), 3 - 30.

Hennion, A. 1997. Baroque and rock: Music, mediators and musical taste. *Poetics*, 24, 415-435.

### **Session 8: Visualization - June 20, 2016**

Using Gephi we will work through some different approaches and limits to digitally visualizing controversy.

Readings:

Latour, Bruno. „Visualization and Cognition: Drawing things together.“ *The Map Reader: Theories of Mapping Practice and Cartographic Representation* (1990): 65-72.

### **Session 9: Public knowledge controversies - June 27, 2016**

Marres, Noortje. (2007). The Issues Deserve More Credit: Pragmatist Contributions to the Study of Public Involvement in Controversy. *Social Studies of Science*, 37(5), 759-780.

Barry, Andrew. (2012). Political situations: knowledge controversies in transnational governance. *Critical Policy Studies*, 6(3), 324-336. doi: 10.1080/19460171.2012.699234

### **Session 10: Project workshop - July 4, 2016**

In this session each group will present some early findings and plans for developing their project.