SOCIOLOGY OF SCIENCE

This seminar serves as an advanced introduction to the sociological analysis of the nature and practice of modern science and, by extension, other systems of expertise. As such, it offers an overview of central themes and debates in the field of science studies by drawing out the epistemic, material, cultural, and institutional parameters underlying scientific knowledge production. We will be covering a lot of ground, starting from the everyday reality of science making and the embodiment of expertise, to the management of uncertainty and credibility, all the way to science in the public sphere. I have selected these topics for their analytic significance, their empirical appeal, and their broader sociological relevance. Obviously, however, this list can only hope to be expository rather than comprehensive. The aim, ultimately, is to whet your appetite for further research in this burgeoning field of study.

COURSE LOGISTICS

Attendance and Participation:
To put it bluntly, the norm for graduate courses is: thou shalt not miss class! You must have an excellent reason to miss a session and, unless not humanly possible, you are expected to let us know well ahead of time if you cannot make it. Moreover, you are expected to come to class fully prepared to analyze, discuss, and debate the issues raised in the assigned reading material. This course is fundamentally designed as a seminar, and its success depends on active engagement and dialogic exchange.

Course Readings:
Required texts in the schedule below are indicated with an asterisk. All articles, both required and recommended, can be found on the course’s Sakai website. I urge to get a copy of listed books, required and recommended, for your own library. For the purposes of class discussion, you must procure following three books, available via the usual online book vendors:
Course Requirements:

- You will be responsible for leading the discussion for one of our meetings, to be determined during the second week of class. Your job will be to critically introduce the readings for that week and come up with a few (3-5) substantive questions in the form of a one-page handout (to be electronically distributed to the rest of the group by 9:00 AM on the day of class) to get the discussion rolling. Such questions may target what you consider the key issue/problematic raised by the author(s) in question, a shortcoming in the argument/evidence, a puzzling claim, broader implications, exciting/provocative comparisons, and so forth. (20 percent of course grade)

- Two drafts of the proposal for your final paper. The first draft will be due February 23, the second April 5. The first proposal should be approximately 2 pages long, and describe your thesis, research questions, and the methods you will use (include 3-5 references). The second proposal should build on the first, be 3-5 pages long, and outline your thesis, research questions, data, methods, literature, and references. Both proposals should be submitted to Sakai no later than 12 noon Sunday, the day before class. (15 percent)

  N.B. Writing a paper is a process, so make sure to talk with me about it early and often. I will hold extra office hours during week 10 (i.e., the week of March). Each of you is required to make an appointment to formally discuss your final project with me, with the first draft of your proposal in hand.

- In-class presentation of research project, May 3. Plan for a 10-minute power point presentation, followed by a 5-minute Q&A session. (15 percent)

- Final paper. At the end of the semester, you are to submit a research paper of approximately 20 to 25 pages. Your paper can be either (a) analytic, critically reflecting on a substantive issue covered in the course, or (b) empirical, drawing on extant theoretical perspectives to illuminate the realities of a concrete scientific enterprise. Your paper is due by May 11 (50 percent)
**CLASS SCHEDULE**

*This schedule is subject to change. Changes, if necessary, will be announced well in advance during class and on the course website on Sakai.*

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Authors/Books</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 19</td>
<td>Science: The Very Idea</td>
<td></td>
</tr>
<tr>
<td>January 26</td>
<td>The Making of a Scientific Fact</td>
<td>*Fleck, 1979, <em>Genesis and Development of a Scientific Fact</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Kuhn, <em>The Structure of Scientific Revolutions</em> (selections)</td>
</tr>
<tr>
<td>February 2</td>
<td>Inside the Halls of Science</td>
<td>*Latour and Woolgar, 1979, <em>Laboratory Life</em> (selections)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Latour, 1983, “Give Me a Laboratory and I Will Raise the World”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Knorr-Cetina, 1981, <em>The Manufacture of Knowledge</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lynch, 1985, <em>Art and Artifact in Laboratory Science</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Traweek, 1988, <em>Beamtimes and Lifetimes</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Collins, 1992, <em>Changing Order: Replication and Induction in Scientific Practice</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pickering, 1992, <em>Science as Practice and Culture</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lynch, 1997, <em>Scientific Practice and Ordinary Action: Ethnomethodology and Social Studies of Science</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Doing, 2007, “Give me a laboratory and I will raise a discipline: The past, present, and future politics of laboratory studies,” <em>The Handbook of Science and Technology Studies</em></td>
</tr>
</tbody>
</table>
February 16  Tacit Knowledge and the Embodiment of Expertise

*Collins, 2010, Tacit and Explicit Knowledge (selections)

Polanyi, 1967, The Tacit Dimension
Baird, 2004, Thing Knowledge: A Philosophy of Scientific Instruments
Moreira, 2004, “Coordination and Embodiment in the Operating Room,” Body and Society 10
Myers, 2008, “Molecular Embodiments and the Body-work of Modeling in Protein Crystallography,” Social Studies of Science 38

February 23  The Institutional Aspects of Science Redux


Eden, 2006, Whole World on Fire: Organizations, Knowledge, And Nuclear Weapons Devastation

-FIRST PAPER PROPOSAL DRAFT DUE-

March 1  The Economics of Scientific Production


Mirowski and Sent, 2002, Science Bought and Sold: Essays on the Economics of Science
Hermanowicz, 2006, “What Does It Take to Be Successful?” Science, Technology and Human Values 31

March 8  Feminist and Postcolonial Critiques

*Fox Keller, “The Gender/Science System: Or, Is Sex to Gender as Nature is to Science?” Hypatia 2
*Palladino and Warboys, 1993, “Science and Imperialism,” Isis 84
*Pyenson, 1993, “Cultural Imperialism and Exact Sciences Revisited,” Isis 84
Haraway, 1989, Primate Visions
Longino, 1989, “Can There Be Feminist Science?,” Feminism and Science
Martin, 1996, “The Egg and The Sperm: How Science Has Constructed a Romance Based on Stereotypical Male-Female Roles,” Feminism and Science

March 15  
-SPRING BREAK: ENJOY!-

March 22  
Building Credibility: Boundary Work and Knowledge Brokerage


Cash, 2001, “In Order to Aid in Diffusing Useful and Practical Information”: Agricultural Extension and Boundary Organizations,” *Science, Technology & Human Values* 26
Edwards, Mayernik, Batcheller, Bowker, and Borgman, 2011, “Science friction: Data, metadata, and collaboration” *Social Studies of Science* 41

March 29  
Managing Risk and Uncertainty

April 5

Science and/in the Public


*Collins and Evans, 2002, “The Third Wave of Science Studies: Studies of Expertise and Experience,” Social Studies of Science 32

*Kinchy, 2009, “Anti-genetic Engineering Activism and Scientized Politics in the Case of ‘Contaminated’ Mexican Maize,” *Agriculture and Human Values*

Irwin, 1995, *Citizen Science: A Study of People, Expertise and Sustainable Development*


Hilgartner, 2000, *Science on Stage: Expert Advice as Public Drama*

Henke, 2000, “Making a Place for Science: The Field Trial.” *Social Studies of Science* 30


Corburn, 2005, *Street Science: Community Knowledge and Environmental Health Justice*

Frickel, and Moore, 2006, *The New Political Sociology of Science: Institutions, Networks, and Power*

-SECOND PAPER PROPOSAL DRAFT DUE-

April 12  **Marketing Science**


*Owen-Smith, 2006, “Commercial Imbroglios: Proprietary Science and the Contemporary University,” The New Political Sociology of Science*


Kleinman, 2003, *Impure Cultures: University Biology and the World of Commerce*


Oreskes and Conway, 2011, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*

**April 19**

**Controversy and Politics in Science**


- Collins, “Captives and Victims: Response to Scott, Richards and Martin”


Kempner, Merz, and Bosk, 2011, “Forbidden Knowledge: Public Controversy and the Production of Nonknowledge,” *Sociological Forum* 26

**April 26**  
**Guest Speaker—details to follow!**

**May 3**  
**Paper Presentations**