

ANTHROPOLOGY 455/655: INTRODUCTION TO SCIENCE AND TECHNOLOGY STUDIES

Spring 2003  
Sewall Hall 562  
Monday 2-5

**Instructors:**

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**Introduction:**

This class is an introduction to the field of “Science and Technology Studies.” The premise of this field is that science and technology are an integral part of contemporary societies — just as culture, politics and economics are built in to contemporary science. Science, technology and society may therefore be analyzed together, using methods and theories of the social sciences and humanities. Students will be introduced to the fundamentals of this interdisciplinary field by reading research and theoretical works drawn from anthropology, history, sociology and philosophy; some of the major innovations in the field will be studied in depth. The class will simultaneously analyze examples and problems that illustrate how to apply these works to the contemporary world. Examples will span a wide range of disciplines from computer science to biomedicine, but no prior scientific knowledge or technical expertise is assumed. The goal is for students to become skilled at analyzing science and technology from a social and cultural standpoint, and to cross some of the assumed and traditional boundaries between scientists, humanists and social scientists.

Open to advanced undergraduates and graduate students.

**Requirements:** Weekly attendance and participation. Presentations on case studies and readings. Research Paper (1st draft due Mar 31).

**Required Texts:**

- Bruno Latour, *Science in Action*, Cambridge MA: Harvard University Press, 1986.
- Steven Shapin and Simon Shaffer, *Leviathan and the Air Pump*, Princeton: Princeton University Press, 1985.
- Adriana Petryna, *Life exposed : biological citizens after Chernobyl*, Princeton, Princeton University Press, 2002.
- *Science bought and sold : essays in the economics of science*, ed. Philip Mirowski and Esther-Mirjam Sent, Chicago, IL : University of Chicago Press, 2002.

# 1 Society in Science

- Jan. 13 Introduction  
Case Study: Triple Vaccination and Autism; Selected Articles.
- Jan. 20 MLK Day, No class
- Jan. 27: Science Made and Science in the Making

## Required:

1. Bruno Latour, *Science in Action*, Cambridge, MA: Harvard University Press, 1986.

Case study: Prions

## Optional:

Bruno Latour, "Postmodern? No, simply amodern! Steps toward an anthropology of science," *Stud. Hist. Phil. Sci.* Vol. 21, No. 1 pp. 145-171.

Bruno Latour, "What Rules of Methods for the New Scientific Experiments", keynote speech, 13th Darmstadt Colloquium, March 2001 at <http://www.ensmp.fr/latour/artpop/P-95%20Darmstadt.html>

# 2 Science in Society

- Feb. 3: Risks, expertise and credibility

## Required:

1. Brian Wynne, "Misunderstood Misunderstandings: Social Identities and Public Uptake of Science," 19-46 in *Misunderstanding Science? The public reconstruction of science and technology*, Alan Irwin and Brian Wynne, eds. Cambridge University Press, 1996.

2. Steven Epstein, *Impure Science: Aids, Activism, and the Politics of Knowledge*, University of California Press, 1996. Introduction, Chapters 1, 2, 7 and Conclusion.

Case Study: GM Foods

## Optional:

Journals: *Social Studies of Science*, *Science Technology and Human Values*

# 3 Technology in Science

- Feb 10: The three technologies of science and politics

## Required:

1. Steven Shapin and Simon Shaffer, *Leviathan and the Air Pump*, Princeton: Princeton University Press, 1985 pp. 1-80.

2. Steven, Shapin, *The Social History of Truth: civility and science in seventeenth-century England*, Chicago : University of Chicago Press, 1994, Introduction, Chapter 1

**Optional:** 3. Bruno Latour “Drawing Things Together,” in Michael Lynch and Steve Woolgar ed. *Representation in Scientific Practice*, Cambridge, MA: MIT Press, 1990.

- Feb. 17 Literary Technologies I (representation)

**Required:**

1. Michael Lynch and JohnLaw, “Pictures, Texts, and Objects: The literary language game of bird-watching,” in *The Science Studies Reader*, ed. Mario Biagioli, New York: Routledge, 1999.

2. Hans-Jörg Rheinberger, “Graphemic Spaces” in *Inscribing Science*, ed Timothy Lenoir, Stanford, Stanford University Press, 1998.

3. Peter Galison & Lorraine Daston, “The Image of Objectivity,” *Representations* 40 Fall 1992: 81-128.

**Optional:**

Svetlana Alpers, *The art of describing : Dutch art in the seventeenth century*, Chicago : University of Chicago Press, 1983.

Edgerton, Samuel Y. *The Renaissance rediscovery of linear perspective*, New York : Basic Books, [1975].

Adrian Johns, *The Nature of Book*, Chicago, University of Chicago Press, 1998.

Journals: *Science in Context*, *Critical Inquiry*, *Common Knowledge*, *Studies in the History and Philosophy of Science*

- Feb. 24 Literary Technologies II (narrative)

**Required:**

1. Gillian Beer, *Darwin's plots : evolutionary narrative in Darwin, George Eliot, and Nineteenth-Century fiction*, Boston : Routledge & Kegan Paul, 1983. Introduction and Chapters 1 and 2.

2. Gillian Beer, “Helmholtz, Tyndall, Gerard Manley Hopkins: Leaps of the prepared imagination” in *Open Fields: science in cultural encounter*, New York : Oxford University Press, 1996.

**Optional:**

Gillian Beer, *Open Fields: science in cultural encounter*, New York : Oxford University Press, 1996.

Hayles, N. Katherine *The cosmic web : scientific field models and literary strategies in the twentieth century*, Ithaca : Cornell University Press, 1984

Hayles, N. Katherine, *Chaos bound : orderly disorder in contemporary literature and science*, Ithaca, N.Y. : Cornell University Press, 1990.

Serres, Michel, *Hermes—literature, science, philosophy*, edited by Josùe V. Harari and David F. Bell, Baltimore : Johns Hopkins University Press, 1982

Journal: *Configurations*

- Mar 3. Social Technologies

**Required:**

1. Donna Haraway, “Teddy Bear Patriarchy” in *Primate visions : gender, race, and nature in the world of modern science*, New York:Routledge, 1989.

2. Donna Haraway “Modest\_Witness@Second\_Millennium.” in *Modest\_Witness@Second\_Millennium. FemaleMan(c)\_Meets\_OncoMouse(tm)*, New York: Routledge, 1997 pp. 23-49.

3. Weschler, Lawrence, *Mr. Wilson’s cabinet of wonder*, New York : Vintage Books, 1995.

(Shorter version: “Inhaling The Spore. Field trip to a museum of natural (un)history.” *Harper’s*. 289, no. 1732, (September 1994)

**Optional:**

Elizabeth Potter, *Gender and Boyle’s Gases*, Indiana University Press, 2001

- March 10. Spring Break

- Mar 17: Material Technologies

**Required:**

Andrew Pickering, “Cybernetics and the Mangle: Ashby, Beer and Pask” at <http://www.soc.uiuc.edu/profile.asp?login=pickerin>

Michel Foucault, *Discipline and punish : the birth of the prison*, New York : Vintage Books, 1995 [Orig. 1975].

**Optional:**

Galison, Peter, *Image and logic : a material culture of microphysics*, Chicago : University of Chicago Press, 1997

Kohler, Robert *Landscapes and labscales : exploring the lab-field border in biology*, Chicago : University of Chicago Press, 2002

Kohler, Robert, *Lords of the fly : Drosophila genetics and the experimental life*, Chicago : University of Chicago Press, 1994

Shapin and Schaffer, *Leviathan and the Air Pump*, Chapter 6.

## 4 Order and Disorder

- March 24. Science and Political orders

### Required:

1. Shapin and Schaffer, *Leviathan and the Air Pump*. chs. 3 and 7-8. (Chapter 4 optional).
2. Introduction, *Science bought and sold : essays in the economics of science*, ed. Philip Mirowski and Esther-Mirjam Sent, Chicago, IL : University of Chicago Press, 2002

### Optional:

Philip Mirowski, *Machine Dreams: How Economics Became a Cyborg Science*, Cambridge University Press, 2002. Chapter 4, “The Military, The Scientists and the Revised Rules of the Game”

Michel Callon, “From Science as Economic Activity to Socioeconomics of Scientific Research,” in *Science bought and sold : essays in the economics of science*, ed. Philip Mirowski and Esther-Mirjam Sent, Chicago, IL : University of Chicago Press, 2002

Ezrahi, *Descent of Icarus: science and the transformation of contemporary democracy*, Cambridge, Mass. : Harvard University Press, 1990.

- March 31: No class First draft of research paper due.

- April 7: Stats and Status

### Required:

Ian Hacking, “Making up People” in *Historical ontology*, Cambridge, Mass. : Harvard University Press, 2002.

Sheila Jasanoff, “Science and the Statistical Victim: Modernizing Knowledge in Breast Implant Litigation,” *Social Studies of Science* 32(1), Feb. 2002, pp. 37-69.

### Optional:

Theodore Porter, *Trust in Numbers the pursuit of objectivity in science and public life* Princeton, N.J. : Princeton University Press, 1995.

Michel Foucault, *History of Sexuality Vol. 1: Introduction*, New York : Pantheon Books, 1978.

Mary Poovey, *A history of the modern fact : problems of knowledge in the sciences of wealth and society*, Chicago, Ill. : University of Chicago Press, 1998

- April 14 Citizenships

### Required:

Adriana Petryna, *Life exposed : biological citizens after Chernobyl*, Princeton, Princeton University Press, 2002.

- April 21 Cont'd

**Other Important Information:**

Incompletes are not given.

Honor Code issues: For the assignments, group investigation and research is encouraged, but each assignment handed in must be the student's own original work. In the case of group assignments, division of labor will be up to the students, and any necessary honor code guidelines will be provided.

Any student with a documented disability needing academic adjustments or accommodations is requested to speak with the instructor during the first two weeks of class. All discussions will remain confidential. Students with disabilities will need to also contact Disability Support Services in the Ley Student Center.