Current Directions in the Social and Historical Study of Science and Technology
Winter Quarter 2009
Tuesdays 9-12am

History 197/201  SocGen 188
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Introduction
This is an advanced class investigating current trends in social and historical studies of science and technology in society. The course covers a wide array of topics, fields and periods but the thread that ties them all together is a focus on method. How does one approach complex scientific and technical objects, fields and processes with the tools of the interpretive human sciences? Some questions include?

• How is the concept of an archive changing?
• How does one develop interpretive methods for very large amounts of material?
• What new kinds of archives have appeared in the last 15 years with the advent of the internet and what new kinds of tools are available to exploit them?
• Can historical, sociological and anthropological methods be combined in the study of science and technology? To what end?
• What kind of fieldsites (in and beyond laboratories) are best for understanding science and technology?
• What is the status of scientific explanation today? How are models, experiments, new kinds of objects, new forms of organization and so on changing scientific practice? How can we use these contemporary changes to rethink canonical explanations of ancient, early modern or modern science?
• How are historical and theoretical concepts formed within disciplines, and how are they formed by those analyzing the disciplines?
• What forms of writing, styles and new approaches to presentation or composition have emerged recently or might be imagined?

Prerequisites: This course assumes at least a basic familiarity with historical and social approaches to science, technology and medicine, and the controversies which the field has engendered over the last 25 years. We will not revisit the canon of works in this field in any depth, so the onus will be on students to learn the outlines of this field (the text by Sismondo is included on the syllabus for these purposes).

Requirements:
1. Reading and participation: 20%
2. Weekly reading-responses (1500-2500 words): 40%
3. A review essay in which three works from the class, books and/or articles, are explored with respect to questions of method, including a review of relevant background literature, or annotated bibliography; due at the end of quarter: 40%

Course Website: http://kelty.org/188

Required Texts:


• Kelty, Christopher M. *Two Bits: The Cultural Significance of Free Software.* Duke University Press, 2008


All other required readings will be provided in pdf form through the library or the course website.

**Detailed Schedule**

When in doubt, check the website for the final schedule of readings (http://kelty.org/188)

**Jan 6. Introduction**

An introduction to STS and the current state of the art. Orientation towards problems of method, techniques and concepts. Sismondo provides an excellent overview of the sociological and philosophical debates that have dominated the field to date. The readings by Wise introduce students to some of the challenges raised by recent and contemporary science, and how they might be approached historically.


**Jan 13. Histories of the Present?**

One of the most frequent experiences in STS today is the need to find ways to combine the anthropological and the historical aspects of a problem. This can take two primary forms which we will discuss throughout the class: The first is the experience of confronting working scientists and engineers with an alternative framing of their own history, and in some cases, attempting to make that framing part of their own practice. The other is the use of recent and contemporary science as a starting point for a re-evaluation of the historical transformations at work in other eras, including our own.

Jan 20. New Lives

A Classic approach to understanding science and engineering is through the lifeworld of the scientist or engineer. Max Weber's 'Science as a Vocation' and 'Politics as a Vocation' have been canonical here. In terms of sociology of science, this also connects to the language or professions, specialties, and disciplinary formation, including the recent focus by Collins and others on expertise (e.g. the self-dubbed "third wave" of science studies). This week's readings focus on new approaches to unraveling the meaning and process of science through the examination of the lifeworld of scientists.


Background:


Jan 27. New Properties

Classic Mertonian sociology of science focused in part on the norm of "communism"-- the common ownership of scientific ideas. In recent years a variety of new work focused on issues of property, commons, credit, value, authorship and secrecy in science have emerged.


Supplementary

Feb 3. New Biologicals

Social and Historical studies of biology and biomedicine has emerged out of multiple streams of research: medical anthropology, medical sociology, a theoretical interest in Foucault's "biopolitics"; anthropology of kinship, and anthropology of the life sciences. This section looks at some of the many bio-prefixed debates that have taken shape in the last ten years: biopolitics, biosociality, biocapitalism, biocitizenship, biosafety, biosecurity, etc.


Supplementary


Feb 10. New Reproductions

Work in feminist science studies has made new reproductive technologies into a canonical object of analysis in STS, mixing issues of complex science with high political context: in vitro fertilization, adoption and abortion, stem cells, tissue banking and so forth. Recent work has also expanded this work into the domains of biopolitics, science policy and population management. The readings for this week look at some of these approaches across the disciplines.

Franklin, Sarah and Celia Roberts. Born and Made: An ethnography of preimplantation
Feb 17. New Environmentalisms

Environmental and ecological studies have consistently been domains where complex causality, uncertainty and systems thinking have been critically examined and brought into dialogue with the history and social study of science and medicine, as well as urban studies, geography. It's also been a domain for deep interaction with activists and social movements, and is, according to Latour, at least, only viable if it can get over the concept of Nature. These works explore concepts of nature, uncertainty and the construction of knowledge about complex objects like buildings and allergies.


Murphy, Michelle. Sick Building Syndrome and the Problem of Uncertainty: Environmental Politics, Technoscience, and Women Workers. Duke University Press, 2006. Introduction, Chapters 3,4

Supplementary


Feb 24. New Risks

Risk has become a core object of concern in the social and policy analysis of science and technology, but covers a huge range of approaches and problems: catastrophe (Bhopal, Chernobyl), safety in labs and communities, public perception and understanding, new subjectivities formed through things such as genetic risk and predisposition, and so on. Post-9/11 this also includes discourses of bio-security and preparedness planning. These readings look at a few of these domains of risk, and some of the new ways in which anthropologists, geographers and others are approaching them.

Feb 31. New Monies

An outgrowth of the sociology and anthropology of science in recent years has been a new focus on high finance. Driven in part by work on the history of statistics and accounting (Porter and Hacking), and by the tradition in anthropology of analyzing gift and exchange (Strathern, Wiener, Munn, Guyer), these new works in “economic sociology” and STS of finance open up a qualitatively new field for STS, and have entered new concepts into the lexicon: performativity, calculative agencies, qualification and


Other readings

Vincent Lepinay and Michel Callon, "Derivative Calculations" Manuscript.


March 7. Conclusion.
The interdisciplinary field of science studies is introduced through exploration of topics that include: gender and race, psychiatric classification, the drug industry, science and religion, and the use of nuclear weapons during World War II. Enrollment limited to 30 sophomores, juniors, seniors; others may enroll with permission of instructor. An overarching goal is to understand how the social world informs the scientific questions we ask, design of research studies, and interpretation of findings. How have the theories and practices of biomedical science and technology produced knowledge of race and racial difference historically? How does race relate to gender and class? What are the implications of this debate for understanding health inequality?