

**HISTORY 619/SI 719/RACKHAM 619:
Knowledge/Power/Practice in Science, Technology & Medicine**

Winter, 2007
Friday, 9:00-12:00
1024 Tisch Hall

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This graduate readings seminar is designed to provide a comprehensive introduction to some of the major themes and issues that occupy the field of Science and Technology Studies. Drawing on scholarship in history, sociology, philosophy, anthropology, and information studies, we will mix theoretical material with more empirically oriented studies. The course will focus particularly on the relation between social, political, and cultural contexts and the development of ideas, practices, tools, and objects within science, technology, and medicine. No particular expertise in a scientific field is expected or required of participants.

Work for the seminar will include reading approximately 200-300 pages per week, brief weekly response papers, two discussion papers based on a week's reading, and a final project of about 15 pages.

Requirements: Assignments and Expectations

Reading

All required readings will be available for download through the course C-tools site and/or a course pack that may be purchased from Excel on South University. Students may also want to purchase the following texts (of which we read substantial portions in class); many of these are STS 'classics', and thus will form part of a useful library for those of you planning to continue in the field.

Harry Collins, *Changing Order: Replication and Induction in Scientific Practice* (Chicago: University of Chicago Press, 1992)

Joseph Dumit, *Picturing Personhood: Brain Scans and Biomedical Identity* (Princeton: Princeton University Press, 2004).

Sheila Jasanoff, *Designs on Nature: Science and Democracy in Europe and the United States* (Princeton: Princeton University Press, 2005).

Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1996).

Bruno Latour, *Science in Action: How to Follow Scientists and Engineers Through Society* (Cambridge MA: Harvard University Press, 1987).

Theodore M. Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton: Princeton University Press, 1995).

Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump* (Chicago: University of Chicago Press, 1985).

Sergio Sismondo, *An Introduction to Science and Technology Studies* (Oxford: Blackwell, 2004).

Those interested in overviews of the field as a whole may find the following texts useful:

Harry M. Collins and Trevor Pinch, *The Golem: What You Should Know about Science* (Cambridge: Cambridge University Press, 1998)

Harry M. Collins and Trevor Pinch, *The Golem at Large: What You Should Know about Technology* (Cambridge: Cambridge University Press, 2002)

Harry M. Collins and Trevor Pinch, *Dr. Golem: How to Think About Medicine* (Chicago: University of Chicago Press, 2005)

Jan Golinski, *Making Natural Knowledge: Constructivism and the History of Science* (Cambridge: Cambridge University Press, 1998).

Writing

There are three types of writing assignment:

- 1) **Weekly responses.** Every week — except for the ones in which you are leading discussions and doing the recommended reading — you must turn in a 500-600 word response to the required reading. This should be double-spaced. On no account should you exceed 600 words. Rather than merely summarize the reading, you should engage with it analytically. ***The electronic version of this response is due no later 9 a.m. on the day of the seminar, submitted to the course CTools site.***
- 2) **Discussion papers.** Two in the semester, to be determined on the first day of class. See below under “discussion” for further details.
- 3) **Final project.** Your final project will be a paper 2500-3500 words in length. The choice of topic is up to you, but all topics must engage with some part of the theories or methods covered in the course. Format is also up to you, and we encourage you to choose whichever format is most useful to you in developing your professional skills. Options include: grant, fellowship, or dissertation proposal; bibliographic review essay; preliminary research paper.

This assignment has three parts.

- (a) 300-500 word *proposal*, clearly describing your topic and how it relates to course materials and concepts, is **due in class on February 23rd (bring 2 paper copies)**.
- (b) An introduction and bibliography are due on March 23rd. They will be returned within a week, with comments and suggestions for revisions. Please submit by email and in hard copy.
- (c) The *final version*, edited, revised, and proofread, is due on Monday, April 23rd.

Discussion

This is a discussion seminar. Its success depends on the commitment and involvement of all participants. Therefore, you are expected to arrive in class thoroughly prepared and to participate actively in all discussions.

Twice during the term, you will help lead class discussion. This will involve:

- Selecting and reading one of the books from the “recommended reading” list for that week.
- Finding 2 scholarly reviews of the book.
- Writing a 500-600 word “think piece” that discusses both the recommended and the assigned reading
- Meeting with the other student(s) who may be presenting on readings and collectively preparing a one-page handout as an aid to class discussion. This handout should list what you consider to be the three or four most interesting analytical points for the week’s reading, including both the main assignment and the recommended reading you did. The handout should also offer two questions designed to provoke interesting, wide-ranging general class discussion; the questions should focus on how concepts, theories, or historiographical frames from the readings might be applied to other topics or issues.
- In addition to the handout, please distribute hard copies of your think piece **and** the two book reviews to all class members
- At the beginning of that class session, presenters will jointly spend **no more than 15 minutes** explaining how the recommended reading related to the common reading, and elaborating your discussion questions. All presenters should participate in the presentation.

STS colloquium

Everyone is welcome and encouraged to attend the Science, Technology, Medicine, and Society (STeMS) faculty-graduate student colloquium, which meets around 6 times during the semester, on Monday afternoons from 4 to 5:30. A schedule will be distributed on the first day of class. If you are taking History 619/SI 719 to fulfill the core course requirement for the STS certificate, you are **required** to attend the STeMS colloquium and participate in discussion, as per STS certificate requirements.

Schedule of Seminar Topics and Readings

1/5: Week 1. Course Mechanics and Introduction

No required reading

1/12: Week 2. Precursors and Foundations

Robert Merton, "Science and the Social Order" and "The Normative Structure of Science," in *The Sociology of Science* (Chicago: University of Chicago Press, 1973) (org. 1938/1942), pp. 254-78.

Karl Popper, "Truth, Rationality, and the Growth of Scientific Knowledge," in *Conjectures and Refutations* (New York: Routledge, 2005) (org. 1963), pp. 291-338.

Thomas Kuhn, *The Structure of Scientific Revolutions*, 3rd ed. (Chicago: University of Chicago Press, 1962/1996)

Sergio Sismondo, *An Introduction to Science and Technology Studies* (Oxford: Blackwell, 2004), pp. 1-32

Recommended:

Peter L. Berger and Thomas Luckmann, *The Social Construction of Reality*

J. D. Bernal, *The Social Function of Science*

Paul Feyerabend, *Against Method*

Ludwig Fleck, *Genesis and Development of a Scientific Fact*

Thomas Kuhn, *The Essential Tension: Selected Studies in Scientific Tradition and Change* (Chicago: University of Chicago Press, 1977)

Imre Lakatos and Alan Musgrave (eds.), *Criticism and the Growth of Knowledge*

Karl Popper, *The Logic of Scientific Discovery* (New York: Routledge, 2002) (org. 1934)

1/19: Week 3. The Sociology of Scientific Knowledge

David Bloor, "The Strong Programme in the Sociology of Knowledge," in *Knowledge and Social Imagery*, 2nd ed. (Chicago: University of Chicago Press, 1991) (org. 1976), pp. 3-23.

Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump* (Chicago: University of Chicago Press, 1985), pp. 3-79 and 332-344

Harry Collins, *Changing Order: Replication and Induction in Scientific Practice* (Chicago: University of Chicago Press, 1992), pp 1-4 and 129-157.

Sismondo, *An Introduction to Science and Technology Studies*, pp. 42-50

Recommended:

Barry Barnes, *Scientific Knowledge: A Sociological Analysis*

Barry Barnes and Steven Shapin (eds.), *Natural Order: Historical Studies of Scientific Culture*

Harry Collins, *Gravity's Shadow: The Search for Gravitational Waves*
 Karin Knorr Cetina, *Epistemic Cultures: How the Sciences Make Knowledge*
 Michael Lynch, *Scientific Practice and Ordinary Action: Ethnomethodology and Social Studies of Science*
 Trevor Pinch, *Confronting Nature*

1/26: Week 4. The Question(s) Concerning Technology

Langdon Winner, "Do Artefacts have Politics?" (1980) in *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (Chicago: University of Chicago Press, 1986), pp.19-39.

Trevor Pinch and Wiebe Bijker, "The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other," in Wiebe Bijker, Thomas Hughes, and Trevor Pinch, eds., *The Social Construction of Technological Systems* (Cambridge MA: MIT Press, 1987), pp. 17-50.

Thomas Hughes, "The Evolution of Large Technical Systems," in Wiebe Bijker, Thomas Hughes, and Trevor Pinch, eds. *The Social Construction of Technological Systems* (Cambridge MA: MIT Press, 1987), pp. 51-82.

Bruno Latour, "Technology is Society Made Durable," in John Law, ed., *A Sociology of Monsters? Essays on Power, Technology, and Domination* (London: Routledge, 1991), pp. 103-31.

Madeline Akrich, "The De-Description of Technological Objects," in Wiebe Bijker and John Law, eds., *Shaping Technology / Building Society: Studies in Sociotechnical Change* (Cambridge, MA: MIT Press, 1992), pp. 205-24.

Sismondo, *An Introduction to Science and Technology Studies*, pp. 51-64, 75-85

Recommended:

Wiebe Bijker, *Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change*
 Wiebe Bijker and John Law, eds., *Shaping Technology/ Building Society: Studies in Sociotechnical Change*
 Susan J. Douglas, *Inventing American Broadcasting, 1899-1922*
 Joel Howell, *Technology in the Hospital: Transforming Patient Care in the Early Twentieth Century* (Baltimore: Johns Hopkins University Press, 1995)
 Thomas P. Hughes, *Networks of Power*
 Donald Mackenzie, *Inventing Accuracy*
 Donald Mackenzie, *The Social Shaping of Technology*
 Ruth Oldenziel, *Making Technology Masculine: Men, Women, and Modern Machines in America, 1870-1945*
 Nelly Oudshoorn, *How Users Matter: The Co-Construction of Users and Technology*
 Langdon Winner, *The Whale and the Reactor: A Search for Limits in an Age of High Technology*

2/2: Week 5. Social Constructions of Medicine

- Warwick Anderson, “‘Where Every Prospect Pleases and Only Man is Vile’: Laboratory Medicine as Colonial Discourse,” *Critical Inquiry* 18 (1992): 506-529.
- Steven Epstein, “Introduction,” in *Impure Science: AIDS, Activism, and the Politics of Knowledge* (Berkeley: University of California Press, 1996), pp 1-41.
- Annemarie Mol, *The Body Multiple: Ontology in Medical Practice* (Durham: Duke University Press, 2003) [selections]
- Charis Cussins, “Ontological Choreography: Agency through Objectification in Infertility Clinics,” *Social Studies of Science* 26 (1996): 575-610
- Stefan Hirschauer, “The Manufacture of Bodies in Surgery,” *Social Studies of Science* 21 (1991): 279-319
- Keith Wailoo, “Introduction: Pain and Suffering in Memphis,” and “The Commodification of Black Health,” in *Dying in the City of the Blues: Sickle Cell Anemia and the Politics of Race and Health* (Chapel Hill: University of North Carolina Press, 2001), pp. 1-24, 107-28.

Recommended:

- Marc Berg, *Rationalizing Medical Work: Decision-Support Techniques and Medical Practices*
- Adele E. Clarke, *Disciplining Reproduction: Modernity, American Life Sciences, and the Problem of Sex*
- Robbie Davis-Floyd, Joseph Dumit, Jennifer Croissant, Sylvia Sensiper, eds. *Cyborg Babies: From Techno-Sex to Techno-Tots*
- Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception*
- Marcia Inhorn, *Local Babies, Global Science: Gender, Religion, and In Vitro Fertilization in Egypt* (London: Routledge, 2003)
- Shigehisa Kuriyama, *The Expressiveness of the Body and the Divergence of Greek and Chinese Medicine*
- Elizabeth Lunbeck, *The Psychiatric Persuasion: Knowledge, Gender, and Power in Modern America*
- Howard Markel, *Quarantine! East European Jewish Immigrants and the New York City Epidemics of 1892* (Baltimore: Johns Hopkins University Press, 1997)
- Emily Martin, *The Woman in the Body: A Cultural Analysis of Reproduction*
- Jonathan Metzl, *Prozac on the Couch: Prescribing Gender in the Era of Wonder Drugs* (Durham: Duke University Press, 2003)
- Martin Pernick, *The Black Stork: Eugenics and the Death of "Defective" Babies in American Medicine and Motion Pictures since 1915* (New York: Oxford University Press, 1996)
- Michael Sappol, *A Traffic of Dead Bodies: Anatomy and Embodied Social Identity in Nineteenth-Century America* (Princeton: Princeton University Press, 2002)
- Alexandra Stern, *Eugenic Nation: Faults and Frontiers of Better Breeding in Modern America* (Berkeley: University of California Press, 2005)
- Charis Thompson, *Making Parents: The Ontological Choreography of Reproductive Technologies*

2/9: Week 6. Actor-Network Theory

- Bruno Latour, *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge MA: Harvard University Press, 1987)
- Michel Callon, “Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St. Briec Bay,” in *Power, Action, Belief*, ed. John Law

(London: Routledge and Kegan Paul, 1986), pp 196-233.
 Sismondo, *An Introduction to Science and Technology Studies*, pp. 65-74
 Ian Hacking, "Why Ask What?" in *The Social Construction of What?* (Cambridge, MA: Harvard University Press, 1999), pp 1-34.

Recommended:

Michel Callon, *The Laws of the Markets*
 Michel Callon, John Law, and Arie Rip, eds., *Mapping the Dynamics of Science and Technology: Sociology of Science in the Real World*
 Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network Theory*
 Bruno Latour, *We Have Never Been Modern*
 John Law, *Aircraft Stories: Decentering the Object in Technoscience*
 John Law and John Hassard, eds., *Actor Network Theory and After*
 John Law and Annemarie Moll, eds., *Complexities: Social Studies of Knowledge Practices*

2/16: Week 6. Counting, Categorizing, and Classification

Ian Hacking, "Biopower and the Avalanche of Printed Numbers," *Humanities in Society* 5 (1982): 279-95
 Theodore M. Porter, "How Social Numbers are Made Valid," *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton: Princeton University Press, 1995), pp. 33-48.
 Geoffrey C. Bowker and Susan Leigh Star, "Some Tricks of the Trade in Analyzing Classification," and "The Case of Race Classification and Reclassification under Apartheid," in *Sorting Things Out: Classification and Its Consequences* (Cambridge: MIT Press, 2000), pp. 33-50, 195-225.
 John Carson, "Intelligence and the Politics of Merit Between the Wars," *The Measure of Merit: Talents, Intelligence, and Inequality in the French and American Republics, 1750-1940* (Princeton: Princeton University Press, 2007), pp. 229-70.
 Sarah Igo, *The Averaged American: Surveys, Citizens and the Making of a Mass Public* (Cambridge: Harvard University Press, 2007) [selections]
 Allan Sekula, "The Body and the Archive," *October* 39 (1986): 3-64.
 Sismondo, *An Introduction to Science and Technology Studies*, pp. 118-27

Recommended:

Georges Canguilhem, *The Normal and the Pathological*
 Simon A. Cole, *Suspect Identities: A History of Fingerprinting and Criminal Identification* (Cambridge: Harvard University Press, 2001)
 Kurt Danziger, *Constructing the Subject: Historical Origins of Psychological Research*
 Lorraine J. Daston and Katherine Park, *Wonders and the Orders of Nature, 1150-1750*
 Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception*
 Michel Foucault, *The Order of Things*
 Sander Gilman, *Difference and Pathology: Stereotypes of Sexuality, Race, and Madness*

Ian Hacking, *The Taming of Chance* (Cambridge: Cambridge University Press, 1990)
 Thomas Lacqueur, *Making Sex: Body and Gender from the Greek to Freud*
 Daniel Pick, *Faces of Degeneration: A European Disorder, c.1848-c.1918*
 Jennifer Terry, *An American Obsession: Science, Medicine, and Homosexuality in Modern America*

2/23: Week 7. Numbers, Trust, and Credibility

Theodore M. Porter, "Introduction," "A World of Artifice," and "Objectivity and the Politics of Disciplines," in *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton: Princeton University Press, 1995), pp. 3-32, 193-216
 Steven Shapin, "The Great Civility: Trust, Truth, and Moral Order," and "Knowing about People and Knowing about Things: A Moral History of Scientific Credibility," in *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago: University of Chicago Press, 1994), pp. 3-41, 243-309.
 Steven Shapin, "Cordelia's Love: Credibility and the Social Studies of Science," *Perspectives on Science* 3 (1995): 255-275.
 Mary Poovey, "The Political Anatomy of the Economy: English Science and Irish Land," *A History of the Modern Fact: Problems of Knowledge in the Sciences of Wealth and Society* (Chicago: University of Chicago Press, 1998), pp. 92-143.
 Donald Mackenzie, "From Kwajalein to Armageddon? Testing and the Social Construction of Missile Accuracy," in David Gooding, Trevor Pinch, and Simon Schaffer, *The Uses of Experiment: Studies in the Natural Sciences* (Cambridge: Cambridge University Press, 1989), pp. 409-35

Recommended:

Peter Dear, *Discipline & Experience*
 Ian Hacking, *The Emergence of Probability*
 Donald Mackenzie, *Mechanizing Proof: Computing, Risk, and Trust*
 Andrew Pickering, *Constructing Quarks*
 Theodore M. Porter, *The Rise of Statistical Thinking, 1820-1900*
 Hans-Jörg Rheinberger, *Toward a History of Epistemic Things: Synthesizing Proteins in the Test Tube*

3/2: Winter Break

No Class

3/9: Week 8. Images, Objects, and Objectivity

Lorraine Daston and Peter Galison, "The Image of Objectivity," *Representations* 40 (1992): 81-128.
 Michael Lynch, "Discipline and the Material Form of Images: An Analysis of Scientific Visibility," *Social Studies of Science* 15 (1985): 37-66.

Joseph Dumit, *Picturing Personhood: Brain Scans and Biomedical Identity* (Princeton: Princeton University Press, 2004)

Sismondo, *An Introduction to Science and Technology Studies*, pp. 110-17

Recommended:

Peter Galison, *How Experiments End*

Philip Kitcher, *The Advancement of Science: Science Without Legend, Objectivity Without Illusions*

Helen E. Longino, *Science as Social Knowledge: Values and Objectivity in Scientific Inquiry*

Michael Lynch and Steve Woolgar, eds., *Representation in Scientific Practice*

Andrew Pickering, *The Mangle of Practice*

Barbara Stafford, *Body Criticism: Imaging the Unseen in Enlightenment Art and Medicine*

Julie Robin Solomon, *Objectivity in the Making: Francis Bacon and the Politics of Inquiry*

3/16: Week 9. Gender, Race, and STM

Anne Fausto-Sterling, *Sexing the Body: Gender Politics and the Construction of Sexuality* (New York: Basic Books, 2000) (selections)

Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," in *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991), pp. 149-203.

Donna Haraway, "Teddy Bear Patriarchy: Taxidermy in the Garden of Eden, New York City, 1908-1936," in *Primate Visions: Gender, Race, and Nature in the World of Modern Science* (New York: Routledge, 1989), pp. 26-38.

Londa Schiebinger, "The Gendered Ape," in *Nature's Body: Gender in the Making of Modern Science* (Boston: Beacon Press, 1993), pp. 75-114.

Evelyn Fox Keller, "The Gender/Science System: Or, Is Sex to Gender as Nature is to Science?" (1987), in Mario Biagioli, ed., *The Science Studies Reader* (London: Routledge: 1999), pp. 234-42.

Sismondo, *An Introduction to Science and Technology Studies*, pp. 128-40

Recommended:

Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity*

Angela Creager, Elizabeth Lunbeck, and Londa Schiebinger, eds., *Feminism in Twentieth-Century Science, Technology, and Medicine*

Gary Lee Downey, Joseph Dumit, eds. *Cyborgs & Citadels: Anthropological Interventions in Emerging Sciences and Technologies*

Anne Fausto-Sterling, *Myths of Gender: Biological Theories About Women and Men*

Evelyn Fox Keller, *Reflections on Gender and Science*

Donna Haraway, *Modest_Witness@Second_Millennium.FemaleMan_Meets_Oncomouse: Feminism and Technoscience*

Sandra Harding, *The Science Question in Feminism*

Sandra Harding, *Whose Science? Whose Knowledge? Thinking From Women's Lives*

Ludmilla Jordanova, *Sexual Visions: Images of Gender in Science and Medicine Between the Eighteenth and Twentieth Centuries*

John Law, ed., *A Sociology of Monsters: Essays on Power, Technology and Domination*

Muriel Lederman and Ingrid Bartsch, eds., *The Gender and Science Reader* (London: Routledge, 2001)

Londa Schiebinger, *Has Feminism Changed Science?*

Londa Schiebinger, *The Mind Has No Sex? Women in the Origins of Modern Science*

3/23: Week 10. Boundaries, Exchange, and the Transmission of Knowledge

Thomas Gieryn, "Contesting Credibility Cartographically," in *Cultural Boundaries of Science: Credibility on the Line* (Chicago: University of Chicago Press, 1999), pp. 1-35.

Susan Leigh Star and James Griesemer, "Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-1939," *Social Studies of Science* 19 (1989): 387-420.

Peter Galison, "The Trading Zone: Coordinating Action and Belief," in *Image and Logic: A Material Culture of Microphysics* (Chicago: University of Chicago Press, 1997), pp. 781-843.

Anne Secord, "Science in the Pub: Artisan Botanists in Early Nineteenth-Century Lancashire," *History of Science* 32 (1994): 269-315.

Geoffrey Bowker, *Memory Practices in the Sciences* (Cambridge: MIT Press, 2006), pp. 107-99.

Sismondo, *An Introduction to Science and Technology Studies*, pp. 141-51

Recommended:

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3/30: Week 11. Experts and Publics

Steven Epstein, "The Construction of Lay Expertise: AIDS Activism and the Forging of Credibility in the Reform of Clinical Trials," *Science, Technology & Human Values* 20 (1995): 408-437

Brian Wynne, "Misunderstood Misunderstandings: Social Identities and the Public Uptake of Science," in Alan Irwin and Brian Wynne, eds., *Misunderstanding Science? The Public Reconstruction of Science and Technology* (Cambridge: Cambridge University Press, 1996), pp. 19-46.

The 'third wave' debate:

Harry Collins and Robert Evans, "The Third Wave of Science Studies," *Social Studies of Science* 32 (2002): 235-96.

Sheila Jasanoff, "Breaking the Waves in Science Studies: Comment on H.M. Collins and Robert Evans 'The Third Wave of Science Studies,'" *Social Studies of Science* 33 (2003): 389-400.

Brian Wynne, "Seasick on the Third Wave? Subverting the Hegemony of Propositionalism," *Social Studies of Science* 33 (2003): 401-17.

Arie Rip, "Constructing Expertise: In a Third Wave of Science Studies?" *Social Studies of Science* 33 (2003): 419-34.

Harry Collins and Robert Evans, "King Canute Meets the Beach Boys: Responses to the Third Wave," *Social Studies of Science* 33 (2003): 435-52.

Sismondo, *An Introduction to Science and Technology Studies*, pp. 162-72

Recommended:

Brian Balogh, *Chain Reaction*

Jan Golinski, *Science as Public Culture*

Stephen Hilgartner, *Science on Stage*

David A Hounshell, *The Cold War, RAND, and the Generation of Knowledge, 1946-1962*

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

Philip Mirowski, *Machine Dreams: Economics Becomes a Cyborg Science*

Richard Sclove, *Democracy and Technology*

Larry Stewart, *The Rise of Public Science*

Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life*

Brian Wynne, *Rationality and Ritual: The Windscale Inquiry and Nuclear Decisions in Britain*

Brian Wynne and Alan Irwin, eds., *Misunderstanding Science? The Public Reconstruction of Science and Technology*

4/6: Week 12. Science and the State: Governing Science

Yaron Ezrahi, "Technology and the Civil Epistemology of Democracy," *Inquiry* 35 (1993): 363-76.

Sheila Jasanoff, "Ordering Knowledge, Ordering Society," in *States of Knowledge: The Co-Production of Science and Social Order* (London: Routledge, 2004), pp. 13-45.

Sheila Jasanoff, "Why Compare?" "The New Social Contract," "Civic Epistemology," and "Republics of Science," in *Designs on Nature: Science and Democracy in Europe and the United States* (Princeton: Princeton University Press, 2005), pp. 13-41, 225-91.

Paul Edwards, "'We Defend Every Place': Building the Cold War World," in *The Closed World: Computers and the Politics of Discourse in Cold War America* (Cambridge: MIT Press, 1996), pp. 1-41

Gabrielle Hecht, "Political Designs: Nuclear Reactors and National Policy in Postwar France," *Technology & Culture* 35 (1994): 657-85.

S. M. Amadae, "Managing the National Security State: Decision Technologies and Policy Science," in *Rationalizing Capitalist Democracy: The Cold War Origins of Rational Choice Liberalism* (Chicago: University of Chicago Press, 2003), pp. 27-80.

Recommended:

Ken Alder, *Engineering the Revolution*

Yaron Ezrahi, *The Descent of Icarus: Science and the Transformation of Contemporary Democracy* (Cambridge: Harvard University Press, 1990)

Daniel S. Greenberg, *The Politics of Pure Science*

- Hugh Gusterson, *Nuclear Rites: A Weapons Laboratory at the End of the Cold War*
- Hugh Gusterson, *People of the Bomb: Portraits of America's Nuclear Complex* (Minneapolis: University of Minnesota Press, 2004).
- David H. Guston, *Between Politics and Science*
- Sheila Jasanoff, *The Fifth Branch: Science Advisers as Policymakers* (Cambridge: Harvard University Press, 1990)
- Sheila Jasanoff, *Science at the Bar: Law, Science, and Technology in America*
- Philip Kitcher, *Science, Truth, and Democracy* (Oxford: Oxford University Press, 2001)
- Bruno Latour, *Politics of Nature: How to Bring the Sciences into Democracy*
- Stuart W. Leslie, *The Cold War and American Science: The Military-Industrial-Academic Complex at MIT and Stanford*
- Maggie Mort, *Building the Trident Network: A Study of the Enrollment of People, Knowledge, and Machines*
- Donald K. Price, *The Scientific Estate*
- Jenny Reardon, *Race to the Finish: Identity and Governance in an Age of Genomics* (Princeton: Princeton University Press, 2005)
- Steven Yearley, *Sociology, Environmentalism, Globalization: Reinventing the Globe*

4/13: Week 13. Colonialism, Post-colonialism, and Transnational Science (Steve)

Please choose *two* among the following selections:

- Andrew Lakoff, *Pharmaceutical Reason: Knowledge and Value in Global Psychiatry* (Cambridge: Cambridge University Press, 2005), pp. 1-72.
- Timothy Mitchell, "The Character of Calculability," "The Invention and Reinvention of the Peasant," and "The Object of Development," in *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley: University of California Press, 2002), pp. 80-152 and 209-243.
- Gyan Prakash, "The Sign of Science," "Staging Science," and "Technologies of Government," in *Another Reason: Science and the Imagination of Modern India* (Princeton: Princeton University Press, 1999), pp. 3-48 and 159-200.
- Megan Vaughan, "Introduction: Discourse, Subjectivity, and Differences," "The Madman and the Medicine Men: Colonial Psychiatry and the Theory Deculturation," "Syphilis and Sexuality: the Limits of Colonial Medical Power," and "Hippo Happenings: Jungle Doctors, Children and Animals," in *Curing Their Ills: Colonial Power and African Illness* (Stanford: Stanford University Press, 1991), pp. 1-29, 100-79.

Recommended:

- Warwick Anderson, *The Cultivation of Whiteness: Science, Health, and Racial Destiny in Australia*
- David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*
- Bernard S. Cohn, *Colonialism and Its Forms of Knowledge*
- Myron Echenberg, *Black Death, White Medicine: Bubonic Plague and the Politics of Public Health in Colonial Senegal, 1914-1945*
- Kim Fortun, *Advocacy after Bhopal: Environmentalism, Disaster, New Global Orders*
- Nancy Hunt, *A Colonial Lexicon*

- Jock McCulloch, *Asbestos Blues: Labour, Capital, Physicians & the State in South Africa*
- Randall M. Packard, *White Plague, Black Labor: Tuberculosis and the Political Economy of Health and Disease in South Africa*
- Londa Schiebinger, *Plants and Empire: Colonial Bioprospecting in the Atlantic World*
- Ann Laura Stoler, *Race and the Education of Desire: Foucault's History of Sexuality and the Colonial Order of Things*
- William K. Storey, *Science and Power in Colonial Mauritius*
- Helen Verran, *Science and an African Logic*